Working Paper No. 33

Improving the Management of Field Operations: Evaluation of an Urban Field Information System (UFI) Intervention

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MCH-FP Extension Project (Urban)
Health and Population Extension Division

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1997

ICDDR,B Working Paper No. 95

Editing:
M. Shamsul Islam Khan

Cover Design:
Asem Ansari

Printing and Publication:
SAKM Mansur

Desktop and Layout Design:
Roselin Sarder
SAKM Mansur

ISBN: 984-551-121-X

1997

Published by:
International Centre for Diarrhoeal Disease Research, Bangladesh
GPO Box 128, Dhaka 1000, Bangladesh
Telephone: 880-2-871751(10 lines): Cable: CHOLERA DHAKA, Telex: 675612 ICDD BJ;
Fax: 880-2-883116, 880-2-886050 and 880-2-871568

Printed by: Add Print in Dhaka

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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Acknowledgements

The MCH-FP Extension Project (Urban) is funded by the United States of Agency for International Development (USAID) under the Cooperative Agreement No. 388-0071-A-00-3016-00 with the International Centre for Diarrhoeal disease Research, Bangladesh (ICDDR,B). The ICDDR,B is supported by the aid agencies of the Governments of Australia, Bangladesh, Belgium, Canada, Japan, the Netherlands, Norway, Saudi Arabia, Sri Lanka, Sweden, Switzerland, the United Kingdom, and the United States; international organizations including Arab Gulf Fund, European Union, the United Nations Children's Fund (UNICEF), the United Nations Development Programme (UNDP), and the World Health Organization (WHO); private foundations including Aga Khan Foundation, Child Health Foundation, Ford Foundation, Population Council, Rockefeller Foundation, Thrasher Research Foundation and the George Mason Foundation; and private organizations including, East West Center, Helen Keller International, International Atomic Energy Agency, International Centre for Research on Women, International Development Research Centre, International Life Sciences Institute, Karolinska Institute, London School of Hygiene and Tropical Medicine, Lederle Praxis, National Institute of Health (NIH), New England Medical Centre, Procter & Gamble, RAND Corporation, Social Development Center of Philippines, Swiss Red Cross, the Johns Hopkins University, the University of Alabama at Birmingham, the University of Iowa, University of Goteborg, UCB Osmotics Ltd., Wander A.G. and others.

The authors would like to express their appreciation to Mrs. Mufaweza Khan, Executive Director, Concerned Women for Family Planning (CWFP) for her support to the study. Appreciation is accorded to Mrs. Fatima Mobin and Mrs. Jahanara Begum, Unit Coordinators of two intervention areas and to the staff of the intervention units who participated in this study. Valuable comments on earlier drafts of this paper were provided by Mr. Abu Sayeed, Mr. Noor Mohammad, Mr. Zahidul Quayyum, and Ms. Nadia Barb. The assistance of Ms. Shahida Begum during the monitoring and evaluation activities is acknowledged.

CONTENTS

Summary

The field-based programme of most non-governmental organizations (NGO) is traditionally focused on family planning activities. The field record-keeping system, therefore, records mostly family planning information. However, over time, the programme focus broadened to include maternal and child health services as well. More emphasis is now given on promoting and ensuring the quality of care. In this backdrop, support systems, the field information system for example, had to be modified to support the changes in the programme itself. An operations research intervention was implemented with the overall purpose of developing a uniform client-oriented and provider-friendly record-keeping system for field workers working in urban areas. The system was designed to reflect the range of activities of field workers and help improve their performance. The issues of user-friendliness and accommodation of high population mobility in urban areas were also taken into consideration.

The intervention, the Urban Field Information system (UFI), was based on a quasi-experimental time series design. It was tested in two areas served by the Concerned Women for Family Planning (CWFP), a non-government organization.

As part of the intervention, a Family Form was introduced that contained information about the family, including the age and parity of the couple, name and immunization status of children aged less than one year, the fertility intentions of the couple, woman's obstetric history, and the family planning and TT immunization status of woman. A monthly reporting format and a supervisory tool were also introduced. Referral slips were incorporated in the system to formalize referral procedures.

The testing of the intervention began in August 1995. Base-line data on indicators were collected through observations and review of field records during registration round. The base-line data were used as comparison, as was the concurrent information from the two non-UFI comparison supervisory areas of the CWFP. The intervention was monitored in 2-monthly cycles. Data from the Urban Panel Survey (UPS) and from the UFI Family Forms were

used for evaluation. The units of analysis were the field worker and the supervisory areas.

About 13% of the clients out-migrated in six months, and their records were separated out from the main file.

The code system helped record information about clients and the wide range of services provided by the field workers. Availability of more information enabled field workers to provide relevant advice to their clients and follow them up properly.

There was no significant change in the overall rate of contact with the clients. Contact with about 93% of the pregnant women was maintained during UFI implementation. About 30% of these pregnant women were provided some kind of advice by the field workers. Data from UPS, however, show that only about 25% of the pregnant women were contacted before and after UFI implementation.

UFI was tested in two sub-units (supervisory areas within an operational unit) of the CWFP. Its introduction at the sub-unit level was not accompanied by any change in organizational policy about the programme targets or supervisory procedures. A supervisory tool, developed as part of the intervention, was introduced at a later stage of the intervention with a limited scope. Nevertheless, qualitative data indicate that use of UFI improved quality of the client-field worker interaction. For more definitive results on the outcome of the intervention, more time was required. However, because of a shift in programme strategy from door-step to static clinic-based service delivery, the intervention could not be continued.

1. Introduction

The Urban MCH-FP Initiative was a partnership of agencies of the Government of Bangladesh, Concerned Women for Family Planning (CWFP), and the Urban MCH-FP Extension Project (UEP) of the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B). The purpose of the Initiative was to develop a mechanism for local-level planning, coordination and implementation of health and family planning services in urban Bangladesh and to improve management, quality and sustainability of service delivery. The activities of the Initiative began in August 1994, with a series of needs assessment studies conducted in the initial project area, Zone 3 of Dhaka city. After reviewing the findings of the needs assessment studies, interventions were designed with inputs from all the partners involved. The Urban Field Workers' Information System (UFI) is one of the resulting operations research interventions aimed at improving the field-based Management Information System (MIS).

2. Background

Uptil now, the door-step delivery of services has been the main service-delivery strategy for family planning in Bangladesh. The strategy has been implemented through field workers who make house-to-house visits on monthly or two-monthly rounds. The field workers are responsible, primarily, for family planning motivation, supply of non-clinical contraceptive methods, follow-up of method users, referral of clients with side-effects, etc. Their another major responsibility is to routinely collect and compile population-based data on contraceptive-use rates, births and deaths, and other indicators, such as immunization coverage. However, the main emphasis of the field-based programme has been unquestionably on family planning.

The field-based MIS was developed to respond to the above programme focus, i.e. to record family planning and demographic data in the field workers' area. In 1985, a good number of non-governmental organizations (NGO), including CWFP, working on family planning both in rural and urban areas, introduced a uniform Couple Registration Book (CRB) for record keeping field-based family planning activities and demographic data. Some of the other

NGOs, particularly those supported by FPSTC, used Household Cards which were a bit different from the CRB. In 1989, a Family Welfare Assistant (FWA) register was introduced at the national level. Some NGOs adopted it, while all government field workers began to use it.

Over the time, the focus of programme widened from primarily family planning to incorporate wider services for maternal and child health. As such, the field workers were also given the responsibility to provide MCH services that include health and nutrition education to pregnant women and mothers of children aged less than five years, promoting antenatal care, immunization and care of children aged less than five years.

However, concomitant to this change, the record-keeping system remained unchanged, i.e. field workers continued to use the CRB without much modification. Availability of primarily family planning information kept the focus of field workers' activities predominantly limited to family planning. Identification of family needs and thereby initiating appropriate counseling and follow-up received less priority.

