

## **MCH-FP Extension Project (Urban)**

Urban FP/MCH Working Paper No. 16

# **Modes of Family Planning Service Delivery in the Slums of Dhaka: Effects on Contraceptive Use**

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# Foreword

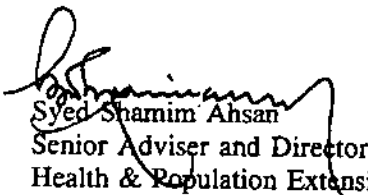
I am pleased to release these reports on urban Maternal and Child Health and Family Planning issues which are based on the operations research activities of the MCH-FP Extension Project (Urban) of the Centre. Over the years, the Centre has acquired a unique expertise on urban development matters that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

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

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

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

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

  
Syed Sharmim Ahsan  
Senior Adviser and Director  
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The Working Paper is based on information from the Urban Surveillance System (USS) and the Health Facility Survey administered in the slums covered by the USS of the Urban Health Extension Project (UHEP), ICDDR,B. The USS is a comprehensive health and demographic surveillance of a representative population living in the slums of five *thana* of Dhaka. Numerous project staff are involved in the functioning and maintenance of the USS. Sincere acknowledgement is extended to the hard work and dedication of the USS staff, both the field-based staff and the data management and the project management support side of the USS.

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## Summary

The paper examines whether the availability and modes of family planning service delivery affect contraceptive prevalence and method choice in the slums of Dhaka, Bangladesh. The analysis focuses on services offering reversible modern methods, particularly oral pills and injectables. Data from the Urban Surveillance System and the Health Facility Survey conducted in Dhaka slums during March-August 1992 were used.

Oral pills were widely available with about four-fifths of women living in the slums where family planning workers offered door-to-door services, including pills. Injectables, on the other hand, though popular had limited availability only through clinics, and only one-third of women had access to clinics within an easy walking distance. Oral pill use was three times more common than injectable use.

The bivariate analysis shows that the contraceptive prevalence rate of reversible methods (CPR) was significantly higher in areas with fieldworkers than in areas with no services (neither fieldworkers nor clinics) or areas with clinics only. Surprisingly though, areas having both fieldworkers and clinics providing injectables did not have a higher CPR compared to areas with only fieldworkers. However, where both fieldworkers and clinics were available, the proportion of current users accepting injectables was greater than in areas with fieldworkers only.

Findings from multinomial logistic regression suggest that among current users of reversible contraceptives the method mix was the same in areas that had field workers distributing pills at the doorstep compared to areas where fieldworker services were not available.

These findings have important implications for the development of effective modes of service delivery for this population.



## Introduction

Until recently, it was commonly believed that due to high concentrations of health and family planning resources, the issue of accessibility and utilization of these services was not a major problem for the residents of the urban areas (Harpham, *et al.*, 1988; Mamdani, 1991). Although overall urban estimates indicate higher use of health and family planning services, there is very little information on intra-urban differentials (Rossi-Espagnet, 1984; Harpham, *et al.*, 1988). Recent studies in urban Bangladesh draw attention to the inequities that exist within the cities. Use of modern contraceptive methods among the slum residents of Dhaka<sup>1</sup>, Bangladesh was only 31.3% in 1990 (Jamil, *et al.*, 1993), lagging behind the Bangladesh national urban estimate of 38.3%, and only marginally higher than the overall rural estimate of 30.0% (Mitra, *et al.*, 1992).

In Bangladesh, considerable effort has gone into finding family planning service delivery modes which maximize access to a wide range of modern contraceptives within the financial and administrative constraints of the national family planning program. The approaches include the door-to-door delivery by fieldworkers of oral pills and condoms, and in some areas injectables. This requires a large number of staff, and considerable managerial capacity, to function effectively. The more cost-effective and sustainable approaches, which do not necessarily maximize access, are generally based on static clinics.

