

Operations Research on ESP Delivery in Urban Areas

**Meeting Additional Health and
Family-planning Needs of Clients by
Addressing Missed Opportunities:
An Urban Experience**

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Acronyms

ANC	Antenatal Care
ARI	Acute Respiratory Infection
CDD	Control of Diarrhoeal Diseases
CS	Civil Surgeon
DCC	Dhaka City Corporation
DD	Diarrhoeal Diseases
DGHS	Directorate General of Health Services
ECDC	ESP Committee for Dhaka City
EPI	Expanded Programme on Immunization
ESP	Essential Services Package
FP	Family Planning
FWV	Family Welfare Visitor
GoB	Government of Bangladesh
GOD	Government Outdoor Dispensary
HPSP	Health and Population Sector Programme
HPSS	Health and Population Sector Strategy
ICDDR,B	International Centre for Diarrhoeal Disease Research, Bangladesh
ICPD	International Conference on Population and Development
IPM	Inter-provider Meeting
LHV	Lady Health Visitor
MO	Medical Officer
NGO	Non-government Organization
ORP	Operations Research Project
PHC	Primary Healthcare
PNC	Postnatal Care
RTI	Reproductive Tract Infection
STD	Sexually Transmitted Disease

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Executive Summary

Bangladesh is committed to the Programme of Actions adopted at the International Conference on Population and Development (ICPD) held in Cairo in 1994. Under the ongoing health reform programme, namely Health and Population Sector Programme (HPSP), Bangladesh has embarked on an integrated delivery of an essential package of health and family-planning services, commonly known as Essential Services Package (ESP). The ESP comprises basic reproductive health, child health, control of communicable diseases, limited curative care, and behaviour change communication interventions. The ESP is being provided by an array of clinics run by the government and non-government organizations (NGOs). Although the ESP delivery strategies in rural settings have been clearly described in the HPSP document, the mode of ESP delivery in urban areas has not yet been adequately defined.

Against the above backdrop, the Operations Research Project of ICDDR,B: Centre for Health and Population Research, in collaboration with the Government of Bangladesh (GoB), conducted an operations research on “ESP delivery in urban Dhaka” at Sher-e-Bangla Nagar Government Outdoor Dispensary during October 1998-March 2001 to ascertain appropriate strategies for providing the ESP in urban settings. Lack of a systematic screening system to address the additional health needs of clients beyond their requested specific service(s) was a weakness common to most service-delivery systems, including the government and NGO clinics. Therefore, one of the key objectives of operations research was to design and field-test an appropriate strategy to address the additional family health needs of clients.

The ultimate success of delivering an integrated package of basic health and family-planning services depends on both supply and demand factors. In the supply side, it is essential that the providers, instead of only dispensing the service(s) that clients have asked for, also probes into their additional family-health needs, i.e. addresses the missed opportunities (for providers), thereby facilitating fulfillment of the latent (unmet) family health needs of clients. On the other hand, knowledge on the availability of essential services should be pilfered through and retained by clients attending the clinic.

The specific objectives of the study were to: (a) assess the extent of missed opportunities at the clinic level, (b) develop and introduce an algorithm-based systematic client-screening mechanism, and also (c) assess the effects of the new approach on detection and tapping of the missed opportunities.

An evaluation was conducted after 18 months of implementation of the new intervention. The evaluation was based on data collected through structured observations of client-provider interactions, analysis of clinic records, and interviews with the providers and the clients.

The results of the evaluation indicated that the intervention succeeded to meet about 45% of the unmet needs of the clients relating to family planning, reproductive tract infections (RTIs)/sexually transmitted diseases (STDs), expanded programme on immunization (EPI)/acute respiratory infections (ARIs), diarrhoeal diseases, and tetanus toxoid (TT). Most clients (90%) were satisfied with the new service-delivery approach and behaviour of the providers. Knowledge of the clients on the availability of services at the clinic also increased considerably except for ARIs and diarrhoeal diseases. The screening algorithm helped detect up to 18% of the cases of missed opportunities during the study period, and about 45% of them were tapped (provided with additionally needed services) in the clinic.

On an average, each client spent half an hour at the clinic for registration, counselling, screening, receiving requested service(s), and additional service(s), if any, and for getting necessary medicines and commodities. For the delivery of needed additional service(s), the required time varied from 3 to 15 minutes, depending on the type of service(s). In general, the time required for meeting the additional health requirements identified was relatively less. Moreover, there was some additional waiting time between two services. The new approach on screening and addressing the missed opportunities demanded an additional time of the providers. However, even with the additional time requirement, the existing providers could carry out the job within the normal office hours, and did not require any additional manpower (provider).

The service providers often claimed that they had assessed the additional needs of clients adequately and referred them to the appropriate provider(s), if the additional needs could not be met at their clinic. But in reality, it did not happen quite often as claimed. There remained substantial weaknesses in cross-referral among both providers within the clinic and higher-level facilities in the vicinity.

The success of the one-stop service-delivery system largely depends on the availability of integrated services in a facility and their optimum use by clients. Meeting the unmet needs through proper identification and approaches to address those are, therefore, critical. The results of this study showed that it was possible to optimize the delivery of integrated essential health and family-planning services in the urban primary healthcare clinics through introduction of an effective strategy for tapping the missed opportunities. At present, this type of systematic approach is not functional within the ESP delivery system. All the concerned managers opined that it must be included as an integral part of the ESP service-delivery strategy.

The results of the present study suggest the need for undertaking additional research to look into the questions relating to: (a) optimal logistics and skills that can support tapping of missed opportunities, (b) appropriate management information system to record and report on additional services needed/provided, (c) effective mechanism for supervision of the new approach, and (d) examination of its cost-effectiveness. It is important to conduct further operations research on replication/adaptation of the new approach within the rural ESP delivery system.

Introduction

In the last International Conference on Population and Development (ICPD), held in Cairo in September 1994, the world community agreed that the governments should attach utmost importance to health of women and to survival of infants and young children. At the same time, the ICPD emphasized on delivering a broader range of reproductive health and basic healthcare to these groups of populations. By committing to implement the Programme of Actions of the ICPD, the Government of Bangladesh (GoB) has chalked out specific strategies to address the essential health and family-planning needs of population in general and of women, children, and socioeconomically disadvantaged sub-populations in particular, through a customer-centred approach. The five-year Health and Population Sector Programme (HPSP) of the government, launched in 1998, is aimed at providing quality services, promote financial sustainability, and develop adequate capacity for delivering the Essential Services Package (ESP). Although the HPSP vividly described the ESP delivery strategies for rural areas, specific modalities of the ESP in urban settings remained inadequately explained.