Increasingly, other important programme indicators might be monitored for improvement in coverage and quality. Examples of those indicators are: number and types of method side-effects, method discontinuation rates, and the causes of discontinuation, percentage of pregnant women receiving antenatal care and TT immunization coverage, percentage of postnatal coverage, and child immunization rates. The CRB was not designed to respond to these needs.

Keeping in mind that there is a high rate of population mobility in urban areas, a well designed urban field information system must:

I. record the range of FP and MCH services provided by the field workers;
ii. contain essential information to promote supervision and ensure the quality of care;
iii. accommodate high rate of in-migration/out-migration without burdening the record-keeping system;

iv. be simple and user friendly;
v. have a support system with appropriate supervision and monitoring;
vi. include tools to support good referral system.

Taking the above factors into account, an operations research intervention on field-based MIS for urban areas, the Urban Field Information system (UFI), was developed and implemented. (See annex 1 for a comparison between three field-based MIS-UFI, CRB and FWA register)

3. Purpose and Objective of the intervention

The overall purpose of the Urban Field Information System (UFI) was to develop a client-oriented and provider-friendly record-keeping system for field workers working in urban areas that would reflect the range of field workers' activities, and produce changes in programme performance of field workers.

The specific objectives of the intervention were :

a. To design and test a new record-keeping system for urban field workers that:
   I. reflected all FP and MCH services and counseling activities of field workers;
   ii. improved the efficiency of field workers and their supervisors;
   iii. could accommodate the high rate of migration among the urban population; and
   iv. was user-friendly.

b. To develop and test formats for monitoring and supervision of field workers' activities by supervisors.

c. To develop and test a system for referral from field to static facilities of the organization, as well as facilities run by other organizations.

4. Description of the Intervention

The UFI was a card-based field workers' record-keeping system developed from the Couple Registration Book (CRB) used by the CWFP and other NGOs.

4.a. The Elements of the UFI are :

1. The Family Form
2. The Record Card Folder
3. The Field File
4. The Referral Slip
5. The Reporting Format
6. The Supervision and Monitoring Tool.

4.a.1. The Family Form

This form was used for recording the basic health and demographic information of the client and her family, and for recording the services and logistics provided to her or her family by the field worker. Special codes were used for recording the information.

The basic information about the family were: the age and parity of the couple, name and EPI status of children aged less than one year, the fertility intentions of the couple, record of important events in the past obstetric history, the family planning and TT immunization status of the woman.

The CRB couple cards were mainly meant to record the details of family planning services provided to the client. No code system existed to record these services or other information. In the UFI Family Forms, codes were introduced to record family planning status, reasons for non-use or discontinuation of family planning method and to record different types of advisory, referral or health education services provided by a field worker during her visit to the family. Particular attention was given to the recording of maternal and child health services using the codes. (See annex 2 for the list of codes used by the field workers to record on the Family Form).

The registration section of the UFI Family Form, in addition to the identification information, recorded parity, fertility intention of the couple, immunization status of children aged less than one year, and information on previous pregnancy outcomes. There was also provision to record the best time for the couple to be visited by the field worker, so that the field worker could arrange her visit schedule accordingly.

4.a.2. The Record Card Folder

These folders are kept in the unit office and contain all the Family Forms of each field worker, filed according to the couple registration number.

4.a.3. The Field File

This is a portable folder that the field worker takes with her during her field visits. Each day the family forms of 25-30 couples scheduled to be visited on that day were transferred to this file from the unit-based Record Card Folder. At the end of the field visit, the Family Forms were returned to the Record Card Folder. This arrangement facilitated easy carriage of the client records since the total number of records ranged from 500 to 1000 per field worker.

4.a.4. The Referral Slip

These are printed slips provided by the filed workers to couple who are referred to a clinic/facility. The referral slip has two parts: the upper part is meant for the referred facility and contains information about the reason for referral and the address of the referred centre. The other part of the slip records the comments of the service provider. This part is to be torn off and returned to the client to be collected by the field worker on her next follow-up visit to that client. In this way, it is expected that the field workers and their supervisors will be able to monitor the result of the referrals done.

4.a.5. The Reporting Format

This form provides a daily tally of the records from the field; the records are compiled on a monthly basis to produce monthly report.

The UFI reporting format has the following sections:

1. A family planning performance section where field workers record the family planning-related information on clients visited each day. These data are compiled on a monthly basis and transferred to the monthly family planning performance reporting format. This monthly reporting format is used for compiling the unit-wise monthly report to send to the central office of the organization and also to complete a report required by the Directorate of Family Planning of the Ministry of Health and Family Welfare.

2. MCH section: In this section data are recorded on a daily basis to be compiled monthly. Data on the number of women who deliver during that round and has received two TT doses are recorded. The second indicator is the number of pregnant women who deliver during that round and has received at least two antenatal care (ANC) services.[1] Data are also recorded on the total number of pregnant women, number of pregnant women who receive antenatal or postnatal services, and child care services from the field workers. This section is a new addition to the original FP performance report. Its use is mostly limited at the unit level and for reporting to the Directorate of Family Planning.

3. The logistics and service charge section: serves to record the amount of supply distributed by field workers and the revenue collected by them from clients.

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[1]These indicators were suggested by a group of NGOs working in health and family planning, commonly known as the NGO Coordination Committee.

4. The migration information section: is used for recording the number of couples who out-migrate or in-migrate from the field worker's area.

4.a.6. The Supervision and Monitoring Format

This tool was introduced to strengthen monitoring of the field workers' activities, as well as the programme performance. It has three sections:

I. Family Planning: This information allows supervisors to review the progress made by the individual field worker in relation to the achievement of the target, the previous month's contraceptive prevalence rate, and the clinical method mix by field workers' area.

ii. The MCH information allows monitoring of two standard MCH indicators agreed upon by the NGOs working in family planning in Bangladesh. The MCH performance is reviewed on a three-monthly basis.

iii. The work planning tool was developed to help field workers and their supervisors to set individual worker's yearly targets, and to identify possible problem/issues that need attention to achieve targets, e.g. increase in users and decrease in drop-outs. This exercise has to be done on a six-monthly basis.

5. Research Design and Methodology

The UFI intervention, based on a quasi-experimental time series design, was tested in two areas of Lalbag and Baxibazar units of the CWFP. Two other areas of the same two units were taken as the comparison areas.

The testing of the intervention began in August 1995. The field workers and their supervisors were given an orientation on the record-keeping and reporting formats. Initially, the field workers registered all the couples in the intervention areas, using the UFI formats. This registration round was completed in December 1995. The regular 2-monthly follow-up rounds started since January 1996.

The following sources of information were used for monitoring the intervention:

a. The Urban Panel Survey (UPS). UPS is a surveillance system that collects data on a 3-monthly basis, from a cluster of households in Zone 3 of Dhaka City Corporation. The households were selected by multi-staged probability sampling. One of the UFI intervention areas was included within the UPS surveillance system. The analyses, using data from the UPS, take only one of the two UFI intervention areas into consideration.

b. UFI cards. Data were collected from both the intervention areas by reviewing the UFI cards, i.e. the Family Forms. Review of the CRB cards was made to collect data from the comparison areas.

c. Data were also collected through observations by the members of the UEP staff of the interactions of field workers with the clients.

Pre-intervention baseline data were used as comparison, as was the concurrent information from the two non-UFI comparison supervisory areas. The intervention was monitored in 2-monthly cycles. The units of analysis were the field worker and the supervisory area.

