

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

# The Role of Pharmacies in Providing Family Planning and Health Services to Residents of Dhaka, Bangladesh

Sangeeta Mookherji  
Thomas Trudeau Kane  
Shams El Arifeen  
Abdullah Hel Baqui



**CENTRE**  
FOR HEALTH AND  
POPULATION RESEARCH

1996

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

Urban FP/MCH Working Paper No. 21

# **The Role of Pharmacies in Providing Family Planning and Health Services to Residents of Dhaka, Bangladesh**

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## Foreword

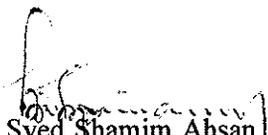
I am pleased to release these reports on urban Maternal and Child Health and Family Planning issues which are based on the operations research activities of the MCH-FP Extension Project (Urban) of the Centre. Over the years, the Centre has acquired a unique expertise on urban development matters that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

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

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

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

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

  
Syed Shamim Ahsan  
Senior Adviser and Director  
Health & Population Extension Division

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## Summary

As the health sector as a whole considers issues of sustainability, the importance of the private sector in providing health services to growing populations becomes apparent. In urban areas, private sources of services are widely available and highly utilized. The private sector can be considered a financially sustainable mode of service delivery, but its effectiveness is not clear, particularly in light of the vast intra-urban differentials in health status indicators (Arifeen *et al.*, 1993). The extent of private sector activities, the types and quality of services and the users of those services - all of this information is needed for effective monitoring and regulation (Harpham and Tanner, 1995). The present study seeks to gain this type of information by first examining one piece of the private sector: pharmacies. In urban areas of Bangladesh, pharmacies are ubiquitous, a ready source of medicines available on every street corner. The purpose of this paper is to examine utilization patterns of pharmacies for family planning and sick child treatment among the urban population, and to examine knowledge and reported practices of pharmacists and drug sellers in an effort to understand advantages and disadvantages of pharmacy provision of family planning and sick child treatment services.

The study findings imply that urban communities look to pharmacies as a source of medicines, advice, and information, for many types of health problems. For family planning, findings show that about 40% of pill and condom users purchase supplies from the pharmacy, despite an extensive network of field workers who deliver supplies to the doorstep. Most considered the pharmacy to be more convenient, or preferred the wider range of brands available at the pharmacy. Husbands, by and large, are the ones to purchase contraceptives from pharmacies. A large proportion of pill users report having obtained their first supply from pharmacies; findings show that it is most likely that the user's husband purchased the first supply. It

remains to be seen whether these women receive adequate screening. Pharmacies also play a role in other reproductive health services, providing referrals for clinical family planning methods, advice on pregnancy, and treatment or referral for STD-related symptoms. Pharmacies are also widely used for the purchase of medicines to treat important illnesses in under 5 children, such as diarrhoea and ARI. However, most drug sellers do not have training in basic pharmacy or in MCH-FP related topics.

Pharmacies are a *de facto* component of the urban primary health care system; their role, both current and potential, in contributing to the health of the urban population cannot be ignored.

## Introduction

As the health sector as a whole considers issues of sustainability, the importance of the private sector in providing health services to growing populations becomes apparent. In urban areas, private sources of services are widely available; studies have identified almost one pharmacy for every 1,000 population, and close to one qualified physician for every 2,000 population in Dhaka, the capital of Bangladesh (Majumdar *et al.*, 1996). The private sector is a highly utilized, financially sustainable mode of service delivery, but its effectiveness is not clear, particularly in light of the vast intra-urban differentials in health status indicators (Arifeen *et al.*, 1993).

Urban areas are characterized by a multitude of health care providers, both in terms of the number of facilities and the types of services available. In Bangladesh, the holistic urban health care system consists of allopathic private (for-profit) providers, allopathic public (non-profit, NGO, GoB) providers, and traditional (homeopath, kabiraj, fakir) providers. It is hypothesized that private providers are often more technically efficient than the public sector, and offer a service that is often perceived to be of a higher quality, but they are, in general, not supported by government policies (World Bank, 1993). In keeping with this hypothesis, the most regulated and monitored sources of care in Bangladesh are the public ones; allopathic private providers are subjected to regulations on a variable scale; traditional providers remain largely on the fringes and are not considered to be amenable to monitoring. Recent studies in Dhaka have shown that private, for-profit sector sources of health care are the most widely utilized first source for illness episodes. Therefore, government support, in terms of setting quality standards, monitoring and regulation, does not extend to the most utilized sector of health care.

