MCH-FP Extension Project (Urban)

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Assessment of Quality of the MCH-FP Services Provided by Field Workers in Zone 3 of Dhaka City and Strategies for Improvement

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Foreword

I am pleased to release these reports on urban Maternal and Child Health and Family Planning issues which are based on the operations research activities of the MCH-FP Extension Project (Urban) of the Centre. Over the years, the Centre has acquired a unique expertise on urban development matters that ranges from operations research on reproductive health, child survival and environmental issues to providing technical assistance for capacity building to service delivery organizations working in urban areas.

This work has produced important findings on the health conditions and needs of city dwellers, particularly the poor and those living in slums. The research has also identified service delivery areas in which improvements need to be made to enhance effectiveness. Together, these research findings have been translated into interventions currently being applied in government and non-government settings.

In order to carry out this innovative work, the Centre has established a partnership effort known as the Urban MCH-FP Initiative, with different ministries and agencies of the Government of Bangladesh and national non-government organizations, notably Concerned Women for Family Planning, a national NGO with wide experience in the delivery of MCH-FP services. The partnership receives financial and technical support from the United States Agency for International Development (USAID).

The overall goal of the partnership is to contribute to the reduction of mortality and fertility in urban areas. In practice, this joint work has already resulted in the development and design of interventions to improve access, coordination and sustainability of quality basic health services to urban dwellers with emphasis on the needs of the poor and those living in slum areas.

The Centre looks forward to continuing this collaboration and to assist in the wider dissemination and application of sustainable service delivery strategies in collaboration with providers in government, the NGOs and the private sector.

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Glossary

AIDS	Acquired Immunodeficiency Syndrome
ARI	Acute Respiratory Infections
CPR	Contraceptive Prevalence Rate
CWFP	Concerned Women for Family Planning
EPI	Expanded Programme on Immunizations
FP	Family Planning
FW	Field Worker
ICDDR,B	International Centre for Diarrhoeal Disease Research, Bangladesh
IEC	Information, Education, and Communication
IUD	Intrauterine Device
MCH	Maternal and Child Health
ORS	Oral Rehydration Solution
WHO	World Health Organization

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Summary

Even though community-based MCH-FP services are a key resource for reducing unwanted fertility and under-5 mortality, the quality of these services has received relatively limited attention, particularly in the low-income urban areas where Bangladesh's population is growing most rapidly. This study documents the quality of services provided by 57 community field workers. Both family planning as well as maternal and child health services provided in the homes of clients in Zone 3 of Dhaka City were assessed. The data for this analysis have been obtained from interviews with clients throughout Zone 3, from interviews with the field workers themselves, from observations on field worker-client interactions, and from interviews with the clients whose observations were observed. Ninety-one percent of the field workers in Zone 3 are employed by a single non-governmental organization (Concerned Women for Family Planning), and the remainder are government employees. All of them have been trained primarily as family planning workers, although during the past 5 years they have become increasingly involved in the promotion of maternal and child health as well.

In general, clients consider field workers to have good interpersonal skills. Field workers' knowledge about immunization schedules is good, as is their promotion of family planning, breast-feeding, and referral services.

This analysis identified a number of problems affecting quality of services. Contact with many of the clients is limited. Field workers infrequently inform new family planning clients about proper method use, side-effects, and warning signs. The promotion of postnatal care, childhood immunization, and exclusive breast-feeding during the first 5 months of life could be readily improved. The promotion of oral rehydration solutions and continued feeding for children with diarrhoea could also be readily improved. Clinical assessments of dehydration among children with

diarrhoea and clinical assessments of severity of respiratory infections (using standard WHO criteria) are not being carried out. Only half of the clients feel that field workers' visits are useful or helpful. While 70% of the clients feel comfortable in asking a field worker about personal health problems, only 4% consider the field worker to be an important source of advice about child health problems.

Improving the quality of field workers' services will require clarification of the standards of quality of these services and strengthening supervision and monitoring, especially for maternal and child health services. Standard algorithms need to be developed so that essential topics are covered at each visit. The visitation schedule needs to be segmented so that higher-priority clients can be visited more frequently. Sterilization as a family planning method needs to be promoted more vigorously. Field workers need additional training in maternal and child health topics. They also need to place greater emphasis on meeting maternal and child health targets along with family planning targets.

Although the number of clients per field worker will most certainly increase during the coming years because of resource constraints, careful attention to the quality of services can help improve the effectiveness of these services in further reducing unwanted fertility and under-5 mortality in Bangladesh. Because the urban low-income population is growing three times more rapidly than in the rest of the country, improvements in the quality of urban basic health services will be a major challenge but should be made possible with persistent efforts.

Introduction

Although the global interest in assessing and improving the quality of health care services originated in developed countries only recently (1), there has been a rapidly growing experience with the application of quality assurance approaches in hospitals and health centres in developing countries (2,3). The application of these approaches to services provided by health workers in the homes of clients has to-date been infrequent, partly because home-based services are not as widespread as those provided at fixed facilities and partly because of the logistical difficulties involved in assessing quality. Observations on client-provider interactions and interviews with clients are an essential part of the quality assessment process (3), but for home-based services these are difficult and time-consuming activities to carry out. This paper describes the results of a comprehensive assessment of the quality of maternal and child health and family planning (MCH-FP) services provided by field workers (FWs) in the homes of their clients in one area of Dhaka City in Bangladesh. This assessment of the FW's service quality is part of a larger Needs Assessment Study of the MCH-FP services in Zone 3 of Dhaka City. The study was conducted to assist in the formulation of operations research interventions designed to strengthen the MCH-FP services in urban Bangladesh.

Over the past two decades, Bangladesh has developed an extensive infrastructure of more than 30,000 female FWs who provide FP services to married women of reproductive age (4). These services are provided every two months at the time of routine home visits. During the past decade, however, these FWs have also begun to actively participate in the promotion of basic MCH activities, such as the Expanded Programme on Immunizations (EPI), breast-feeding, and the use of oral rehydration therapy (ORT) for diarrhoea (5). While most of the approximately 23,000 FWs based in rural areas are government employees (called Family Welfare

Assistants), more than 7,000 FWs are urban-based and employed mostly by non-governmental organizations (6). Although in the rural areas there is one government Health Assistant for every 5,000 persons (to promote basic health activities other than FP), this same number of workers is not generally present in the urban areas. In the urban areas, however, the role of FWs employed by NGOs is generally broader and more comprehensive than that of the government FW in rural areas.

On a nationwide basis there is approximately one FW for every 800 married couples of reproductive age and for every 4,000 persons of all ages. According to a recent government report, the FWs and Health Assistants are the "vehicles through whom services are directed to clients at the grass-roots level" and "the success of Bangladesh's population and health programme largely depends on the efficient functioning of this work force" (7).

According to the 1993-1994 Bangladesh Demographic and Health Survey, 99.8% of the 9,640 women throughout the country participating in the survey reported that there is an FP worker who visits the area where the respondent lives (8). According to these respondents, virtually all (99%) of the FWs provide FP information and supplies, 71% help at a satellite clinic, 80% take women to a clinic, 65% take children for immunization, and 50% distribute Vitamin A capsules (9).

Generally, FWs visit approximately 20 married women of reproductive age during a single day of home visitation. A conservative estimate is that more than 50 million home visits are carried out by FWs each year in Bangladesh.[1] Thus, assessments of the quality of services provided by FWs are important because they provide valuable insights into how such an important element of the country's primary health care system can be further strengthened.

[1] See Appendix I for a derivation of this estimate.

Methods and Materials

1. The Urban MCH-FP Initiative and Study Setting

The current study has been carried out in Dhaka City by the Bangladesh Urban MCH-FP Initiative (hereinafter referred to as the Urban Initiative) and involves FWs employed by the NGO sector as well as a smaller number employed by the Family Planning Directorate of the Ministry of Health.

The Urban Initiative is a collaborative venture of the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B), Concerned Women for Family Planning (CWFP),[2] and the Government of Bangladesh. The purpose of the Urban Initiative is to assist in the formulation of national policies which will strengthen the urban MCH-FP service delivery system. Policy recommendations will be made by the Urban Initiative on the basis of findings from its operations research activities. One of the objectives of the Urban Initiative is to strengthen both MCH and FP services as a more complete package of basic services. Another objective is to test new approaches to improving the management, quality, and sustainability of the urban MCH-FP programmes.

As an initial step toward the attainment of these objectives, the Urban Initiative conducted an assessment of the quality of the MCH-FP services that FWs are currently providing in Zone 3 of Dhaka City. The purpose of this assessment is to identify strategies for improving the quality of services in Zone 3 which could also be applied in other urban areas of the country as well.

[2] CWFP is a non-governmental organization working all over Bangladesh providing MCH-FP services to a population of 1.4 million people. It is the largest private provider of FP services in Bangladesh.

Zone 3, one of the 10 zones in the Dhaka City Corporation, has a population of approximately 400,000. Zone 3 is located in the "Old Dhaka" region of the city which includes the areas known as Bakshi Bazar, Rayer Bazar, and Lalbagh. More than one-third of the households are located in slums,[3] and almost one-fifth of the households in Zone 3 report an income of less than Taka 2,000, or US $50 per month (10).

In Zone 3 there are 53 government and private facilities (including hospitals and nursing homes) which provide some type of MCH or FP services. Among these 53 facilities are 36 clinics which provide MCH or FP services: 15 are operated by the Ministry of Health, 13 by the Dhaka City Corporation, 6 by CWFP, and 2 by other NGOs. Only a few of the clinics provide both MCH and FP services while most provide a single service such as FP or immunizations (12). There are also 385 pharmacies in Zone 3, 8 general dispensaries, 4 nursing homes, 3 private clinics, and 2 hospitals (10). Most of these pharmacies, in addition to selling medications and providing "over-the-counter" medical advice, offer the services of a physician for several hours a day. The Azimpur Maternity Centre, one of the city's major maternity hospitals, and the Dhaka Medical College, a major referral source for the hospital care of the low-income population in Dhaka, are both located alongside the border of Zone 3. Thus, the FWs in Zone 3 are not working in a health care vacuum. There are clinic and hospital services to which they can refer those clients and patients who are in need of FP or health care which the FWs themselves cannot provide.

Most (52/57) of the FWs in Zone 3 are employed and supervised by CWFP, although there are a smaller number of government FWs as well (called Family Welfare Assistants). The overall modern contraceptive

[3] A slum household is defined as a household made of flimsy material, occupied by three or more adults per room, and located in an area with poor sewerage and drainage, inadequate water supply, irregular or no collection of garbage, few or no paved streets, insufficient or absent street lighting, and no access to gas supply (10,11).

prevalence rate (CPR) in Zone 3 is 46% (12). CWFP has been working in Zone 3 for two decades now, and many of its FWs have also been working there as CWFP employees since inception of the programme. Thus, their role in promoting the use of FP services, in distributing pills and condoms, and in facilitating the use of clinic-based contraceptive methods is quite well-established. Little is known, however, about the quality of the various services which have contributed to the achievement of this high level of CPR or about the actual contributions which the FWs are making to the promotion of maternal and child health in the area. The FWs in Zone 3 have to date been unable to give systematic attention to maternal and child health issues, however, because of the strong emphasis placed on FP activities.