The intervention has been evaluated based on the following research questions:

a. *How can a modified record-keeping and reporting system reflect range of field workers' activities?*

Indicators:

1. Frequency of service codes used. (Source: UFI Family Forms, on a sample basis)
2. Round-wise in- and out-migration rates. (Source: UFI Family Forms)

b. *How can a modified record-keeping and reporting system produce changes in programme performance by field workers?*

Indicators:

1. Field workers asking relevant information and providing necessary service. (Source: Round-wise independent observations)
2. Field worker-client contact rates: (Source: UPS)
   Contact by FP status
   Contact by pregnancy status
      Service provided to those contacted:
         Family planning: Supply, advice, motivation, referral
         Maternal health services
         Child health services
3. Referrals made by field workers among those visiting clinics. (Source: UPS)
4. Qualitative data from field workers and supervisors on usefulness of the UFI system. (Source: Interviews, minutes of UFI review meetings)
5. Changes in supervisory style. (Source: Minutes of field workers-supervisor monthly meetings)

Output indicators:

a. CPR (Source: UPS)
b. Contraceptive method mix (Source: UPS)

6. Findings

6.a. How can a modified record-keeping and reporting system reflect range of field workers' activities

6.a.1. Frequency of service codes used

Data on use of service codes were collected from the UFI and CRB cards on a sample basis. Table 1 shows the number of couples for whom each of the different codes were used at least once for recording the corresponding services provided.

Table 1: Frequency of service codes used by the Field Workers during January-June 1996 (three follow-up field visits)

Service codes	FP method users				FP method non-users				Total	
	Clinical		Non-clinical		Non-users		Pregnant			
	No.	%	No.	%	No.	%	No.	%	No.	%
Number of couples (n)	141		362		379		82		964	
1 Advice for FP	11	7.8	80	22.1	66	17.4	4	5	161	17
2 Referred to for FP	4	2.8	37	10.2	20	5.3	4	5	65	6.7
3 Advice for side-effects	1	0.7	-		1	0.3	-		2	0.2
4 Referred to for side-effects	1	0.7	-		-		-		2	0.2
5 Referred to for ANC	-		-		5	1.3	29	35	34	3.5
6 Referred to for delivery	-		-		-		3	4	3	0.3
7 Referred to for PNC	-		-		1	0.3	1	1	2	0.2
8 Referred to for TT	80	56.7	215	59.4	236	62.3	61	74	592	61
9 Referred to/ advice for EPI	3	2.1	18	4.9	44	11.6	6	7	71	7.4
10 Advice for Diarrhoea	8	5.7	18	4.9	12	3.2	4	5	42	4.4
11 Nutrition and Health Education	38	26.9	79	21.8	85	22.4	43	52	245	25

Source: UFI Family Forms

Table 1 also shows that the service codes mostly used were on referred to for TT doses (61%), nutrition and health education (25%), advice for family planning (17%), referred to for family planning (6.7%), referred to for child immunization (7.4%), and advice on diarrhoea (4.4%). Of the pregnant women, ANC codes were recorded in case of 35% of the clients. Codes for recording referral for change in FP method, referral for high-risk pregnancy and for advice on breast feeding were not used in case of any client.

The CRB cards of 1,177 clients of non-UFI comparison areas were also reveiwed. In the CRB, there is no code system to record services provided by the field workers. However, services recorded in the remarks column were reviewed. It was observed that, in the comparison areas, the field workers recorded mostly advice for family planning (9.4%) and referred to for TT doses (8.2%) in the CRBs. Other services, like referral for ANC and child immunization, were recorded in cases of 0.2% and 0.5% of all couples respectively.

The results, therefore, indicate that the introduction of the code system helped the field workers to record more MCH-FP service information about the clients. This also indicates the wide range of activities carried out by the field workers which were not reflected through the CRB system.

6.a.2. Frequency of use of codes for reason of non-use of FP method

In the UFI system, there are codes to record the reason of non-use of contraceptives in case of non-users of FP methods. Review of the Family Forms of the 398 non-users showed that in all (100%) the forms the field workers recorded the reason of non-use of FP methods.

6.a.3. Round-wise in- and out-migration rates: how this justifies the use of loose sheets for record keeping

At the initial registration, 7,489 couples were registered. During the first six months, 939 (12.5%) couples out-migrated from the intervention areas. About 984 (13.1%) couples were newly registered during that time; the newly registered clients were mostly in-migrated clients and only a few were newly married couples. The cards of the out-migrated couples were separated out from the main file and preserved in a out-migrated client file. New cards were inserted for the newly registered couples (both new couples and in-migrated couples). The newly registered couples received a new couple number, but the household number for that couple was same as the household number of the out-migrated couple previously occupying the house. Therefore, it is apparent that if the field workers would have maintained the records of the out-migrated couples as well in the main file, this would have increased the bulk of the records by more than 13% in 6 months. Also, it would have added to the complexity of identification of clients using household number and couple number.

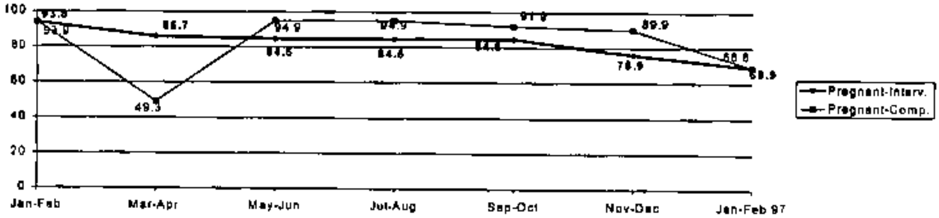
6.b. How can a modified record-keeping and reporting system produce changes in program performance by field workers?

6.b.1. Field worker-client contact rates

Data were analyzed to establish whether the use of UFI influenced any change in the pattern of field workers' contact with particular sub-group of clients. Data from both the Urban Panel Survey and from UFI family cards/CRB cards were used for the analysis. Any change in the visit pattern may have been confounded by the change in the organizational policy to visit all clients, irrespective of their family planning or pregnancy status. Since July 1996, the field workers were to visit only the non-clinical clients dependent on the supply from field workers and to non-users on a two-monthly basis. Other clients were to be visited on a six monthly basis.

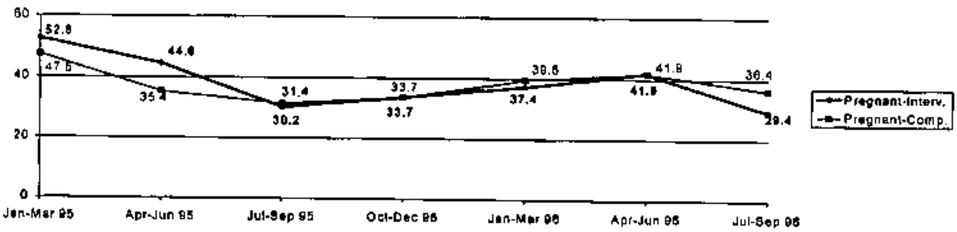
The following sets of graphs show the field workers' contact rates with pregnant women (Fig. 1 and 2), family planning clients (Fig. 3 and 4), and non-users of FP methods (Fig. 5 and 6). Data for figure 1,3 and 5 have been collected from the UFI Family Forms and CRB Couple Cards, while data for figure 2, 4 and 6 are from the UPS.