Operations research on ESP delivery in urban areas is of utmost programmatic relevance in the context of ongoing health reform initiative of the country. The ultimate success of the government and NGO strategies for one-stop provision of the ESP is arguably contingent upon the design and implementation of effective approaches to detect and tap the unmet family health needs of population. Therefore, the latter issues were thoroughly examined by conducting operations research on ESP delivery in a government primary healthcare clinic (Sher-e-Bangla Nagar Outdoor Dispensary) located in Dhaka city.

This report describes the approach tested to identify the missed opportunities for the ESP by service providers, thereby addressing the unmet needs of clients. The document also discusses the effects of the approach on quality of care, use of services, and coordination among various service providers and service facilities.

Background

Population in urban areas of Bangladesh is growing at an average rate of 5-6% annually. With this pace of growth, the urban population may double by 2010, which will be nearly 40% of the total population of the country (1). About 30% of the population of Dhaka city live in slums and squatter settlements without any access to basic primary healthcare services. The urban slum population has a lower immunization coverage and lower use of antenatal care, higher infant mortality and morbidity rates, and low contraceptive-use rate compared to non-

slum people (2). The situation will deteriorate further if appropriate public-health actions are not taken, because the urban population growth is much higher among the poor. Therefore, the Government of Bangladesh (GoB) attaches high priority to improving the health status of the urban poor.

Although, in terms of the number of facilities, urban areas are in an advantageous position than rural areas, most of these facilities offer fragmented services, and rarely provide a comprehensive package of essential health and family-planning services. Another distinguishing feature of urban areas is that there are numerous providers, e.g. public-sector providers under the supervision of Directorate General of Health Services, Directorate of Family Planning, and Dhaka City Corporation; NGO providers; and for-profit private-sector facilities. These multiple facilities offer fragmented health and family-planning services, making it inconvenient for clients to get all essential services at one facility. Even in some government clinics where primary healthcare and family-planning services have been offered from the same facility, there is absolutely no or very little inter-provider linkages. As a result, most of these facilities remain underused, and clients are as well deprived of receiving needed services from a single facility during the same visit.

Unmet needs and missed opportunities

The terms unmet need and missed opportunity are inter-linked. Operationally the terms could be defined as: A client having availed of the desired service(s) at a clinic and not probed for the additional service needs that are available at that particular clinic results simultaneously in unmet need for the client and missed opportunity for the provider. Clients generally attend a health facility with one or specific problem(s). For example, a mother who visits a facility for child healthcare is seldom inquired on her family-planning status. Providers, in turn, concentrate on the particular problems expressed by clients. Providers are not adequately motivated and equipped with appropriate orientation and strategies to inform clients about, or screen for, other basic family-health services. These factors together result in missed opportunities for providers and unmet need for clients.

Absence of a systematic approach to screen additional healthcare needs of clients or his/her family members is a very common feature in most integrated programmes. Weak referral and linkages--both vertical and horizontal--are, thus, major concerns for any integrated health and family-planning service-delivery systems. A systematic client-screening approach in exploring additional service needs of clients and their family members and in tapping missed opportunities may make use of clinic services more efficient. Such an approach would reduce the number of unmet health needs of clients, thereby resulting in meeting their additional health needs and those of their family members. It will also offer better convenience to clients by saving their travel time, otherwise repeated visits to

clinics would be needed to meet the additional health needs. From providers' point of view, this approach would help attain higher use of clinic services, but without any additional costs.

Review of existing experience

Operations research projects in Latin America demonstrated that integration can be made more effective through in-reach provision of more services to individuals already making use of health facilities, using simple screening instruments for proper identification of their additional health needs. It was estimated in Mexico and Guatemala that the marginal cost per service for up to two additional services was less than one dollar, implying the saving of over two dollars compared to stand-alone services, involving only 15-30% of additional time from providers. Provider's time is also a major cost element in healthcare, which should be used efficiently. At the same time, considering the client's direct and indirect costs, several advantages should result from provision of more services per client visit. Several studies conducted in different countries in Latin America, such as Guatemala, Peru, and Mexico, revealed that integration of health services alone does not guarantee the implementation of the ICPD mandate of providing more services to women for meeting their health needs, nor does it necessarily mean that the delivery of reproductive health services will become more efficient and less costly (3).

According to the World Bank, about one-third of total disease burden in developing countries among women in the age group of 15-44 years is linked to health problems relating to pregnancy, childbirth, abortion, and reproductive tract infections (RTIs). Available data for South Asia show that women have a huge unmet health need for services relevant to these conditions. There is, therefore, an urgent need to develop strategies to address these unmet needs (4).

In Bangladesh, it has been assessed (Bangladesh Demographic Health Survey 1999-2000) that, overall, 15% of married women of reproductive age (MWRA) have an unmet need for family-planning services (5), while another study reported it to be 23% (6). The findings suggest the necessity of implementing specific strategies for addressing these unmet needs.

Other assessments, made by the ORP, reveal that most urban facilities provide only a narrow range of services, and, in general, the quality of services is poor. The poor quality of services mainly resulted from inadequate training of providers, inappropriate or absence of needed service-delivery protocols/job-aids, weak support systems (e.g. logistics, monitoring, and supervision), inadequate emphasis on client counselling needs, and inappropriate physical facilities. Regarding tapping of missed opportunities, it was observed that the family-planning providers (Family Welfare Visitors) did not inquire from clients about status of TT immunization or on immunization and acceptance status of vitamin A capsule by their children. The Medical Officers, on the other hand,

were reluctant to know the family-planning, breast-feeding, infant feeding, immunization and other important issues of their female and children clients. Similarly, the vaccinators limited their service provision only on immunization, and did not bother to counsel or screen for other child and maternal healthcare needs of their clients and the accompanying mothers (7).

The ultimate success of the government and NGO strategies for one-stop integrated services as envisaged by the ESP programme is contingent upon design and implementation of effective mechanisms to detect and tap additional family-health needs of clients. This holds equally true for other developing countries and for those who are currently implementing health-reforms programmes with central emphasis on cost-effective provision of a client-centred integrated service package.

The ESP intervention

This study was conducted, as part of a larger operations research on “Operationalization of Essential Services Package (ESP) Delivery in the Urban Clinics”, in an urban primary healthcare clinic in Dhaka city. Several interventions were done under this operations research, and to carry out the intervention activities, a Model ESP Clinic was set up at the Sher-e-Bangla Nagar Government Outdoor Dispensary located in Zone 6 of Dhaka city (Dhaka city is divided into 10 administrative zones each having an average population of approximately 600,000, of whom about a quarter live in slum). Sher-e-Bangla Nagar accommodates the biggest slum population of the city, and the Model ESP Clinic is located near to this slum. Beside this Model ESP Clinic, the slum population of Sher-e-Bangla Nagar area is served by some other NGO clinics for primary healthcare services. Operations research on ESP intervention was a collaborative effort of the ORP with the Directorate General of Health Services and Directorate of Family Planning of Ministry of Health and Family Welfare (MOHFW), Government of Bangladesh (GoB), and the Health Department of Dhaka City Corporation. The key objectives of this intervention were to develop and test appropriate strategies for the delivery of ESP among urban population, with special focus on the slum and non-slum poor, and identify the programmatic and management implications of establishing/reorganizing the urban public-sector primary clinics for delivering the ESP of acceptable quality.