From the national perspective, MCH-FP services in urban areas of Bangladesh are becoming increasingly important because of the rapid growth of the urban population, particularly in low-income areas such as slums. Efforts to strengthen the quality of such services depend in part upon a clearer understanding of the current deficiencies in quality. This study attempts to improve that understanding.

2. A Quality of Care Framework

For the purposes of this report, we assess quality of FW services from a very simple and broad perspective- "doing the right things right, and right away"(13,14). When possible, the quality standards which we will use as benchmarks are those promoted by the Bangladesh Government or by international agencies. In addition, we also include the perspective of the client in our quality assessment. The quality assessment approach employed here, utilizing both a technically oriented as well as a client-oriented perspective, is depicted in Table 1.

Table 1: Framework for assessment of the quality of services

Assessment of service inputs	Assessment of service processes	Assessment of outcomes of services
Training received by provider	Constellation of services	Effectiveness*
Provider attitudes	Technical quality of services	Efficiency*
Provider knowledge	Counseling quality	Client satisfaction
Supplies and medicines	Quality of interpersonal relations	Client perception of quality
Facilities and equipment*	Access	Client attitudes
Amenities*	Safety*	Client knowledge
	Promotion of continuity of care	Client behaviour
		Coverage of services within the targeted population

* Not assessed in the current study

Note: In the subsequent text, the underlined terms will be used when referring to the particular quality dimension

This framework for assessing the quality of services draws upon both the Bruce framework for quality of care in FP programmes (15) as well as the approach of the Quality Assurance Project (14,16) The Bruce framework includes six elements of quality which have particular relevance to the provision of family planning services:

-choice of method
-information given to clients
-technical competence
-interpersonal relations
-mechanisms to encourage continuity
-appropriate constellation of services.

Of course, these elements have relevance to other types of health services as well.

The Quality Assurance Project framework includes eight dimensions of quality which overlap to some degree with the Bruce framework but are designed to be applicable to a broad array of health services including family planning. This framework includes the following quality dimensions:

-technical competence
-access to services
-effectiveness
-interpersonal relations
-efficiency
-continuity
-safety
-amenities.

The present study includes measures of most dimensions of quality shown in Table 1. However, facilities, amenities, and safety are not relevant issues since the FWs provide services in the homes of clients and do not perform any services associated with any risk of harm. Assessments of effectiveness and efficiency are beyond the scope of the current study.

For the sake of clarity, we have chosen to present the findings by type of service assessed. For instance, the various quality dimensions of childhood immunizations are presented together (provider attitudes and knowledge, constellation of services, and client knowledge) rather than presenting all of the different measures of the same quality dimension together (such as counseling quality for clients with side effect problems, counseling quality for breast-feeding promotion, and counseling quality for promotion of immunizations).

3. Methodology

The findings of this analysis are based on data collected as part of a Needs Assessment in Zone 3 of Dhaka City which was undertaken by the Urban Initiative in November and December 1994. The Needs Assessment included surveys of households in Zone 3 as well as interviews with clients and providers of MCH-FP services.

The household survey respondents consist of a probability sample of 5,399 married women of reproductive age (n=5,399) who were asked, among other things, about their contact with FWs and their assessment of the value of FW visits. The 57 FWs who work in Zone 3 were also interviewed about their current activities, previous training, perceived current training needs, and current knowledge related to the MCH-FP activities they carry out.

In addition, 114 FW-client interactions were observed by female field research observers, two interactions for each of the 57 FWs. These observations were made during the course of a day of routine daily home visits. The field researcher accompanied the FW for the entire day of her home visits and arbitrarily chose two encounters for detailed observation and recording of the content of the encounter using a structured check-list. The FWs were not notified ahead of time that the research observer would be accompanying her on that day. Although it was apparent to the client that an observer was accompanying the FW, the observer did not participate further in the interaction between the FW and the client after her initial introduction to the client had taken place.

Finally, the 114 clients of FWs who had been observed earlier in their encounter with the FW were also interviewed by the same field research observer. Later during the day after the observed encounter between an FW and her client, the field research observer returned to the

client's household to interview the client alone. During this structured interview, information was obtained regarding the client's knowledge of and attitudes toward MCH-FP services, her past FP use, her anticipated use of certain services, her previous contact with FWs, and her assessment of the effectiveness of the FW visits.

Findings

For the sake of simplicity and clarity, we will present the findings from the Needs Assessment Study which pertain to quality of FW service which in eight sections:

-characteristics of the FWs' services
-quality of FP services
-quality of MCH services
-referral activities
-supervisory and other support issues
-clients' assessments of FWs' services
-FWs' assessments of previous training and current training needs, and
-FWs' opinions about how MCH-FP services could be improved.

At the end of each heading of results, the dimensions of quality being assessed, as conceptualized in Table 1, are shown in parentheses.

1. **Characteristics of the Field Workers' Services** (constellation of services, access, continuity, and coverage)

The 57 FWs in Zone 3 visited an average of 21.4 clients[4] during those days when their work was observed by a research observer. All FWs

[4] The range of visits was 3-46 during the day of observation, and the median number of visits was 20.

reported that they "usually" provide FP services and almost all reported that they "usually" provide routine preventive MCH care (Table 2).

Table 2. Services which field workers provide during home visits

Service	Percentage of FWs who report that they "usually" provide these services (n=57)*	Percentage of FW-client encounters in which services observed (n=114)*
FP services	100	76
Routine preventive MCH care	93	44
MCH education	74	18
Assistance with care of sick child	54	2

*Column totals exceed 100% since more than one type of service was often provided.

The actual percentage of encounters in which the provision of the types of services shown in Table 2 was actually observed is considerably less than that reported by the FWs.[5] Some type of family planning service (including promotion and counseling) was provided in about three-quarters of the observed encounters. Some type of routine preventive MCH service (such as referral for immunization, referral for prenatal/postnatal care, or provision of nutrition advice) was provided by FWs in slightly less than half the cases, while MCH education (promoting healthy behaviours) and assistance in the care of a sick child were infrequent. The percentage of encounters in which these specific types of activities were observed is substantially less than that reported by the FWs.

Among the 4,106 household respondents who had been visited by an FW during the previous six months, 84% reported that the FW had

[5] See Appendix II for a description on the specific services which were included in each classification.

discussed FP issues with them, but no more than 10% recalled the FW discussing any specific aspects of maternal or child health beyond FP.

When an FW refers a client for a service, 32% of the 57 FWs interviewed said that they "always" accompany their clients when they go to obtain the service, and 70% said that they "always" check on the client afterwards. The FP services for which the FWs refer clients most frequently are: insertion of an intrauterine device (IUD), administration of an injectable contraceptive, sterilization, or management of side-effects.

On the day of observation, 37% of the FWs had a written schedule for work for that day. In 44% of the 114 client-FW encounters observed by the researchers, the FW informed the client when she would be returning again.

The survey of 5,399 married women of reproductive age included information about contact with an FW during the previous six months. Seventy-six percent of the respondents had had face-to-face contact with an FW during this period. Three-quarters of those who had been visited had received a visit during the previous two months. Overall, 57% of the 5,399 women surveyed had had direct contact with an FW during the previous two months.

2. Quality of Family Planning Services

Method choice (quality of counseling)

Among the household survey respondents who had been visited by an FW and who were users of a non-permanent modern FP method (n=2,086), 70% said that the FW had discussed other FP methods with them. Among the observed encounters of FWs with 70 FP users, the FW inquired in 33% of the cases if the client wanted to switch methods. The FW

also discussed with 40% of the 70 FP users about alternative methods the client could adopt.

Among the 1,724 women household survey respondents who had been visited by an FW and were not using a modern FP method (or whose husband was not using a method), 64% said that the FW had talked about different methods that can be adopted to avoid or delay pregnancy. The FW discussed alternative FP methods in 59% of the 44 observed encounters with non-users of FP.

Family planning among clients of field workers (client behaviour, coverage)

As shown in Table 3, 61% (70/114) of the clients whose encounters with FWs were observed were using a modern method of family planning. Sixty-four percent of the non-users (28/44) had used FP in the past. The most common method among the 70 users is birth control pills, reported by 51%. The second most frequent method used is condom, reported by 21% of the users. Among the 44 non-users, almost half (41%) were wanting to have a child. One-third (36%) of the 28 ever-users had stopped using FP because of method-related side-effects, and another 18% had stopped because of "health concerns," which, in many if not all cases, were likely to have been related to fears of developing side-effects.

Table 3. Characteristics of family planning among 114 clients of field workers

FP user status	Percentage of total clients (n=114)
Currently using a modern method	61
Previous but not current user of a modern method	25
Not previous nor current user of a modern method	14
Total	100

Type of method used	Percentage of users using this particular method (n=70)
Birth control pills	51
Condoms	21
Injectable contraceptives	14
IUD	10
Norplant	3
Tubectomy (female sterilization)	1
Vasectomy (male sterilization)	0
Total	100

	Percentage of Non-users		
Reasons given by clients for non-use	Ever-users (N=28)	Never-users (N=16)	Overall (n=44)
Want to have child	32	56	41
Side-effects of method	36	0	23
Health concerns	18	0	11
Lack of knowledge about FP methods	0	13	5
Husband absent	4	6	5
Partner opposes FP	0	13	5
Client thinks she is not at risk because births "are infrequent"	0	6	2
Infrequent sex	4	0	2
Other	6	6	6
Total	100	100	100

Among the 36 pill users, 23 (64%) said they get their supplies from the FW. Among the 13 pill users who obtain their supplies from elsewhere, 11 said that they buy their supplies from a pharmacy or shop. Among the 15 condom users, 8 (53%) said they get their supplies from the FW, and six out of the seven remaining condom users obtain their supplies from a pharmacy or shop.

Inquiries about current reproductive goals (counseling quality)

The FW discussed FP methods with 93% of the 44 non-users of FP whose encounters with FWs were observed. She asked 70% of these 44 clients if they were pregnant. The FW inquired about the client's reproductive goals and plans in 59% of the encounters.

Among the 70 users of FP whose encounters at home with an FW were observed, the FW inquired about the client's reproductive goals in 46% of the cases. In 43% of these encounters, the FW asked to see the client's FP card. Among the 30 FP users whose card the FW had requested to review, 27% did not have one.