Fig. 1: Percentage of registered pregnant women contacted by field workers during each follow-up round, January 1996 - February 1997



Source: UFI cards

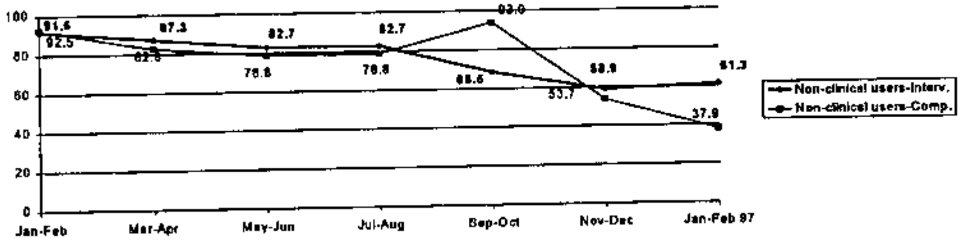
Fig. 2: Percentage of pregnant women contacted by field workers, January 1995 - September 1996



Source: UPS

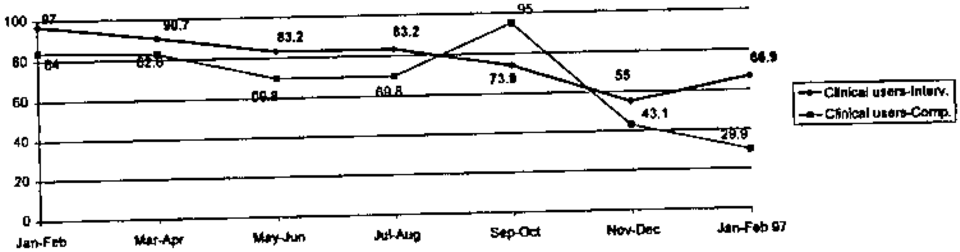
Fig. 3: **Percentage of registered FP method users contacted by field workers during each follow-up round, January 1996 - February 1997**

A. Non-clinical FP method users



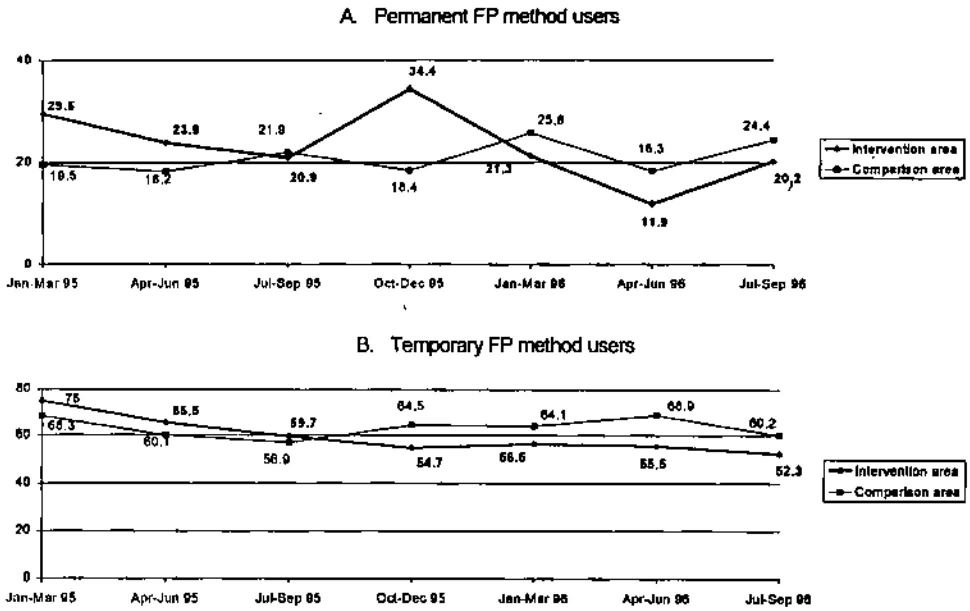
Source of data: UFI cards)

B. Clinical FP method users



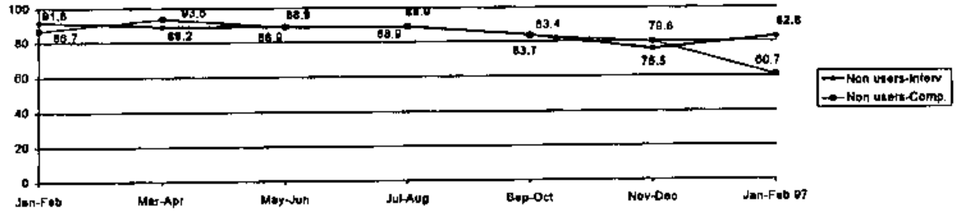
(Source of data: UFI cards)

Fig. 4: Percentage of FP users contacted by field workers January 1995 - September 1996



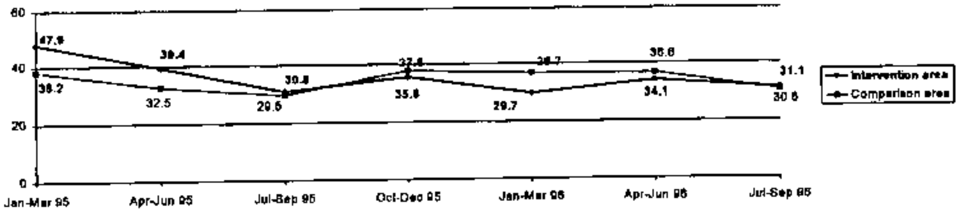
(Source of data: Urban Panel Survey)

Fig. 5: Percentage of registered FP non-user eligible couples contacted by field workers during each follow-up round, January 1996 - February 1997



(Source of data: UFI cards)

Fig. 6: Percentage of FP non-user eligible couples contacted by field workers, January 1995 - September 1996



(Source of data: Urban Panel Survey)

There is a marked difference between the findings from UFI/CRB cards (Fig. 1, 3 and 5) and from the UPS (Fig. 2, 4 and 6). Nevertheless, findings from both the data sources (Fig. 1 and 2) show that, despite some fluctuation, there is a downward trend in both the intervention and comparison areas. No significant difference is seen in contact rates by clients' FP/pregnancy status.

6.b.2. Service provided during contacts:

Data from the UPS were used for analyzing changes in the field workers' service delivery pattern.

6.b.2.i. Family planning services - Supply

One of the activities considered to be the major job of the field workers is the supply of contraceptives to non-clinical method users. Table 2 shows the total proportion of the clients who were supplied by the field workers.

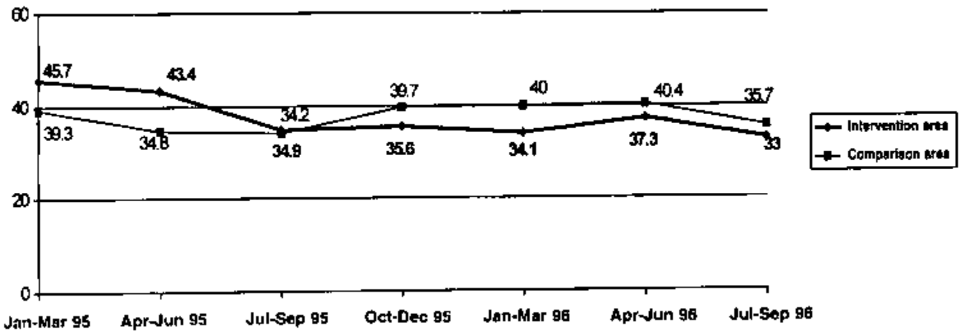
Table 2: Distribution of FP services provided to clients contacted by field workers in past three months

FP service	UFI intervention area				Non-UFI (comparison) area			
	Jul-Sept 95 (n=519)		Jul-Sept 96 (n=484)		Jul-Sept 95 (n=502)		Jul-Sept 96 (n=540)	
FP method supplied	152	26.6%	150	31.0%	138	27.5%	167	31.0%
FP education /motivation	167	32.2%	137	28.3%	150	29.8%	112	20.7%
Follow-up	202	39.0%	202	41.7%	208	41.4%	255	47.2%
Referral for FP	35	6.7%	25	5.2%	46	9.2%	46	8.5%
Advice on side-effects	1	0.2%	5	1.0%	3	0.6%	2	0.4%
Treatment of side-effects	5	0.9%	4	0.8%	3	0.6%	3	0.6%

Source: UPS

Table 2 shows that field workers were supplying contraceptives to about 31% of the clients who were contacted by them in the past three months.

Fig. 7: Proportion of couples eligible for any service who received service from field workers, January 1995 - September 1996



Source: UPS

Fig. 7 does not show any significant difference in the proportion of clients who received any service from the field workers. Similar pattern of fluctuations in proportion of clients served was seen in both the intervention and comparison areas.

