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THE HOUSEHOLD DELIVERY OF MATERNAL AND CHILD HEALTH AND FAMILY
PLANNING SERVICES IN RURAL BANGLADESH: AN 18 MONTH LONGITUDINAL
ASSESSMENT DURING 1984 AND 1985

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INTRODUCTION

Over the past two decades considerable research has been done to evaluate household delivery of health and family planning services in Bangladesh and throughout the developing world. Household visitation is extremely important in order to increase access to services for those most in need. Access is increased by overcoming geographical barriers, reducing cost constraints through free services, limiting bureaucratic barriers, as well as cultural and communication gaps(See Kols et al. 1982). Within the traditional Muslim culture of Bangladesh the movement of women is severely restricted. If basic health and FP services are to be provided to rural women and children in Bangladesh they must be available at the household level.

The need for household visitation is not only important for the delivery of tangible services but for the provision of health education and family planning motivation. In Bangladesh, where less than 17% of rural women are literate, practical health and family planning information must be available in a way which is readily understandable (Hossain and URC 1986). Studies have shown that in areas in Bangladesh where female workers are making household visits they are viewed as the primary source of motivation to adopt contraception (See Muhuri & Islam 1985, Quddus 1979, Hossain 1983).

It is clear from Matlab and other areas studied in Bangladesh that household visits can increase family planning use prevalence. Furthermore it has been shown that household visits by female workers can have a significantly positive effect on contraceptive prevalence independent of pre-existing demand for contraception (See Phillips et al. 1986). Kols et al.(1982) point out that world wide in the last 12 years more than 15 programs using household visitation approaches have shown increases in contraceptive prevalence. These successes point to the need for facilitating the best possible use of government worker visits to households. For the above reasons it is critical to assess current levels of contact between field workers of the government health and family planning program and rural women.

While little work has been done on the male worker of the government health and family planning program, the performance of the female worker has been assessed in several studies over the last eight years. The findings from these studies have found that workers play a significant role in rural Bangladesh, visits to households have often remained infrequent, and MCH service provision has remained particularly insufficient. This paper presents a first, basic overview of contact data between government health and family planning workers and rural women collected in connection with the MCH FP Extension Project of the International Centre for Diarrhoeal Disease Research, Bangladesh(ICDDR,B). In contrast to previous studies, data presented here are longitudinal rather than cross-sectional.

Specifically this paper has three major objectives:

1. To assess the frequency and nature of contact between health and family planning (MOHFP) field workers and rural women.
2. To contrast the contacts of male and female workers with rural women. Key issues considered are male-female differences in visit frequency, seasonality of visits and proportion of eligible women visited. Also contrasted are the gender differences in topics discussed and services provided.

BACKGROUND

The Male Household Level Worker: The male household level worker of the government health and family planning program, the Health Assistant (HA), was originally assigned the role of malaria eradication, census taking and was instrumental in the eradication of smallpox. As of 1984 there were over 12,000 male workers working throughout Bangladesh. (See Bangladesh 3rd Five Year Plan, 2nd Draft.) Their working area, the 'unit', is roughly based on population and is composed of varying numbers of 'mouzas' with an average population somewhere between 4,000 to 5,000 individuals.¹

The male fieldworker is supervised by the Assistant Health Inspector(AHI), with approximately one AHI for every union. Despite a 1983 mandate to integrate health and family planning services the HA is operating under the health wing, largely independent of family planning staff. (Note: For a detailed description of the supervisory structure of the MOHFP Health and Family Planning Wings see Koblinsky et al. 1984.)

The HA's duties are manifold. In terms of health he is responsible for control of malaria and other communicable diseases, immunization, distribution of vitamin A and health education; in family planning his duties cover information, education and motivation, especially for men, distribution of pills and condoms, referral of clients for permanent methods. In addition he must perform liaison functions with the union Health Centre, and look after record keeping and the annual recording of basic data on all households in his area, termed "GR Updating" (See Smith et al. and Brechin et al. 1986).

The male worker works on a somewhat varied campaign basis. At certain times of the year he is mandated to conduct specific activities such as GR-updating and bi-annual Vitamin A distribution (See Ashraf et al. 1986). He is given a monthly allotment of malaria slides, ORS and other provisions and is expected to cover his entire area on a monthly or slightly longer basis.