In rural Bangladesh, the issue of women's access to family planning services is vital, not only because of the opportunity costs of travelling long distances to a clinic, but the restrictions imposed by custom and religion on

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<sup>1</sup> Dhaka, the capital of Bangladesh with a population of approximately 7 million (Census 1991 estimate for Dhaka Statistical Metropolitan area), is estimated to have one-third its residents living in the slums and squatter settlements.

a woman's mobility outside the home (Phillips, *et al.*, 1988; Simmons, *et al.*, 1988). This adds to the incentive to devise a service delivery system which comes as close as possible to a doorstep approach. Studies in Matlab and in other rural areas of Bangladesh have confirmed the effectiveness of this approach (Phillips, *et al.*, 1988; Koenig, *et al.*, 1989., Maru, *et al.*, 1992). However, little is known about the necessity of similar labor intensive service approaches to meet the family planning needs of urban populations, particularly those living in the slums and squatter settlements of the cities.

The present study explores how the nature of the service delivery approach influences adoption of contraception and method choice in the urban slums<sup>2</sup> of Dhaka. The scope of the analysis is limited to services offering reversible modern methods, particularly oral pills and injectables. The rationale for this focus is that these two methods are most widely used and are preferred by potential contraceptive users in the urban slums (Jamil, *et al.*, 1993). The national family planning programme has also placed great emphasis on an upsurge in adoption of injectables in their targets for the current Five Year Plan. It has been projected that injectable use needs to rise from 2.4% in 1989 to 6.1% by the end of 1995. In the same period, the proportion of couples using oral pills is targeted to rise from 13.4% to 15.7% (Planning Commission, 1991).

In the development of the service structure, issues that are becoming increasingly important are cost-effectiveness and long-term sustainability. Some form of evaluation of the effectiveness of existing family planning service delivery modes seems to be a logical starting point to understand what could be the best strategy in the provision of effective and efficient family planning services for the urban poor.

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<sup>2</sup> The slums are characterized by high population density, poor housing (generally bamboo structured dwellings), multi-family latrines and water sources, poor sewerage and drainage facilities, and irregular garbage collection.

The objective of this paper is to examine whether the availability of family planning services, and the mode of service delivery influences: (i) contraceptive prevalence of reversible modern methods among the women living in the slums of Dhaka; (ii) the choice of oral pills versus injectables among current contraceptive users. The outcome is measured both in terms of overall contraceptive prevalence of reversible modern methods, and the relative use of pills and injectables.

## Methodology

The data come from two sources. The first is the Urban Surveillance System (USS) of the Urban Health Extension Project (UHEP) of the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B). The USS is a comprehensive demographic, health and family planning surveillance of a probability sample of slums and squatter settlements in five *thanas* (administrative units) of Dhaka city. It is based on a multi-stage areal sampling method, where the ultimate sampling units are clusters of average size of 33 households. The USS records demographic events, selected health information for children aged less than 5 years and contraception information for currently married women of reproductive age, on a three-monthly cycle. Socio-economic status of the registered households is updated yearly. A detail description of the data, the data collection procedure and the sampling framework of the USS is published in Baqui, *et al.*, 1993.

Contraception information on 6,015 currently married women under age 50 years, collected from 238 clusters during April-June 1992, was used for the analysis. The women were asked whether they were currently using contraception and the method that was used. The analysis focused on the use

of reversible modern methods, categorized as -- oral pills, injectables, and other methods (IUDs, condoms)<sup>3</sup>.

The second source of data used for this analysis was the Health Facility Survey administered in the 238 clusters under the Surveillance during July-August 1992. The survey was conducted to collect community-level information on the type and proximity of family planning and health services available and used by the slum population of the USS. Information was gathered from three female key informants from each cluster who had been living in that slum for at least a year. The information provided by the selected slum residents was cross checked by the interviewers by visiting the service facilities/providers mentioned. Detailed information on the Health Facility Survey methodology and findings have been reported earlier in Fronczak, *et al.*, 1993.