6.b.3 Visits to pregnant women

Table3: Proportion of pregnant women, contacted by field workers, who received services

	UFI intervention area				Non-UFI (Comparison) area			
	Jul-Sept 1995		Jul-Sept 1996		Jul-Sept 1995		Jul-Sept 1996	
	(n=138)		(n=133)		(n=120)		(n=141)	
Contacted	38	27.5%	34	25.6%	32	26.7%	41	29.1%
Received service	31	22.5%	32	24.1%	31	25.8%	38	27.0%

Source: UPS

Table 3 shows that about 27% of the pregnant women were contacted by the field workers, and about 1 in 4 pregnant women received any service from them.

Table 4: Different services provided to the pregnant women who received services from field workers

Service	UFI intervention area				Non-UFI (comparison) area			
	Jul-Sep 1995		Jul-Sep 1996		Jul-Sep 1995		Jul-Sep 1996	
	(n=31)		(n=32)		(n=31)		(n=38)	
Nutrition education	6	19.4%	1	3.1%	1	3.2%	3	7.9%
Health education	2	6.5%	2	6.3%	0	0	2	5.3%
Referred to for TT	12	38.7%	17	53.1%	9	29.0%	16	42.1%
Advice on ANC	2	6.5%	1	3.1%	0	0	6	15.8%
Follow-up	2	6.5%	1	3.1%	2	6.5%	2	5.3%

Source: UPS

Most (53%) of those pregnant women who were provided any service by the field workers, were advised for TT immunization. The proportion of such pregnant women receiving nutritional education decreased from about 19% to about 3% in the intervention area. (Table 4)

Review of client records from the the UFI cards showed that, during each round the field workers contacted about 93% of the pregnant women. The records also showed that the field workers provided some service, primarily advice on maternal health and immunization to 27-33% of the pregnant women. (Table 5)

Table 5: Frequency of pregnant women contacted and given advice

	Total pregnant women	Contacted		Provided service	
		No.	%	No.	%
Jan - Feb 1996	426	395	92.7	142	33.3
Mah - Apl 1996	409	384	93.8	122	29.8
May - Jun 1996	441	410	92.9	120	27.2

Source: UFI cards

6.b.4. Referrals and Use of Referral Slips

Client-field worker interactions were observed in case of 1607 couples. It was observed that 619 (38.5%) of these couples were referred. Referral slips were provided only to 112 couples (18.1%) couples.

6.b.5. Visits to Women with Side-effects

Table 1 shows that the use of codes for advice or referral for side-effects is very low. On the other hand, data from the UPS show that, during July-September 1995, 5 of the 519 clients (0.96%) contacted by the field workers were provided service for side-effect management or referred to for side-effects by the field workers. During the July-September 1996, the findings were similar, i.e. 8 of the clients 484 (1.65%) were provided any service for management of side-effects. The situation is similar in the comparison area with 0.79% and 0.74% clients receiving services for management of side-effects during July-September 1995 and July-September 1996 respectively.

6.b.6. Child Health Services

Table 6 shows the distribution of clients with children aged less than five years, who were eligible for services and received child health-care services. The services include health education, advice and counseling on child nutrition, including breast feeding, referral for EPI, and follow-up services. The data exclude those clients for whom under 5 child health service was not applicable.

Table 6: Distribution of women with children aged less than five years by contact with field workers and provision of child-care services

	UFI Intervention area			Non-UFI (Comparison) area		
	Total no. of women (n)	% contacted	% received service	Total no. of women (n)	% contacted	% received service
Jul-Sep 95	788	49.1	7.4	776	44.2	5.6
Oct-Dec 95	755	47.8	14.1	770	54.5	16.6
Jan-Mar 96	791	43.4	6.3	808	54.8	7.9
Apr-Jun 96	796	47	22.2	787	57.6	18.2
Jul-Sep 96	750	44.1	11.8	802	50.1	12.2

Source: UPS

Table 6 also shows that although about 44-49% of the clients eligible for child-care services were contacted by the field workers, service was provided to about 7-22% of all the clients. There is no consistent pattern of proportion of clients who received child-care services from the field workers both in the intervention and non-intervention areas.

6.b.7. Qualitative Data on Usefulness of UFI System

During UFI review meetings, the field workers and their supervisors distinctly expressed their views about the usefulness of UFI. According to them, since more information was available, they could inquire about specific information on MCH-FP from the clients. This helped them to provide more relevant advice to the clients. Also, the follow-up of the clients was more issue oriented. That is, information from the Family Forms helped the field workers to identify those clients who were referred to or given specific advice. They could then follow-up the outcome of the referrals and the clients' use of services as per the advice.

The field workers of the UFI supervisory area shared the UFI Family Forms with their colleagues working in other non-UFI supervisory areas of the same unit. These field workers also expressed their eagerness to use the UFI Family forms. The main advantage of the UFI that they found was the availability of information on clients that helps in targeting specific services to the clients according to their needs.

6.b.8. Changes in Supervisory Style

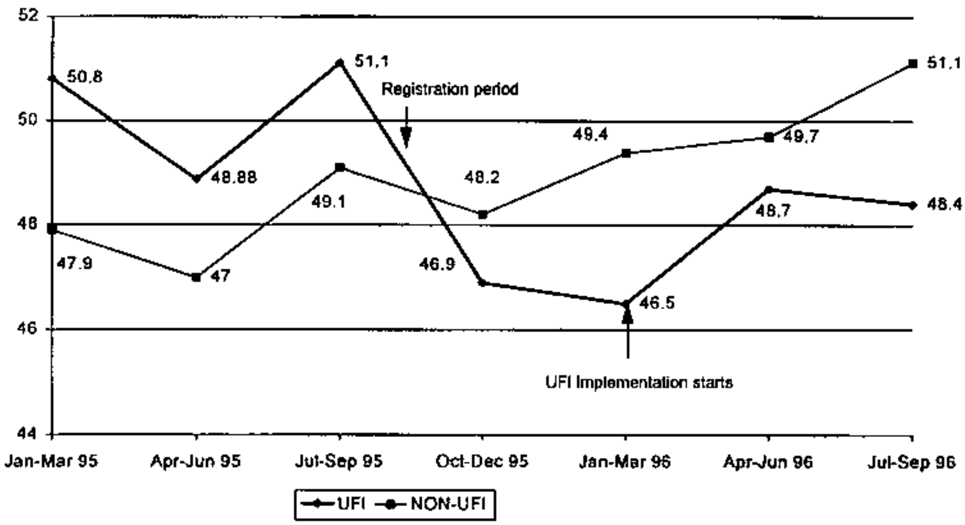
Review of the minutes of the meetings of supervisors with their field workers showed that, before the implementation of UFI, the meetings concentrated mostly on family planning issues. Improvement of the CPR and clinical performance were the main focus of the discussions. With the introduction of UFI, there was a shift. Topics, like antenatal care, postnatal care, EPI, use of referral slips, were also discussed. One important effect of such discussions was that other supervisors of non-UFI areas of the same unit also picked up the idea. MCH-related issues also got importance in their meetings.

6.b.9. Output Indicators:

6.b.9.i. Contraceptive Prevalence Rate (CPR)

Fig. 8: CPR of UFI Intervention area and Non-UFI Comparison area January 1995 - September 1996

area
Jan 95 - Sep 96

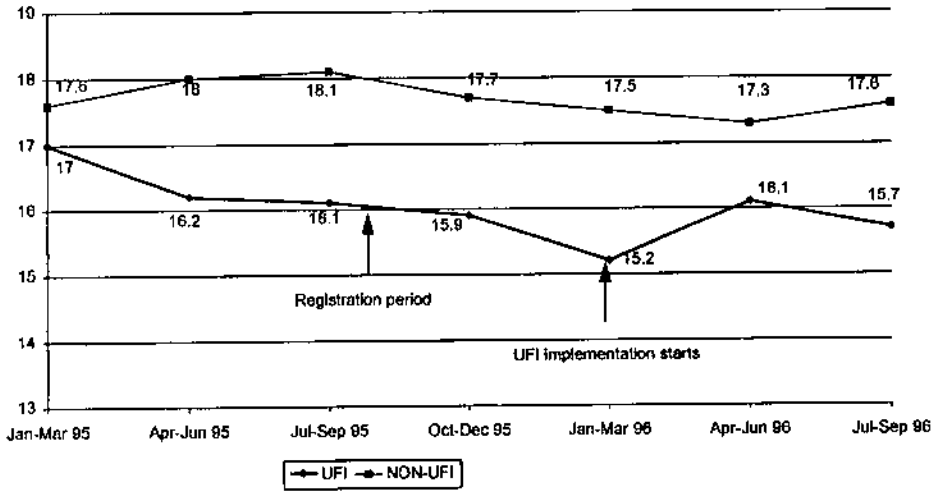


Source: UPS

p = 0.3

Fig. 8 shows the trends of contraceptive prevalence rates in intervention and comparison areas.