Objectives

The major objectives of the study were to:

- Assess the extent of missed opportunities that exist in terms of essential health and family-planning services (ESP) in urban clinics.
- Develop and field-test an algorithm-based systematic client-screening approach as an effective approach to identify and address the missed opportunities.
- Assess the effects of the approach in meeting the additional health and family-planning needs of clients.

The hypothesis tested was: if the service providers were provided with, and trained on, an algorithmic-based systematic screening tool, they would be able to identify additional (unmet) family health needs of clients attending the ESP clinics, and would, thus, be able to increase the use of clinic services by tapping missed opportunities. Figure 1 depicts the assumptions of the study in a conceptual framework.

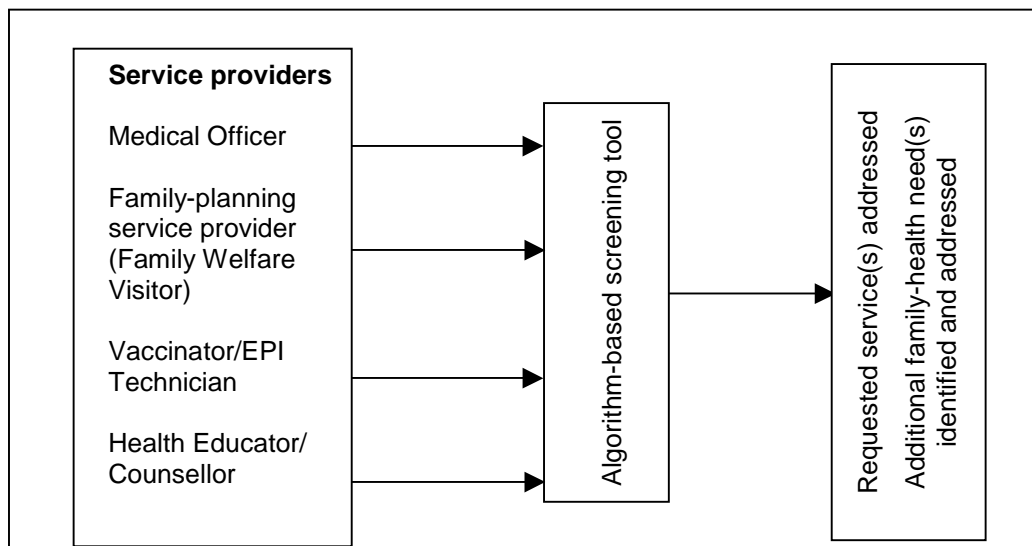


Fig. 1. Conceptual framework of the study

Study Design and Methodology

The study adopted a quasi-experimental time series research design. Data collected from the clinic records, observations of client-provider interactions, exit interviews with clinic clients, and group discussions with the providers and

managers were analyzed to design an effective algorithm-based client-screening approach and to assess its efficacy and effectiveness. To introduce a systematic approach for routine assessment of additional family-health needs of clients attending the clinic and for addressing them, the following activities were carried out:

- i. Needs assessment
- ii. Sensitization of service providers
- iii. Client-flow organization and linkages
- iv. Introduction of the screening algorithm
- v. Inter-provider linkages and referral
- vi. Monitoring of the screening process
- vii. Supervision and monitoring
- viii. Role of IPM and ECDC

These activities are described below:

Needs assessment

The study assessed the unmet needs of clients who attended the study clinic through exit interviews with them. The results of this assessment are presented in Table 1.

Table 1. Requested services and additional (unmet) needs of clinic clients

Type of requested services	No. of clients interviewed	Additional needs	
		Services	No. of clients
General health	32	Women tetanus toxoid	31
		Family planning	22
		Expanded programme on immunization	32
Antenatal care	7	Family planning	3
		Expanded programme on immunization	7
Expanded programme on immunization	7	Women TT	5
		Family planning	6
Family planning	4	Women TT	3
		Expanded programme on immunization	3

Table 1 shows that the providers missed a large number of opportunities for providing additional services to clients beyond their requested service needs. Of 32 clients presenting themselves to the Medical Officer at the clinic for general health services, 31 had an unmet need for woman TT vaccine, 22 required family-planning services, and all of them had children who were not fully immunized and, therefore, had an additional need for EPI service. Similarly, of 7 ANC clients serviced by the Medical Officer, 7 EPI cases served by the Vaccinator, and 4 women attending the Family Welfare Visitor for family-planning service, 10 had unmet needs for EPI, 9 for family-planning service, and 8 for woman TT vaccine. The missed opportunities mainly resulted from lack of coordination and integration among the various providers of the clinic who happen to be posted and supervised by three different agencies, namely the Directorate General of Health Services, the Directorate of Family Planning, and the Health Department of the Dhaka City Corporation.

These findings were shared with the providers and their supervisors, and were also reviewed in a group meeting. The meeting discussed the existing loopholes in the linkages between and among the providers of the clinic and agreed among themselves to the need for a systematic and coordinated approach to identify and address additional family-health needs of attending clients. They considered it a key to overall success of the integrated service-delivery (ESP) strategies.

Sensitization of service providers

Two brainstorming discussions with the providers at the clinic level were held to identify the barriers to tapping of missed opportunities. The job description of each service provider, availability of ESP services at the clinic, and availability of physical/laboratory examination facilities and essential drugs at the clinic were reviewed. The existing client-flow organization and linkage mechanisms among the providers were analyzed.

Client-flow organization and linkages

Client-flow within the clinic was restructured by introducing a central registration system to improve the inter-service and inter-provider linkages. Earlier, there was no common registration system for clients attending the clinic, and entry to the different providers was separate. Clients availing of services and supervised by the health department staff were registered separately, and an informal referral system existed among the health department staff (e.g. referrals by Medical Officers to Pharmacist for drug dispensing, first-aid, laboratory investigations). There were also some duplications in certain service provisions at the clinic. The Family Welfare Visitor, a staff posted at the clinic by the family-planning department, was providing antenatal care (ANC)/postnatal care (PNC) besides family-planning service, and at the same time, the health department posted a

paramedical staff, namely Lady Health Visitor, who was also providing ANC and PNC. The joint meetings concluded to introduce a common registration system for all attending clients and an initial client-screening and counselling system. The Lady Health Visitor was redesignated as Counsellor and her job description was redefined.