Some recent studies in Africa have examined the relationships between efficiency, quality, and cost in both the public and private sectors (Bitrán, 1992; 1995; Wouters, 1995). These studies found a wide range in the levels of efficiency and quality within and between the public and private sectors. Almost no studies exist that examine consumer preferences in relation to these provider-side indicators. Sustainability of the health care delivery system requires that cost and quality issues be considered along with demand and utilization. Since households are able to buy health care services with their own money, and in urban areas, are able to choose from a wide variety of services, when they are well-informed, households may buy health care more efficiently than the government public health sector (World Bank, 1993). This *laissez-faire* principle, when supported by quality monitoring and enforced regulatory actions, contributes to a sustainable health care delivery system.

Urban health planners must keep in mind that competition between public and private providers is generally undesirable, since the roles of these two sectors have different objectives. Public health providers are interested in ensuring that cost-effective services are available to the target population; private providers are interested in selling health care services to the population to make a profit. In general, governments strive to provide the less lucrative health services that provide positive externalities, and discourage or regulate those that produce negative externalities; in other words, they focus on providing public goods. Governments also pursue health service provision as a means of poverty reduction; since private providers do not have incentives to provide curative clinical services to the poor, public funding is often targeted to fill this gap. Governments can also act to regulate private medical practices (World Bank, 1993). However, in Bangladesh, public health planning, resource allocation, and health status evaluation to date does not account for the services available and utilized from the private, for-profit sector.

The extent of private sector activities, the types and quality of services and the users of those services - all of this information is needed for effective monitoring and regulation (Harpham and Tanner, 1995). The present study seeks to gain this type of information by first examining one piece of the private sector: pharmacies.

In urban areas of Bangladesh, pharmacies are ubiquitous, a ready source of medicines available on every street corner. The Social Marketing Company (SMC) enlisted pharmacies and shops to provide family planning (in the form of pills and condoms) and oral rehydration solution (ORS) in the 1980's to improve access to these services (Mitchell, 1987; Draper Report, 1986). Currently, more than a third of families residing in Dhaka said they seek treatment from pharmacies for treatment of their child's diarrhoea or respiratory illness (Urban Needs Assessment, UEP, 1995). About 40% of current pill and condom users obtain their contraceptive supplies from pharmacies (UPS Baseline, 1994). This means that a large proportion of families are not only willing to pay, but are choosing to pay for some basic health and family planning services.

Past studies of retail drug outlets (pharmacies) in developing countries have tended to focus on their role in terms of SMC's service access expansion efforts (Lande *et al.*, 1989; Shrestha *et al.*, 1990). This meant that pharmacies were assessed mainly in terms of family planning and diarrhoea treatment commodity availability and provider knowledge of pill, condom, and ORS benefits and proper use. Studies in sub-Saharan Africa mainly have focused on pharmacies to assess drug supply issues, but some studies have examined the role of pharmacies in providing primary health care services (Bichmann *et al.*, 1991; Igun, 1987). One central issue that has not been examined yet by many studies is the quality and effectiveness of pharmacy services. One study in Egypt did compare pharmacies with public family planning clinics in terms of quality (Stover, 1991). Like other studies that

have compared quality between public and private sources, both strengths and weaknesses were found in private pharmacies and public family planning clinics.

The purpose of this paper is to examine utilization patterns of pharmacies for family planning and sick child treatment among the urban population, and to examine knowledge and reported practices of pharmacists and drug sellers in an effort to understand advantages and disadvantages of pharmacy provision of family planning and sick child treatment services.

## **Design and Methodology**

All data were collected from sources located in one administrative zone of Dhaka city, Zone 3, which is in the old part of the city, along the Buriganga river. Dhaka has ten such zones, which delineate areas of responsibility within the municipal government structure. The population of the zone is approximately 400,000; with close to 23% of the population living in slum areas (Census, 1991; UHEP Slum Survey, 1991). In Dhaka city as a whole, the slum population has been estimated to be about 30% of the total population. This difference does not, however, imply that Zone 3 represents a more affluent population than the rest of Dhaka. Slum areas are defined as having at least 10 households; the high density of the old part of the city which Zone 3 covers means that most of the larger slums are clustered on the edges of the zone, along the river, in low-lying areas. Zone 3 is therefore characterized by several very large slum areas. Although Zone 3 may not be fully representative of Dhaka's total population, in terms of socioeconomic and population density variability, the findings should be useful to urban health service planners and providers, since few studies have tried to examine utilization and practices of private pharmacies.

Zone 3 is characterized, like other parts of Dhaka, by a multitude of service providers. A baseline inventory of service facilities identified 43 government and NGO facilities (Table 1). Government facilities included those run by the Ministry of Health and Family Welfare (MOHFW), both Health and Family Planning Directorates, and Dhaka City Corporation (DCC). Two major government hospitals are located just outside of the zone, Dhaka Medical College Hospital and Mitford Hospital. In addition, about 385 medicine shops, 200 physicians, and 7 private clinics were identified in Zone 3.