The Female Household Level Worker: First recruited in 1976 under the family planning wing of the Ministry of Health and Family Planning, there

were over 12,000 FWAs as of July 1984. There are three FWAs in each union - one in each ward - who are supervised by one male Family Planning Assistant (FPA) at the Union level. The current client ratio is estimated at one FWA per every 7,500 population or 1,335 eligible women. The third five year plan, 1985-1990, has provided for the hiring of an additional 10,000 FWAs over the next five years. This ratio will be improved by these additional female workers to reach a minimum of 4,800 in 1991 (See Koblinsky et al. '86).

As of 1983 the FWA responsibilities include the following core of activities: family planning where she is responsible for information, education and motivation, listing of all eligible couples, distribution of contraception, referrals for clinical methods and liaison with the female, union level paramedic. In the area of maternal and child health she must provide advice to pregnant women, post-natal care, ORS distribution, referrals for TT and DPT immunizations, and vitamin A distribution. Additionally she is expected to provide a link to women's groups, local government and record keeping.² (See also Brechin et al. 1986).

Unlike the male worker's monthly routine the female worker has a responsibility to cover her entire listing of all eligible women in her ward every three months.³ This is done following a monthly tour schedule which is prepared in advance and submitted for approval to her supervisor, the family planning health assistance (FPA).

Both workers are obliged to sign a Couple Registration Card kept at the household to prove that they actually visited each eligible woman. Most studies find that due to supply logistics only a very small proportion of eligible women in fact have these cards.

Formal job descriptions rarely capture actual work patterns, one of the major reasons for conducting this study on worker-client contacts is to provide an accurate assessment of actually occurring worker interactions with rural women.

METHODOLOGY

The data cited here represent the first longitudinal observation of household visits of fieldstaff from the Ministry of Health and Family Planning to rural women in Bangladesh, providing quarterly measures of worker visits to households. Prior cross-sectional studies had only covered up to one six-month interval. The respondents on which this research is based were selected on a random 2 stage cluster sample in four upazilas in Bangladesh for the purpose of evaluating the impact of the MCH-FP Extension Project of the International Centre for Diarrhoeal Disease Research, Bangladesh, and for research on factors contributing to reduced infant mortality and increased contraceptive prevalence.

The project design that guided the collection of these data called for two intervention⁴ areas, one located in the north-western, the other in

the south-western part of Bangladesh with comparison areas for each upazila in a neighbouring upazila. In the intervention areas project staff are working collaboratively with government to improve the functioning of the field program. Technical and managerial interventions in such areas as training, record-keeping, logistics, supervision, field-based injectables and immunization have been undertaken. The sample is drawn from four basic areas: two "treatment" areas and two "comparison" areas. The total survey area has a population of 250,000. (See appendix Table 1 for population data and characteristics of the respondents.)

For the purpose of this analysis the four upazilas areas are presented separately in order to show the range of variation found. The total number of female workers serving the entire area covered by the survey equals 39, with an average population of 6,430. Male workers in the sample area total 53 covering an average population of 4,731.

All findings presented are based on data collected in six consecutive 3 month rounds over a period of 18 months (April '84 Sept '85) from over 5,300 married women of reproductive age in two areas of rural Bangladesh. Approximately every three months, respondents were asked three questions about each visit⁵ they had received from a health and family planning worker in the three months prior to the interview:

1. Was the worker visit by a male, a female or by both male and female together?
2. What was discussed?
3. Was any medicine or contraceptive received at the time of the visit? If so, what kind?

Care was taken to distinguish Ministry of Health and Family Planning staff from other types of government or NGO workers, including the interviewers themselves during a previous round.⁶ Rates of non-response were extremely low and absent respondents rarely exceeded 15% in any given round.

FREQUENCY OF VISITS

We begin the presentation of findings with a discussion of the quantity of contacts between field workers and rural women. Measures of the quantity of services are presented for two time periods: for a complete year and for 3-month rounds. It must be kept in mind that although male and female workers have different work units, all households are supposed to be covered by both an HIA and an FWA.