To strengthen the linkages among the service providers in order to identify and address missed opportunities various options were considered. After reviewing the options, the concerned providers and managers agreed to field-test the following client-flow mechanism (Fig. 2):

- A common entry for all clients
- Mandatory registration for all clients
- Counselling of clients as per their specific needs
- Tapping of missed opportunities/additional service needs of clients
- Effecting of the necessary cross-referrals within the clinic
- Referrals to other (outside) clinics as and when required

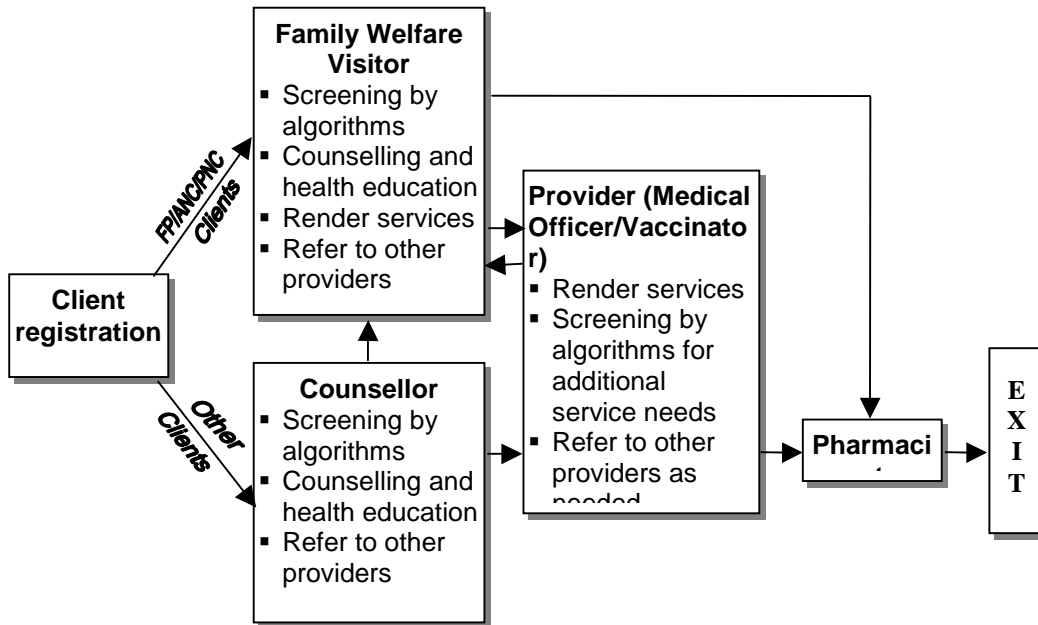


Fig. 2. New client-flow system within the clinic

At the beginning, the Counsellor was given the entire task to screen for additional needs, and provide health education and counselling to clients, after they (clients) had received the requested service(s). Before exit from the clinic, the Counsellor would refer clients to the appropriate provider(s), if additional need(s) was/were identified. But subsequent observations by the study team

found that, after receiving the requested service(s), including drugs, most clients would have left the clinic without reporting to the Counsellor. This finding was shared with the providers, and the possible ways to avoid this situation were discussed to make sure that all clients pass through the Counsellor's room for screening and for getting health education and counselling. Finally, it was agreed that, after completion of registration, all clients, except those presenting for ANC/PNC/family-planning services, would report to the Counsellor's room first and then to other provider(s). ANC/PNC/family-planning clients would report straight to the FWV, as counselling was in-built within the services provided by her. This provision optimized the opportunity of providing health education and counselling to all clients attending the clinic.

Introduction of the screening algorithm

The cornerstone of the study was the design and introduction of the screening algorithm for clients. All clients, except those coming for family-planning, ANC, and PNC were to channel through the Counsellor's room for individual screening and for providing appropriate health education and counselling. After screening, the Counsellor referred the clients to the Medical Officers, if the clients had any general health complaints or if they needed any curative care, or to the Vaccinators, if the clients' need was for immunization services. Similarly, the Counsellor referred clients to the Family Welfare Visitor, if he or she had additional needs for family-planning, ANC and PNC services.

If the clients had attended for family-planning or ANC and PNC services, they were directly sent to the FWV's room following the registration. After providing the requested service(s), the clients were screened by the Family Welfare Visitor for other additional health needs and accordingly referred to the respective provider(s), Medical Officer and/or Vaccinator. Thus, having the missed opportunities detected beyond the specific service(s) sought by clients and additional services offered, the clients were advised to go to the pharmacist for necessary medicines before their exit from the clinic. As a means of second check, the Medical Officer and Vaccinator were also supposed to screen clients using the algorithms, so that none was missed from the screening approach.

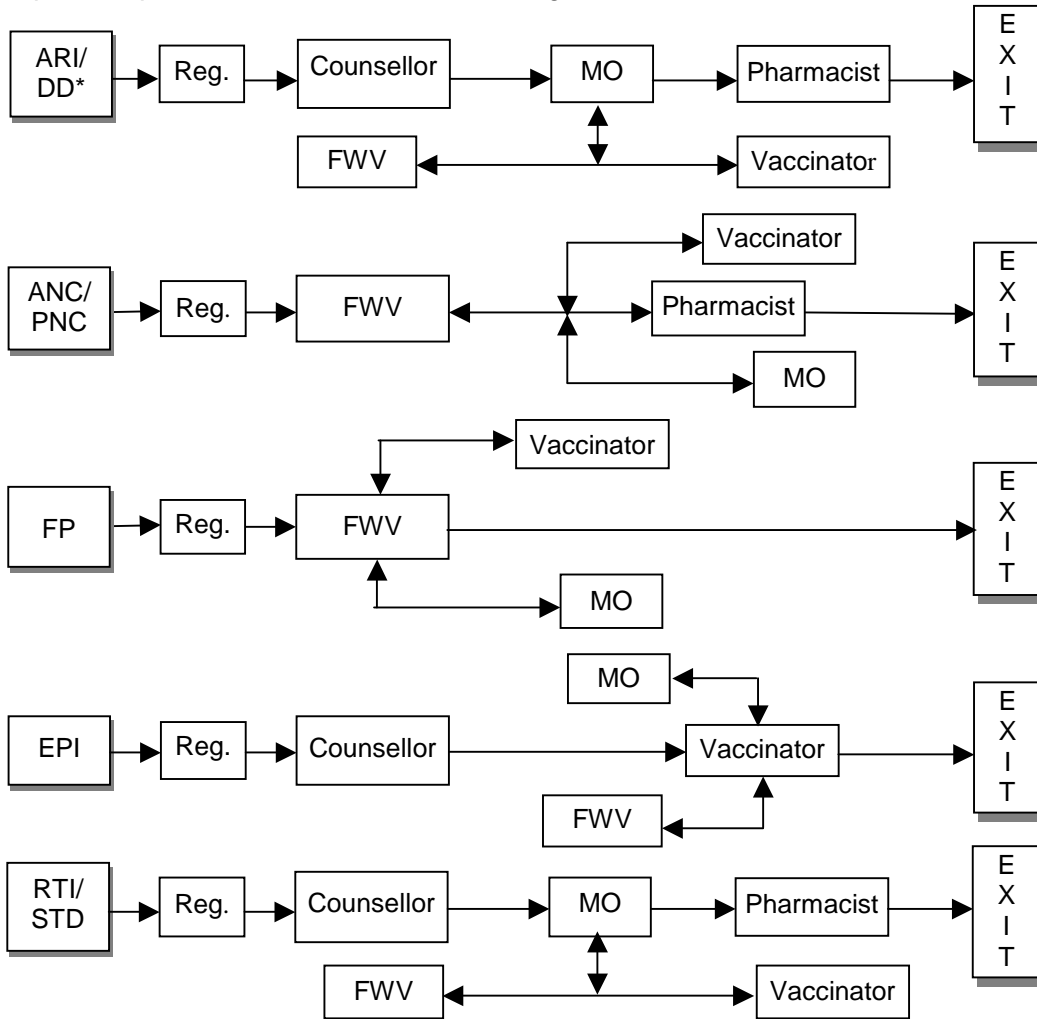
A simple screening algorithm, in both English and Bangla (Annexure A and B), was designed in consultation with the providers and was furnished to them to help them assess the additional service needs of clients, if any. The tool was pre-tested before implementation. Each provider was imparted with a day-long orientation on how to use the screening algorithms.