In the slums during the study period, injectables were available only through clinics, including some satellite clinics. All family planning clinics offered pills, but not necessarily injectables. In the urban areas, oral pills were widely available through door-to-door fieldworkers and pharmacies. About 98% of the slums had pharmacies that sold oral pills and condoms within an easy walking distance (Fronczak, *et al.*, 1993). In the study area family planning services through static clinics, satellite clinics and fieldworkers were offered mainly by a number of non-government organizations (NGOs) and the government.

For this analysis, information from the Health Facility Survey was used to identify: (a) clusters that had door-to-door field worker services distributing oral pills and condoms, and (b) clusters where clinics providing injectables were available within easy walking distance. This study employed

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<sup>3</sup> More than one method was included in the "other" category because the number using condoms/IUDs were too small to be treated separately and for meaningful analysis of the determinants of its use.

a four cell design where the slums under the surveillance were categorized according to family planning service availability as follows:

- i) "No service" areas that had no fieldworkers providing door-to-door distribution of pills and condoms and had no clinics providing injectables within an easy walking distance;
- ii) "Fieldworker" areas that had fieldworkers for door-to-door distribution of pills and condoms, and also providing motivation, education and referral services. Clusters identifying fieldworker visits at least once in six months were considered to be serviced by fieldworkers. In the "fieldworker" areas there were no clinics within easy walking distance that offered injectables;
- iii) "Clinic" areas that had clinics offering injectables within an easy walking distance; these areas had no fieldworkers who distributed pills or condoms at the door step;
- iv) "Fieldworker and clinic" areas where there were both fieldworkers providing door-to-door service, and clinics with injectable contraception within an easy walking distance from the cluster.

The paper used bivariate analyses to explore the relationship between service availability and contraceptive prevalence of reversible modern methods among 5,483 currently married women aged less than 50 years, who were not using any permanent contraceptive method. Women who were themselves or whose spouse was sterilized (n=532) were excluded from the analysis. The rationale for the exclusion was that once sterilized, program differences cannot alter contraceptive choice. Moreover, the women/spouse could have been residing in a different area when sterilization was undertaken. In a dynamic setting such as urban Dhaka, population mobility

among the slum dwellers is very high and service availability has been changing over time. Under such conditions, information on the timing of sterilization, place of residency of the clients and service availability at the time of sterilization are required to analyse the influence of the program on the use of permanent methods. This would require a different design and set of information other than the one employed or was available for this study.

To examine the relationship between the mode of service delivery and method choice among current users of contraceptives, multinomial logistic regression was used (Maddala, 1983). The multinomial logistic regression is a generalization of the binary logit regression model, where the dependent variable takes one of the mutually exclusive and exhaustive categories, 1,2,...,J, and is expressed as :

$$\log\left(\frac{P_i}{P_j}\right) = \sum_{k=1}^K a_i + b_{ik}x_k$$

where  $P_i$  is the probability of being in category  $i$ , and  $\sum P_i=1$ . Among the  $i$  categories, any one category  $J$  can be selected to be the reference or base category. The selection of the base category can be arbitrary, and the choice of reference does not affect the results (Maddala, 1983). In the analysis, injectable use was chosen as the base category, with which other reversible methods were compared. The estimated probabilities of currently using a particular method were calculated using the coefficients of the multinomial logistic regression analysis for selected independent variables at their sample mean. The estimated probabilities of being in category  $i$  are given by :

$$P_i = \frac{\exp(a_i + b_{i1}x_1 + b_{i2}x_2 + \dots + b_{iK}x_K)}{1 + \sum_{i=1}^{J-1} \exp(a_i + b_{i1}x_1 + b_{i2}x_2 + \dots + b_{iK}x_K)}$$

The four areas categorized by family planning service availability were treated as dummies in the regression equation. Socio-demographic characteristics of the current users, considered as control variables, were constructed from information collected through the USS during April-June 1992. The variables were:

- age, measured in completed years;
- education, measured in completed years;
- employment status: whether the woman worked anywhere outside her own household, measured as a dummy variable (yes=1);
- rural background: whether birth place was a rural area, measured as a dummy variable (yes=1).

