

Assessment of Retention, Perceived Usefulness, and Use of Family Health Card in the Bangladesh Health and Population Sector Programme

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Acronyms

ANC	Antenatal Care
ARI	Acute Respiratory Infection
CC	Community Clinic
CDD	Control of Diarrhoeal Diseases
CMIS	Clinic-based Management Information System
CS	Civil Surgeon
CWFD	Concerned Women for Family Development
EDD	Expected Date of Delivery
ELCO	Eligible Couple
EOC	Emergency Obstetric Care
EPI	Expanded Programme on Immunization
ESP	Essential Services Package
FHC	Family Health Card
FP	Family Planning
FRO	Field Research Officer
FWA	Family Welfare Assistant
FWV	Family Welfare Visitor
FWW	Family Welfare Worker
GHA	Government Health Assistant
GoB	Government of Bangladesh
GR	Geographical Reconnaissance
HA	Health Assistant
HPSP	Health and Population Sector Programme
ICDDR,B	International Centre for Diarrhoeal Disease Research, Bangladesh
IEC	Information, Education and Communication
IUD	Intra-uterine Device
LMP	Last Menstruation Period
MA	Medical Assistant
MCH	Maternal and Child Health

Acronyms *(contd.)*

MCH-FP	Maternal-child Health and Family Planning
MOHFW	Ministry of Health and Family Welfare
MS	Malaria Supervisor
NGO	Non-governmental Organization
NIPHP	National Integrated Population and Health Programme
OR	Operations Research
PNC	Postnatal Care
RD	Rural Dispensary
SACMO	Sub-Assistant Community Medical Officer
SC	Satellite Clinic
SPSS	Statistical Package for Social Science
THC	Thana Health Complex
TT	Tetanus Toxoid
UHC	Upazila Health Complex
UHFWC	Union Health and Family Welfare Centre
UMIS	Unified Management Information System

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Summary

Introduction of a client-retained card to support client management is not a new concept in Bangladesh. A client-retained Malaria Card was first introduced during the early 1960s under the Malaria Eradication Programme to strengthen follow-up of malaria cases, including documentation of supervisory visits of community-based health workers. Prior to the health sector reform initiated during the late 1990s, several client-retained cards, namely EPI Card, TT Card, Injectable Card, and IUD Card, have been used in the public sector of Bangladesh. The Unified Management Information System (UMIS) unit of the Directorate General of Health Services (DGHS), Ministry of Health and Family Welfare (MOHFW), introduced a new record-keeping and reporting system under the Health and Population Sector Programme (HPSP). In this reform, a client-retained Family Health Card (FHC) was introduced for distribution in all households, which is supposed to be preserved by clients and presented to service providers during each time they seek services. The former Operations Research Project (ORP), currently known as Family Health Research Project (FHRP), of ICDDR,B: Centre for Health and Population Research collaborated with the UMIS unit in introducing this new record-keeping system. FHC replaces previously-used five different cards and has been distributed to all households of Chittagong and Jessore districts as a pilot phase by the health and family planning field workers of MOHFW.

The present study aimed at assessing the extent and factors relating to retention of FHC, its perceived usefulness by clients, and also the extent of use by service providers at different service-delivery tiers.

During February-March 2000, quantitative and qualitative data were collected from randomly-selected unions of 19 sub-districts of two districts. Data were collected from the Satellite Clinics (SCs) and EPI outreach sites, Union Health and Family Welfare Centres (UHFWC), and Upazila Health Complex (UHC) through 1,034 exit-point interviews with clients, 1,130 client-provider observations, and 613 interviews with service providers. Nine experienced researchers observed client-provider interactions. Five focus-group discussions (FGDs) with service providers from each district were also conducted. In exit-point interview, clients were selected randomly and interviewed using a structured questionnaire. Clients who could show FHC during service-delivery were considered as retainers. To identify the client- and provider-related factors affecting the retention of FHC, both bivariate and multivariate analyses were performed. The covariates included in analysis were age, sex, marital status, educational attainments, perceived importance of FHC by clients, type of service provider, level of service-

delivery tiers, enforcement by service providers to bring FHC, and study sites. Using logistic regression analysis, three different models were tested. Model I and Model II estimated the influence of client- and service provider-related factors separately on retention of FHC, whereas Model III analyzed the combined effect of both client- and service provider-related factors on retention of FHC.

Nearly half (49%) of clients retained FHC. Clients who retained FHC were married, females, and educated, and sought services for their children. A significant association was found between retention of FHC and service provider at the community level. Analysis using three different models confirmed that educational attainments, sex, clients' perceived usefulness of FHC, and enforcement by service providers for bringing FHC were significantly associated with retention of FHC. In this final model, the influence of all other variables was insignificant. Most service providers found the card as a very useful tool because: different types of services provided to clients could be recorded in one place; they could identify clients' expressed and unexpressed needs; and they could maintain continuity of services and refer clients to the higher tiers. Service providers of UHFWC, EPI spot, and SC performed better compared to those of UHC in completing the appropriate sections of FHC. They sometimes forgot to enquire about some crucial issues relevant to screening, for instance, checklists for family planning (FP) (54% omission) and acute respiratory infection-control of diarrhoeal diseases (ARI/CDD) (23% omission), thus missing the opportunity to ask about the additional needs of the family. Most card retainers also perceived FHC as useful because they could know the due dates of next follow-ups and get medicines, and service providers offered additional services that they needed. Two-thirds of clients mentioned that the service providers asked questions using FHC during provision of FP service. FHCs were used for referring about one-fifth of clients to other facilities. Of clients who did not bring FHCs, one-fourth did not think the importance of bringing FHC, and about one-third mentioned that nobody asked them to bring it to the health centre.