The algorithms were provider-specific, i.e. each one section or screening module was for medical providers, family-planning provider, and Vaccinators. The Counsellor used sections meant for both medical officer and Vaccinator because of the new client-flow system. Every screening module had two parts--one represented questions to be asked to each client by the provider to identify the additional health needs, and the other one contained specific actions to be

undertaken by the providers to address the identified additional health needs of clients.

Inter-provider linkages and cross-referral

A modality of linkage in cross-referral among the service providers was established to put into effect tapping of missed opportunities to the extent it was possible at the Model ESP Clinic. Figure 3 (also Annexure C) demonstrates the linkages and cross-referral mechanisms among the providers, according to the reported specific needs of clients attending the clinic.



* For abbreviations, see acronyms on page no. ii.

Fig. 3. Service-specific linkages and cross-referral among providers

The chart shows, for example, after registration, a client attending the clinic with specific complaints of ARI/DD needed to report to the Counsellor's room first for health education and screening purposes, and then would have been referred to the Medical Officer for the requested service(s). The Medical Officer would then send the client to the FWV or Vaccinator, if he or she or his/her children being accompanied by them had additional needs for any family-planning/maternal and/or vaccination services as appropriate. Similarly, the FWV and the Vaccinator also would refer the client coming to them to the Medical Officer for ARI/DD and other additional medical needs. After receiving all requested and additional needs, clients would finally visit the pharmacy for needed drugs/commodities before exiting the clinic.

Regarding cross-referral by the FWV to the vaccinator for TT or to the Medical Officer for ANC check-up of attending pregnant women in the third trimester was considered routine referral, and was not counted as cases of missed opportunities. The reasons for routine referral are explained in Table 2.

Table 2. Routine referral during service-delivery

Services requested	Reasons for referral
ANC	TT and 3 rd trimester check-up by Medical Officer General health complications Complications of pregnancy
EPI	Opinion of Medical Officer on physical fitness, e.g. child with ARI/DD or any other illnesses
FP	General health complaints and clients with complications

Monitoring of the screening process

Monitoring of the implementation process was done by observing client-provider interactions, exit interviews with clients, and reviewing records periodically. Review of cross-referrals among the providers by the Clinic-incharge was done on a weekly basis. The intention was to examine how many clients were identified for having additional needs, what proportion of them were possible to tap at the clinic, and how this process could be improved further. Findings from the service statistics of first three months revealed that, of the detected cases, only a few were provided with needed additional services.

Reasons for not being able to tap all the missed opportunity cases identified were discussed in the inter-provider meeting. After discussion, it was decided that, if a client needed additional services available at the clinic, he or

she would be advised and referred to receive these from the clinic with the same ticket. The client would be provided with a new ticket, if any other member(s) of his/her family needed additional services. Moreover, a seal, indicating "additional services" is put at the corner of the clinic ticket to emphasize proper compliance by the provider(s). The provider(s) to whom the clients with additional services were referred, thus, recognized the importance of providing additional services to such clients immediately. The intention was to reduce the waiting time for getting additional services by these clients. Further to guarantee client compliance to receive the advised additional services, the Clinic Attendant was given the responsibility of accompanying such clients to the concerned provider(s).

The record-keeping system of the clinic was also modified, so that clients detected and provided with the missed services could be singled out easily. Considering the load of filling out the existing daily registers by the FWV and Vaccinator, only one column was added in their respective register to this end. However, two new formats for record-keeping were developed each for the Medical Providers (Annexure D) and the Health Counsellor (Annexure E) at the clinic.

Supervision and monitoring

Observations of service provision and exit interviews with clients were conducted from time to time to monitor the implementation of the new approach. The findings were shared with the service providers in the inter-provider meeting at the clinic level and at the periodic coordination meetings of the ESP Committee for Dhaka City (ECDC). The Clinic-in-charge was responsible for day-to-day supervision of the new approach and for overseeing the implementation process at the clinic level. The Managers and Supervisors from the concerned health and family-planning agencies in Dhaka city were also supposed to pay supervisory visits to the clinic from time to time to oversee the actual implementation of the new approach. Supervision checklists to this end were developed, and the Supervisors and Managers were oriented on the proper use of these tools during their supervisory visits to the clinic. It was decided in the ECDC meeting that the concerned Supervisors and Managers should visit the clinic every fortnightly, but in practice this schedule was seldom carried out.

Role of inter-provider meeting and ECDC

As inter-provider meeting (IPM) was held on a monthly basis, there was scope to discuss the details of the intervention more frequently in the IPM than in the ECDC meeting, which usually took place once in two months. The findings from the monitoring and supervisory activities were shared and discussed in both IPM and ECDC meetings. Discussions on the practical problems and probable solutions were also held in these meetings.

Findings and Discussions

User friendliness of the screening algorithm

The key focus of the first phase of the intervention was to identify the health and family-planning needs of clients attending the clinic, needs of their children and/or family members accompanying them or remaining at home. The initial objective was to develop algorithms for identifying missed opportunities, and test their user friendliness, whether the providers were able to identify the additional service needs of attending clients using the algorithms. At the beginning, only the Health Counsellor was designated to use the algorithms. During October-December 1999, the Counsellor identified additional family-health needs among 10-13% of all clients reporting to the clinic (Table 3).