## **Results**

### **Background Characteristics**

About one-third of the currently married women in Dhaka slums were using a modern method of contraception. Among the modern contraceptive method users, half used oral pills, while a quarter chose the permanent method, tubectomy. Among reversible modern methods, injectables were the second most widely used method, however pill use was more than three times as common as injectable use. IUD was relatively unpopular; so were male methods-- vasectomy and condoms together accounted for less than 5% of the modern methods used (Table 1).

The mean age of current users of reversible methods was 27.5 years, and their mean education level was about one year. About one-fifth of the current users were in employment that required them to move outside their household area. Most of the women were migrants from the rural areas, indicated by the finding that almost 70% were born in a rural area (Table 1).

**Table 1: Percent Distribution of Currently Married Women <50 Years in Dhaka Slums by Modern Contraceptive Methods Currently Used and Selected Characteristics of Current Users of Reversible Methods.**

<b>Modern Contraceptive Method</b>	<b>Currently Married Women % (n=6015)</b>
<b>All Methods</b>	<b>33.0</b>
	<b>Current Users % (n=1992)</b>
<b>Reversible Methods</b>	73.2 <sup>1</sup>
Oral Pills	49.7
Injectable	15.4
IUD	4.9
Condom	3.0
<b>Permanent Methods</b>	26.8 <sup>1</sup>
Tubectomy	25.1
Vasectomy	1.7
<b>Socio-demographic Characteristics</b>	<b>Current Users of Reversible Methods (n=1425)<sup>2</sup></b>
	<b>Mean/Percentage</b>
<b>Age</b>	27.5 (6.5) <sup>3</sup> mean yrs
<b>Education</b>	1.1 (2.2) <sup>3</sup> mean yrs
<b>Work outside</b>	18.9%
<b>Rural background</b>	69.0%

<sup>1</sup> Percentages do not add due to rounding errors

<sup>2</sup> 25 cases did not have information on the socio-demographic characteristics

<sup>3</sup> Standard deviation



## Contraceptive Prevalence by Service Availability

Among the eligible women (currently married, excluding the permanent method users), 79% lived in areas served by fieldworkers, while only approximately 37% lived in areas that had access to clinics providing injectables within easy walking distance. About 11% of the women lived in areas that had no fieldworkers or clinics providing injectables (Table 2).

**Table 2: Contraceptive Prevalence of Reversible Modern Methods (%) by Family Planning Service Availability: Dhaka Slums, 1992 (n=5,483)\***

Reversible Methods	Family Planning Service Availability			
	(1) No Field Worker; No Clinics with Injectables (n=593)	(2) Field Worker (n=2867)	(3) Clinics with Injectables (n=558)	(4) Field Worker and Clinics with Injectables (n=1465)
All Methods	18.7	28.4	22.3	27.2
Pills	12.9	19.9	15.9	16.9
Injectables	3.5	4.8	5.2	8.1
Other**	2.2	3.7	1.3	2.3

\* Currently married women under age 50, excluding permanent method users

\*\* IUDs, Condoms

### Contraceptive prevalence of all reversible modern methods

Comparison of cells 1 & 2: statistically significant difference by chi square test,  $p < 0.0001$

Comparison of cells 1 & 4: statistically significant difference by chi square test,  $p < 0.0001$

Comparison of cells 3 & 4: statistically significant difference by chi square test,  $p < 0.05$

Comparison of cells 2 & 3: statistically significant difference by chi square test,  $p < 0.05$

The contraceptive prevalence rates (CPR) of reversible modern methods in areas with different family planning service availability are presented in Table 2. The most obvious finding was that CPR (of all reversible methods combined) was higher in areas serviced by field workers. In areas that had only field workers providing door-to-door services, the CPR was almost 10% higher (CPR of 28.4% versus 18.7%) compared to the "no service" areas (no field worker and no clinics with injectables). Comparison of the methods used in these two areas (cells 1 and 2) revealed that most of the difference in CPR was explained by higher use of oral pills in the area having fieldworker services. This would be expected since injectables were not available within easy walking distance in either areas.