Inquiries about method-related problems (counseling quality)

Among the 54 users of FP who did not mention spontaneously to the FW that they were experiencing problems with the current FP method, the FW asked 43% if they were actually having any problems.

Activities carried out (constellation of services, counseling quality)

Table 4 describes the FP activities of the FW and the FP decisions made by the client during the encounter. Seven percent of the users switched over to a different method, and 1% of the users discontinued their current method without switching over to another modern method. In about half of

the encounters with users, the FW supplied pills or condoms. In a minority of encounters with users the FW inquired about the client's reproductive goals, discussed alternative FP methods, requested to see the client's FP card, or asked if the client was having any method-related problems. Among the non-users, the FW inquired about the client's reproductive goals and discussed FP methods which might be appropriate in 59% of the observed encounters.

Table 4. Family planning activities observed to be carried out by field workers at the time of a home visit

FW inquiries/counseling/outcome	Percentage of cases in which the FW carried out this activity	
	Among users (n=70)	Among non-users (n=44)
FW inquired about client's reproductive goals	46	59
FW discussed alternative FP methods with client	40	59
FW asked to see client's FP card	43	NA*
FW asked client if she was experiencing a problem with her FP method	43†	NA*
FW asked client if she might be pregnant	NA*	70
Client continued same method	91	NA*
Client changed method	7	NA*
Client discontinued method	1‡	NA*
Client accepted a new method	NA*	7
Client continued as non-user	NA*	93
FW supplied pills	34	NA*
FW supplied condoms	13	NA
FW referred client to a doctor or a facility for evaluation of a method-related problem	28§	NA

* NA: not applicable
† Only pertains to those 54 clients who had not spontaneously mentioned earlier in the encounter that she was having a method-related problem
‡ Accepted a traditional method
§ Out of the 18 clients identified during the encounter as having a method-related problem

Among the six users who changed methods, two switched over to condoms from pills, two switched over to IUD from pills, one switched over to IUD from condoms, and one switched over to injectable contraception from pills.[6] One client who discontinued her method had side-effect problems while using an injectable method and switched over to a traditional family planning method (not further specified by the data).

Among the four non-users who accepted a method at the time of an observed home visit, two chose to use condoms and two chose to take birth control pills.

Availability of Pills and Condoms (supplies)

Twenty-six percent (15/42) of the FWs said they had experienced supply problems during the previous 6 months. The most common supply problem mentioned was a shortage of condoms.

Screening of New Acceptors of Birth Control Pills (technical quality)

Table 5 lists the percentage of FWs who said they routinely ask each of the prescribed screening questions to new acceptors of birth control pills. A majority of the FWs reported they routinely ask about high blood pressure (77%), history of jaundice (74%), and diabetes (53%). From five to 47% of the FWs said they routinely mention one of the other eight standard screening questions.

[6] Whether the clients who decided to switch over to IUD or injectable contraception actually did so cannot be confirmed without additional follow-up information.

Table 5. Field workers' reports on their screening practices for new acceptors of birth control pills

Screening questions	Percentage of FWs who routinely ask (n=57)*
Does the client have high blood pressure?	77
Has the client had jaundice during the past year?	74
Does the client have diabetes?	53
Does the client have a breast mass?	47
Is the client breast-feeding?	47
What was the date of the last menstrual period?	42
Does the client have a breathing problem?	39
Does the client have regular headache, chest or leg pain?	33
Does the client have varicose veins?	33
Does the client have unexplained or irregular vaginal bleeding?	9
Does the client smoke?	5

*Responses were unprompted.

Among the 114 FW-client encounters observed, there were two in which a client became a new pill acceptor. The only screening question asked during these two interactions was about the date of the last menstrual period. This was asked in only one of the two observed interactions. In neither of the two observed interactions did the FW ask any of the other recommended screening questions shown in Table 5.

Explanation about and knowledge of method use, side-effects, and warning signs[7] (provider knowledge, technical quality, client knowledge)

Among the 2,086 household survey respondents who had been visited by an FW and who were FP users, 68% said the FW had not discussed with

[7] The criteria used for assessing FW and client knowledge of method use, side-effects, and warning signs for each specific method are shown in Appendix III.

them about the side-effects they might experience with their current FP method.

The 57 FWs who work in Zone 3 were asked what explanations they give to new acceptors of FP methods. As shown in Table 6, a minority of the FWs indicated that they explain how to use the method, what the method's side-effects are, or what warning signs to watch for while using the method. Although about one-third of the FWs spontaneously indicated that they explain side-effects and their management to new acceptors of the three methods, no more than 14% of the FWs said they explain how to use the method or what the warning signs are for any of the three methods.

Table 6. Field workers' reports on explanations given to new acceptors by type of method*

Type of explanation given	Percentage of FWs giving explanation (n=57)		
	Pills	Injectable	IUD
Method use	14	4	14
Side-effects and their management	33	21	37
Warning signs	12	5	9

*Responses were unprompted.

There were 10 new users among the 114 observed encounters. Four of these 10 were non-users before the visit and six were switchers from one method to another. Among the four new users, there were two pill acceptors and two condom acceptors. Among the six switchers, there were two new condom acceptors, three IUD acceptors, and one injectable acceptor. For none of the six new condom and pill acceptors did the FW provide an explanation of method use, side-effects, or warning signs. For half (2/4) of the condom acceptors, method use was explained, but for the two new pill

acceptors there was no explanation given regarding method use or warning signs. Side-effects were explained to one of the two new pill acceptors. No explanations were given to the two new pill users regarding what they should do if they forget to take their daily pill for one or more days. In neither case did the FW explain to the client what to do if she experiences a side-effect before the next FW visit.

There were 22 women who received a resupply of pills from the FWs at the time of a home visit. According to observations made by researchers during these visits, in 33% of these cases the FW gave instructions to the client regarding what measures to take if she forgets to take the pill for one or more days.

The knowledge of the 57 FWs regarding what precautions pill users should take if they forget to take their pills was assessed. Eighty-six percent of the FWs knew that clients should take the missed pill and continue as usual if one pill had been forgotten. Ninety-three percent of the FWs gave the correct answer for what to advise if more than two pills were forgotten (stop taking the pills and use another method). For clients who had missed two pills, however, only 4% of the FWs knew to advise the client to take the missed pills and use the barrier method. Almost all (88%) of the FWs said the clients should take the missed pills and continue as usual.

Among the 68 current users of non-permanent methods (i.e., birth control pills, condoms, IUD, and injectable), 78% gave a fully or partially correct explanation of how to use the method. That is to say, 22% of the users, depending on the type of method, had insufficient or incorrect knowledge of method use (see Table 7). A partially correct explanation was defined as one in which the client had sufficient knowledge of use of the method to prevent method failure. Seventeen to 20% of the pill users, condom users, and injectable users and 57% of the IUD users had

insufficient or incorrect knowledge of the proper use on the method they had adopted.[8]

Table 7. Knowledge about family planning method use among 68 users of that method*

Type of method being used	n	Client knowledge of how to use the method (percentage of clients giving response)			
		Fully correct	Partially correct	Insufficient, incorrect or don't know	Total
Pill users	36	69	14	17	100
Condom users†	15	80	0	20	100
IUD users	7	43	0	57	100
Injectable users	10	50	30	20	100
All	68	66	12	22	100

* The users reported here are FWs' clients whose encounter with an FW was observed. One user of Norplant® and one client who had undergone sterilization were excluded from this analysis.

† Husbands were not interviewed; wife's responses used for assessing knowledge.

Among the 70 current users visited by FWs, 47% could name at least one side-effect of the method they were using. Among the 36 pill users, 64% were able to mention at least one side-effect of birth control pills.

Among the same 70 current users, 47% said the FW told them about warning signs which require that they go to a clinic. Forty-two percent of the 33 current users who said the FW had informed them of warning signs at the time they began the method could mention one or more warning signs at the time of the interview.

[8] See Appendix III for criteria for assessment of knowledge regarding method use.

Counseling of clients by field workers about method-related side- effects (counseling quality)

Of the 70 users of FP whose encounter with an FW was observed, 18 were identified as having a method-related problem. Sixteen clients spontaneously mentioned that they were having a problem. Among the other 54 users, the FW asked 19 if they were having any method-related problems, and two of the 19 said they were.

Among the 18 encounters in which a method-related problem was identified, the problem was not discussed further in two of the cases. In 63% of the remaining 16 cases, the FW told the client not to worry, and in 56% of the cases the FW advised the client to switch over to another method (Table 8). In one-third of the cases the FW provided counseling to the client about side-effects and their duration.

Table 8. Field workers' management of clients with method-related side effects

Activity	Percentage of encounters in which activity observed (n=16)*
FW told client not to worry (no other advice given)	63
FW advised client to use another method	56
FW referred client to a doctor or a facility	31
FW counseled client about side-effects and their duration	31
FW reassured client (and gave other advice as well)	13
FW advised medicine for symptomatic treatment	13

* Percentages add to more than 100% since the FW frequently carried out more than one side-effect management activity.

FWs were asked what are the method-specific problems for which they refer clients to a clinic. The four most commonly mentioned responses for each method are shown in Table 9. No more than two-thirds of the FWs mentioned any single serious method-related complications.

Table 9. Reasons given by 57 field workers for referring clients with method-related problems to a clinic for further evaluation*

Type of method	Percentage of FWs who refer clients with these symptoms (n=57)
Birth control pills	
Heavy bleeding	57
Severe headache	54
Severe chest pain	21
Hypertension	7
Injectable contraceptive	
Heavy bleeding	81
Severe headache	40
Pain/swelling/infection at injection site	21
Irregular bleeding	11
IUD	
Heavy bleeding	77
Severe lower abdominal pain	61
Heavy discharge	51
Client can't feel thread	46
Tubal ligation	
Bleeding/discharge from sutures	68
Severe lower abdominal pain	46
Heavy bleeding	42
High fever	40

* Responses were unprompted.

Reasons for discontinuation of family planning (client behaviour)

One-third of the 28 previous but not current FP users had stopped using FP because they wanted to have a child. Over half (54%) of these same previous users had stopped because of side-effects or other "health concerns."

Involvement of men in family planning (constellation of services)

Almost all of the FWs report that they talk at least occasionally with the husbands of their clients (Table 10). Most (60%) of the FWs had had a discussion with the husband of a client during the previous month and, in the great majority of these discussions, the FWs indicated that they promoted some type of FP method. When talking with husbands, however, FWs discuss motivation for male sterilization less frequently than motivation for female sterilization or IUD. Eleven percent of the FWs said they had discussed vasectomy with the husbands of their clients at the time they last had a conversation with the husband.