Table 3. Missed opportunities identified by Health Counsellor

Months	Total no. of clients	Missed opportunities detected	
		No.	%
October 1999	788	70	9
November 1999	976	131	13
December 1999	844	88	10

Most missed opportunities identified were related to reproductive health of women, some to child immunization, and a few to other child health issues, e.g. ARI and diarrhoea. The screening activities of the Counsellor were also observed to see the user friendliness of the algorithm tools and time requirement for it. It was noted that, to some extent, it was difficult for the provider to identify the missed opportunities during the busy (peak) hours of the clinic (10:00-11:00 am). Several steps were tried to reduce the trend of client attendance in this particular time. The follow-up clients who visited the clinic for taking re-supply of medicines or for taking subsequent shots of injectables (contraceptives), or for EPI doses were asked to attend the clinic during 9:00-10:00 am or after 2:00 pm. A dramatic change in client-flow was observed soon after this: 36% of such clients attended the clinic in the afternoon hours and 60% in the early morning hours, and the client-flow turned to be quite manageable by the providers. Based on the initial feasibility in implementing the algorithms by the Health Counsellor, other clinic providers (Medical Doctors, FWV, Vaccinators) were trained to use the new approach.

Use of services

Table 4 shows the attendance at the Model ESP Clinic and missed opportunities (additional health and family-planning needs) tapped during October 1999-March 2001 using the new approach.

Table 4. Attendance of clients and additional health and family-planning needs identified/tapped at the Sher-e-Bangla Nagar Model ESP Clinic

Client flow and missed opportunity	1999		2000		2001	
	Oct-Dec	Jan-Mar	Apr-Jun	July-Sep	Oct-Dec	Jan-Mar
Clients attended the clinic	6,001	6,215	7,147	7,050	5,884	5,467
Clients screened for missed opportunities (additional needs)	2,608	5,375	6,425	6,601	5,439	5,080
Missed opportunities/ additional needs identified	289	652	531	690	526	910
Missed opportunities/ additional needs addressed at the clinic	-	134	196	320	226	338

The table reveals that the attendance of clients in general increased over time, except in 4th quarter of 2000 and 1st quarter of 2001. One possible reason for this low attendance could be due to more government holidays and low reporting of clients due to Eid festival. However, although the use rate was relatively lesser, detection and tapping of the additional needs by the providers during this period were proportionately much higher.

With the help of screening algorithms, the additional service needs were identified up to 18% among attending clients. Of them, most were women of reproductive age. Twenty-six percent had an additional need for family-planning, 21% for TT, and 21% for RTIs/STDs (Fig. 4). As evident from Table 4, it was possible for the Model ESP Clinic providers to ensure additional services in about 45% of all the detected cases.

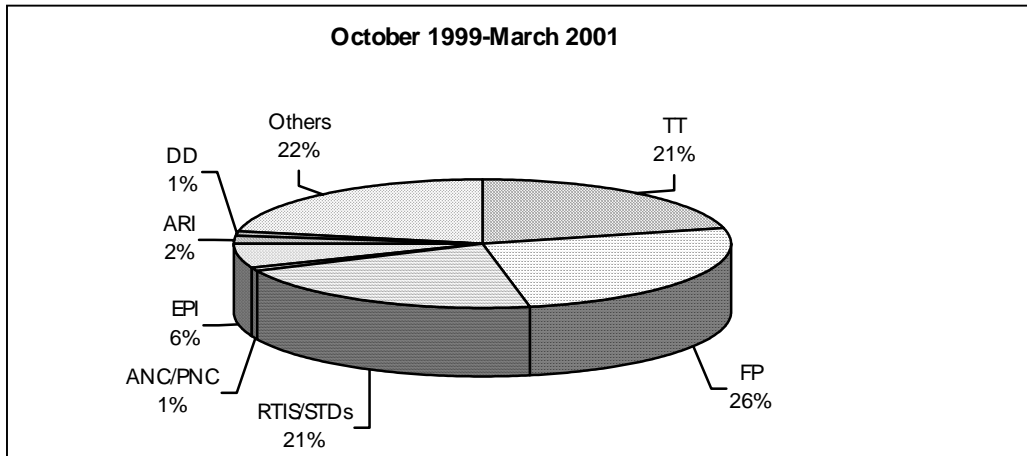


Fig. 4. Type of missed opportunities detected

Performance of providers

Table 5 shows the current practices on the use of algorithm as a screening tool by the Health Counsellor and FWV. Within the new approach, there were two flows of client movement in the clinic. All attending clients needed to report primarily either to the Counsellor or to the FWV. However, other providers at the clinic (Medical Officers and Vaccinators) were also screening for additional services using the algorithm after providing services, so that no clients were missed from the screening process.

It was observed that the Health Counsellor was more responsive to follow the algorithm, and took 2-3 minutes to screen a client. The FWV, by and large, was overloaded with her routine work, and a number of screening issues mentioned in the algorithm formed part of her routine activities. This might be a possible reason for relatively less use of the algorithm by the FWV. Although the Medical Officers used the screening algorithm, the Vaccinators used it rarely. By and large, for all the providers, the use of the screening algorithm resulted in varying degrees of identification and tapping of missed opportunities.

Group discussions with the service providers and their supervisors revealed that all the providers of the Model ESP Clinic recognized the usefulness and important role of the algorithm-based tapping missed opportunities as a new approach in the ultimate success of the service-delivery strategy based on one-stop provision of the ESP from the primary facilities.

Table 5. Current practices on use of algorithm

Items	Observation	
	Counsellor (n=24)	FWV (n=12)
Age of child	All cases	All cases
Immunization and vitamin A status	Enquired in half of the cases (11/24)	Half of the cases (6/12)
Breast-feeding and weaning practices	Provided in most cases	Provided in few cases (3/12)
Status of TT immunization	Provided in the majority of cases (16/24)	Provided in the majority of cases (8/12)
Marital status asked	All cases	Not applicable
Pregnancy status	All cases	Not applicable
Family-planning method use at present/future plan	All cases	All cases as applicable
Plan for next child	The majority of cases (15/24)	Few cases (3/12)
RTI/STD problem	The majority of cases (17/24)	Few cases (2/12)
Provided relevant information	Most cases (19/24)	Half of cases

Satisfaction of clients

Exit interviews with clients were also conducted to assess the extent of their actual additional service needs identified and addressed and their perceptions on the new approach.

Table 6. Proportion of unmet needs of clients detected and referred

Requested services	No.	Unmet needs		Unmet needs detected and referred	
		Type	No.	No.	%
General health	40	Tetanus toxoid	8	2	25
		Family planning	14	12	86
		Expanded programme on immunization	2	1	50
		RTIs/STDs	19	11	58
EPI/TT	18	Tetanus toxoid	2	0	
		FP	6	3	50
		RTIs/STDs	7	1	14
Family planning	13	Tetanus toxoid	1	0	
		RTIs/STDs	5	1	20
ANC/PNC	17	RTIs/STDs	7	2	29

Exit interviews with 73 clients revealed that a good amount of service needs for RTIs/STDs still remained unidentified/un-addressed, although the providers were highly successful to reduce missed opportunities relating to the family-planning needs of their clients. The above findings indicate that the FWV, who provided family-planning and ANC/PNC services, was relatively less able to identify the additional health needs of clients than the Counsellor. Over 90% of the respondents expressed their satisfaction with the new approach in meeting their individual and family-health needs in a more comprehensive manner.