Both clients and service providers found FHC as a useful tool that supports the service-delivery system. However, more orientation of service providers with particular emphasis on sections containing screening checklists in FHC is needed for better identification of additional family-health needs. Interventions should target to increase the awareness and use of FHC among males in obtaining services for their family members. Ample opportunities and potentials exist promoting FHC as a referral tool and tapping the missed opportunities to address unmet needs of a whole family.

Introduction

Background

Over the last two decades, field workers have extensively been involved in providing selected health and family-planning (FH) services, a major element of the delivery of primary healthcare (PHC) in Bangladesh, through household visitation. Under this system, the Family Welfare Assistant (FWA) used to provide mainly FP services and limited maternal-child health (MCH) services. The Health Assistant (HA) provided services under several vertical programmes, such as, control of diarrhoeal diseases (CDD), malaria, acute respiratory infection (ARI), tuberculosis, leprosy, and other infectious diseases, in addition to immunization services, including health education, at the doorstep.

The next tiers of service-delivery are satellite clinics (SCs) and expanded programme on immunization (EPI) spots. Some SCs are combined with EPI spots at the ward level and Union Health & Family Welfare Centre (UHFWC) at the union level. The Family Welfare Visitor (FWV) provides antenatal care (ANC) and clinical contraceptive service at these tiers. At UHFWC and rural dispensary (RD), a Medical Officer (MO), a Sub-Assistant Community Medical Officer (SACMO), or a Medical Assistant (MA) provide curative services for common ailments.

To support the management of service-delivery at the doorstep and static facilities, multiple registers were used, which are separated according to types of services offered by different service providers. Each service was recorded separately although the same client availed of various services; chances were there for duplication in recording of information. Since two sources of information have been developed independently, there was often lack of linkage between field- and clinic-based services. In this context, history of service use can only be determined through verbal reporting by client or service provider's own recollections. Typically, each time a client returns for follow-up, her basic information has to be re-recorded, and the service provider needs to enquire about the health, family planning, and immunization status of the client at each encounter, which is extremely taxing for both service provider and client. Since a client is likely to get services from multiple service providers, the use pattern of more than one service by a client cannot be instantly determined. The register-based information system has a limited scope for service providers to do full screening of a particular client if it is required. Such a system is unlikely to support the continuity of care or a client-centred approach.

Introduction of the client-retained card to support the management of clients in the health sector is not a new concept in Bangladesh. A client-retained Malaria Card (MC) was introduced in the mid-1960s with the launching of both Smallpox Eradication Programme and Malaria Eradication Programme. The eradication approach in both the programmes required house-to-house visitation by health workers for case

management. The government Health Assistants (GHAs) identified malaria cases through household visits and recorded the date of each visit in MC retained by the family. The malaria supervisors (MSs) also used this card to record the date of supervisory visit. At the end of 1973, the autonomous Malaria Eradication Programme was merged with the government health service to form an Integrated Health Service in Bangladesh (1). Under this reform, GHAs and MSs were redesignated as Family Welfare Workers (FWWs) and were made responsible for a specific geographic area with a population of approximately 5,000 (1). The tasks assigned to them included: enrollment of all eligible couples, recording of activities relating to smallpox and malaria surveillance, distribution of vitamin A, health education, and distribution of contraceptives in a client-retained Integrated Family Health Card (IFHC). IFHC was introduced by the then Ministry of Health and Population Control to provide integrated health and FP services.

In the late 1990s, the Directorate of Family Planning (DFP) introduced a number of client-retained cards, such as Injectable Users Card and IUD Acceptor's Card which contained client's identity and related information, including some information, education and communication (IEC) messages. On the other hand, EPI, administered under DGHS, introduced three types of client-retained card: TT Card, EPI Card, and Growth Monitoring Card. The EPI Card and the Growth Monitoring Card were issued for children, aged less than one year, receiving immunization, and the TT Card was issued to all women aged 15-49 years, with particular focus on pregnant women receiving TT immunization. All these cards contained clients' identity and related information.

To strengthen basic emergency obstetric care (EOC) at the union level, ORP introduced a pictorial card depicting symptoms of common complications during and after pregnancy for raising community awareness and was distributed to pregnant mothers (2). A manual was also developed to help service providers use this card for record-keeping and link pregnant women to different health service facilities so that they would seek appropriate care leading to improved maternal health status. Non-governmental organizations (NGOs) introduced a number of cards, such as ELCO Card, Child Health Card, and Antenatal/Postnatal Care Card to be retained by clients and at the clinic to support service-delivery. Under the urban MCH-FP Project of ICDDR,B, a clinic-based management information system (CMIS) was introduced in two clinics in two different areas of Dhaka city to develop a mechanism for local-level planning, coordination, and implementation of health and FP services in urban areas and to improve management, quality, and continuity of service-delivery (3,4).