Annual⁷ Coverage: The first important finding to emerge from Table 1 relates to the question of overall coverage. By no means all women have been contacted by a fieldworker in the course of the 12-month period under observation. Moreover, considerable variation exists in the rate of

coverage among the four areas. In the two treatment areas and one of the comparison areas a coverage rate of over 90% was observed. That is to say nine out of ten women in these areas had received a field worker visit at least once during the year. By contrast, in the second comparison area only about seven out of ten rural women had been visited, showing that a substantial number of women are completely outside of the household visitation system established by the government health and family planning program.

As might be expected, coverage by either male or female workers is lower than overall coverage. The most favourable coverage rate for male workers can be observed for treatment area A where 94% of rural women in the sample had received a visit from a male fieldworker. This contrasts with the least favourable male coverage rate of 45% in comparison area B. For female workers the annual coverage rate is somewhat lower than that of male workers, ranging from 81% in treatment area A to 40% in comparison area B.

Since treatment areas have been subjected to special interventions, the two comparison areas in this and the following table provide the more accurate picture of what is happening in the government program. Analysis of coverage rates in the two comparison areas reveals that the government program functions at very different levels of effectiveness in different parts of the country.

Number of Visits Received: Table 1 also shows the number of visits received for the year under observation. Based on their job descriptions, for both male and female MOHEP workers it would seem reasonable to expect that a substantial portion of eligible women would report being visited four or more times in a year. This is not found in the data however. A very small proportion of respondents reported this minimum standard level of visitation: for males the range was from 31% to 10%, for females it was from 23% to 5%. For all visits combined the range was from 74% to 18%. This has serious implications for what the health and family planning program can be expected to achieve in these areas.

The annual mean visit frequency provides a helpful summary of the quantity of contacts between the fieldstaff of the government health and family planning outreach staff and rural women. Treatment area A scores highest with an average of 5 fieldworker contacts per woman per year, as contrasted with the lowest average of 1.88 in comparison area B. Average contacts for male and female taken separately fall below the expected mean of at least 4 visits per year, but variation among areas is, as observed previously, pronounced. Male visit frequencies generally exceed that of females.

TABLE 1: PERCENTAGE DISTRIBUTION OF VISITS RECEIVED BY RURAL WOMEN FROM MALE AND FEMALE FIELD WORKERS IN THE 4 NCH-FP PROJECT AREAS FOR ONE YEAR: (JULY 1984 - JUNE 1985) (DATA COLLECTED FROM ROUND 9 - 12, OCTOBER 1984 TO SEPTEMBER 1985)

Type of worker:	Treatment(A)			Comparison(A)			Treatment(B)			Comparison(B)		
	Total*	Male	Female	Total*	Male	Female	Total*	Male	Female	Total*	Male	Female
Number of Visits												
None**	.9	5.9	18.6	5.8	19.9	35.0	9.3	31.2	25.9	32.8	55.3	60.4
One	4.2	14.9	16.9	10.0	21.1	24.2	13.9	24.6	24.2	24.3	19.7	20.5
Two	8.5	26.2	19.9	12.6	26.7	23.1	17.7	19.4	21.0	14.2	8.6	9.1
Three***	12.1	22.0	21.9	18.4	16.3	9.5	17.0	14.7	14.3	10.3	6.5	5.3
Four or more	74.3	31.0	22.7	53.2	16.1	7.3	42.1	10.1	14.6	18.4	10.0	4.6
Mean	5.04	2.78	2.24	3.73	2.01	1.30	3.31	1.53	1.75	1.88	1.07	0.79
Total %	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total Sample:	(1261)	(1261)	(1261)	(412)	(412)	(412)	(1779)	(1779)	(1779)	(604)	(604)	(604)
(Eligible women)												

* The category 'Total' includes visits from male and female teams as well as those by individual male or female NCHFP workers. These team visits amount to less than 2% of all visits in all areas except Abhaynagar comparison where they amount to less than 1% of all visits.

** The estimated number of eligible women who have not received any visit in the entire year is subject to the limitation that only respondents who were interviewed for all four rounds are included in this table.

*** The estimates of the numbers of respondents according to the number of times visited in the last year are conservative for 3 or more visits. This table was produced using the assumption that those listed as having three visits during one round did not in fact have four or more during that round.