Knowledge of clients on availability of services

The knowledge of clients on the services offered at the Model ESP Clinic, examined during the exit interviews, was fairly high. Although no one could mention the names of all the services offered by the clinic, 93% were able to mention about family-planning services, 70% about ANC, 80% about EPI, and 88% about general health. The low knowledge of clients on the availability of some important services, such as diarrhoea (8%), RTIs/STDs (15%), and ARI (23%) should be seen as a great concern, and needs be addressed through proper awareness-raising and promotional strategies.

Table 7. Knowledge of clients on the services offered

Types of services	%
Family planning	93
ANC/PNC	70
General health	88
EPI	80
Diarrhoea	8
ARI	23
RTIs/STDs	15
Health education	29

Improvement in efficiency

A major argument in support of the delivery of an integrated package of health and family-planning services (ESP) is that it should be more efficient to provide more than one services to clients in a single visit than providing the same services to them during separate visits. The new approach is, thus, instrumental in this process. The efficient use of provider's time is also a major issue. It was observed from the time study that, on an average, each client spent half an hour in the clinic for registration, counselling, algorithm-based screening for additional service needs, requested services dispensed, additional services addressed (if any), and receiving medicines or commodities before exit. For identification and addressing additional services, the required time varied from 3 to 15 minutes, depending on the type of additional services. For general health, while it was less, but for family-planning, it was relatively more. Moreover, there was also some waiting time between two services. Clients spending comparatively more time at the clinic for additional services did not express dissatisfaction for such delays. The additional time spent by the providers on the new approach was also not too long to discharge their job within normal office hours, and could be distributed evenly by appointing clients for different period of working hour.

Lessons Learned

The service providers generally claimed to assess the needs of clients beyond the services they have reported for at the clinic. But, in reality, it did not happen quite often as claimed. There remained substantial weakness in cross-referrals among the providers within the clinic, resulting in missed opportunities for them in meeting the additional health and family-planning needs of clients and their family members. To address the unmet health and family-planning needs of urban clients, the intervention efforts to design and test appropriate strategies

resulted in a notable improvement of the situation. The following lessons were learned from this operations research:

- Availability of a wide range of services at the service facility is essential for tapping missed opportunities and for providing additional services to clients.
- Inter-provider coordination and a system of referral linkage among the providers can effectively ensure provision of additional services to clients.
- An organized client-flow system can effectively contribute to the needed screening process to identify the additional health needs of individual clients and their family members.
- Development of a step-by-step and client-specific screening algorithm can help the providers to identify the additional service needs of clients and their family members, and refer them accordingly to proper providers for meeting the additional service needs.
- While training is a necessary component, it alone is not sufficient to ensure achievement of desired changes in provider practices. Development of systematic approaches to bring about the needed changes in their clinical practices is of utmost importance.
- Post-training supportive supervision and periodic monitoring are needed to maintain high-quality services by the providers.
- Involvement and proper orientation of the concerned managers and supervisors on the development of the new approach(es) will facilitate appropriate and effective implementation, thereby ensuring positive outcomes.
- Coordination among managers and concerned agencies is critical to the success of an integrated service-delivery system.
- A rational arrangement for distribution of client load facilitates effective and efficient identification of additional service needs of clients and their proper addressing by the providers.
- Identification and tapping of additional service needs of clients, in fact, do not call for increased providers' time, it rather facilitates efficient use of providers' time in rendering the ESP services.

Conclusions

The success of the one-stop service-delivery systems depends largely on the availability of integrated services in a facility and their optimum use by clients. Meeting the additional or unmet health and family-planning needs of the clients and their family members is possible by evolving appropriate strategies. The results of this study showed that it was possible to strengthen the delivery of integrated essential health and family-planning services in an urban primary healthcare clinic by introducing a strategy for identifying and tapping missed opportunities. The findings also suggest that the extent of missed opportunities could be reduced substantially by systematic screening of clients using appropriate algorithms.

Although the issues, such as cost per additional service and cost of screening and providing additional services to clients, were not assessed in the study, the findings indicate that, to address the missed opportunities, the overall programme cost of the ESP clinics may increase.

The present study indicates the need for further research on other important questions on urban ESP delivery, such as an ideal package of services and logistics that can support identification and tapping of missed opportunities, an appropriate management information system (MIS) to record and report additional services, effective mechanisms for supervision, and coordination to support identification and tapping of missed opportunities. Delivery of the ESP from the first-level clinical facilities has only recently been initiated in Bangladesh, and the ultimate success in providing an integrated package of health and family-planning services may be effectively attained by fine-tuning the service-delivery strategies with appropriate mechanisms to identify and address the additional service needs of attending clients and their family members.

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Screening Algorithm for Identification of Client-specific Additional Service Needs

25

TT client or attendant of child immunization	Offer appropriate messages	CDD/ARI/General health clients and/or attendants	Offer appropriate messages	ANC/PNC/FP clients and/or attendants	Offer appropriate messages
<ul style="list-style-type: none"> • Age of child • Immunization and vitamin A status • Breast-feeding and weaning practices as of age • Status of tetanus immunization • Marital status • Pregnancy status • Family-planning method use at present • Plan for next child • Intention to use family-planning method in future • RTI/STD problem 	<ul style="list-style-type: none"> • You could obtain immunization and vitamin A for your infants from this clinic • You can receive health education/counselling on breast-feeding and infant feeding • You could avail of antenatal care/family-planning service/tetanus immunization/information and treatment on RTIs/STDs 	<ul style="list-style-type: none"> • Marital status • Pregnancy status • Family-planning method use at present • Plan for next child • Intention to use family-planning method in future • Age of child • Immunization and vitamin A status • Breast-feeding and weaning practices as of age • Status of tetanus immunization • RTI/STD problem 	<ul style="list-style-type: none"> • You could avail of antenatal care/family-planning services from this clinic • You could avail of tetanus immunization and information and treatment on RTIs/STDs/immunization services for your children 	<ul style="list-style-type: none"> • Plan for next child • Intention to use family-planning method in future • Vitamin A to PNC clients • Age of child (if applicable) • Immunization and vitamin A status • Breast-feeding and weaning practices as of age • Status of tetanus immunization • RTI/STD problem 	<ul style="list-style-type: none"> • You could avail of family-planning services from this clinic • You could obtain vitamin-A (PNC) within 14 days after delivery • You could avail of antenatal care/family-planning service/tetanus immunization/information and treatment on RTIs/STDs