In early 1996, the MCH-FP Extension Project (Rural) of ICDDR,B initiated operations research (OR) activities and introduced a client-retained Maternal Child Health (MCH) Card which contained components of reproductive health programme and which used some pictorial illustrations. This card was used in one union of Patiya and Abhoynagar sub-district. FWAs distributed the card to all eligible couples with advice to bring it when they come to use the essential service package (ESP) (5).

Context of introduction of FHC under UMIS

A shift from doorstep to static-clinic based service-delivery system has been considered to be cost-effective and sustainable under the Health and Population Sector Programme (HPSP) of the Government of Bangladesh (GoB) and National Integrated Population and Health Programme (NIPHP) funded by the United States Agency for International Development (USAID). To support the management of the changed service-delivery strategy, the Unified Management Information System (UMIS) unit of DGHS introduced a client-centred information system to ensure the continuity of care, support quality assurance, reduce missed opportunities, and minimize record-keeping and reporting time. ORP assisted the UMIS unit in designing, field-testing, and monitoring the new system. FHC is one of the most important record-keeping and reporting tools under the newly-designed UMIS. ORP was entrusted to intensively monitor its implementation in 22 upazilas of Jessore and Chittagong districts for one year from February 2000. The card was distributed to every household in the ORP working areas. The overall goal of this monitoring was to identify changes needed to make the new record-keeping and reporting tools user-friendly for the service providers, supervisors, and managers and to assess the extent of support needed for quality services for clients as part of intensive monitoring and implementation of the new record-keeping and reporting tools.

Parameters and contents of FHC

HA and FWA distributed FHC to every household in 22 upazilas of Chittagong and Jessore districts while they conducted Geographical Reconnaissance (GR) (6). In total, 68,49,097 people, 104,911 pregnancies, and 4,99,982 children aged less than one year have been counted during GR in two districts. FHC replaces EPI Card, TT Card, Injectable Card, IUD Card, and Growth Monitoring Card. One responsible person from a household (commonly female) was assigned to keep this card safely and was told to use it whenever any family member required any healthcare service. If there were more than one eligible couple in a joint family, FHC was given to each of them. The Card has an introductory section, and sections on child immunization, women TT immunization, record of ANC before delivery, result of physical examinations of newborn baby, postnatal care (PNC), screening for family-planning methods, growth monitoring, diarrhoea, acute respiratory infection (ARI), fever among children aged less than 5 years, and other services. FHC contains information on parity, gravidity, birth interval, birth order, past pregnancies with outcomes, maternal morbidity relating to current pregnancy, history of current delivery, birth-weight, breast-feeding practices, growth and morbidity of infants. FHC is supposed to be preserved at the household level and give it to service provider each time they seek services, including immunization.

Objectives

The overall objective of the study was to assess the extent of implementation of FHC in Chittagong and Jessore districts in terms of retention, usefulness, and the extent of use.

The specific objectives were to:

- Identify the extent of omissions made while completing different sections of FHC during distribution and service provision
- Assess retention of FHC by clients coming to seek services at different service-delivery tiers and factors affecting its retention
- Identify the barriers and constraints in implementation of FHC at different service-delivery tiers
- Study the perceptions of clients and service providers on the use of FHC
- Formulate necessary recommendations to increase the effectiveness of FHC.

Materials and Methods

During February 2000-March 2001, data were collected from randomly-selected 11 upazilas of Chittagong and 7 upazilas of Jessore districts as part of monitoring of implementation of the new system. ORP deployed 9 Field Research Officers (FROs) to routinely monitor the implementation of the UMIS tools in Chittagong and Jessore districts. Two unions from each upazila were again randomly selected to collect data about the use of FHC at the SCs+EPI spots and UHFWC. Four UHCs from each district were randomly selected to collect data on the use of FHC at this level. The following data sources were used in the study:

- Observations of fill-in practice of FHC during distribution and service provision of FHC
- Observations of client-provider interactions while providing services
- Interviews with service providers and their supervisors
- Focus-group discussions (FGDs) with service providers
- Exit-interviews with clients

Observations made during distribution of FHC: One FRO was assigned for 3-4 upazilas to accompany HA and FWA to monitor the extent of omissions committed in the record-keeping and reporting tools. A monitoring tool was used for recording omissions. In doing so, the extent of omissions committed while filling in and distribution of FHC was also observed.

Observations of client-service provider interactions: To monitor the use of FHC at different tiers, 1,130 client-provider's interactions were observed, of which 260 were conducted at the SC and EPI sites and 323 at UHFWC, and the rest were at UHC. Due to the availability of few operational CCs in the study areas, client-provider interactions were not observed at CCs.

Interviews with service providers and supervisors: In total, 613 service providers selected purposively from both Chittagong and Jessore districts were interviewed. Of them, 205 were FWAs, 181 HAs, 121 FWVs, and 106 SACMOs/MAs. Interviews of supervisors and other categories of service providers at the upazila level were also conducted.

Focus-group discussions: Five FGDs were conducted each with HAs, FWAs, FWVs, and SACMOs/MAs in 5 upazilas of two districts. A flexible guideline was used for conducting FGDs.