Table 10. Field workers' reports on male involvement in family planning at the time of home visits

Activity	Percentage of FWs who report: (n=57)
FW discussions with husbands	
They frequently talk with husbands of their clients	11
They occasionally talk with husbands of their clients	86
They never talk with husbands of their clients	4
Total	100
Recency of FW's last discussion with a client's husband	
During the past month	60
1-11 months ago	15
More than 1 year ago	26
Total	100
Topics which FW discussed at the time of her last encounter with a husband of one of her clients	
Motivation for female sterilization	25
Motivation for IUD	16
Motivation for other FP method	16
Motivation for male sterilization	11
Non-FP topic	13
Total*	100

* Total is greater than 100% because multiple topics were frequently discussed.

During the three months before data were collected, 4% of the 57 FWs had referred at least one male client for vasectomy. In contrast, 42% of the FWs reported they had referred at least one female client for tubectomy during this period.

Field workers' interest in additional training about family planning (provider attitude)

Forty percent of the 57 FWs expressed (spontaneously) an interest in additional training in FP in general; 32% expressed an interest in additional training in FP methods and side-effect management, and 32% expressed an interest in additional training in clinical FP methods (i.e. IUD, injectables, Norplant®, and sterilization). Table 14 (page 37) describes in greater detail the training needs expressed by the FWs.

3. Quality of Maternal and Child Health Services[9]

Client request for MCH services (client behaviour)

Among the 114 FW-client interactions observed, in 18 cases (16%) the client spontaneously requested assistance or advice from the FW for a personal health problem. In 26 cases (23%), the client asked for assistance or advice regarding the health or nutrition of one of her children.

Field workers' promotion of antenatal, childbirth, and postnatal services (provider attitudes and knowledge, constellation of services, client knowledge, client behaviour, coverage)

Among the seven observed home visits in which the FW identified a new pregnancy, the FW discussed the importance of TT immunization and antenatal checkups in six cases.

The 114 FW clients interviewed had limited knowledge of the timing of tetanus immunizations, although 81% had obtained at least one TT

[9] As we mentioned earlier, the FWs included in this study were trained initially as FP workers, but they have received MCH responsibilities since their initial training. FWs generally receive some very limited training in MCH topics, and occasionally some continuing education on an MCH topic is also provided.

immunization. Fourteen of the 114 FWs' clients (12%) were able to show the interviewer their TT card. Of these 14 women, 13 had obtained 2 TT immunizations.

Eighty-seven percent of the 114 women said they plan to obtain another TT immunization in the future. Among the 99 women who plan to obtain another TT immunization, 43% gave an inappropriate answer regarding when their next dose should be obtained: these women said either that they did not know when they should receive their next TT dose or that they would not be needing another dose for at least five years.

The 57 FWs were asked why TT immunizations are given to women. While most (81%) knew that it protects the mother from tetanus, none said (spontaneously) that it protects the newborn from neonatal tetanus. Eighty-two percent of the FWs gave a correct answer regarding the dosage and schedule of TT immunizations.

Table 11 describes the FWs' knowledge on the signs and symptoms of pregnancy complications. Each FW was asked if the specific sign or symptom needs monitoring and possible referral. For all but one of the conditions listed, at least 70% of the FWs felt that the condition should be monitored and possibly referred for further evaluation.

Of the 57 FWs, six spontaneously expressed interest in additional training in antenatal care and four in postnatal care. One FW expressed interest in additional training related to safe delivery practices (Table 14, page 37).

Almost all (92%) of the 57 FWs said they recommend an institutional delivery if the client asks for an opinion about where she should give birth.

Table 11. Recognition of pregnancy risk factors among field workers*

Condition	Percentage of FWs who think mothers with the stated condition need monitoring and possible referral (n=57)
Leg oedema	40
High blood pressure	89
Vaginal bleeding	72
Severe lower abdominal pain	81
No foetal heart sound or foetal movement	70
Evidence of severe anaemia	74
Heart disease	72
Jaundice	72

* Each condition was read to the FW and she decided whether the condition needed monitoring (including possible referral).

Knowledge about and promotion of childhood immunizations and Vitamin A capsule administration (provider attitudes and knowledge, constellation of services, technical quality, continuity, client knowledge and behaviour, coverage)

Of the 57 FWs interviewed, 65% said (spontaneously) they promote immunization of the newborn when they visit a woman who has recently given birth.

Among the 33 observed interactions in which the client had a child aged below one year, the child's health was actually discussed in 70% of the cases. In 55% of the 33 cases the FW discussed the importance of childhood immunization and asked to review the child's EPI (immunization) card. In 44% of these 18 cases the child did not have a card. Of the 10 children aged below one year with an EPI card, six had received the immunizations appropriate for the age of the infant. There were 22 children

aged below one year identified by the FW as being in need of an immunization: 77% of these were referred to a facility by the FW, and 59% were told when to go for the immunization.

The 57 FWs were asked about their knowledge on the dosage and timing of childhood immunizations. Eighty-four to 95% of the FWs gave a correct answer for BCG, DPT, polio, and measles vaccinations, and 88% knew that all vaccinations should be completed by the child's first birthday.

There were 72 clients with a child of 6 weeks to 5 years of age. Of these, 66 (92%) had taken their child for at least one immunization. Table 12 lists the reasons given by these 66 clients for immunizing their child. No more than 26% of the women mentioned a disease for which childhood immunizations are actually given while a number of respondents mentioned a disease not prevented by one of these childhood immunizations.

Among the 22 clients whose child was below one year of age and in need of an additional immunization, 41% gave an inappropriate answer regarding the timing of the next dose: these mothers said they did not know when the next dose was due or that it would not be due until the child is five years of age.

Eight of the 57 FWs expressed (spontaneously) an interest in additional training concerning immunizations (Table 14, page 37).

For the 50 observed encounters in which the health of an under-5 child was discussed, the FW inquired about the child's last dose of Vitamin A in 12% of the cases. In two cases, the FW checked the child's health record to see if Vitamin A had been administered during the past 6 months. In one case the FW administered Vitamin A to a child, and in one case the FW referred the child for Vitamin A administration.

Table 12. Reasons for obtaining immunization reported by clients who had their child immunized*

Reason given	Percentage of clients who responded (n=66)†
Prevent measles	26
Prevent tuberculosis	23
Prevent tetanus	18
Prevent polio	9
Prevent diphtheria	9
Prevent tetanus	6
Good for child/good for health	5
Prevent cough	5
Prevent pox	2
Prevent pneumonia	2
Prevent scabies	2
Prevent fever and cold	2
Prevent "killer" diseases	2
Prevent cancer	2

* Responses were unprompted.

† More than one response was possible, hence the total is greater than 100%.

Promotion of breast-feeding and appropriate infant feeding (provider knowledge, constellation of services, technical quality)

During the FW encounters with 33 women who had a child aged below one year, the FW discussed the importance of breast-feeding in 61% of the cases.

When asked what advice the FWs provide to clients who have recently given birth to a child, 75% of the 57 FWs said (spontaneously) they promote exclusive breast-feeding. When FWs were asked when a new mother should begin breast-feeding, 95% of the 57 FWs said (spontaneously) "immediately after birth."

When asked at what age an infant should receive supplemental feeding, 44% of the FWs responded by mentioning an age younger than five months. None, however, said that supplemental feeding should begin later than six months of age. When the 57 FWs were asked what advice they give to mothers who feel that their breast milk is inadequate, 70% spontaneously mentioned that they suggest to the mother that she provide her infant with other milk products.

Promotion of appropriate diarrhoea treatment (provider attitudes and knowledge, constellation of services, technical quality, client knowledge)

Of the 114 clients of FWs interviewed, 46% said the FW had never promoted oral rehydration solution (ORS). When the 57 FWs were asked what they would say to a mother who asks for assistance with her child who has diarrhoea, all FWs said they would recommend ORS; 35% said they would recommend continued feeding and 2% said they would assess the degree of dehydration. One of the 57 FWs expressed (spontaneously) an interest in further training on diarrhoea prevention and management (Table 14, page 37).

While 75% of the 114 clients of FWs gave a fully correct explanation regarding how to prepare ORS from packets, only 54% and 3% of the clients gave a correct explanation for the preparation of home-based and rice-based fluids, respectively.[10]

[10] See Appendix IV for further details

There were no children with diarrhoea identified by the FW during the observed home visits, so the actual management of childhood diarrhoea could not be assessed.

Management of acute respiratory infection (provider attitudes and knowledge, constellation of services, technical quality, continuity)

When FWs were asked what they would do if a client asked about her child's cough or breathing difficulty, none of the 57 FWs said she would count the child's respiratory rate. However, 79% of the FWs said they would refer the child to a facility or a hospital, 23% said they would assess the condition of the child, 18% would ask about fever, 14% would refer the child to a specialist, and 2% would provide reassurance. None of the FWs expressed a need for additional training in case identification and management of acute respiratory infections (Table 14, page 37).

In the observations of encounters between FWs and clients, two cases were identified in which a child had a cough or breathing difficulty. In both cases, the FW provided reassurance. In one case, the FW asked the mother if the child had had a fever and then advised the mother to take the child to a physician. In the second case, the FW obtained a history of the illness, recommended that the mother obtain some medicine, advised her to monitor the child's illness, and made dietary recommendations. In neither case did the FW count the child's respiratory rate.

Promotion of general child health (constellation of services)

There were 76 encounters observed with mothers who had a child under 5 years of age in which the mother herself did not raise a question about the health of her child. In 32% of these encounters the FW inquired about the health of the child.

4. Referral Activities (continuity)

Table 13 describes the referral activities reported by FWs and clients and also those referral activities which took place during FW-client encounters. Just over one-third (39%) of the 114 clients interviewed reported that the FW had referred them or one of their children for a service. About half (55%) of the 44 clients who said they had been referred had actually obtained the service, and in about two-thirds (68%) of the cases referred, the FW inquired about the result of the referral. In 4% of the 114 interactions, the FW told the client what to do if she or one of her children experienced a problem before the next visit.

Clients with serious FP method-related problems or clients who need additional services which the FW cannot provide are almost always referred to a clinic or hospital. As Table 13 also shows, referrals for maternal health-related problems are frequent except for postnatal care. According to observations of the FW-client encounters, 25% of newly delivered mothers were referred for a postnatal checkup. Most likely, many of the mothers seeking treatment, care, or advice from an FW for a health problem did not actually need to be referred for further services, so a referral rate of 28% for this group may reflect entirely appropriate care.

Three-fourths (77%) of the children aged below one year identified as being in need of additional immunizations at the time of an FW home visit were actually referred for immunizations. Half or more of the children with symptoms of ARI were referred compared to 23% of those with diarrhoea (also shown in Table 13).