COVERAGE DURING 3 MONTHS INTERVAL

As we pointed out in the introduction, one of the major advantages of longitudinal data collection is that it allows us to understand what happens to worker client contacts over time with information available for three month intervals. One of the interesting issues to examine with such data is the question of seasonality. Do workers concentrate their efforts during particular months of the year, or do they spread their activities more evenly? To what extent do male and female workers differ in this regard?

Examination of Fig. 1,2,3 in which contact rates are presented for 6 rounds of data collection covering a period of 18 months, provide some answer to these questions. Fig. 1 shows the overall quarterly rate of coverage taking all male, female and joint visits together. Although they are far short of the 100% coverage⁸ that would be predicted by the job description of male and female workers, contact rate in treatment and comparison area A are very substantial. We already know these two areas as high performer from Table 1. What we see with this roundwise data is that contact rates are consistently substantial over the 18-month observation period. Overall contact rates in the two other areas are dramatically lower, falling below 20 percent in one round. Nonetheless some degree of contact is maintained for all rounds. Coverage rates are lower still when broken down by gender of worker. For the highest performing area (Treatment A) male worker contact is almost consistently over 50% (Fig. 2), for female workers it lies at 50%. All other areas fall below this level, with female worker contact rates in comparison area B falling as low as 9.2% in one round.

The second overall finding to emerge from roundwise data concerns seasonality. While some, though often minimal, contact is maintained in each round, we also observe a considerable degree of seasonal variation for male workers; showing a range of coverage from 12.2% to 79%. Much of this is due to the campaign mode of work organization for male workers, by which special activities such as vitamin A distribution or updating of population records is assigned to particular months of the year. Consistent with their constant tour schedule work routine, female workers showed little seasonal variation.

NATURE OF WORKER-CLIENT INTERACTION: DISCUSSION AND SERVICES

So far we have discussed the frequency of contact. But frequency alone does not tell us anything about the nature of the interaction between workers and rural women. The following section examines data for women who have been visited, presenting information on both the nature of the discussion that occurred, and whether medicines or contraceptives were received.