Exit-interviews with clients: Exit-interviews were conducted with a target of at least 200 clients from each category (EPI+SC, UHFWC, and UHC) under the rural ESP tiers. The clients were selected using the simple randomization technique, irrespective of whether they brought FHC or not. A structured questionnaire was administered. In total, 1,043 clients were interviewed. Of those, 409 were from EPI+SC, 387 from UHFWC, and 247 from UHC. In the exit-point interview, clients were asked to show FHC. Of all clients interviewed at exit-points, a certain proportion who could show FHC were considered retainers of the card.

To identify the factors affecting the retention of FHC, bivariate analysis and logistic regression were done using SPSS package. In bivariate analysis, chi-square test was performed, and p value was obtained to identify the association between retention of FHC and selected covariates, such as sociodemographic characteristics of clients and level of service sites. The variables included in analysis were age, sex, marital status, has been to formal school or not, type of service providers, level of service sites, and district. The proportion of clients who came to obtain services for them or for other family members was also estimated to see the differences. Age group was divided into "10-19 years" and "20 years and above" to see whether significant numbers of clients who retained FHC were adolescents. Service providers were grouped by service-delivery tiers, which included FWAs/HAs, FWVs/MAs, MOs, and EPI technicians. Similarly, service sites were grouped into two categories, namely service sites at lower tiers (SCs/EPI spots, UHFWC, and RD) and at upper tiers (UHC).

Variable definitions in multivariate analysis

Three models were used in logistic regression analysis for explaining the influence of different client- and provider-related factors on the retention of FHC.

Model I

The influence of client-related factors on the retention of FHC was examined and explained in the first model. In this model, the independent variable was the group of clients who could show FHC, and the dependent variables were sociodemographic factors, such as age, sex, marital status, educational attainments, and perceived usefulness of FHC by clients.

Model II

In the second model, the influence of service provider-related factors on the retention of FHC was analyzed. In this model, the independent variable was the group of clients who could show FHC, and the dependent variables were type of service providers, level of service sites, district, and inquiry of service providers for FHC during service provision examined and explained.

Model III

In model III, the overall influence of both client- and provider-related factors on the retention of FHC was examined and explained. In this model, the independent variable was group of clients who could show FHC, and the dependent variables were selected socio-demographic factors of clients and service provider-related factors. Educational status was grouped as four categories, namely never been to school, 1 to 5 class, 6 to 10 class, and 10 class and above. The service provider-related factors included in this equation were type, service-delivery tiers, service providers' inquiry about FHC during service provision, and district.

Results

Fill-in practice during distribution of FHC

FROs observed the fill-in practice and recorded the extent of omissions committed in 455 FHCs. The percentage of omissions in different sections of FHC is shown in Table

1. Although HAs were mandated to go through the FP screening checklist and to inquire about CDD and ARI, omissions were higher in these sections.

Section	Observations made	% of omissions
Introductory information of the family	455	16
Child immunization	243	9
Status of women TT immunization	237	6
Antenatal check-ups	33	24
Family-planning screening checklist	24	54
ARI/CDD	35	23

ARI = Acute Respiratory Infection
CDD = Control of Diarrhoeal Diseases

Retention and use of FHC by clients

Each family was supposed to receive their FHC at home. Of 512 clients who brought their FHCs, 95% received the card at home, whereas 5% received it from the clinic. Of clients who did not bring FHCs, one-fourth did not think that it was important to bring FHC, and about one-third mentioned that nobody asked them to bring it to the health centre. The clients were also asked where they kept their FHCs at home to assess the value added for FHC. All HAs and FWAs informed in the group discussion that they advised their clients to keep FHC in a safe place and bring it to the health centre for the treatment of ailments of each and every member of the family during GR round. Over 85% of clients kept their FHCs in a safe place, such as wooden box, trunk, and bag. Despite emphasis given by both HAs and FWAs on the preservation of FHC, other factors influencing the retention were also assessed.

Factor affecting retention of FHC by clients

Table 2 shows the distribution of clients who visited different levels of service tiers and could show FHC. Of 1,043 clients who were interviewed at exit points, 512 could show FHC (49%). The retention of FHC was higher (67%) at the community level, i.e SCs+EPI spots and lower (17%) at the upazila level, i.e UHC. In general, retention of FHC increased at the lower level of service tier.

Table 2. Proportion of clients retained FHC by different tiers		
Level of tier	Clients retained FHC	
	Yes	No
SCs and EPI spot	272 (67)	137 (33)
UHFWC	199 (51)	188 (49)
UHC	41 (17)	206 (83)
Figures in parentheses indicate percentage p=<0.001		

Table 3 shows selected characteristics of clients, such as sex, marital status, and formal schooling and some service provider-related factors, such as type of provider, level of service site, and whether the service providers' enquired about FHC, were significantly associated with the retention of FHC. The clients who retained FHC were more likely to be females and married, with formal schooling. However, no significant association was found between age of clients and retention of FHC. A significantly higher proportion of clients who sought services for their children or other family members retained FHC compared to the group who came to obtain services for their own. The retention of FHC was significantly associated with level of service site and type of service provider. A significantly higher proportion of clients retained FHC at the lower-level service tier compared to the upper tier. A significant association between service provider's enquiry about FHC during service provision and retention of FHC was found. Also, a significantly higher proportion of clients from Chittagong district retained FHC compared to Jessore district.