**Table 1: Types and number of facilities in Zone 3**

| Managed by   | Type of Facility      | Number     | Services provided                    |
|--|-----------------------|------------|--------------------------------------|
| MOHFW  | Maternity Centre      | 1          | FP, ANC/PNC, delivery, EPI, curative |
|  | Dispensary            | 4          | Curative                             |
|  | FP Clinic             | 6          | FP, ANC/PNC                          |
| DCC  | EPI Centre            | 10         | Immunization                         |
|  | Dispensary            | 3          | Curative                             |
|  | Children's hospital   | 1          | Range of pediatric services          |
| NGO  | MCH-FP Clinic         | 6          | FP, ANC/PNC, EPI, curative           |
|  | Outreach clinic       | 3          | FP, ANC/PNC, EPI, curative           |
|  | Dispensary            | 9          | Curative                             |
| Private<br>(only allopathic<br>facilities are<br>included) | Pharmacies w/ doctor  | 193        | Curative                             |
|  | Pharmacies w/o doctor | 73         | Curative                             |
|  | Clinic/nursing home   | 7          | Curative, in-patient                 |
|  | Dispensary            | 3          | Curative                             |
|  | EPI Centre            | 1          | Immunization                         |
| <b>TOTAL</b>   |                       | <b>320</b> |                                      |

Source: Majumdar *et al*, 1996

Data were taken from three sources. The Urban Panel Survey (UPS), a surveillance system maintained by the MCH-FP Extension Project (Urban) of ICDDR,B (UEP), collects routine information on a sample of approximately 6,000 slum and non-slum households; the sample was selected based on a multi-stage areal sampling technique. The UPS Baseline Survey (1994) collected specific information about contraceptive use and source of contraceptive supply. A sample of respondents who stated that they obtained their last supply of contraceptives from the pharmacy were identified through the UPS and were administered a follow-up survey. One hundred forty-four pharmacy consumers were identified from October to November 1994 and were asked about their choice of pharmacies for contraceptive supplies (Pharmacy Consumer Survey). In addition, they were asked to report their care-seeking practices for selected MCH services. A survey of 83 allopathic drug outlets and drug sellers in the same study area was also conducted in November-December 1994 (Pharmacy Survey). Drug outlets were systematically selected using the most recent list compiled by SMC. Originally, 150 facilities were selected from the list as the sample, but only 83 of these could be located; this was due to the fact that the SMC list had not been updated in several years. Information on respondents' knowledge levels about contraceptive use, diarrhoea and ARI management was collected, along with their reported practices for patients seeking services not available at the pharmacy.

Data were entered using the database programmes DBase and FoxPro; analysis was done using SPSS/PC+, version 5.0. Descriptive statistics were used for ascertaining reported utilization patterns and knowledge levels. Bivariate analysis using chi-squared statistics was used to identify important demographic and socioeconomic characteristics of pharmacy consumers, as opposed to other pill and condom users.

## **Findings**

### **I. Profile of pharmacies and drug sellers in zone 3**

As mentioned above, 83 facilities were identified for administration of a structured questionnaire. All of the selected facilities were allopathic pharmacies, dispensing drugs, medical devices and, when solicited, advice. The vast majority of shops operated from 10 am until about 9 or 10 pm. Of these 83 pharmacies, more than 80% had an attached M.B.B.S. physician, who maintained chambers on the premises, and examined some of the pharmacy customers. Most pharmacies had no more than 2 employees, not including any physician that may have been attached to the facility. Less than half of the facilities had information, education, and communication (IEC) materials displayed for condoms; about 40% had displays for contraceptive pills; and about 10% for oral rehydration solution (ORS). IEC materials in this survey included promotionals for particular brands of items, and not just general public health messages promoting the use of the items.

Respondents in the 83 pharmacies were identified by whether they were dispensing drugs to customers; one respondent per pharmacy was interviewed. The average age was 32 years; half were under 30 years old. More than half of the respondents were the store owners; 36% were salespersons employed by the store owner. The most typical educational profile of respondents was completion of at least 10th grade (92%); of these, 39% had 12 years of schooling, and 13% had passed the bachelor's level degree (at least 14 years of schooling). Less than 40% of the 83 drug sellers interviewed had received any basic training in pharmacy; this training was largely reported to have been provided by six specific institutions. The reported duration of training ranged from 3 months to 2 years; almost 75% had received training in courses of less than one year's duration (Table 2). Less than 10% of respondents reported having received some special training

in family planning or ORS use, although this type of training is part of SMC's program to incorporate private retailers into the service delivery system (Mitchell, 1987).