FIG. 1: ELIGIBLE WOMEN CONTACTED AT LEAST ONCE PER QUARTER BY A FIELD-WORKER

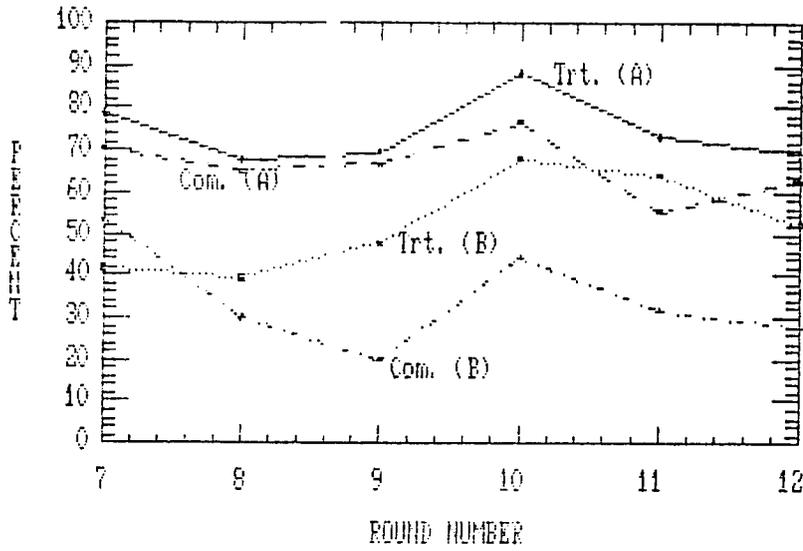


FIG. 2: ELIGIBLE WOMEN CONTACTED AT LEAST ONCE PER QUARTER BY A MALE WORKER

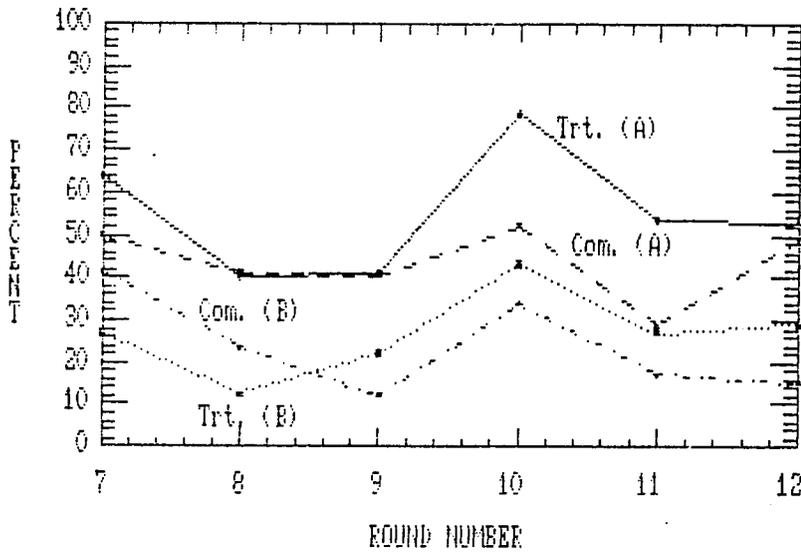
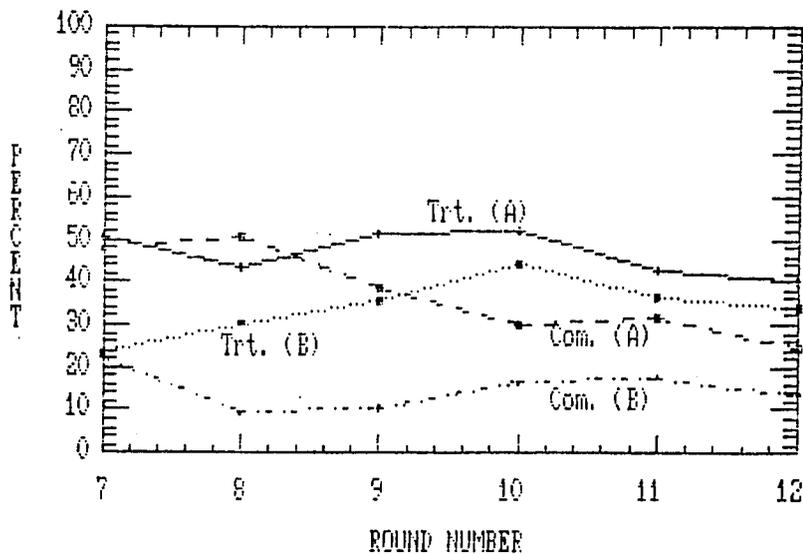


FIG. 3: ELIGIBLE WOMEN CONTACTED AT LEAST ONCE PER QUARTER BY A FEMALE WORKER



Discussion: The first finding of importance concerning the nature of discussions between workers and rural women is that many visits did not involve a conversation. Comparison area B, which we recognize as a low performer from Figures 1 3 and Table 1, with its overall annual contact rate of 67 percent shows the highest level of no discussion. Almost half of the sample of women report no discussion from either the male or the female worker throughout the year.

While the proportion without discussion is lower for the other areas, these rates are nonetheless disturbing, if one remembers that conversation is after all, the medium through which fieldworkers must perform their educational and motivational work. It is especially surprising to find high rates of no discussion for female workers who are almost exclusively dependent upon their counselling, and information functions in the performance of their assigned duties. Male workers, by contrast, have to perform some functions which are relatively non-verbal, such as vitamin A distribution or updating of population data. While such work involves some discussion, the conversation does not necessarily have to take place between the worker and the woman.

The second important finding from Table 2 concerns the dramatic segregation of topics. Male workers rarely discuss family planning, female workers rarely discuss health. Even rarer are discussions of both health and family planning topics during a given visit.

We see in these findings evidence of the persistence of two fieldworker cadres with very different orientations, one toward health, the other toward family planning. In spite of the existence of a medical administrator at the subdistrict level responsible for both health and family planning, the fact that male fieldworkers belong to the health wing of the ministry and female workers to the family planning wing, is clearly reflected in these data. The integrated work patterns prescribed in formal job descriptions are not easily translated into practice. The finding that health discussions are not very pronounced for female workers is especially surprising in light of the fact that FWAs have been assigned maternal and child-health duties. One concludes once again that formal work assignments are not readily translated into practice.