Table 3. Results of bivariate analysis of factors associated with retention of FHC			
Client-related factor	Clients retained FHC		p value
	Yes	No	
Age (years)			
10-19	76 (49)	78 (51)	NS
>20	436 (49)	453 (51)	
Sex			
Male	29 (18)	131 (82)	<0.001
Female	483 (55)	400 (45)	
Marital status			
Unmarried	50 (41)	71 (59)	<0.05
Married	462 (50)	460 (50)	

Table 3 (contd.)

Table 3 (contd.)

Provider-related factor	Clients retained FHC		p value
	Yes	No	
Educational status			
Been to school	252 (53)	221 (47)	<0.01
No formal schooling	260 (46)	310 (54)	
Type of service provider			
Provider from upper tier	55 (20)	223 (80)	<0.001
Provider from lower tier	457 (60)	308 (40)	
Practice of provider			
Wanted to see FHC	488 (77)	144 (23)	<0.001
Did not want to see FHC	24 (6)	387 (94)	
For whom client sought services			
Herself/himself	276 (46)	325 (54)	<0.01
Child/other family members	236 (53)	206 (47)	
Level of service-delivery tiers			
Service site at upper tier	41 (17)	206 (83)	<0.001
Service site at lower tier	471 (59)	325 (41)	
District			
Jessore	161 (38)	262 (62)	<0.001
Chittagong	351 (57)	269 (43)	
Figures in parentheses indicate percentage			
NS = Not significant			

The results from Model I show the influence of selected sociodemographic and other client-related factors on retention of FHC. Clients who retained FHC were likely to be females and with formal schooling. Table 4 shows that, with decreased level of educational attainments, the retention of FHC was lower. Also, the retention of FHC was lower when clients did not perceive FHC as useful for obtaining services. However, the influence of other variables relating to clients, such as age and marital status, became insignificant.

Table 4. Influence of selected client-related factors on retention of FHC (findings from multivariate analysis using Model I)

Variable in equation	B	SE	Wald	Df	Sig.	R	Exp(B)
Marital status (unmarried)	-.3722	.3344	1.2386	1	.2657	.0000	.6892
Age (adolescent)	-.0250	.2806	.0080	1	.9289	.0000	.9753
Client sought services for child/other family members	.1414	.1469	.9263	1	.3358	.0000	1.1519
Sex (female)	1.4126	.2421	34.0317	1	.0000	.1547	4.1065
Educational status of client (10 years+)			16.8702	3	.0008	.0901	
No formal schooling	-.9933	.2802	12.5709	1	.0004	-.0888	.3703
1-5 class	-.6082	.2888	4.4348	1	.0352	-.0426	.5444
6-10 class	-.4169	.2947	2.0020	1	.1571	-.0012	.6591
Client did not perceive FHC as useful	-3.8275	.5933	41.6159	1	.0000	-.1720	.0218
Constant	4.0171	.6524	37.9185	1	.0000		
SE = Standard error							
Sig = Significance							

The tests for overall effect of client-related factors on the retention of FHC, which were highly significant, are shown in Table 5.

Table 5. Tests for overall effect of client-related factors on retention of FHC			
Test	Chi-square	Df	Significance
Model	220.658	8	.0000
Block	220.658	8	.0000
Step	220.658	8	.0000
-Log likelihood	1118.498		
Goodness of fit	918.489		
Cox and Snell-R ²	0.204		
Nagelkerke-R ²	0.272		

The influence of service provider-related factors on the retention of FHC is shown Table 6. The retention of FHC was significantly lower when the service provider did not want to see FHC while providing services. Whereas, the influence of some other factors relating to service provider, such as type and level of service site, was insignificant, which was significant in bivariate analysis in Model II.

Table 6. Influence of selected provider-related factors on retention of FHC (findings from Model II)

Variable in equation	B	SE	Wald	Df	Sig	R	Exp(B)
District (Chittagong)	.2658	.1838	2.0912	1	.1481	.0079	1.3045
Type of service provider (provider from higher tier)	-.4837	.4426	1.1942	1	.2745	.0000	.6165
Level of service site (higher tier)	-.0351	.4912	.0051	1	.9431	.0000	.9655
Service provider did not want to see FHC during service provision	-3.7714	.2443	238.3894	1	.0000	-.4044	.0230
Constant	2.9182	.2867	103.6273	1	.0000		

SE = Standard error
Sig = Significance

The tests for overall effect of service provider-related factors on the retention of FHC, which were highly significant, are shown in Table 7.

Table 7. Tests for overall effect of provider-related factors on retention of FHC

Test	Chi-square	Df	Significance
Model	591.357	4	.0000
Block	591.357	4	.0000
Step	591.357	4	.0000

-Log likelihood	854.201
Goodness of fit	1036.613
Cox and Snell-R ²	.433
Nagelkerke-R ²	.577

The combined effect of client- and service provider-related factors on retention of FHC confirmed that educational attainments and sex were significantly associated with retention of the card as shown in Table 8. The retention of FHC was significantly lower if the client perceived that FHC was not useful for obtaining services or service provider did not want to see FHC during service provision. However, in Model III, the retention of FHC correlated with Chittagong district. The influence of all other variables, such as age, marital status, type of service providers, and level of service sites, became insignificant in this model.