Fig. 9: Clinical CPR of UFI Intervention area and Non-UFI Comparison area, January 1995 - September 1996



Source: UPS

p = 0.9

During the registration round, about 500 couples were newly registered in the UFI area. They were residing in the area, but were not registered in the CRB. Inclusion of these clients resulted in a drop of CPR. Thereafter, the increase in CPR has been gradual, similar to that of the non-intervention area.

6.b.9.ii. Contraceptive Method Mix:

Fig. 9 shows that the clinical CPR of the intervention area has more or less remained at a steady level. The status of the comparison area is also similar.

6.b.9.iii. Place of Pregnancy Outcome

Table 8: Distribution of women who delivered by place of delivery

Place of delivery	UFI intervention area				Non-UFI comparison area			
	Jul-Sept 95 n=51		Jul-Sept 96 n=59		Jul-Sept 95 n=65		Jul-Sept 96 n=57	
	No.	%	No.	%	No.	%	No.	%
At Home	35	68.6	36	61.0	43	66.2	33	57.9
At Hospital/Clinic	16	31.4	23	39.0	22	33.9	17	29.8

(Source: UPS)

Table 8 shows that there was an increase in the number of pregnant women who were delivered at hospital or clinic, but the difference is not statistically significant.

7. Reporting Format

The UFI reporting format was developed based on the weekly/monthly reporting format used in the non-UFI areas of CWFP. Over time, several revisions were made in this UFI reporting format to accommodate different record-keeping and reporting requirements for the field workers. In doing so, several other recording and reporting formats were eliminated. For example, the field workers were no longer required to report on a weekly basis. The GoB report could be compiled from the UFI report. Information on logistics and service charge received from the clients was incorporated within the UFI reporting format eliminating the need to maintain the separate books for those purposes. At the same time, necessary data in the reporting formats could be used for audit.

Previously, record keeping and reporting in different formats and for different agencies took a substantial time from the field workers'. With the introduction of UFI reporting format and the concurrent elimination of a number of recording and reporting formats, the time was reduced considerably.

8. Discussion

This operations research intervention sought to answer two research questions. The first had to do with whether the UFI helped better reflect the range of activities of field workers beyond contraceptive distribution. The UFI formats assisted field workers to record information on counseling and referral services for antenatal care, family planning, and maternal and child immunization.

The UFI not only helped show what activities the field workers were performing, but it also helped show which activities they were not carrying out or were giving less importance. For example, counseling and referral for side-effects of family planning methods were neither reflected, nor importance was given to referral for delivery or postnatal care. Nutrition and health education was given to one-fourth of the clients visited and almost half the pregnant women visited, but records showed no reflection of advice on breast feeding. There is a possibility that field workers might have included advice on breast feeding as part of nutrition education and recorded accordingly. Similarly, codes for recording referral for ANC and for high-risk pregnancy were not mutually exclusive, particularly when all pregnancies are considered as high risk and the field workers are supposed to refer all pregnant women to antenatal care.

It is, therefore, evident that incorporation of the code system in the UFI helped record the different MCH-FP services provided by field workers.

As part of the intervention, whether the UFI managed to produce changes in the performance of field workers was also monitored. At the time of designing the intervention, it was thought that the availability of certain key information about the family would assist the field workers mainly in two areas: (i) provide better services to individual clients according to their needs; and (ii) assist field workers and their supervisors to target clients for home visit. Results of the evaluation of the intervention showed no significant changes between the intervention and comparison areas in terms of overall contact rates with different sub-groups of clients (e.g. family planning clients, pregnant women, non-users of FP methods). Similarly, there were no significant differences over time in the proportion of clients who received services from field workers betwen the intervention and the comparison areas. In essence, introduction of the UFI did not produce any change in programme performance within the testing period. In assessing the potential for an information system, such as the UFI to influence the performance of field workers, a number of factors need to be taken into account. The following section discusses some interrelated factors that need to be considered part of the analysis of the evaluation of the UFI intervention.

1. Time span of the intervention

The testing of the UFI began in August 1995. During August-December 1995, the field workers registered all the couples in their respective areas and the round of home visits using the UFI formats began since January 1996. Other elements of the systems, such as monitoring and supervision formats, were not introduced until July 1996. This means that some data for the evaluation cover an intervention implementation period of only 9 months. This time might not be enough for significant changes to occur to the output indicators. In particular, the relatively recent introduction of the special monitoring and supervision format meant that, during most of the intervention period, supervision did not change to match the objectives of the intervention, which may have limited the effective use of the UFI elements.

2. Changes in the policy environment

The following changes took place during the implementation of the intervention:

a. The information system used primarily by rural-based government field workers of the Directorate of Family Planning was reviewed during the period of the intervention. The Directorate decided to establish a unified system in the country. This decision provided little incentive to the testing of an alternative system in urban areas, regardless of its relevance.

b. Shortly after the start of the intervention, then general expectation was that the programme focus would change from domiciliary service delivery to an approach that emphasized the promotion of clinics, particularly among urban NGOs.

These innovations in policy issues with implications on programme design may have questioned the appropriateness of further refinements to the field workers' system and contributed to the results observed in the evaluation.

3. Workload of Field Workers

After the introduction of the UFI, the field workers continued to follow the traditional bi-monthly home visits to clients. This workload made it difficult for them to allocate more time for a particular client or visit her more frequently than others. The usual practice for formulating monthly workplans was to divide the couple number by the workdays, so that more or less the equal number of couples was assigned for each day. Any departure from this practice was not possible. This practice limited the usefulness of the UFI for better programme performance.

8.a. Supervision and Monitoring

With regards to the level of intervention, there were some methodological issues that need to be addressed also. The administrative base for field operations of the CWFP in a geographical area is the Unit, headed by Unit Coordinator. Each Unit was divided into 4-5 supervisory areas. A Field Supervisor and 4-5 field workers were assigned for each supervisory area. The UFI intervention was implemented in two supervisory areas and involved primarily the Field Supervisors and their respective field workers. It could be argued that the indirect involvement of the Unit Coordinators may have reduced the importance of introducing new monitoring and supervision guidelines and procedures as part of the UFI. In this situation, perhaps, the UFI was only regarded as a record-keeping and reporting system. The field workers and the supervisors continued to report on the same traditional indicators mainly related to family planning, and the monitoring and supervision practices of managers and supervisors remained the same. The organization did not require the supervisors to complete the supervision and monitoring forms.

Overall, the UFI produced changes in areas where there was scope for change, i.e. at the field worker-client interaction level. At the management and programme level, there were many restricting influences as described above for the UFI to produce all the expected results.

8.b. Inadequate Referral Systems

Referral slips were introduced as part of the UFI intervention to promote referral of clients by the field workers, and to strengthen the referral linkage among different facilities and organizations.

The linkage between CWFP field workers and their clinics is well established. Clients from the intervention area were not only referred to the clinic of the same unit, but also to other neighbouring CWFP clinics. During the initial few months of the intervention, the CWFP clinics were used to collect the referral slips from the clients and preserve them. However, over time, it became apparent that collection of the slips had no significance, since no one at the unit or central level monitored or reviewed the practice. Thereafter, the practice of collecting and preserving the slips slackened.