Table 13. Referral activities of field workers (as reported by field workers and by observers)

	n	%
Referrals in general		
1. Clients who said they or their child had been previously referred by the FW for additional services	114	39‡
2. Among the clients who were referred for additional services, percentage who actually went for the service	4	55‡
3. Among the clients who were referred, the number of those who reported that the FW followed up about the result of the referral	44	68‡
4. Clients were told where to go if they or their children have a problem before the FW return	114	4*
FP-related referrals		
1. FWs report that they refer FP clients with method-related problems to a doctor or a clinic	57	98†
2. FWs report that they refer clients to a clinic if the client requests an FP method which the FW cannot provide	57	82*
3. Clients identified with a method-related problem who were referred to a doctor or a facility	18	28*
Maternal health-related referrals		
1. Women seeking treatment/care/advice for a health problem who were referred to a doctor or a facility	18	28*
2. FWs sometimes refer women to a clinic for complications from menstrual regulation/ abortion	57	67†
3. Currently pregnant women who were referred for antenatal checkup and/or TT immunization	7	86*
4. When women ask for advice about where a delivery should occur, FWs refer client for an institutional delivery	57	93†
5. Clients with a child aged below 6 weeks, who were referred for a postnatal checkup	8	25*

Table 13. (continued)

	n	%
Child health-related referrals		
1. Mothers of children aged less than one year in need of additional immunizations who were referred to a facility for the next immunization	57	23†
2. Children with diarrhoea who were referred to a facility or pharmacy	57	79†
3. Children with cough or difficult breathing who were referred to a facility or pharmacy	2	50†

* Observed during client-FW interactions

† Reported by FWs

‡ Reported by clients

5. Supervisory and Other Support Issues (provider attitudes, quality of supervision, technical quality)

All of the 57 FWs interviewed indicated that they had regular field supervision and almost all (87%) said that during the previous four months they had had at least four supervisory field visits. Encounters between FWs and supervisors were not observed. Almost all (95%) of the FWs feel that the supervisory visits are helpful and 25% feel the visits should be more frequent. FWs mentioned that supervisors assist in the solution of field problems, help correct the "wrong doings," help improve the quality of the FW's performance, and improve the client's confidence in the FW.

The research observers assessed the quality of the record book which the FWs were using on the day of the observation. In only 7% of the cases did the record book appear to be in poor condition. Ninety-one percent (52/57) of the record books contained sufficient information about the

clients' addresses to enable a follow-up visit to be made by someone who had not previously been to the house.

6. **Clients' Assessments of the Field Workers' Services** (quality of interpersonal relations, client satisfaction, client perception of quality)

Of the 4,106 women interviewed in the baseline household survey who said they had received an FW visit, slightly less than half (49%) felt that the FW visits were useful or helpful. Seven percent said the visits were "more or less" helpful, and 44% said they were not helpful or they did not know if they were helpful or not.

Observations of the 114 encounters between 57 FWs and their clients (two observations per FW) indicate that the FWs provided a respectful greeting to the client in all eases. In 84% of the encounters, the observer felt that the FW responded adequately to the client's questions.

When these same 114 clients were interviewed separately later the same day, 95% said that the FW "always" greets them in a respectful or friendly manner. Over two-thirds (71%) said that they received the service they wanted during their encounter with the FW earlier in the day, and 81% said that the FW answers all of their questions.

While 70% of these 114 clients said they feel comfortable asking the FW about their own personal health problems, 43% said they feel comfortable asking the FW for advice about their child's health problems. Four percent of the clients consider FWs to be an important source of advice about child health problems.

Most (76%) of the 114 clients interviewed feel that the timing of FW visits is about right, 10% think the visits are too frequent, 11% think the

visits are not frequent enough, and 15% do not have an opinion. Even more (84%) of the 114 clients feel that the duration of the visit is about right, but 19% feel the visits are too short while only 4% feel the visits are too long.

While most of the 114 clients interviewed appreciate the visit of the FW, 18% said they do not always like the FW to come and visit or that there is no need for the FW to visit them.

7. Field Workers' Assessments of Previous Training and Current Training Needs (provider training and attitudes)

The standard training course for FWs employed by CWFP is for 12 days. The government FWs participating in the study indicated that their basic training lasted anywhere from 14 to 30 days. However, 30% of the FWs said that the training they actually received was for less than 12 days. Ninety-one percent of the 57 FWs had obtained refresher training during the two years prior to the FW survey.

FWs were asked what topics had been covered in their training initially and during refresher courses. These results, shown in Table 14, indicate that, in general, training has focused on family planning. Training in maternal and child health topics has been quite limited during both basic and refresher training. Furthermore, there does not appear to have been any the stronger emphasis on MCH activities during the refresher training than during the basic FW training.

Thirty-three percent of the 57 FWs feel that their training was adequate, but 84% feel a need for additional training. FP topics were mentioned more frequently than MCH topics as being areas of needed additional training.

Table 14. Topics of basic and refresher training received by field workers, and topics for which field workers expressed interest in obtaining additional training*

Topics	Percentage of Field Workers		
	During basic training (n=57)	During refresher training (n=46)	Need expressed for additional training (n=57)
Family planning topics			
FP methods and use	95	93	40
Method-specific side-effects and management	81	80	32
FP counseling	65	41	0
New FP methods	0	0	9
Male motivation for FP	0	0	2
Maternal health topics			
Antenatal care	30	26	11
Postnatal care	16	17	7
Safe delivery issues	12	17	2
Emergency obstetric care	0	0	0
AIDS	0	0	7
STDs/RTIs†	0	0	4
Technique of blood pressure measurement	0	0	4
Child health topics			
Child health,care	60	39	26
Diarrhoea prevention and management	46	33	2
Immunizations	46	57	14
Nutrition	28	35	11
ARI case identification and management	0	2	0

* Responses were unprompted

† Sexually transmitted diseases and reproductive tract infections

8. Field Workers' Opinions About How MCH-FP Services Could Be Improved (provider attitudes)

At the end of the interview with each of the 57 FWs, the following statement was read: "The Ministry of Health would like to make sure that the family planning and maternal/child health services delivered through the field worker programme are meeting people's needs and that services provided are of the highest quality possible." FWs were then asked if they had any suggestions regarding how quality could be improved in the following six specific areas:

-service provision
-information provided to clients
-counseling and screening of family planning clients
-supervision
-contraceptive supply logistics, and
-anything else.

Their open-ended comments which pertain particularly to improving the quality of FW services are discussed below.

A review of the most frequently mentioned open-ended comments, shown in Table 15, indicates that FWs consider expanding their capacity to provide more services in the home as a priority for improving the quality of the services they provide. New services which they consider would improve quality include giving out medicines and vitamins, taking blood pressure measurements, and providing prenatal care at the time of a home visit. The need for improved counseling skills and also improved information, education, and communication (IEC) skills was the second most commonly mentioned category.[11] Improvements in the record-keeping system and more

[11] A lack of utilization of IEC materials was observed during encounters with clients. Of the 114 encounters, FWs used IEC materials in only 11, and memory prop cards were used in only 1.

training were also frequently mentioned. Other common themes noted in these comments include the expressed need for more time with clients and their husbands, the need for more group activities (two or more FWs working together or groups of clients meeting together), more effective supervision, and more effective home-based medical services provided by other health staff.

Table 15. Open-ended comments of 57 field workers regarding how the quality of their work might be improved

Category of comment	Frequency
1. Need to be able to give out medicines and vitamins or provide additional services in the home (e.g. blood pressure measurement, prenatal care)	8
2. Improved counseling, IEC, or communication skills	7
3. Changes in the record-keeping system	6
4. Additional training	6
5. Stronger supervision, supervisory help with counseling, improvements in supervision	4
6. More time for counseling/screening	3
7. Group sessions (especially with husbands)	3
8. More FWs, more frequent visits	3
9. IEC materials	3
10. Need Health Assistant, Paramedic, or Medical Doctor to visit homes when necessary	2
11. Need time with clients' husbands and especially with rickshaw pullers/labourers	2
12. Need to be able to distribute a variety of brands of pills and condoms	2
13. 2 FWs should work together in the field	2
14. Home delivery of injectables	1
15. Better prenatal and postnatal care at home	1
16. Fewer household visits	1

Discussion

Previous Studies in Bangladesh on Field Workers' Quality of Care

Most studies on the quality of FW's activities in Bangladesh have focused on FP issues such as those listed in Table 16.

Table 16: Topics addressed by studies of the quality of family planning services provided by field workers in Bangladesh

1.	The knowledge of FWs about basic family planning concepts, such as contraindications to specific methods, method use, side-effects, and warning signs (7,17,18)
2.	The amount and quality of FP information given by FWs to clients, including the range of methods available to the client (7,18-22)
3.	The responsiveness of FWs to clients' FP needs (7,18,20-22)
4.	Management of method-related side-effects (7,18,20,21)
5.	Number of home visits carried out per day, the content and length of the visit, the coverage of visits among the clients for whom the FW is responsible, and comparisons of the characteristics of clients visited by FWs with those not visited (7,18,20-28)

The present study has also assessed the topics shown in the above table with the exception of the comparisons between visited and unvisited clients. Nonetheless, the present study is noteworthy for the scope of FP quality indicators that have been included.

Studies on the quality of MCH services provided by FWs in Bangladesh have been fewer in number and narrower in scope. These have focused on the issues listed in Table 17. Again, the present study is also noteworthy for the scope of MCH quality indicators that have been included.

Table 17. Topics addressed by studies on the quality of family planning services provided by field workers in Bangladesh

1. Knowledge of FWs about basic MCH activities, including immunization schedules and ORT preparation and use (29,30-32)
2. Time spent by FWs on MCH activities (7,18,19,21,30)
3. Promotion by FWs of prenatal care and TT immunization among pregnant women (7,18)

Most of the studies listed in Tables 16 and 17 have identified significant problems with the quality of services which the FWs provide. Some of these problems are described in Tables 18 and 19. Limited basic knowledge among the FWs, limited communication of this knowledge to clients, limited client contact; and limited responsiveness to the needs of the clients are common findings from these studies. While some of these problems may be due to the short length of training which the FWs receive (less than two months), other problems may be attributable to the quality of the training itself or the quality of the supervision and continuing education which the FWs receive.