Table 8. Overall influence of client and provider-related factors on retention of FHC (findings from Model III)							
Variable in equation	B	SE	Wald	Df	Sig	R	Exp(B)
Marital status of client (unmarried)	-.1342	.3249	.1707	1	.6795	.0000	.8744
Service provider (provider from upper tier)	-.1261	.5167	.0596	1	.8071	.0000	.8815
Sex of client (female)	1.0467	.3100	11.4020	1	.0007	.0838	2.8484
Educational status of client (10 class+)			19.9771	3	.0002	.1022	
No formal schooling	-1.4850	.3409	18.9720	1	.0000	-.1126	.2265
1-5 class	-1.2421	.3548	12.2540	1	.0005	-.0875	.2888
6-10 class	-.9153	.3537	6.6975	1	.0097	-.0592	.4004
Service site (upper tier)	.3333	.5716	.3400	1	.5598	.00001	1.3956
District (Chittagong)	.5020	.2057	5.9521	1	.0147	.0543	1.6520
Service provider did not want to see FHC during service provision	-3.0185	.6502	21.5513	1	.0000	-.1208	.0489
Client did not perceive FHC as useful for service	-3.6406	.2612	194.2892	1	.0000	-.3789	.0262
Constant	5.9723	.7645	61.0236	1	.0000		
SE = Standard error Sig = Significance							

The overall effect of client- and service provider-related factors on retention of FHC, which was significant, is shown in Table 9.

Table 9. Tests for overall effect of client and provider related factors on retention of FHC			
Test	Chi-square	Df	Significance
Model	616.737	10	.0000
Block	616.737	10	.0000
Step	616.737	10	.0000
-Log likelihood	722.419		
Goodness of fit	1001.135		
Cox and Snell-R ²	0.472		
Nagelkerke-R ²	0.629		

Discrepancies and inconsistencies made during service provision in filling up FHC

About 95% of the service providers filled in appropriate sections of FHC for services, when clients came for consultation. The service providers of UHFWC and EPI+SC performed better than those of UHC in filling in appropriate sections of FHC. Ninety-five percent of the providers of EPI spots and satellite clinics filled up appropriate sections of FHC. Whereas, 85% of the providers of UHC completed this task. The service providers sometimes forgot to enquire about some crucial issues relating to screening, for instance checklists for FP and ARI/CDD, thus missing the opportunity to ask about the additional needs of the family. Some omissions took place because of the inability of service providers to conduct appropriate examinations or tests due to logistic problems (Table 10).

Table 10. Nature of omissions during service provision, by sections of FHC	
Section of FHC	Nature of omissions
Pregnancy-related information	Last menstruation period and expected date of delivery unrecorded
Antenatal check-up	Percentage of haemoglobin (anaemia) unrecorded Weighing not done due to unavailability of a weighing machine Urine test not done due to logistics problems
Family-planning screening checklist	Screening checklist for family planning not used
Distribution of family planning commodities	Brand name of commodity not mentioned Recorded in inappropriate column
Growth monitoring	Not done due to unavailability of a weighing machine
ARI/CDD	Written in other services section instead of specific section Advice given for diarrhoea but information not recorded Did not ask about ARI symptoms
ARI = Acute Respiratory Infection CDD = Control of Diarrhoeal Diseases	

Use of FHC for referring clients

About 50% of clients visited clinics previously along with their FHCs. Of those who visited previously, about one-fifth were referred to other facilities using FHC. When the findings segregated according to different tiers, it was found that most clients were referred from EPI+SC to UHFWC and UHC. Use of FHC as a referral tool was low at

UHFWC and UHC. The clients referred to other health facilities were asked whether they visited the referred centre. Of the clients who were referred to other facilities, 67% visited the referred facilities. Those who did not visit their referred health facilities cited the following reasons for non-compliance: the centre was too far from home, lack of transportation cost, and nobody at home to accompany them to the referred facilities.

Perceptions of service providers on usefulness of FHC

The perceptions of service providers regarding FHC are summarized in Box 1.

Box 1. Perceptions of service providers on usefulness of FHC
<ul style="list-style-type: none">▪ More than half of service providers perceived that FHC was useful to provide subsequent treatment to clients because longitudinal information on health services received could be recorded▪ Most service providers mentioned that FHC helped identify the requirement of clients quickly and, thus, it fostered close coordination between service provider and clients▪ Could be used for recording services received by all members of the family▪ Can serve as a referral slip▪ Different services provided to the family could be documented in one card, which took less time to maintain records

One common expression HAs and FWAs was,

"FHC is the most useful among all other tools now used for record-keeping because information of all other cards has been combined."

One HA said,

"I find that FHC is very useful because by using the screening checklist of ARI of FHC it is easy to find out whether children aged less than 5 years are suffering from ARI and need ARI services."

One FWA commented,

"I am serious about the use of FHC. I enforce my clients to bring it while they come for services, I can tell you the names of four clients who had lost their cards. I scolded them for loosing it."

The opinions of both HA and FWAs reflect the importance given by them about FHC.