Comparison of the "no service" areas with those that only had clinics providing injectables (cell 1 versus cell 3) showed a slightly higher CPR in the latter area (CPR 18.7% versus 22.3%, not significantly different). The results imply that the provision of services only through clinics does not have a significant impact on contraceptive use among slum dwellers. Previous work in a rural setting of Bangladesh has also shown that residential proximity of static clinics is not a significant determinant of contraceptive use (Phillips and Koblinsky, 1985).

The CPR in areas that had both fieldworkers and clinics was significantly higher compared to the CPR in areas that had only clinics (CPR of 27.2% versus 22.3%). Both areas (cells 3 and 4, in Table 2) had clinics providing injectables, but cell 4 had an additional service input -- the fieldworkers. Much of the difference in CPR in areas that had both fieldworkers and clinics was due to a higher use of injectables (which fieldworkers do not provide) rather than due to higher use of pills. This indicates that fieldworkers could be having some motivational influence on overall contraceptive use.

The CPR of reversible methods did not differ between areas that had only field workers (cell 2) and areas that had both field workers and clinics providing injectables (cell 4). This was an unexpected finding indicating that areas with broader range of services did not necessarily have higher contraceptive use. However, comparison of "fieldworker" and "fieldworker and clinic" areas (cells 2 and 4) shows a difference in method mix with a higher proportion of injectable users in the latter area.

### **Method Choice among Current Users**

The second major issue for analysis was whether the type of service available, and the mode of service delivery, affect method choice among current users. Multinomial logistic regression analysis was used to control for the effects of the socio-demographic characteristics of the current users that can influence method choice. The results are presented in Table 3. Since the focus of this analysis was on the use of pills versus injectables, interpretation of the results of the multinomial logistic regression model is limited to the factors that had a significant influence in the choice of pills versus injectables.

Education significantly increased the odds ( $p < .01$ ) of choosing pills over injectables. This result is consistent with other findings (Akhter, *et al.*, 1991; Ahmad, *et al.*, 1992; Jamil, *et al.*, 1993). The women who worked outside their household areas were more likely to choose injectables over pills compared to the women who were not employed outside their household ( $p < .05$ ). Since injectables were available only through clinics, women who had greater geographic mobility might have "easier" access to these facilities.

The odds of choosing pills over injectables was not significantly different in areas that had only fieldworkers, compared to areas with (i) no fieldworkers and no clinics, (ii) only clinics providing injectables. The

likelihood of choosing pills over injectables was significantly lower ( $p < .01$ ) in areas that had both clinics and fieldworkers compared to areas that had only fieldworkers.

**Table 3: Multinomial Logit Regression Analysis to Predict Method Choice among Current Contraceptive Users (Reversible Modern Methods), with Injectables the Base Category: Dhaka Slums, 1992 (n=1,425)**

Variables	Coefficients	
	Pill/Inj	Other/Inj
Age	0.01	0.01
Education	0.11***	0.18***
Work outside <sup>1</sup>	-0.33**	-0.01
Rural background <sup>2</sup>	-0.10	-0.10
<b>FP Service availability<sup>3</sup></b>		
- No field workers; no clinics with injectables	-0.06	-0.12
- Clinics with injectables	-0.30	-1.24***
- Field workers and clinics with injectables	-0.57***	-0.89***
Constant	1.10***	-0.62
Log likelihood	-1154.1	

\*\*\*  $P < .01$ ; \*\*  $P < .05$ ;

- <sup>1</sup> Reference category : Do not work outside the slum  
<sup>2</sup> " : Birth place - urban area  
<sup>3</sup> " : Areas having field workers only

The estimated probabilities of using a particular reversible method among current users in different service areas are presented in Table 4<sup>4</sup>. The results indicate that the probability of using pills among current users was not higher in areas where there were field workers distributing pills and condoms door-to-door. However, when injectables were made available through clinics in areas with field workers, a major change in method mix towards larger proportions using injectables was observed.