**Table 2: Duration of basic pharmacy training**

| <b>Length of course</b> | <b>n</b>  | <b>%</b>     |
|-------------------------|-----------|--------------|
| 3 months                | 4         | 12.1         |
| 4 months                | 9         | 27.3         |
| 6 months                | 11        | 33.3         |
| 1 year                  | 8         | 24.2         |
| 2 years                 | 1         | 3.0          |
| <b>TOTAL</b>            | <b>33</b> | <b>100.0</b> |

Source: Pharmacy Survey, UEP, 1994

Just over half of the respondents were married; of these, more than two-thirds were currently using some method of family planning. The most popular method among the current users was pill (62.5%), followed by condom (18.8%); all of these method users report that they obtain their supplies from the pharmacy in which they work.

Technically, only those respondents who have gone through formal training in pharmacy can be labelled as "pharmacists". Others who dispense drugs without formal training in pharmacy can be termed "drug sellers". For clarity, the term "drug seller" will be used in this paper to refer to both of these classes of drug dispensers.

## II. Profile of pharmacy consumers

Since only pills and condoms are available from pharmacies, pharmacy consumers were compared with current pill and condom users in terms of key demographic and socio-economic variables (Table 3). The subsample of pharmacy consumers who were administered the follow-up questionnaire did not differ significantly from all pharmacy consumers for any of the variables shown below (data not shown). Bivariate analysis shows some factors associated with using pharmacies for contraceptive supply. Women who use pharmacies for pill or condom supply tend to be slightly younger and of lower parity ( $p < 0.05$ ). In addition, they are better educated ( $p < 0.05$ ) and live in higher income households ( $p < 0.05$ ). Women who obtain supplies from pharmacies are also less likely to have been visited by a field worker in the past six months ( $p < 0.05$ ). No conclusions can be drawn from this data as to whether fewer field worker visits prompted the woman to start using the pharmacy for contraceptive supplies, or if the fact that the woman obtains supplies from elsewhere prompts the field worker to be less diligent in her visits to these households.

**Table 3: Demographic and socioeconomic characteristics of pharmacy pill and condom consumers**

| Variable                | Current pill and condom users |      |                            |       |
|-------------------------|-------------------------------|------|----------------------------|-------|
|                         | All users (n=1680)            |      | Pharmacy consumers (n=700) |       |
|                         | %                             | Mean | %                          | Mean  |
| Age (Years)             |                               |      |                            |       |
| < 25                    | 41.7                          |      | 50.7                       |       |
| 25-49                   | 58.3                          |      | 49.3                       |       |
| Mean                    |                               | 27.8 |                            | 26.6  |
| Education (Years)       |                               |      |                            |       |
| < 1                     | 36.2                          |      | 28.1*                      |       |
| 1-10                    | 55.2                          |      | 60.0*                      |       |
| > 10                    | 8.6                           |      | 11.9*                      |       |
| Parity                  |                               |      |                            |       |
| None                    | 2.4                           |      | 4.3*                       |       |
| 1-2                     | 49.5                          |      | 57.3*                      |       |
| > 2                     | 48.0                          |      | 38.4*                      |       |
| Birthplace              |                               |      |                            |       |
| Urban                   | 46.1                          |      | 45.3                       |       |
| Rural                   | 53.9                          |      | 54.7                       |       |
| Household income (Taka) |                               |      |                            |       |
| High                    | 28.2                          |      | 35.0*                      |       |
| Low                     | 71.8                          |      | 65.0*                      |       |
| Mean income             |                               | 7459 |                            | 8732* |
| Woman earns             |                               |      |                            |       |
| Yes                     | 14.6                          |      | 12.6                       |       |
| No                      | 85.4                          |      | 87.4                       |       |
| FW visit last 6 months  |                               |      |                            |       |
| Yes                     | 86.1                          |      | 76.6*                      |       |
| No                      | 13.9                          |      | 23.4*                      |       |

\* significantly different from all users (p<0.05)

Source: UPS Baseline Survey, 1994

### III. Contraceptive use

The 1993-94 Bangladesh Demographic and Health Survey (BDHS) estimates a contraceptive prevalence rate (CPR) of 44.6% for all of Bangladesh, 54.4% as the national urban rate, and 43.3% as the national rural rate. In Zone 3, the CPR was found to be 53.8% (UPS, 1994). This rate differs greatly between slum and non-slum populations - for non-slum populations, the CPR is 59.3%, while for slum populations, it is only 46.1%. Method mix also varies between slum and non-slum populations, particularly with respect to condom, IUD, and injectable use. Of the methods available through the pharmacy (pills and condoms), condoms account for four times the proportion of contraceptive use among non-slum couples as compared with slum couples. Pill use is also slightly higher among non-slum couples (Arifeen and Mookherji, 1995).

A large proportion of current pill and condom users reported that they obtained their last supply from pharmacies or shops where contraceptives are available (Table 4). Typically, these non-pharmacy shops are SMC outlets.