Problems identified by service providers with FHC

The service providers also mentioned about some problems relating to the use of FHC particularly at the home level and SC. The natures of problems are summarized in Box 2.

Box 2. Perceived problems relating to FHC mentioned by service providers

- Most HA/FWAs mentioned that they did not have enough technical training to use FHC properly. One HA expressed:

“The family-planning screening checklist is very useful, but we cannot yet use it properly, as we do not know how to take blood pressure and test haemoglobin--an absolute requirement for screening. We often send clients to FWV and MO for ligation without proper screening, and they are sent back to us as they are not fit for ligation. As such, referred service providers become unhappy with clients and with us as well.”

- Some FWVs felt that the family-planning checklists are lengthy and took too much time for record-keeping
- Some sections of FHC could not be filled in because of the inability of service providers to perform physical tests due to lack of technical skill or logistics
- Some service providers are still using the previous formats along with FHC causing duplication and taking additional time

Suggestions of providers for improving use of FHC

The service providers made some suggestions to improve the use of FHC which are summarized in Box 3.

Box 3. Suggestions of service providers for improving increased use of FHC

- Technical training is needed for effective use of FHC with special emphasis on use of the screening checklist
- Only FHC should be used instead of using all other cards, which had been introduced before introduction of the new system
- CC should be operationalized as soon as possible to increase use of FHC
- FHC should be increasingly used as a referral tool
- Use of FHC should be increased for recording services received by all members of the family

Use of additional cards by clients

It was found that, overall, 10% of clients brought other cards along with FHC. Of 104 clients who brought other cards along with FHC, 67 were at EPI and Satellite Clinics, 25 were at UHFWC, and 12 were at UHC.

Perceptions of clients on usefulness of FHC

Overall, 90% of clients thought that FHC is useful to them. However, clients at different tiers perceived the usefulness of FHC differently. Ninety-seven percent of clients of EPI+SC and 94% of clients of UHFWC thought that FHC is useful in obtaining services, whereas only 61% of clients at UHC found it to be useful. The clients also provided their opinions as to why they thought that FHC is useful. Table 11 shows perceptions of clients on the usefulness of FHC by different tiers.

Perception	UHC (n=152) %	UHFWC (n=363) %	EPI+SC (n=396) %	Total (n=911) %
Easy to know next follow-up services	13	6	20	13
Provider provides quick service	47	66	48	55
Easy to know when and how to take medicines	3	1	-	1
Provide quality medicines	18	12	5	10
Do not know	6	6	14	10
Easy to get services from referred points	6	1	7	4
Others	7	8	6	7
EPI = Expanded Programme on Immunization UHFWC = Union Health and Family Welfare Centre SC = Satellite Clinic UHC = Upazila Health Complex				

More than half of clients mentioned that they found that FHC was useful for obtaining quick services. Thirteen percent mentioned that they could know through FHC about the next follow-ups, and 10% mentioned that it was possible to get quality medicine by using it. Another 4% mentioned that it was useful because it helped get services from service points to where they had been referred. In general, more than 70% reported that the required time for filling up FHC was reasonable.

Discussion

A higher proportion of clients from Chittagong district retained FHC compared to those of Jessore district. Due to a devastating flood that took place in some upazilas of Jessore district in 1999, people had to leave their homes, and many of them lost their FHCs, which could not be replaced due to the shortage of the card. This could be one reason for low retention of FHC in Jessore district. A large majority of clients perceived FHC as a useful tool to them because they could obtain quick services, know the due dates of next follow-ups, get quality medicines, and identify what services they needed.

It was evident from the exit-point interviews with the clients that FHC has been used as a referral tool from the lower tiers (EPI sites and SCs) to the upper tiers (UHFWC and UHC). All categories of service providers and supervisory staff found FHC as a useful tool because they could provide subsequent treatments, identify client's need, record information on health services, and refer clients to the higher tiers. The participants (HAs and FWAs) of group discussion stated that FHC was the most important tool among all record-keeping and reporting tools because all services provided to clients could be recorded in one place, which reduced time for record-keeping. However, the service providers mentioned that, in many places, in addition to FHC, format and cards of the previous system were being used simultaneously that required additional time for maintaining records. The existence of such a dual system as identified by the study was overburdening for the service providers. Some service providers also felt that the use of screening checklists required too much time to be filled in.

Bivariate analysis showed that FHC has been used by clients of all age groups for obtaining services for family members. The analysis also showed that retention of the card was higher among clients using services at the lower service tiers than at the higher tiers, and a significant association was found between service provider from the lower tiers and retention of FHC. However, the influence of service provider-related factors, such as level of service site and type of service provider, on retention of FHC was insignificant in regression analysis when a more proximate variable, whether the provider wanted to see FHC or not, included in the equation. Thus, it seemed that service providers' enforcement for bringing FHC was the most important provider-related factor. The low use of FHC by clients at the upper tiers might have resulted because of less enforcement by the service providers at the upper tiers. However, interventions should target to increase the use of FHC by males and by unmarried people, particularly by adolescents because these groups are not currently using FHC.

up to level of expectation. The influence of the above-mentioned factor, such as age of client, became insignificant in logistic regression analysis when combined effects of both client and providers on retention of FHC were estimated. In regression analysis, it was revealed that, among all the client-related factors, the perceived importance of FHC and their educational attainment were the most important factors. Since sociodemographic indicators are usually difficult to intervene, more emphasis should be given to increase awareness of clients for better use of FHC in obtaining services for their family. Strengthening orientation of service providers on the effective use of such lists can minimize this problem.