Health Services and Contraceptives Distribution: With regard to health services and contraceptive distribution we observe the same segregation of activities between male and female workers reported above, with male workers providing essentially no contraceptives and female workers virtually no health services.

Although male worker visits are associated with a fairly high level of health services in all 4 areas, the actual content of these services is quite limited. It consists largely of Vitamin A distribution, some episodic immunization campaigns, and quite low rates of other services, notably ORS.

In considering the low rates of contraceptive distribution for women, it must be understood that these data cannot measure referrals by female workers which account for a substantial part of their work. The low rates of health services for female workers are accounted for by the fact that they are not provided any of the medicines carried by the male workers, and have until very recently, not been involved in immunization campaigns.

TABLE 2: NATURE OF DISCUSSION AND SERVICES RECEIVED FROM MALE AND FEMALE FIELDWORKERS
IN THE COURSE OF ONE OR MORE VISITS DURING ONE YEAR (PERCENTAGE DISTRIBUTION)*

Type of worker:	TREATMENT (A)		COMPARISON (A)		TREATMENT(B)		COMPARISON(B)	
	Male	Female	Male	Female	Male	Female	Male	Female
I. TOPICS DISCUSSED								
Health	82.6	9.5	87.0	12.7	56.6	7.8	53.7	1.3
Family Planning	1.2	59.4	2.1	62.7	1.4	75.2	1.1	51.9
H & FP discussed during single visit	2.3	.6	.9	1.5	.4	1.2	.4	.4
No discussion	17.0	35.5	12.4	29.5	42.2	21.7	45.6	46.9
II. HEALTH SERVICES AND CONTRACEPTIVE DISTRIBUTION								
Health Services	83.1	1.9	82.5	7.1	74.4	3.0	82.6	1.7
Contraceptive distribution	1.0	12.4	.6	10.4	.4	13.9	.4	7.1
HS & Contraceptive distribution during a single visit	.9	.1	-	-	-	.3	-	-
No health services or contraceptive distribution	16.5	86.2	17.6	83.2	25.5	84.1	17.4	91.2
Total visited eligible women	1187	1027	339	268	1224	1318	270	239

* Percentages do not add upto 100% due to multiple responses.

CONCLUSION

With this basic overview of key findings regarding worker-client interactions in four subdistricts of the government health and family planning program in rural Bangladesh, we hope to have established the following key points:

First, we hope to have demonstrated the utility of studying contact data, especially data which allows longitudinal observations. Much previous research on program performance has focussed on contraceptive prevalence, or other output data. Given the evidence presented here one begins to understand why program results have often been disappointing.

It should be noted however, that the quantitative study of worker-client interactions through longitudinal household surveys constitutes only one methodology for the study of client relations. Fuller understanding requires qualitative observation of the interactions between government workers and rural women.

Second, we have shown that there is reason for considerable concern about the functioning of the health and family planning program in the field. As we saw in some areas, levels of contacts are extremely low, and large portions of visits involved neither discussion nor service but merely the fulfillment of visit quotas. This type of mechanical observation of duty represents a major lost opportunity in health and family planning.

Third, we have shown that in spite of the obvious concerns which these data evoke, there is also a positive side to these findings. Although many women are not reached, many others are in fact being visited, many with a fair degree of regularity. It would be wrong to conclude that the program has no presence in the field. That some very positive relationships exist between female workers and rural women has, for example, been reported elsewhere in an analysis of observational data (Simmons et al., forthcoming).

Fourth, male and female workers follow segregated patterns of activity which reflect the distinct orientations of their parent department. Without wanting to suggest that a division of labor is necessarily undesirable, the low degree of health service delivery by female workers is cause for concern. Currently female workers carry only contraceptives. Not even oral rehydration salts are regularly provided. The findings presented here support the notion that the issue of medical supplies to female workers requires re examination.

These data raise many questions about the determinants of the patterns of contact observed. To answer these questions, careful analysis of the functioning of the government program at the field level is required. Such analysis, however, could not be attempted here. The purpose of this paper was simply to present an overview of the basic pattern of contact.