**Table 4: Estimated Probabilities of Using a Particular Method among Current Users of Reversible Contraceptives: Dhaka Slums, 1992 (n=1,425)**

Reversible Methods	F.P. Service Availability			
	No Field Worker; No Clinics with Injectables (111)	Field Worker (801)	Clinics with Injectables (124)	Field Worker and Clinics with Injectables (389)
	Pills	0.69	0.69	0.71
Injectables	0.18	0.17	0.23	0.28
Other	0.13	0.14	0.06	0.09
Total	1.00	1.00	1.00	1.00

Note: The probabilities for different service areas are calculated using the results of multinomial logit regression analysis holding constant the control variables, namely: age, education, employment status, and rural background of the users at its sample mean values.

<sup>4</sup> It is worth mentioning that the predicted probabilities (Table 4) do not differ by more than .01 for any cell from the corresponding 'raw' percentages in each cell, suggesting that the population in the various service areas did not differ much in the socio-demographic variables considered in this analysis.

## Discussion

The study makes cross sectional comparisons of contraceptive use of reversible methods among women living in four areas with different service availability. In combining household level data with that of community level information on service availability, certain assumptions were made. First, the information given by the key informant respondents is assumed to be an objective measure of service availability of all the households of the cluster from which the respondents were chosen. Second, in each of the service areas (as defined in this study) family planning services are assumed to be homogeneous. For example, in areas serviced by fieldworkers, no distinction is made between clusters by the frequency of the fieldworker visits. Again similar services may be provided by different organizations with variable efficiency and quality of care, but this could not be distinguished in this analysis. Third, the siting of the fieldworkers and clinics is assumed to be exogenous. Although these assumptions and the absence of baseline information imply cautious interpretation of the results, yet the findings provide some valuable knowledge in an area where information so far has been scanty. The following sections highlight the findings of the study and raise some issues that need further research.

Results of the study show that areas serviced by fieldworkers have a higher contraceptive prevalence rate than areas that have no fieldworkers. Several rural studies have shown similar findings (Alauddin and Khan, 1983; Phillips, *et al.*, 1986; Phillips, *et al.*, 1988; Koenig, *et al.*, 1989). Availability of services through clinics alone is not sufficient to have any substantial effect on contraceptive prevalence in the urban slums.

Areas that have both clinics and fieldworkers have a higher CPR than areas that have only clinics providing injectables. Most of the difference in CPR is explained by injectable use in the former area, rather than by distribution of pills at the doorstep. This suggests that fieldworkers have a

"motivational" influence on overall contraceptive use. Studies in rural Bangladesh have also pointed out the centrality of female fieldworkers to the contraceptive adoption process (Phillips, *et al.*, 1988; Simmons, *et al.*, 1988).

Among current users of reversible contraceptives the probability of using pills was not higher in areas where fieldworkers distribute the method at the doorstep compared to areas where fieldworker services are not available. The finding that the pattern of contraceptive use among current users is not influenced by having specific methods available at the doorstep raises the desirability to examine (i) the role of fieldworker as *distributors of specific methods*, and (ii) the possibility of using other effective channels of method supply (for example, community depot holders, satellite clinics) in the urban slum areas. The argument for narrowing the range of services to be provided by fieldworkers is based on the need for gradual reduction of dependency on fieldworkers for method supply without lowering effective contraceptive use, that is, to initiate a more active-client approach. Whether a service delivery system through field workers in *its current form* is essential for the urban area, and whether it can be maintained in the long run, are important research issues to be considered. Other researchers have also pointed to the desirability of similar explorations in service delivery in the urban areas (Cleland 1992). To summarize, the findings discussed so far indicate that fieldworkers do have motivational influence on contraceptive use, but suggest further examination of the need for using fieldworkers for method delivery in the urban areas.