Nevertheless, the slips had importance for the field workers. They viewed them as a prestige in being able to deliver something similar to a prescription to their clients. The assumption also was that referred clients would get better treatment at the clinic. Although the slips were supposed to be given to all the clients referred, the usual practice was not to give any referral slip to clients referred to for second or subsequent dose of TT/EPI and those family planning clients who are familiar with CWFP clinic. Hence, though about 38% of the clients were referred, referral slips were provided to about 18% of the clients.

As part of the intervention, efforts were made to maintain coordination among organizations to ensure that referrals were accepted and the referral slips could be monitored. Nevertheless, the message was not transmitted down to the clinic staff providing direct care, and as a result, it was difficult to monitor the use of the referral slips at facilities managed by other organizations, because the slips were not kept by registering clerks.

Notwithstanding, the unit coordinator of the Lalbag unit of the CWFP, having experienced the use of referral slips in her own unit, introduced the use of a slip with official seal of the unit in the rest of its non-UFI supervisory areas. The field worker would write the reason of referral, the address of the Lalbag clinic and her name on this slip. The unit coordinator herself took interest in following-up the slips to monitor the referral activities of the field workers of non-UFI area. The performance of a field worker was judged also by the number of referrals she made to the clinic attached to the unit. This practice of the unit coordinator, however, was limited to non-UFI areas only.

8.c. UFI as Information Base for Alternative Service Delivery Strategy

That the UFI supports (even promotes) changes in the prevailing system of service delivery through regular bi-monthly home visits irrespective of clients' needs has been repeatedly emphasized in the sections above. The UFI contains key information to identify client needs and to target clients for follow-up visits. For example, defaulting injectable contraceptive users can be identified as target client for home visit to remind them of the next due date. Non-pregnant non-users of family planning method are an important group from the programme's perspective. Not all non-pregnant non-users can be the target of the field-based activity. The UFI contains information about the couples' parity, age of the last child, the fertility intension, and reason of non-use or discontinuation of family planning method. These information can be used for identifying, on case-by-case basis, couples most suitable for targeting. In a nutshell, the UFI can be adapted to provide the information base for the development and functioning of a service-delivery strategy to replace door-to-door delivery of services.

9. Conclusion:

More definitive results on the outcome of the UFI intervention will require time and flexibility at the organizational level to manage change. Nevertheless, implementation of the UFI has provided important insights into the strategy of service delivery through field workers. The lessons learned during the implementation of the UFI highlighted the futility of visiting all clients on a routine basis, the burden it puts on the programme and the reduction in the opportunity to direct efforts where they can be most useful.

Simple introduction of a tool, particularly at the very lowest level of the organizational chain, cannot bring about the desired results unless changes occur at the higher levels, particularly at the managerial and policy levels. Strengthening the supervisory and monitoring mechanism must go hand-in-hand with changes at the lower levels.

Annex 1: Comparison between UFI, CRB and FWA Register

The three different record-keeping systems: the Urban Field Workers' Information System (UFI), the Couple Registration Book (CRB) used by NGO field workers, and the Family Welfare Assistant (FWA) Register used by government family planning field workers are compared below. The FWA register is also meant to be used by NGO field workers.

UFI	CRB	FWA Register
1. Wide range of MCH-FP information can be recorded, such as: FP/pregnancy status Reasons of drop-out /non-use TT status EPI status of <1 children Age and parity Birth and death Fertility Intention Past obstetrical history MCH-FP service provided -Referral and advice Logistics and service charge Others	1. Primarily FP information are recorded: FP status/pregnancy status TT status EPI status Parity Birth and death Logistics and service charge	1. A range of MCH-FP information can be recorded, such as: FP status/pregnancy status TT status Date of marriage Age and parity Birth and death EPI status of <1 children Logistics Others

UFI	CRB	FWA Register
2. Codes are used for recording family planning status, reasons for drop-out or non-use, and for services provided by the field worker.	2. There is no code system	2. Code system exists. However, there is a code, named 'J', to record any complications or any other status not represented by the given codes.
3. Any referral can be documented, and this allows the field worker to follow-up the outcome of the referral on subsequent visits.	3. There is no system to record referral done.	3. There is no system to record referral done.
4. Can record ANC and PNC services availed. This allows monitoring of the MCH indicators, such as number of women who delivered had received at least two antenatal check-ups or had received at least two doses to TT.	4.There is no system to record about ANC/PNC services	4.There is no system to record about ANC/PNC services

UFI	CRB	FWA Register
5. The family records are kept in separate sheets. Therefore, it is easy to remove the Family Form of the couple who has out-migrated.	5. The couple records are in separate sheets which can be removed from the file in case of out-migration.	5. There is no such option to withdraw the page of an out-migrated couple. New or in-migrated couple are registered at the end, that is the last pages of the register. Records of couples residing in different areas will be intermingled. So it will be very difficult to visit a particular area when a large number of couples has out-migrated.
6. Most information about the family is available in a single sheet. Therefore, It is easy for FW to determine and follow-up what type of service, advice, or referral is required for the family	6. Mainly, FP information is available; therefore, the focus of field workers' activities is mostly family planning.	6. Most information about the family is available, but in separate sections of the register.
7. There is wide space for writing comments.	7. Space to write down the comments is very small	7. Space to write the comments is very small
8. It is relatively heavier to carry	8. It is easier to carry	8. It is also bulky.

Annex 2: FAMILY FORM

Code No.|__|__| Date of Reg.______

Zone No.____ Ward No.____ Mohalla__________ House No.____ Road________

HH No.	Client's Name:	Age	TT Status					Wants more child Yes, now Yes, Later No more
Couple No.			1	2	3	4	5	
Total HH member	Name of Spouse:	Age	No. of living children	F				Past obst. history
				M				Live birth

Information on children <1 year during registration	Name of Child	Date of birth	B C G	DPT/Polio			Polio/ Measle		other	Still birth
				1	2	3	4	Mes		Abortion
										Comp. preg.
										Fits
										C/S
Best time of contact :		Age of last child:								

Two-monthly follow-up visit									
Date of visit	Family Planning		Follow-up/Referral		Supply and charges				Remarks
	Client status	nonuse/ Discont	Mother	Child	In hand	FW	Other	Service charge	

Codes for FP related issues | **Codes for Follow-up & Referral**

Client Status

1. Oral pill	O
2 Condom	C
3. IUD	CT
4. Injectables	I
5. F. sterilization	F
6. M. sterilization	M
7. Norplant	N
8. Non-user	NU
9. Discontinued	D
10. Address changed	AC

Reason for Non-use/Discontinuation

1. Side-effects	SE
2. Husband dislike	HD
3. Post-partum amenorrhoea	AM
4. Husband absent	HA
5. Wants child	WC
6. Desired pregnancy	DP
7. Unwanted pregnancy	UP
8. Newly wed	NW
9. Post-partum with live birth	PL
10. Post-partum with other birth	PO

1. Advice for side-effects	AS
2. Motivation for method	MM
3. Referral for method	RM
4. Referral for removal/switch	RRS
5. Referral for side-effect	RSE
6. Referral for ANC	ANC
7. Referral for TT	TT
8. Referral for high risk	HR
9. Referral for delivery	SD
10. Referral for PNC	PNC
11. Referral for EPI	EPI
12. Diarrhoea advice	DD
13. Breast-feeding advice	BF
14. Nutrition and health education	NH

MCH-FP Extension Project (Urban)
List of Publications

a. *Journal Papers:*

1. Baqui AH, Arifeen SE, Amin S, and Black RE. "Levels and correlates of maternal nutritional status in urban Bangladesh". ***European Journal of Clinical Nutrition (1994) 48, 349-357.***