**Table 4: Source of the last supply of pills and condoms (percent distribution)**

| Source of last contraceptive supply                            | % of pill users<br>(n=1223) | % of condom users<br>(n=457) |
|--|-----------------------------|------------------------------|
| Pharmacy/shop  | 42.2                        | 40.3                         |
| Field worker (NGO or GoB)                                      | 40.1                        | 52.3                         |
| Clinic (NGO or GoB)  | 15.8                        | 5.9                          |
| Other source (private doctors, friends, relatives, neighbours) | 2.0                         | 1.5                          |
| Total  | 100.0                       | 100.0                        |

Source: Urban Panel Survey, Baseline, 1994

The findings show that pharmacies are heavily used despite an extensive network of NGO field workers in the study area who deliver these supplies to the household every two months. Respondents to the follow-up survey of pharmacy consumers (n=144) were asked the reasons for which they choose to obtain contraceptive supplies from the pharmacy. The primary reasons reported by both pill and condom users were issues of brand - either problems experienced with brands distributed by the field worker, or preference for brands available at pharmacies. Condom users mentioned more often than pill users that it was more convenient to purchase supplies from the pharmacy; this may be because men are the actual users of the method and prefer to obtain supplies themselves. Irregular supply from field workers was also mentioned by both pill and condom users as a reason for choosing the pharmacy.

Respondents who reported that they started using their current method less than 3 years before were asked about the first source of their current method supply. The majority of these users reported having obtained their first method supply from pharmacies or shops (Table 5).

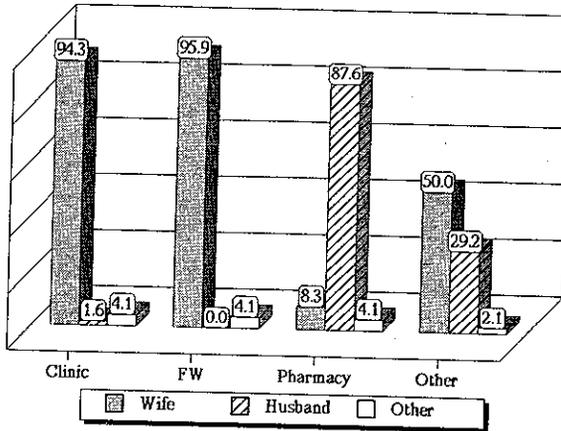
**Table 5: Source of first pill and condom supply (percent distribution)**

| Source of first contraceptive supply<br>(began using <3 years before) | % of pill users<br>(n=529) | % of condom users<br>(n=256) |
|---|----------------------------|------------------------------|
| Pharmacy/shop   | 51.6                       | 53.9                         |
| Field worker (NGO or GoB)   | 32.5                       | 35.5                         |
| Clinic (NGO or GoB)   | 12.7                       | 8.6                          |
| Other source (private doctors, friends,<br>relatives, neighbours)     | 3.2                        | 2.0                          |
| Total   | 100.0                      | 100.0                        |

Source: Urban Panel Survey, Baseline, 1994

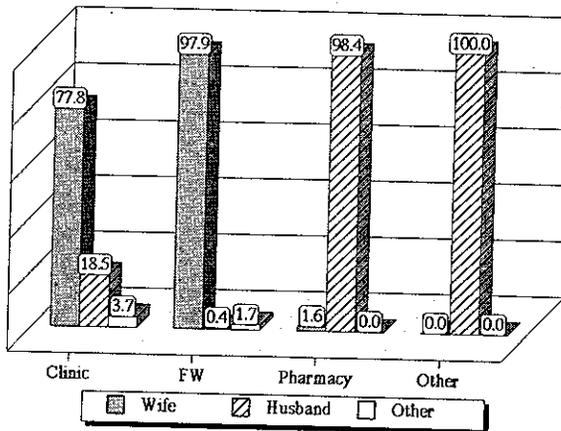
Respondents were asked who in the household actually purchased the supply from the pharmacy the last time. For pill users (n=1223), 88% reported that their husband had obtained the supply for them (Figure 1). For condom users (n=457), 98% said that their husband obtained the supply (Figure 2). Similarly, respondents who were asked about the first source of their current method

**Figure 1: Person obtaining last pill supply by source of supply (n=1223)**



(n=785) were also asked about who obtained the first supply. For pill users (n=529), 88% said their husband obtained the first supply; 99% of condom users reported that their husbands obtained the supply (data not shown). This pattern differs significantly from other sources, such as field worker and clinic - the women themselves predominantly obtain the contraceptive from these sources, regardless of the method.