Annexure A

গ্রহীতা অনুযায়ী বাড়তি সেবা চাহিদা নিরূপণ

সম্ভাব্য ক্ষেত্রে প্রশ্ন করে গ্রহীতার চাহিদা নিরূপণ করুন, প্রয়োজনীয় বার্তা দিন এবং নির্দিষ্ট সেবা প্রদানকারীর কাছে রেফার করুন					
টিটি টিকা নিতে বা ইপিআই-এর জন্য যারা শিশুদের এনেছেন	প্রযোজ্য বার্তা দিন	প্রসবপূর্ব বা প্রসবপরবর্তী সেবা বা পরিবার-পরিকল্পনা সেবা নিতে যারা এনেছেন	প্রযোজ্য বার্তা দিন	ডায়রিয়া/এআরআই/সাধারণ স্বাস্থ্যসেবা নিতে যারা এনেছেন	প্রযোজ্য বার্তা দিন
<ul style="list-style-type: none"> শিশুর বয়স এক বৎসর কম বয়সী শিশুর টিকা ও ভিটামিন এ গ্রাণ্ডি বয়স অনুযায়ী বুকের দুধ ও বাড়তি খাবার টিটেনাসের টিকা বৈবাহিক অবস্থা গর্ভাবস্থা জননিয়ন্ত্রণ পদ্ধতি ব্যবহারকারী পরবর্তী সন্তান গ্রহণের পরিকল্পনা প্রজননতন্ত্র ও যৌন-বাহিত সমস্যা 	<ul style="list-style-type: none"> আপনি আজ এই ক্লিনিক থেকে শিশুকে টিকা ও ভিটামিন এ দিয়ে নিতে পারেন এই ক্লিনিকে বুকের দুধ ও বাড়তি খাবারের উপর পরামর্শ দেওয়া হয়। আপনি এই ক্লিনিক থেকে গর্ভকালীন/পরিবার পরিকল্পনা সেবা/টিটি টিকা প্রজননতন্ত্র ও যৌন-বাহিত সংক্রমণের চিকিৎসা বা পরামর্শ গ্রহণ করতে পারেন 	<ul style="list-style-type: none"> পরবর্তী সন্তান গ্রহণের পরিকল্পনা জননিয়ন্ত্রণ পদ্ধতি ব্যবহারের পরিকল্পনা প্রসব পরবর্তী ভিটামিন এ শিশুর বয়স (সম্ভাব্য ক্ষেত্রে) এক বৎসর কম বয়সী শিশুর টিকা ও ভিটামিন এ বয়স অনুযায়ী বুকের দুধ ও বাড়তি খাবার টিটেনাসের টিকা প্রজননতন্ত্র ও যৌন-বাহিত সমস্যা 	<ul style="list-style-type: none"> আপনি এই ক্লিনিক থেকে পরিবার-পরিকল্পনা সেবা গ্রহণ করতে পারেন প্রসবের ১৪ দিনের মধ্যে ভিটামিন এ ক্যাপসুল খেতে হবে আপনি এই ক্লিনিক থেকে নিজের অন্য টিটেনাসের টিকা/শিশুকে টিকা ও ভিটামিন এ নিতে পারেন/প্রজননতন্ত্র ও যৌন-বাহিত সংক্রমণের চিকিৎসা বা পরামর্শ গ্রহণ করতে পারেন 	<ul style="list-style-type: none"> বৈবাহিক অবস্থা গর্ভাবস্থা জননিয়ন্ত্রণ পদ্ধতি ব্যবহারকারী পরবর্তী সন্তান গ্রহণের পরিকল্পনা জননিয়ন্ত্রণ পদ্ধতি ব্যবহারের পরিকল্পনা শিশুর বয়স এক বৎসর কম বয়সী শিশুর টিকা ও ভিটামিন এ গ্রাণ্ডি বয়স অনুপাতে বুকের দুধ/বাড়তি খাবার টিটেনাসের টিকা প্রজননতন্ত্র ও যৌন-বাহিত সমস্যা 	<ul style="list-style-type: none"> আপনি আজ এই ক্লিনিক থেকে গর্ভকালীন/পরিবার - পরিকল্পনা সেবা গ্রহণ করতে পারেন আপনি এই ক্লিনিক থেকে নিজের অন্য টিটেনাসের টিকা/প্রজননতন্ত্র ও যৌন-বাহিত সংক্রমণের চিকিৎসা বা পরামর্শ গ্রহণ/শিশুকে টিকা ও ভিটামিন এ দিয়ে নিতে পারেন

Annexure C

Missed Opportunities and Cross-referral

Requested Service	Additional service need		Referred to
	For whom	What services	
EPI/TT	Attendant/client/attendant at home	TT	Vaccinator
		FP	FWV
		RTI/STD	MO
	Child (aged<5 years)	BF/INF	Counsellor
		DD/ARI	MO
General health	Attendant/client/attendant at home	FP	FWV
		ANC/PNC	FWV
		TT	Vaccinator
		RTISTD	MO
	Child (aged<5 years)	EPI/ Vit A	Vaccinator
		BF/INF	Counsellor
FP/ANC/PNC	Client/attendant	TT	Vaccinator
		FP	FWV
		RTI/STDs	MO
	Child (aged<5 years)	EPI/Vitamin-A	Vaccinator
		BF/INF	Counsellor
Diarrhoeal Disease	Child (aged<5 years)	ARI/EPI	MO/Vaccinator
ARI		DD/EPI	MO/Vaccinator
Scabies		ARI/DD/EPI	MO/Vaccinator

Record-keeping Form for Medical Officers

ক্রমিক নং	রেজিঃ নং	রোগীর নাম	বয়স	লিঙ্গ পু/ম	ঠিকানা	আকস্মিক সেবাদান		বাড়তি সেবাদান	
						রোগ/কোড	সেবাদান	রোগ/কোড	সেবাদান
ক	খ	গ	ঘ	ঙ	চ	ছ	জ	ঝ	ঞ

রেফার হয়ে আসা রোগীর বাড়তি সেবা				সঙ্গে আগতের জন্য বাড়তি সেবা			রোগীর বা রোগীর সাথে আগতের জন্য বাড়তি সেবা চিহ্নিত করে রেফার করলে			কখন সেবা দেওয়া হলো (✓)	
স্থান	রেজিঃ নং	রোগ/কোড	সেবাদান	আগতের নতুন রেজিঃ নং	রোগ/কোড	সেবাদান	স্থান	বাড়তি সেবার কোড	নতুন টিকেটের রেজিঃ নং	সকালে	বিকালে
ট	ঠ	ড	ঢ	ণ	ত	থ	দ	ধ	ন	প	ফ

Code List

Sex code: 1 - Female, 2 - Male

Service code: 1 - EPI and vitamin, 2 - TT immunization, 3 - DD, 4 - ARI, 5 - FP, 6 - Management of side-effects of FP, 7 - ANC, 8 - PNC, 9 - RTI/STD, 10 - Scabies, 11 - Worm infestation, 12 - General health, 13 - First aid, 14 - Breast-feeding/infant feeding