Table 18. Quality-related problems identified in previous studies of FP services provided by field workers in Bangladesh

1. Limited knowledge of FWs about basic FP concepts, method use, contraindications, and side-effects (7,33)

2. Difficulties in communication with clients (20), lack of explanation of methods available to clients (20), lack of screening of new users for appropriateness of method (18), limited information about FP methods provided to users (7,19,20)

3. Lack of responsiveness of FWs to client FP needs (18,19)

4. Lack of communication to clients about side-effects and management thereof (18)

5. Lack of contact with a substantial proportion of women for whom the FW is responsible (4,20); lack of contact with non-users of FP (4,19); limited time spent in actual home visitation (18); lower CPR among clients visited less frequently or among clients with shorter visits from FWs (24,2[illegible] lack of information or services provided in home visits of less than 5-6 minutes (23); lower perception of quality among clients visited less frequently (25), and lack of early follow-up of new IUD and sterilization clients (20)

Table 19. Quality-related problems identified in previous studies on maternal and child health services provided by field workers in Bangladesh

1. Knowledge of FWs on basic MCH concepts is limited (30,32)

2. Time spent by FWs on MCH activities is limited (7,19,30)

3. Inadequate or incorrect promotion by FWs of MCH services and activities (7,18,31)

One recent review of community-based FP and health workers in Bangladesh concluded that "there has been an absence of systematic observed studies on health and family planning field-level workers for their knowledge and skills, as well as for client-worker interaction and communication" (7). The current study attempts to fill this gap.

Most of the previous studies on the quality of FW services have been among those FWs who are employed by the Family Planning Directorate of the Bangladesh Ministry of Health. These studies have also had a rural orientation since the great majority of government FWs work in rural areas. There have been far fewer studies of the quality of care provided by urban FWs, particularly those employed by NGOs.[12]

Methodological Limitations of the Study

There are several limitations of the present study which should be kept in mind. First of all, the quality of FW services is assessed for only one zone of one urban area of Bangladesh, and in this zone 91% of the FWs are employed by a single NGO. Thus, we cannot be confident that these findings are representative of FWs' services in urban Bangladesh or of Bangladesh as a whole.

Secondly, although 5,399 clients were interviewed, only 114 FW-client interactions were observed. A larger number of observations of FW-client interactions would have made these findings more robust and more representative of the FWs' services in Zone 3.

A third important limitation of this study is the fact that during the FW-client interactions which were observed, it was obvious to the FW that a researcher was present and observing the interaction. Thus, it is quite

[12] There have been, however, three studies which focus specifically on FW services of NGOs (21,22,33).

likely that the FW was performing to the best of her ability. It is unknown whether she would have performed in the same way without a researcher observing the interaction, but it seems reasonable to assume that the performance would not have been as good. Thus, the findings obtained from observation likely represent the upper limits of quality in actual day-to-day practice.

Fourthly, many of the findings are quite imprecise. For instance, FWs were asked what they usually do in certain situations. Some FWs may have failed to mention activities which they in fact usually carry out while other FWs may have mentioned activities which in fact they infrequently carry out. Thus, as our analysis of the types of services provided by FWs demonstrates, observed behaviours do not always closely correspond to reported behaviours.

Responses to questions concerning knowledge and attitudes of FWs as well as of clients are also imprecise indicators of quality. For instance, it is not clear whether a client's knowledge (or lack thereof) can be attributed to an FW's transmission (or failure of transmission) of that knowledge. If a client is aware of the TT immunization schedule, for instance, did she learn this from the FW or from another source? Thus, the responses to questions about reported behaviours as well as about knowledge and attitudes need to be interpreted as crude rather than precise estimates of quality.

Issues in the Interpretation of Results

How are we to judge the observed measures of quality obtained in the present study? This is a difficult issue, because without knowing in detail the actual training which the FWs have received, without knowing the constraints within which each FW works, without understanding just how clearly defined her role is and to what degree she is expected to participate

in MCH services; for instance, it becomes very difficult to place a value judgement on the findings. From the perspective of ideal practice, many of these findings, especially those related to MCH activities, represent suboptimal performance. However, taking into account that the FWs' training and job orientation have to date heavily emphasized FP activities over MCH activities, the fact that FWs provide MCH services as well as they do can be seen as highly encouraging. CWFP's official job description for FWs, for instance, mentions only immunization motivation and health education (otherwise unspecified) as the only additional responsibilities of the FW beyond FP education, motivation, and supply.

Furthermore, it is fair to say that an extensive knowledge base would be required of an FW in order to provide high quality care for all of the MCH-FP dimensions evaluated in this study, particularly in light of the limited general educational background of the FW and her limited job training as well. The FW's time constraints and the focus of her supervisors specifically on the CPR of her clients also make it very difficult for the FW to provide a broad variety of high quality MCH-FP services.

Consequently, our emphasis here is on how the quality of MCH-FP services provided by FWs can be further improved rather than to pass judgement on the current quality of services. In this sense, the results of this study provide an important baseline against which later assessments of quality can be compared.

MCH-FP Services Which Demonstrate Good Quality

Although there are obviously many areas in which the quality of MCH-FP services could be strengthened, it should be pointed out that there are quite a few activities which appear to be performed well. A few examples are as follows.

Overall, the clients perceive the FWs to be respectful toward them, to respond adequately to their questions, to provide the services which they want, to visit them at appropriate frequencies, and to stay for an appropriate length of time. Overall, clients are comfortable in asking FWs about their health problems.

FWs appear to be fairly good at discussing alternative FP methods, asking clients about their reproductive goals, inquiring about whether a non-user might be pregnant, and promoting TT immunization among pregnant clients. FWs demonstrate a good knowledge on TT and childhood immunization schedules as well as a good knowledge on the importance of colostrum and exclusive breast-feeding. There is strong evidence that FWs perform an effective role in referring clients for MCH-FP services which cannot be provided in the home. The referral rate for children with cough and difficult breathing is very high. Supervision of FWs appears to be supportive and frequent.

MCH-FP Services Particularly in Need of Quality Improvement

The findings from this study also suggest, however, that there are many areas in which the quality of FW activities could be improved. The issue is how to decide on the priority areas for improvement since obviously all areas cannot be improved simultaneously. The activities in need of quality improvement most closely related to the national programme goals of cost-effective and sustainable reductions in fertility and mortality should be given priority.

In our view, the areas in greatest need of improvement include the frequency of contact with clients who have special needs,[13] client education about FP methods, and counseling and management of side-effects. Other areas in need of strengthening include: EPI promotion, promotion of postnatal care, detection of possible pneumonia, assessment of diarrhoea-related dehydration, promotion of ORS and continued feeding for children with diarrhoea, and promotion of exclusive breast-feeding during the first five months of life.

Comments on Specific Findings

Services which FWs provide

The fact that only 57% of the clients reported actual contact with an FW during the previous two-month period suggests that efforts need to be made to improve the contact rate. The predominance of FP activities over MCH activities during home visits is particularly notable as well.

Screening issues

The screening of clients by FWs before recommending birth control pills is an important activity which is not occurring. The FWs should be informing clients that birth control pills are not recommended in certain situations. Even though many clients obtain their supply of birth control pills from pharmacies and shops rather than from FWs, all clients who express an interest in birth control pills or who are taking pills need to be informed by

[13] Clients with special needs include those not using family planning who do not want to become pregnant, those who do not want to become pregnant for at least two years who are using temporary methods (pills or condoms), those who do not want any more children who are not sterilized, those who are experiencing side-effects, those who are pregnant, those with children who need immunizations, or those who are not providing optimal infant nutrition. However, in order to be able to visit these clients more frequently, it will also be necessary to reduce the frequency of visits to the non-priority clients. However, contact needs to be maintained with non-priority clients since most could become priority clients at any time.

the FW of the screening criteria. The findings from this study suggest that this is not commonly done. The need for FWs to assure that new pill users are screened appropriately, regardless of the source of the pills, is further highlighted by recent research in Zone 3 revealing that 60% of the pharmacists are unable to name the three major contraindications to pill use (34).

Instructions regarding method use

One recent study has estimated that 12% of births in Bangladesh are a result of failure of birth control pills alone, and an equal percentage of births is a result of failure of one of the less reliable birth control methods such as condom, foam, withdrawal, rhythm, or a traditional method (35). High failure rates of these same methods have been documented by others in Bangladesh as well (36).

Instructions to FP users regarding what precautions need to be taken if the method is not used properly are important. Women commonly forget to take their daily birth control pill, and it is rare that they use another method if they miss more than two consecutive pills (37). Under such conditions, pregnancies resulting from user failure are not uncommon. The findings from this study suggest that FWs are not properly informed about what educational messages to give to women who have missed two consecutive pills, and they infrequently inform (or remind) clients what precautions to take if they forget one or more pills.

There is evidence from Matlab, Bangladesh, that the quality of an FW's services can influence the contraceptive failure rate. There, FWs were classified to fall into three levels of performance based on supervisory ratings. The contraceptive failure rate for the clients who were using a relatively unreliable method (birth control pills, condoms, foam, withdrawal, rhythm, or a traditional method) was 24-25% among the clients of FWs of

the poorer quality compared to failure rates of 9-18% among the clients of the FWs of higher quality FWs (35).

Taking into account the importance of the problem of use failure, one might argue that, with every contact which an FW has with a birth control pill user, the FW should ask the client what she will do if she forgets to take her pills. The FW should probably also regularly inquire about other key aspects of method use (such as when to begin the next cycle). Furthermore, greater emphasis given by FWs on encouraging clients to adopt longer-acting and more reliable forms of FP methods (such as injectables, IUDs, Norplant, or sterilization) would reduce the number of pregnancies arising from inappropriate method use.

Counseling about side-effects and warning signs

FWs are reluctant to inform clients about potential side-effects and warning signs to look for. FWs freely admit that this is because they are afraid that the client will not accept the FP method if this information is provided. Supervisors need to encourage FWs to rethink this strategy, since a lack of information about these issues appears to be producing a higher dropout rate than might be the case if initial counseling was more thorough. A better-informed client may be more likely to tolerate mild side-effects without discontinuing the method. Such a client may also be more likely to obtain appropriate treatment or switch over to another method, if necessary, without dropping out of contraception altogether.

There is evidence that clients in high-performing FP programmes of NGOs are more likely to be informed about side-effects by their FW than are clients in low-performing programmes (21). In the government system, FWs are evaluated monthly on the contraceptive acceptance rate among their clients rather than the CPR; so there is an understandable tendency for FWs to focus their efforts on recruiting new acceptors rather than preventing

dropouts among the current users who are having side-effect problems. Consequently, the findings from studies of the government FWs demonstrating limited information given to new acceptors are not surprising. More effective information, education, and communication (IEC) methods could be very useful in helping FWs share information about side-effects and warning signs with clients.

The findings regarding FWs' counseling about side-effects for new acceptors and for users with method-related problems take on particular relevance in light of the fact that many of the FWs' clients have discontinued FP altogether because of side-effects or because of a fear of side-effects. The majority of the past users stopped FP altogether because of side-effects or "health concerns," which probably represent a fear of side-effects. These findings are consistent with those reported by Mirza et al. (38) for rural Bangladesh, where 70% of the past users mentioned side-effects as a reason for discontinuation. It is also particularly worth noting that in their study one-quarter of the never-users mentioned fear of side-effects as a reason for never adopting a method of contraception.