**Figure 2: Person obtaining last condom supply by source of supply (n=457)**



For pill users, the findings indicate a gap in contact between the actual user (the woman), and the supplier (drug seller), both at

the time of acceptance and during continued use. This raises questions about whether new acceptors of pills are appropriately screened and whether the current user receives accurate, complete information about use of the pill and its potential side effects and danger signs. To assess knowledge levels among current pharmacy pill consumers, female respondents to the pharmacy consumer survey were asked to name side effects and warning signs of pill use (Table 6). Knowledge of common side effects and warning signs was low among these users.

**Table 6: Pharmacy pill users' knowledge of pill side effects and warning signs**

| Percent mentioning, unprompted (n=102):* |       |                           |       |
|--|-------|---------------------------|-------|
| Pill side effects                        |       | Pill warning signs        |       |
| Headache                                 | 48.0% | Severe headache/dizziness | 10.8% |
| Nausea                                   | 37.3% | Severe abdominal pain     | 6.9%  |
| Depression                               | 3.9%  | Severe chest pain         | 2.9%  |
| Breast discomfort                        | 2.0%  | Blurred vision            | 2.9%  |
| Other                                    | 18.9% | Severe leg pain           | 2.9%  |

Source: Pharmacy Consumer Survey, UEP, 1994

\* multiple responses possible

Drug sellers were also asked about contraindications of pill use, and possible side effects and danger signs (Table 7). No warning signs (problems for which pill users should immediately seek medical care) were mentioned by any of the respondents. Common side effects such as spotting, blurred vision, and headache were not mentioned by any of the respondents. In general, drug sellers' knowledge is inadequate; it appears that even if women were to go to pharmacies themselves for pill supplies, new acceptors would

not be adequately screened, and users would not receive accurate or complete information about side effects from the drug sellers.

**Table 7: Drug sellers' knowledge of pill use**

| Percent mentioning, unprompted (n=83):* |       |                   |       |
|---|-------|-------------------|-------|
| Pill contraindications                  |       | Pill side effects |       |
| Pregnancy                               | 73.5% | Dizziness         | 98.8% |
| High blood pressure                     | 49.4% | Nausea            | 96.4% |
| Heart disease                           | 37.3% | Burning sensation | 18.1% |
| Liver disease/jaundice                  | 34.9% | Heavy bleeding    | 14.5% |
| Diabetes                                | 18.1% |                   |       |
| Asthma                                  | 9.6%  |                   |       |

Source: Pharmacy Survey, UEP, 1994

\* multiple responses possible

The findings show that knowledge of pill use side effects and warning signs is low for both drug sellers and users. Low awareness of contraindications to pill use among drug sellers is perhaps of greater concern, since this essentially means that access to contraceptive pills can be obtained without any screening at all. Drug sellers are most aware of the side effects that are most talked about by family planning providers, and have become somewhat common knowledge - dizziness and nausea. Heavy bleeding is mentioned as a side effect even though pill use can cause scantier bleeding during menstruation, possibly because excessive or unexpected bleeding is a universally recognized symptom of any kind of female reproductive problem.

However, the findings also show that close to 80% of pharmacy pill consumers had received a visit from a field worker in the past 6 months. These pill users may be getting information regarding side effects from the field workers in the home, while their husbands are purchasing supplies from the pharmacy. It is also possible that screening is being performed by the field worker before women ask their husbands to purchase pills for them the first time. However, the findings also indicate that any information received from the field worker source is not contributing to higher levels of side effect knowledge among users.

#### **IV. Reproductive Health Role**

Drug sellers also play a role in making reproductive health referrals. More than 80% of drug sellers say they refer customers to other facilities for family planning methods that they do not provide at the pharmacy. But, when probed, 15% could not name a nearby place providing IUD insertions; more than 75% could not name the nearest place for NORPLANT insertions; and almost two-thirds could not name a nearby place providing injectable contraceptives. Interestingly, only 2% of drug sellers could not name the closest place providing tubal ligation, but almost one-fourth could not name the closest place providing vasectomy. Since NORPLANT is a relatively new method for Bangladesh, introduced only in 1992, it is not appropriate to expect drug sellers to be aware of sources of this method until more extensive IEC campaigns are implemented. Injectable contraceptives, however, are highly utilized, and widely available at NGO and GoB clinics and satellite clinics - there are 16 such locations throughout Zone 3. Low levels of knowledge about where this method is available can perhaps be raised through information campaigns directed at drug sellers and other SMC contraceptive outlets. The different levels of knowledge about ligation and vasectomy availability could be due to actual different levels of availability - there may be fewer providers of vasectomy than ligation. Also, since

ligation is more widely discussed and promoted than vasectomy, and more popular as a method, drug sellers may have tried to find out about the facilities where ligation is available, if customers ask about the service.