Notes:

1. Bangladesh is made up of 64 Districts which consist on average of 8 Sub-districts called 'Upazila' similar to a British county. Each upazila contains an average of 9 administrative areas known as unions. Each union is in turn divided into three 'wards.' For census purposes each union is also divided into smaller areas called 'mouzas' which typically include only one or two villages. The average union consists of over 13 mouzas. Mouza boundaries may cross ward boundaries but always conform to union boundaries.
2. For a description of FWA reporting see Rahman and Koblinsky, 1985 and see also Brechin, et al. 1986).
3. Compared to the IIA this is a much slower pace which is in part due to a larger work area and may also be partly accounted for by the fact that most FWAs have their own family and child care responsibilities which make it hard for them to spend a full working day in the field. (See Kabir et al. 1985 and Koblinsky et al. 1986).
4. The data collection in the treatment areas has coincided with interventions to improve service delivery. Hence the levels of MOHFP worker activity can be anticipated to be higher in these treatment areas than in the comparison areas. While perhaps more representative due to the absence of any intervention activities, the comparison areas are insufficient in size to provide an adequate number of respondents contacted by male workers and female workers for analysis.
5. While only up to three visits are formally entered into the contact data system at each interview, information concerning all visits during the reference period are recorded. There are very few respondents in a given three month round reporting more than three visits. The highest proportion of respondents reporting four or more visits during one round is 2.4% (Clark et al. May, 1986.)
6. Because the MOHFP health and family planning workers rarely change jobs and visit with some regularity those respondents who are visited know the MOHFP workers by sight if not by name.
7. The annual visit calculation includes only those eligible women present for all four consecutive rounds. Hence an assumption required for the calculation of annual visit rates is that respondents who are present for four consecutive rounds are no more likely to be visited by a MOHFP worker than those who are present for only one, two or three rounds. This is not a strong assumption given that it is obvious that someone who is present for four continuous rounds for interview will be more likely to be home when a MOHFP worker visits than someone who is less sedentary and was not present for four consecutive interviews. The bias of this assumption is to overcount the frequency of visits to some unknown extent. This bias is

in the opposite direction of another required assumption, described above, that the count of visits for any round per respondent does not exceed three.

8. Since the female worker takes a full 3 month round to visit all her eligible women it is likely, even with 100% coverage, for a roundwise survey to miss a substantial number of visits due to absence of the respondent or mistiming of worker's and interviewer's visits. Ideally, based on their job descriptions, coverage should be 100% for each 3-month SRS round for male workers and for every two 3-month SRS rounds for female workers.

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APPENDIX

Table 1: Selected Baseline Characteristics of Respondents of MCH-FP Extension Project Areas as of (December 1982 - December 1983)

	Abhoynagar		Sirajganj	
	Treatment	Comparison	Treatment	Comparison
Mean Age	29.0	29.9	30.0	29.1
Marital Status:				
Married	88.7	91.3	89.7	93.0
Widowed	5.2	5.1	7.3	3.6
Divorced	3.8	2.5	2.1	2.7
Separated	2.3	1.2	0.9	0.7
Mean Age at First Marriage	13.0	12.9	13.6	13.5
Mean # of Living Children Ever Born	3.8	3.8	4.4	4.0
Mean # of Living Children	3.0	3.0	3.2	3.0
Infant Mortality Rate(1983)**	123	127	155	169
Religion %				
Muslim	71.4	79.2	96.9	96.6
Hindu	28.2	20.8	3.1	3.4
Other	0.4	0.0	0.0	0.0
Education				
% of Some Education	33.5	32.7	23.0	24.2
Mean of Years of Schooling	1.0	1.5	0.8	1.6
(N)	2396	768	3369	1043
Population*	86,469	33,283	92,203	38,809

* Source: 1981 BBS Census.

** From Baseline Demographic Rates for the Experimental Treatments of the four Thanas of the MCH FP Extension Project over the January 1, 1983-December 31, 1983 Period" by K Mozumder, M.B. Hossain and J.F. Phillips - SRS Documentation Note 6. February 1985.

All other Demographic Data from Hasina Banu, J.F. Philips, D.S. DeGraff, M.A. Koenig. Baseline Social, Economic and Demographic Differentials in Contraceptive Behaviour in Study and Comparison Areas of the MCH-FP Extension Project, September 1986.