Although the clients in our study gave a favourable rating to the "affective" aspects of the interpersonal skills of the FWs,[14] the actual content of information provided by FWs to their clients about side-effects and warning signs was extremely limited.

Issues related to prenatal care

The opinions of FWs regarding which pregnancy-related signs and symptoms need monitoring or referral vary considerably. FWs need further training and closer supervision in this area.

[14] Such "affective" aspects of interpersonal skills of the FWs which we assessed include: friendliness, respect, and degree to which clients feel comfortable asking questions to the FW.

Promotion of child health

Clients do not perceive FWs to be as knowledgeable about maternal and child health issues as they are about FP issues. Additional training of FWs will be necessary to improve their skills and their confidence in those skills. Training of supervisors of FWs in these areas will be equally important. Modification of the FWs' formal job description and appraisal system will also be required if FWs are to give more emphasis on MCH services.

There was a missed opportunity for promoting child health in 68% of the cases in which the FW made a visit to a home where there was a child aged less than 5 years and the mother did not spontaneously ask the FW about the health of her child. Additional training for FWs in child health issues as well as closer monitoring and supervision would presumably reduce this rate of missed opportunities.

For Zone 3 mothers, including those who live in slums, the most common source of care for children with acute illness is a private physician or a private clinic (10). Thus, FWs need to have a thorough understanding of these providers and the quality of their services in order to effectively counsel the mothers of sick children.

Immunizations

The FWs in Zone 3 actively promote TT immunization among pregnant women and the FWs' knowledge on the dosage schedule is quite good. However, there is a major gap in knowledge among FWs as to why women should receive TT immunization. The FWs do not understand that the major purpose of maternal TT immunization is to prevent tetanus in the newborn child.[15] If both FWs and pregnant women understand the high risk

[15] Personal discussions held with FWs by the principal author have confirmed this finding as well.

of fatal neonatal tetanus among newborns of unimmunized mothers and the potential for elimination of this risk through proper immunization of the pregnant mother, the FWs might promote TT immunization even more vigorously. Perhaps the mothers would respond more enthusiastically as well.

Clients need to be told clearly by FWs why and when childhood immunizations are given. Only a small percentage of clients could name the diseases for which childhood vaccines are administered.

Vitamin A distribution

The findings reported here regarding the low participation of FWs in the distribution of Vitamin A capsules need to be interpreted with some caution. The Ministry of Health provides FWs around the country with Vitamin A capsules to distribute twice a year to children aged between one and six years. During the period for which the FWs in this study were observed, they were not distributing Vitamin A capsules.

Promotion of exclusive breast-feeding

While the FWs seem to be aware of the importance of exclusive breast-feeding, the findings suggest that FWs are quick to recommended that mothers supplement their breast milk with other milk products if the mother feels her breast milk is inadequate - a common attitude among urban slum mothers (39). FWs need to be more confident that in almost all cases the mother's breast milk is adequate for the first 5 months of life. Additional training for FWs regarding the promotion and proper technique of exclusive breast-feeding would be helpful in increasing the prevalence of this important mortality-reducing modality. Since the Government policy is to promote exclusive breast-feeding during the first 5 months of life (40), FWs should be encouraged to become vigorous promoters of this policy, which has an

extraordinarily high health and family planning benefit (41,42) as well as a substantial cost-saving when compared with supplemental (especially formula) feeding to infants during their first 5 months of life.

Promotion of oral rehydration therapy

The fact that 46% of the clients said FWs had never promoted ORS is surprising. FWs should ensure that at least once a year all pregnant women and mothers of young children know the following three "golden rules" of diarrhoea treatment:

-increase fluid intake
-continue feeding (including breast-feeding), and
-watch for warning signs and seek further help if needed (43).

Unfortunately, there were no diarrhoeal cases observed during the FW-client interactions; so there is no basis to judge the appropriateness of FWs' instructions to mothers of children with this condition.

Evaluation of symptoms of ARI

FWs have not yet received training in the WHO standard case management approach to ARI (44). The recognition of warning signs based on the presence of an elevated respiratory rate and intercostal retractions (i.e., chest indrawing) needs to be emphasized so that the children with warning signs can obtain early and appropriate antibiotic treatment and so that children are not referred to a clinic unnecessarily.

Referral activities

One of the most important responsibilities of the FW is to counsel the client about when additional services are needed and where those services

can best be obtained. This is particularly important in urban areas where a multi-plicity of providers is available and where clients are often new to the environment and, therefore, unfamiliar with how to obtain needed services.

The results of our analyses document that FWs frequently refer their clients for MCH-FP services. Fully 39% of the clients said their FW had referred them or one of their children for a service. Although 89% of the pregnant clients visited by an FW were referred for prenatal care, only 25% of the visited clients who had given birth during the previous six weeks were referred for a postnatal checkup. Thus, there is a need to encourage FWs to promote the utilization of postpartum services.

Emphasis on client-retained cards

In less than half of the cases an FW asked to see a client's FP card or (for those clients with a child aged less than one year) the child's EPI card. A substantial percentage of the clients did not have a card. FWs need to consistently review these cards during each home visit and assist those without cards in obtaining them.

Client assessment of FWs' services

Although clients give a high rating to the friendliness and overall quality of the services which FWs provide, 44% of the clients interviewed said the FW's visits are not particularly helpful and 18% said either that they don't like for the FW to visit them or there is no need for a visit. These findings raise important questions which need further investigation. Who are these clients and why do they feel this way? Presumably, many of these clients are FP users who obtain their supplies from other sources. A deeper understanding of these issues, however, would be helpful for

improving the FW's service effectiveness and for developing policies for selective home visitation (see Section 4 below).

Issues relating to supervision, health information system, and training

Supervisors appear to have a supportive relationship with FWs, and contact is frequent. The record books used by the FWs are maintained appropriately. However, other research concerning the same FWs participating in the present study indicates that only 21% of their time is devoted to actual service provision, while even more time is devoted to record-keeping activities (25%) and unoccupied time (22%) for chatting, eating, personal errands, and so forth (45).[16] Thus, an important issue for the future concerns how supportive supervision and appropriate records can both be maintained while at the same time decreasing the amount of FW's time required for record-keeping and increasing the amount of time spent in service provision.

Although FWs do receive some training on MCH topics, the dominant focus during both basic and refresher training is on FP topics. FWs express little interest in additional training on maternal health care and only a little more interest in additional training on child health issues. The major focus of attention for FWs is still on FP. However, if MCH criteria, along with CPR, were used for assessing individual performance, the interest of FWs in additional training on MCH topics would likely be much greater.

Recommendations for a More Effective Field Worker's Role

The following are some preliminary recommendations regarding how to improve the quality of the FWs' services. While these recommendations

[16] The remainder of the FW's time is devoted to travel (15%), preparation (9%), and professional interactions (8%) such as supervision and formal meetings (45).

have particular relevance to the FWs in Zone 3, they are highly likely to be appropriate for FW services in other settings as well.

1. The standards of quality should be clarified

What precisely an FW should do at each visit needs to be further specified, and the monitoring of quality should be based on these criteria. This is the first step of quality improvement.

2. A standard algorithm[17] should be developed for FWs' visits

FWs should have a protocol which outlines specifically what questions and instructions should be given under what circumstances. This algorithm could be extended to ensure that certain issues are addressed not necessarily at every visit but perhaps every six months or every year. Issues, such as client satisfaction with current FP method, reproductive goals, knowledge on warning signs of dehydration, knowledge on warning signs of ARI, and knowledge on preparation of ORS, are examples of issues which should be addressed occasionally by the FW, but not necessarily at each visit.

3. The FW's role should focus on behaviour change, not on contraceptive supply

FWs should promote the utilization of appropriate services and the adoption of healthy behaviours (including FP). Because of the ubiquitous availability of pills and condoms from neighbourhood pharmacies and shops in urban areas, discontinuation of the doorstep supply of pills and condoms by the FWs may be feasible. The discontinuation of this activity may make it easier for clients to consider the FW as a basic

[17] An algorithm is a straightforward set of instructions for how to proceed in clearly defined situations. Such algorithms are now being developed and used increasingly in health care programme, particularly for lower level staff.

health worker, not simply as an FP worker. Enhanced counseling skills and use of visual materials (see Section 9 below) will be required to improve service effectiveness in promoting behaviour change.

Fear of side-effects is an important issue for clients, so improved counseling could lead to greater contraceptive use.

4. Home visits should be segmented

FWs should visit more frequently the clients who have the greatest need for services. These clients should receive priority over those who are satisfactorily using family planning and who do not have young children. Pregnant women and mothers of children aged less than 2 years should receive more frequent visits from FWs to promote the adoption of healthy behaviours and appropriate use of essential basic services. The feasibility and the effectiveness of segmented visitation can best be assessed through an operations research intervention. Alternative delivery systems for community-based MCH-FP services are currently being tested by the Urban Initiative.

5. FWs should facilitate the distribution of EPI and FP cards to those who do not have them

As part of the standard protocol for visitation, the FW should review the reproductive intentions, current FP practices, and immunization status of the family. This is best accomplished by a quick review of the FP cards of all clients using FP, the TT immunization cards of all women of reproductive age, and the EPI cards of all children aged less than two years. For the users of FP who do not have an FP card, the FW should provide this card during home visits. For clients who have lost their TT or EPI card and for FP users who have lost their FP card, the FW should help them obtain an updated card. The Urban Initiative is currently assessing the effectiveness of promoting increased use of home-based health cards.

6. **The policy of FWs accompanying clients for referral services should be reconsidered**

There is a tradition in Bangladesh of the FWs accompanying clients to clinics for IUD placement, for sterilization, and for other services as well. While this is a highly laudable practice, it is also time-consuming for the FW. Mechanisms could be developed which would make it possible for community volunteers instead of the FW herself to accompany the clients so that the FW's routine home visitation activity can continue on schedule.

7. **Sterilization as an FP method, and vasectomy in particular, needs to be promoted more vigorously**

FWs need additional training and encouragement in promoting sterilization among couples who have achieved their desired family size. Sterilization is the most cost-effective FP method available (46) and, as such, deserves strong promotion by FWs. FWs need to work closely with their supervisors, male workers, community leaders, and community volunteers in promoting sterilization.

8. **The monitoring and supervision of FWs needs to be strengthened**

Our findings suggest that FWs have frequent contact with supervisors. However, the criteria by which FWs are monitored and supervised need to be reviewed, and supervisors need to use check-lists which include quality indicators such as those used in this study.

9. **User-friendly memory cards, guidelines, props, and visual materials should be used by FWs.**

It is unreasonable to expect FWs to memorize a vast amount of information about MCH and FP services. Materials need to be developed

which facilitate and standardize the messages which FWs give to their clients. Although some such materials exist, they are used infrequently by the FWs in Zone 3. Other materials need to be developed. Pictures and drawings are helpful for clients, especially the less educated ones.