In terms of pregnancy-related services, two-thirds of drug sellers said that they have been asked by customers to provide or refer for menstrual regulation services. Almost 75% of drug sellers said that customers regularly seek advice or treatment for conditions related to pregnancy or delivery from them. While about 70% of the drug sellers had heard of safe delivery kits, only three of the 83 facilities sold them.

Close to 90% of drug sellers said that customers seeking advice or treatment for STD-related symptoms regularly visit their facility; the usual treatment/advice practice reported by these drug sellers is to refer such a customer to the hospital (56.2%); sell them antibiotics (26.0%); or sell them creams or ointments (12.3%) for their symptoms. None mentioned that they recommended condom use during future sexual encounters. These findings suggest that patients seeking curative care for symptoms of STDs could be readily identified through pharmacies, and that drug sellers can be educated about modern approaches to prevention of STDs and HIV. Studies in Latin America, the United States and Southeast Asia have identified the potential role that pharmacies could play in STD and HIV education and prevention (Day, 1993; de Weiss, 1993). This study did not, however, determine whether the customers themselves were male or female, and whether advice was being sought for themselves or for others; further research is needed before specific interventions can be proposed.

## **V. Sick Child Treatment**

Respondents to the follow-up survey of pharmacy consumers who had children under 5 years of age (n=119) were asked about their utilization of



For ARI episodes, one-third of mothers said that medicines are always brought back for the child from the pharmacy, and the child is never taken to be examined. ARI seems to be considered a more serious disease, since a higher proportion of mothers reports that they seek a doctor's advice for ARI episodes than for diarrhoea episodes (78% v. 58%). This is probably not an indication of actual practices, but perhaps of how mothers perceive care-seeking for these illnesses should be.

Knowledge of the importance of ORS for diarrhoea episodes is almost universal, both among mothers and drug sellers, although universal knowledge does not indicate universal recommendation or use of ORS for the treatment of childhood diarrhoea. Most drug sellers were not aware of the basic assessment procedures for childhood diarrhoea and ARI that are considered to be national standards for management of these illnesses (Table 9). Even if mothers were in the habit of taking their sick child to be examined at the pharmacy, drug sellers would not be able to adequately assess the child and provide advice and treatment according to recommended standards.

**Table 9: Drug sellers' reported practices for sick child management**

| Percent mentioning as "usually done", unprompted (n=83):* |       |  |       |
|---|-------|--|-------|
| For diarrhoea treatment                                   |       | For respiratory illness treatment          |       |
| Determine if bloody or non-bloody                         | 1.2%  | Assess child's condition                   | 36.1% |
| Determine stool frequency                                 | 8.4%  | Ask about rapid breathing/ chest indrawing | 2.4%  |
| Advise stool exam   | 1.2%  | Give paracetamol/aspirin antihistamine     | 38.6% |
| Give antibiotics  | 15.7% | Give cough medicine                        | 10.8% |
| Give ORS  | 89.2% | Give antibiotics                           | 20.5% |
| Give anti-spasmodic                                       | 44.6% | Refer to doctor                            | 37.3% |
| Refer to doctor   | 13.3% | Refer to hospital or clinic                | 15.7% |
| Refer to hospital or clinic                               | 50.6% |  |       |
| Explain ORS use   | 97.6% |  |       |

Source: Pharmacy Survey, UEP, 1994

\* multiple responses possible

## Discussion

A large proportion of pill and condom users are choosing to obtain supplies from pharmacies due to brand-related issues - either they have experienced a problem with the brand supplied through field workers and NGO and GoB clinics, or they perceive that the brands available at the pharmacy are of higher quality. These two issues may be related, since a problem with a method can be perceived as a quality problem. These users are exercising their freedom of choice, a desirable situation that is indicative of pro-active users and one of the elements of the quality of care framework

that is often applied to family planning programs (Bruce, 1990). For them, convenience and quality take precedence over price of the commodity. The issue of convenience must be seen in the urban context: the density of population, compressed distances between facilities, and higher mobility of women in urban, and particularly slum, areas contribute to a different concept of convenience for urban contraceptive users. Door-to-door delivery of one brand of pill and condom by field workers may not hold the substantial advantage for urban women that it does in rural areas (see Jamil *et al.*, 1995, for further discussion on this topic).

There is a marked difference in terms of who obtains supplies from which source. The field worker source is by and large utilized by women, simply because men are not home during their daytime home visits, and the target population of these female field workers is women. Although the overall proportion of pill and condom users who obtain supplies from clinics (NGO or GoB) is small, there is a polar difference in who goes out of the house to clinics and who goes to pharmacies. For either pills or condoms, almost 90% of supplies are obtained from clinics by women themselves, while for either pills or condoms, more than 90% of supplies are obtained from pharmacies by men. Earlier studies in Bangladesh support this finding (Anonymous, 1987). This suggests that private pharmacies, which are staffed by men, are considered a "male space", while family planning clinics, which are usually run by NGOs or GoB and staffed by female paramedics, are "female space". These barriers need to be explored more carefully before conclusions can be drawn. Some studies have found that since pharmacies are based in the community, there can be less social distance between customers and retailers than at NGO or GOB facilities, and long-term relationships often develop which transcend gender barriers (Mitchell, 1987; Cole *et al.*, 1982). However, for slum communities in which high out-migration is a key factor, the opportunity for these relationships to develop may be minimal.