Also, omissions in filling up relevant sections of FHC by service providers at the upper tiers were relatively higher than those at the lower tiers. Similar findings were reported by another study which tested the validity of ARI diagnosis using a checklist. This study reported about lack of concern or motivation of MO of UHC regarding completeness of the checklist (7). However, most omissions were related to sections of the FP checklist: ANC check-up and growth monitoring of children. In fact, service providers at the lower tiers are traditionally acquainted with dealing such information tools. They are involved in keeping such records for decades and are, thus, very much familiar with such tools. Although the service providers received orientation on the new system, most participants expressed their concerns about lack of orientation on FHC. They expected more technical training on effective use of FHC, which reflects the need for more orientation on effectiveness and use of FHC among service providers with particular emphasis at the upper tiers.

One of the objectives to introduce FHC was to identify additional family-health needs, tap missed opportunities, and ensure services for the family according to their needs. But some common omissions made by the service providers in screening checklists and in completing appropriate sections of FHC for tapping missed opportunities. Possibly, most service providers concentrated on expressed needs of clients rather than on unexpressed additional needs that could be addressed. Therefore, more emphasis should be given on increasing identification of additional family-health needs and address those unmet needs.

EPI spots in Bangladesh are being extensively used for achieving 90% coverage of first dose of immunization. These sites provide ample opportunities to carry out similar surveillance done at the household level. Opportunity also exists to use FHC as a surveillance tool to monitor childhood morbidities, such as ARI/diarrhoeal diseases 5 times a year at the immunization sites considering the current full immunization coverage among children. There are potentials to conduct cross-sectional studies through using FHC to monitor postpartum genital tract infections, birth practices, and breast-feeding practices, future intention to contraception, barriers of EPI services, or postpartum contraception at the immunization sites. Some additional information can also be collected. However, before using extracted data from FHC, its reliability and quality should be verified through scientific comparison with other data sources including GR data.

An evaluation done by the MCH-FP Extension Project (Urban) of ICDDR,B found that the use of such a comprehensive card actually improved the quality of services provided at clinics (4). However, the proper implementation and effective use of FHC would require more specific orientation of service providers on its effective use, strengthening the monitoring and supervision system, institutionalization of the card as a referral tool at all tiers, and raising awareness of clients on its use to achieve the goals of its introduction in HPSP.

MOHFW targeted to distribute FHC to each and every family in Bangladesh. Recently, 25 millions of cards have been sent to Civil Surgeons, including a brief guideline on distribution policy, for distribution among households.

Lessons Learned

Clients who retained FHC were likely to be females than males, married than unmarried, and tended to seek services for their children or other family members than for their own. Regression analysis showed that, among all clients-related factors, the perceived importance of FHC by clients and their educational attainment were the most important factors for retention of FHC. A significant association was found between service provider from the lower tiers and retention of FHC. Enforcement of service providers for bringing FHC was the most important provider-related factor on retention of the card. Also, a higher proportion of clients retained FHC in Chittagong than in Jessore district.

Omissions in filling up relevant sections of FHC by service providers at the upper tiers were relatively higher than those at the lower tiers. Most omissions were related to sections of screening checklists, ANC check-up, and growth monitoring of children. Most clients perceived FHC as a useful tool to them in different ways: they could obtain quick services, know the due dates of next follow-ups, and get quality medicines. More than 70% of clients thought that the time required for documenting information on FHC was reasonable.

Most service providers found FHC as a useful tool because they could provide subsequent treatments, could identify client's needs, record information on health services in one place, and refer clients to higher tiers. It has been observed that the service providers put less emphasis on identification of additional needs of the family. FHC has been used as a referral tool from the lower tiers (EPI sites and SCs) to the upper tiers (UHFWC and UHC). The service providers reported the existence of previous record-keeping and reporting format and cards along with FHC in some places causing duplication and waste of time for them. It seems that co-existence of reporting formats from the previous system, lack of orientation of providers on effective use of FHC, lack of enforcements by providers for bringing FHC during service-seeking, and lack of logistic supplies were some important barriers to proper implementation of FHC.

Recommendations

- Findings of the study emphasized that service-providers need more orientation on effectiveness and use of FHC, with particular emphasis at the upper tiers. Such orientation should take care of specific problems relevant to a particular section of FHC, such as FP screening checklist.
- Use of FHC as a referral tool should be institutionalized at all levels of service tiers.
- The record-keeping and reporting format and cards used in the previous system should be abolished for better use of FHC.
- Further studies are needed to be conducted on how FHC could be better used for identifying missed opportunities and additional family-health needs.
- Since sociodemographic indicators are usually difficult to intervene, more emphasis should be given to increase awareness of clients for better use of FHC in obtaining services for their family members. Interventions should target to increase its use by males and by unmarried persons, particularly by adolescents.
- As one of the important reasons for omission in filling up FHC is lack of required logistics supply, it is critical to improve supply situation in the facilities to reduce such omissions.

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