Implications of the Findings for Urban and National MCH-FP Policies

Quality assurance mechanisms for FWs need to be developed first for those aspects of MCH-FP which are national programme priorities and which have the strongest and the most direct influence on preventing unwanted fertility and under-5 mortality. Focusing on these key processes and outcomes is important because unless the proper educational messages and proper services are provided at the right times, the desired effect of the message or service will be diluted or, worse yet, will have an unintended negative effect. Therefore, efforts to monitor quality and to improve those services which are found to be below acceptable quality standards will be necessary if programmes are to achieve the maximum possible impact.

Given that international donor support for the MCH-FP services in Bangladesh will not keep pace with the continuing rapid growth in the need and demand for MCH-FP services, the need to maximize programme impact while at the same time minimizing programme cost is now becoming even more urgent. Furthermore, given the fact that the overall CPR in Bangladesh is now 45%, further gains in increasing the CPR and in lowering fertility will depend in part upon further reductions in child mortality (47). That is to say, further reductions in under-5 mortality rates will be one important and necessary ingredient in further motivating non-users of FP to become users since their desired family size will be more likely to have been achieved. Further reductions in child mortality will also depend in part upon additional increases in the CPR and decreases in fertility (48). Thus, Bangladesh will need to strengthen its capacity to efficiently provide quality

community-based MCH-FP services if it is to achieve continuing progress in lowering mortality and fertility in the future. Given the current 6% annual growth in the overall urban population and the 9% annual growth rate of Dhaka City, compared to a national growth rate of 2% (49-51), strengthening the quality and efficiency of urban MCH-FP activities, including the quality of FW activities, will be particularly important.

Conclusion

This analysis of the quality of services provided by FWs in Zone 3 of Dhaka City has identified many areas in which quality could be readily improved and has pointed to some possible strategies for achieving quality improvement. In our view, the preferable approach is to develop a broader role for FWs in which MCH and FP activities are balanced, in which home visits are carefully targeted according to need, and in which the quality of FW services is carefully monitored and gradually improved.

Like other studies on FWs carried out in Bangladesh, the current study documents important gaps in FW's knowledge, infrequent contact with a substantial proportion of the clients, a lack of information provided to clients about FP methods, and a lack of emphasis on MCH activities compared to FP activities.

Through efforts to improve problems identified by ongoing quality assessments, the effectiveness of FW services can gradually improve. Because the urban low-income populations will continue to grow dramatically during the next decade, gradual improvements in the quality of basic health services for the urban poor will be a major challenge but should be achievable with persistent effort.

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Appendix I

Derivation of the Estimate of the Total Number of Field Workers' Home Visits Made Each Year in Bangladesh

Three estimates of FW visitation rates have been carried out. In our study, 57% of the survey sample had had direct contact with an FW during the previous two months. Chowdhury et al. (22) estimate that 77% of the women were visited during the previous three months. Mitra et al. (4) found that 43% of the women reported a visit during the previous six months, and those who had been visited reported an average of 3.0 visits during this period. Using Mitra's data, we would estimate that each FW would make 1,935 visits per year (750 x 0.43 x 3 x 2 = 1,935), and the 30,000 FWs nationwide would, therefore, make 58 million visits per year (1,935 x 30,000). Using the same approach for the data from this study results in an annual total of 77 million visits, and the data of Chowdhury et al. (22) produces an annual total of 69 million visits.

Appendix II

Criteria for Determining Whether Specific Types of Services Were Provided

When assessing the nature of services provided by FWs at the time of a home visit, the data from the observations of the encounter were reviewed. If at least one activity was identified which falls under Family Planning Services (shown below), a family planning service was considered to have been provided during that visit. Other types of services (also shown below) were categorized similarly.

I. Family Planning Services

1. FW discussed alternative methods that could be adopted
2. FW supplied contraceptives to the client
3. FW explained method use
4. FW discussed how to manage side-effects
5. FW mentioned sources of FP supply
6. Client accepted a new FP method
7. FW told client when to go to a provider for a FP checkup visit

II. Routine Preventive Maternal and Child Health Care

1. FW referred client for antenatal care/TT immunization
2. FW referred client for a postnatal checkup
3. FW provided assessment/advice/treatment for a health problem of the client
4. FW provided nutrition advice to mother
5. FW checked child's EPI card
6. FW referred child for immunization
7. FW informed client where to take child for immunization
8. FW provided advice on childhood nutrition
9. FW inquired about last dose of Vitamin A
10. FW checked client card to assess last Vitamin A dose

III. MCH Education

1. FW discussed the importance of breast-feeding
2. FW discussed the importance of immunizations
3. FW discussed the importance of antenatal care/TT immunizations
4. FW provided advice to the client regarding where a delivery should take place

IV. Assistance with Care of Sick Child

1. FW provided assessment/advice/treatment for cough/difficulty breathing
2. FW provided assessment/advice/treatment for diarrhoea
3. FW explained to mother how to take a medicine or drug prescribed for the child

Appendix III

Method-specific Guidelines for Evaluating Knowledge About Contraceptive Method Use, Warning Signs, and Side-effects

I. How to use the method

Pills

1. Depending on the brand of the pill supplied by the provider, one can start taking the pill in two ways:
   - On the first day the period begins
   - On the fifth day the period begins.

   To start, always begin with the first pill of the strip.
2. Take one pill at the same time every day until a packet is finished, even if husband is away for some time.
3. If the brand of pills includes a 28 day supply in each packet, begin a new packet immediately after finishing the previous packet.

   If the brand of pills includes only a 21 day supply in each packet, begin a new packet 7 days after finishing the previous packet.

When beginning to use the pills, a back-up method should be taken for first 14 days.

If one forgets to take a pill:

1. If one pill is missed, take the forgotten pill as soon as remembered and take the next pill at the regular time.
2. If two pills are missed, take two pills as soon as remembered and take two more next day. Use a barrier method until the next period begins.
3. If three pills are missed, stop taking the pill and start using a barrier method for the rest of the cycle. Begin a new package of pills at the beginning of the next menstrual cycle.

Injectables

1. Do not massage the injection site.
2. Use an additional contraceptive method for 2 weeks after the first injection.
3. Come every 3 months (if taking Depo-Provera) or every 2 months (if taking Norethindrone) for the next injection.

IUD

Check the string after each period and also when experiencing abnormal cramping during menstruation

- The string should not be too long.
- The string should not be too short.
- One should not be able to feel the plastic part.
- The string should not be missing.

Condom

1. Put the condom on the erect penis.
2. Roll the condom all the way to the base of the erect penis.
3. Leave 1/2 inch of empty space at the tip of the condom.
4. Wait until the vagina is well-lubricated, because a condom can tear if the vagina is dry.
5. After intercourse, withdraw the penis immediately, holding on to the rim of the condom to prevent spillage of semen.

II. Warning signs

For pill users:

- Severe abdominal pain
- Severe chest pain, cough, shortness of breath
- Severe headache, dizziness, weakness or numbness
- Blurring or loss of vision, speech problems
- Severe leg pain (calf or thigh)

For injectable users:

- Weight gain
- Headaches
- Heavy bleeding
- Depression
- Frequent urination

For Norplant® users:

- Severe lower abdominal pain
- Heavy vaginal bleeding
- Arm pain
- Pus or bleeding at the insertion site
- Expulsion of the implant
- Delayed menstrual periods after a long interval of regular periods
- Migraine headaches, repeated very painful headaches, or blurred vision

For IUD users

- Late period (or any other suspicion of pregnancy)
- Abnormal spotting or bleeding
- Abdominal pain, pain with intercourse
- Pelvic infection, abnormal discharge
- Not feeling well, fever, chills
- String becomes shorter or longer or becomes missing

For female sterilization clients

- Fever (greater than 104°F, 39°C)
- Dizziness and fainting
- Abdominal pain that is persistent or increasing
- Blood, fluid or pus draining from the incision

For male sterilization clients

- Fever
- Blood, fluid or pus draining from the incision
- Excessive pain or swelling

III. Side-effects of contraceptive methods

Pill

- Nausea
- Headache, dizziness
- Breast tenderness
- Spotting between menstrual periods
- Decreased bleeding during menstruation or amenorrhoea
- Weight gain
- Acne or freckles on the face
- Depression

Injectable

- Amenorrhoea
- Irregular bleeding
- Spotting between menstrual periods
- Feeling of heaviness or pain in the lower abdomen
- Headache
- Weight gain
- Mental depression
- Drowsiness
- Acne

IUD

- Lower abdominal pain
- Heavy bleeding during menstrual periods
- Spotting between menstrual periods
- Unusual vaginal discharge
- Anaemia
- Cramping pain in uterus

Norplant®

- Spotting between menstrual periods
- Heavy menstrual bleeding
- Irregular menstrual bleeding
- Amenorrhoea
- Headache
- Weight gain
- Depression

Female sterilization

- Unusual bleeding
- Pain in lower abdomen
- Weight gain or loss
- Mass in breast

Male sterilization

- Pain
- Depression

Appendix IV

Guidelines for Preparation of Oral Rehydration Solutions

I. Lobon gur ORS preparation

1. Hands should be washed properly with soap.
2. Utensils should be washed properly.
3. Oral rehydration solution should be made with boiled cold water or tube well water.
4. Take half seer of water.
5. Put a pinch of salt with a fist full of molasses or sugar in the water and stir together well.

Fully correct:	If above five points are mentioned.
Partially correct:	If point No. 4 and No 5 are mentioned.
Incorrect:	If point No. 4 and 5 are not mentioned.

II. Packet ORS preparation

1. Hands should be washed properly with soap.
2. Utensils should be washed properly.
3. Oral rehydration solution should be made with boiled cold water or tube well water.
4. Take half seer of water.
5. Completely dissolve the packet contents in water and stir well.

Fully correct:	If above five points are mentioned.
Partially correct:	If point No. 4 and 5 are mentioned.
Incorrect:	If point No. 4 and 5 are not mentioned.

III. Rice ORS preparation

1. Put one fist full of rice in water.
2. Keep the rice in water for 10-15 minutes.
3. Smash the soaked rice into fine powder.
4. Take half seer of water.
5. Dissolve the powdered rice into half seer and add another half cup of water as well.
6. Boil the dissolved powder solution.
7. Stir continuously during boiling.
8. Boil the mixture until bubbles appear and then cease heating.
9. Add a pinch of salt.

Fully correct:	If above nine points are mentioned.
Partially correct:	If points No. 1,3,5,6,8 and 9 are mentioned.
Incorrect:	If any of point No. 1,3,5,6,8 and 9 are not mentioned