It is generally recognized that use of the pill, a hormonal method of contraception, requires more medical screening and monitoring for side effects than the non-hormonal condom method. Pill users who choose to obtain supplies from pharmacies generally do not have contact with this family planning "provider", since most women report that their husbands obtain the pills from the pharmacy. Compounding this problem is the fact that knowledge levels about pill use among drug sellers were found to be very low. In the study area, information and advice on pill use is widely available through the network of trained family planning field workers who visit households every two months. The large majority of pharmacy pill users report having received a visit in the previous 6 months, although this proportion was significantly lower for pharmacy customers than that for other current pill users. Despite this high field worker visitation rate, knowledge of side effects among pill users themselves was very low. A quality assessment of field worker services in the same study area (Arifeen and Mookherji, 1995; Perry and Begum, 1996) has shown that knowledge of pill side effects, warning signs, and their management among family planning field workers is also less than adequate, although knowledge of contraindications of pill use was generally strong. This may be indicative of a more systemic problem of a family planning program that has emphasized acceptance of methods over continuation. A study of urban slums in Dhaka found that field workers play an important role in motivating women to adopt modern family planning methods (Jamil *et al.*, 1995). However, more research is needed to determine what role field workers play in supporting those continuing contraceptive users who obtain their supplies from static sources.

Data related to sick child treatment collected from mothers of under 5 children contains potential bias, since only mothers who use either pills or condoms and who obtain supplies from pharmacies were included. However, the findings provide some indication of practices that should be investigated

further. One issue is the report that children are often not taken for examination, but that medicines for sick children are simply purchased from the pharmacy. This situation is equivalent to self-medication, which raises concerns in light of the substantial contributions that diarrhoea and ARI continue to make to infant and child mortality in Bangladesh (BDHS, 93-94). It is difficult to speculate on interventions to improve drug sellers' practices for managing diarrhoea and ARI episodes, since the current guidelines are based on examination of the child. One option is to adapt the current guidelines for providers who may only get the opportunity to question the caretaker about the child's illness.

It is important to remember that the nature of private pharmacies is very different from that of public health service providers. The goal of pharmacies is to sell drugs in order to make a profit, whereas the goal of public health providers is to ensure that quality services are available to the population. Pharmacies do not require customers to undergo an examination or screening process; they provide advice to the extent that they can sell commodities to the customer (Mitchell, 1987). Often, pharmacy customers do not indicate that medicines are meant for children, or even for what type of illness they are seeking medicines. The child's caretaker may go to the pharmacy, the actual user of contraceptives may go, or household help may be sent to purchase a list of items. It is difficult for the drug seller to screen contraceptive users or apply illness management protocols in this situation. Prescriptions, while often presented by those who have consulted a physician, are not required for the purchase of medicines. Though pharmacies are an important component of the private sector, when planning potential roles of pharmacies in providing key MCH-FP services to the urban population, these inherent barriers to providing effective, quality services must be considered.

The study findings imply that urban communities look to pharmacies as a source of medicines, advice, and information, for many types of health

problems. Therefore, the quality of treatment and information available at the pharmacy should be more closely investigated and monitored. A study in Egypt has found that quality differs in different aspects between public health clinics and pharmacies, with strengths and weaknesses at each type of source (Stover, 1991). More research is needed to identify factors influencing the urban community's choices for health care; to relate the quality of key MCH-FP services at pharmacies and public health delivery points; and to identify factors that can influence drug sellers' knowledge and practices in these key service areas. In the meantime, interventions to strengthen referral systems and IEC campaigns can be designed. At the least, referral information for key services could be provided to drug sellers, perhaps through existing coordinating bodies of MCH-FP service delivery at the municipal government level. Interventions should also be targeted at more general IEC campaigns that will reach the community at large, including drug sellers. The success of campaigns to promote use of ORS can be seen as an example - awareness of ORS as an essential treatment for diarrhoea is almost universal. This would be a first step towards the goal of creating a situation in which consumers have an idea of what services they should demand and receive, and providers have an idea of what services they should be giving.

Pharmacies are a *de facto* component of the urban primary health care system; their role, both current and potential, in contributing to the health of the urban population cannot be ignored.

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## MCH-FP Extension Work at the Centre

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

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

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

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

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

## **The Division**

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

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



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