There was no significant difference in the contraceptive prevalence of reversible methods in areas serviced by fieldworkers compared to areas that had both fieldworkers and clinics. Apparently, the results of this study do not support the hypothesis that the availability of multiple methods is an important component that contributes to higher contraceptive prevalence (Jain, 1989; Bruce, 1990). One explanation of this finding is that in the study area family planning services are provided by a number of NGOs and

the government, and it is likely that all organizations with fieldworkers do not have equal efficiency or incorporate similar levels of quality of care in service provision. More information on areal level variations in service delivery is required for a more clear understanding of this finding.

The ratio of pill versus injectable use was 4:1 in areas serviced by fieldworkers only compared to a ratio of 2:1 where there were both fieldworkers and clinics, showing a shift towards injectables in the latter area. Survey results in the rural areas and urban slum setting have shown that among non-contracepting women who wish to use contraceptives in the future, the difference in the numbers desiring to use pills and injectables is relatively small, compared to the difference in current users of pills and injectables (Huq and Cleland, 1990; Akhter and Ahmed, 1991; Jamil, *et al.*, 1993). One obvious explanation of the finding is that geographical accessibility of injectables is far less than pills. But the question that remains to be answered is, what factors maintain the gap between pill and injectable use in areas where both methods are available in close proximity? In the study area, during the reference period, pills were available through multiple outlets, while the source of injectables was only clinics. Moreover, injectables are a relatively provider dependent method, thus their acceptance and continuation are more closely linked with the "quality of care" that clinics offer (see Jain, 1989 and Bruce, 1990 for a discussion of the elements that constitute the definition of "quality of care"). Measurements of the adequacy of the services of the clinics providing injectables in the urban slums would, therefore, be an important area of focus. To address the following two questions is particularly relevant in this context:

- a) Do clinics used by the slum residents offer the quality of care required to promote or encourage the use of injectable? The quality of care expected and received by the clients, and ways to improve services at these centers should be a major area of detailed investigation, rather than alternative modes of service delivery as the only solution for ineffectiveness of static clinics.



- b) Can service delivery of injectables through clinics be an effective supply source to meet the needs of the women in the urban slums? The success of ICDDR,B's domiciliary delivery of injectables and findings from several studies (Jones, *et al.*, 1986; Ahmed, *et al.*, 1992; Rahman, *et al.*, 1992; Maru, *et al.*, 1992), have strengthened the advocacy of introducing doorstep delivery of the method in the rural areas of Bangladesh, and the program is now being expanded by the government in the rural areas. The main arguments for the doorstep delivery of injectables are that it can provide confidentiality and it effectively considers the constraints of Bangladeshi rural women's limited mobility outside their home. In the urban slums, however, the structure and the physical setting of the households provide the minimum privacy. The nature of work that the women in the slums are engaged in, and their other activities suggest that restriction on women's physical access outside the slum is less among the urban slum residents than rural women. High population mobility among the population in the slums is another issue to be considered in choosing an appropriate method of service delivery for the urban poor. Thus whether the grounds for supporting domiciliary services of injectables in rural Bangladesh also hold for the urban slums needs further thought and research.

Valuable lessons have been learnt from innumerable studies of service delivery in the rural setting of Bangladesh. This paper raised and discussed the question of whether the urban slum setting and its population characteristics offer opportunities of developing alternative and more sustainable ways of service delivery to this population. This is an issue that needs further exploration by policy makers, researchers, and service providers.

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