2. Quaiyum MA, Tunon C, Baqui AH, Quayyum Z, Khatun J. "Impact of national immunization days on polio-related knowledge and practice of urban women in Bangladesh". ***Health Policy and Planning - a journal on health in development (in press).***

3. Baqui AH, Black RE, El-Arifeen S, Hill K, Mitra SN, Al Sabir A. "Causes of childhood deaths in Bangladesh: Results of a nation-wide verbal autopsy study". ***Bulletin of the World Health Organization (in press)***

b. *Working Papers:*

1. Jamil K, Streatfield K, Salway S. "Modes of Family Planning Service Delivery in the Slums of Dhaka: Effects on Contraceptive Use". May 1996. (ICDDR,B Working Paper No 46), (Urban FP-MCH Working Paper No 16), *ISBN 984-551-032-9*

2. Salway S, Nahar Q, Ishaque Md. "Alternative ways to Feed Infants: Knowledge and Views of Men and Women in the Slums of Dhaka City. May 1996. (ICDDR,B Working Paper No 58), (Urban FP-MCH Working Paper No 17), *ISBN 984-551-056-6*

3. Salway S, Nahar Q, Ishaque Md. "Women, Men and Infant Feeding in the Slums of Dhaka City: Exploring Sources of Information and Influence. May 1996. (ICDDR,B Working Paper No.59), (Urban FP-MCH Working Paper No.18), *ISBN 984-551-057-4*

4. Quaiyum MA, Tunon C, Baqui AH, Quayyum Z, Khatun J, "The Impact of National Immunization Days on Polio Related Knowledge and Practice of Women in Bangladesh". May 1996. (ICDDR,B Working Paper No. 60), (Urban FP-MCH Working Paper No. 19), *ISBN 984-551-058-2*

5. Perry HB, Begum S, Begum A, Kane TT, Quaiyum MA, Baqui AH, "Assessment of Quality of the MCH/FP Services Provided by Field Workers in Zone 3 of Dhaka City and Strategies for Improvement. May 1996. (ICDDR,B Working Paper No. 62), (Urban FP-MCH Working Paper No. 20), *ISBN 984-551-060-4*

6. Mookherji S, Kane TT, Arifeen SE, Baqui AH. "The Role of Pharmacies in Providing Family Planning and Health Services to Residents of Dhaka, Bangladesh". (ICDDR,B Working Paper No. 61), (Urban FP-MCH Working Paper No. 21), *ISBN 984-551-059-11*

7. Thwin AA, Jahan SA. "Rapid Appraisal of Urban Health Needs and Priorities". October 1996 (ICDDR,B Working Paper No. 67), (Urban FP-MCH Working Paper No. 22), *ISBN 984-551-074-4*

8. Jahan SA, Thwin AA, Tunon C, Nasreen S. "Urban Men and their Participation in Modern Contraception: An Exploratory Study". October 1996 (ICDDR,B Working Paper No. 68), (Urban FP-MCH Working Paper No. 23), *ISBA 984-551-075-2*

9. Perry HB, Arifeen SE, Hossain I, Weierbach R. "The Quality of Urban EPI Services in Bangladesh: Findings from the Urban Initiative's; Needs Assessment Study in Zone 3 of Dhaka City". October 1996 (ICDDR,B Working Paper No. 69), (Urban FP-MCH Working Paper No. 24), *ISBN 984-551-076-0*

10. Perry H, Weierbach R, Hossain I, Islam R. "Immunization Coverage in Zone 3 of Dhaka City, Bangladesh". 1997 (ICDDR,B Working Paper No. 76), (Urban FP-MCH Working Paper No.25), *ISBN:984-551-097-3*

11. Azim SMT, Mookherji S, Tunon C, Begum A, Rasul R, Baqui AH, "Information Systems for Urban Health: Findings from the Clinic Information System Intervention". 1997 (ICDDR,B Working Paper No.78), (Urban FP-MCH Working Paper No.26), *ISBN: 984-551-099-X*

12. Perry HB, Begum S, Hussain JB, Baqui AH. "Level and Correlates of Mortality in Zone 3 of Dhaka City 1995". 1997 (ICDDR,B Working Paper No.80), (Urban FP-MCH Working Paper No.27), *ISBN:984-551-103-1*

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2. Thwin AA, Islam MA, Baqui AH, Reinke WA and Black RE. "Health and Demographic Profile of the Urban Population of Bangladesh: An Analysis of Selected Indicators". Special research report of MCH-FP Extension Project (Urban), 1996.

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5. A brochure on "The Urban MCH-FP Initiative - A Partnership for Urban Health and Family Planning in Bangladesh" was produced in May 1995

6. Revised version of the above brochure entitled "A Partnership to Improve Urban Health and Family Planning in Bangladesh - The Urban MCH-FP Initiative" was produced in July 1996

MCH-FP Extension Work at the Centre

An important lesson learned from the Matlab MCH-FP project is that a high CPR is attainable in a poor socioeconomic setting. The MCH-FP Extension Project (Rural) began in 1982 in two rural areas with funding from USAID to examine how elements of the Matlab programme could be transferred to Bangladesh's national family planning programme. In its first years, the Extension Project set out to replicate workplans, record-keeping and supervision, within the resource constraints of the government programme.

During 1986-89, the Centre helped the national programme to plan and implement recruitment and training, and ensure the integrity of the hiring process for an effective expansion of the work force of governmental Family Welfare Assistants. Other successful programme strategies scaled up or in the process of being scaled up to the national programme include doorstep delivery of injectable contraceptives, management action to improve quality of care, a management information system, and developing strategies to deal with problems encountered in collaborative work with local area family planning officials. In 1994, this project started family planning initiatives in Chittagong, the lowest performing division in the country.

In 1994, the Centre began an MCH-FP Extension Project (Urban) in Dhaka (based on its decade long experience in urban health) to provide a coordinated, cost-effective and replicable system of delivering MCH-FP services for Dhaka urban population. This important event marked an expansion of the Centre's capacity to test interventions in both urban and rural settings. The urban and rural extension projects have both generated a wealth of research data and published papers.

The Centre and USAID, in consultation with the government through the project's National Steering Committees, concluded an agreement for new rural and urban Extension Projects for the period 1993-97. Salient features include:

- To improve management, quality of care and sustainability of the MCH-FP programmes
- Field sites to use as "policy laboratories"
- Close collaboration with central and field level government officers
- Intensive data collection and analysis to assess the impact
- Technical assistance to GoB and NGO partners in the application of research findings to strengthen MCH-FP services.

The Division

The reconstituted Health and Population Extension Division (HPED) has the primary mandate to conduct operations research to scale up the research findings, provide technical assistance to NGOs and GoB to strengthen the national health and family planning programme.

The Division has a long history of accomplishments in applied research which focuses on the application of simple, effective, appropriate and accessible health and family planning technologies to improve the health and well-being of the underserved and population-in-need. There are several projects in the Division which specialize in operations research in health, family planning, environmental health and epidemic control measures which cuts across several Divisions and disciplines in the Centre. The MCH-FP Extension Project (Rural), of course, is the Centre's established operations research project but the recent addition of its urban counterpart - MCH-FP Extension Project (Urban), as well as Environmental Health and Epidemic Control Programmes have enriched the Division with a strong group of diverse expertise and disciplines to enlarge and consolidate its operations research activities. There are several distinctive characteristics of these endeavors in relation to health services and policy research. First, the public health research activities of these Projects focus on improving programme performances which has policy implications at the national level and lessons for international audience. Secondly, these Projects incorporate the full cycle of conducting applied programmatic and policy relevant research in actual GoB and NGO service delivery infrastructures; dissemination of research findings to the highest levels of policy makers as well as recipients of the services at the community level; application of research findings to improve programme performance through systematic provision of technical assistance; and scaling-up of applicable findings from pilot phase to the national programme at Thana, Ward, District and Zonal levels both in the urban and rural settings.

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