



Menstrual Regulation and Postabortion Care in Bangladesh: Factors Associated with Access to and Quality of Services

Michael Vlassoff, Altaf Hossain, Isaac Maddow-Zimet, Susheela Singh and Hedayeat Ullah Bhuiyan

HIGHLIGHTS

- In 2010, an estimated 653,000 menstrual regulation (MR) procedures were performed in Bangladesh. In addition, there were 647,000 induced abortions, the large majority unsafe.
- About 12% of MR clients—or 78,000 women—were treated for complications, a rate many times higher than expected if manual vacuum aspiration procedures are done under hygienic conditions by trained providers. Complications may arise, for example, from inadequate training and failure to properly sterilize equipment.
- Approximately 231,000 women were treated in facilities for complications of induced abortion in 2010. In addition, health professionals estimated that 60% of all women with complications did not get medical care.
- The public sector accounted for about two-thirds of all MRs performed; nongovernmental organizations provided about one-quarter, and private clinics, about one-tenth. The public and private sectors each accounted for about half of postabortion care patients.
- Only 57% of public and private facilities that would be expected to provide MR services actually did so, with a wide range across divisions (37–76%). Shortages of trained providers, lack of equipment and religious and cultural reasons are key reasons for not providing MR.
- Only two-thirds of Union Health and Family Welfare Centres provided MR in 2010, yet these facilities are especially important because they are located in rural areas where most women live.
- An estimated 26% of women seeking MR services were rejected. The most common reason was exceeding the official limit of weeks since the last menstrual period. However, respondents gave several additional reasons for rejection that went beyond government criteria.
- This report's findings call for policy and programmatic actions to increase availability of and access to MR and PAC services; to improve the quality of MR services, including decreasing rejections; and to reduce disparities in access between urban and rural and between poor and better-off women.



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Introduction

Under the Bangladesh Penal Code of 1860, abortion is permissible only to save the life of a woman.¹ In all other circumstances, abortion—self-induced or otherwise—is a criminal offense punishable by imprisonment, fines or both. Menstrual regulation (MR)—officially recognized as an interim method for establishing nonpregnancy—has been available free of charge in the government’s family planning program as a public health measure since 1979.² MR services were introduced in Bangladesh in 1974 on a small scale to assess the feasibility of providing them nationally; in 1979, a training program was initiated in seven medical college hospitals and two district hospitals.³ In the years since, service provision has expanded and is now national in scale. MR is included within the family planning program not as a contraceptive method, but rather as a backup for ineffective use of contraceptives, as no contraceptive is completely successful in preventing unwanted pregnancy.⁴

The original impetus for introducing MR services came from scientists, government and international leadership. Support for provision of this reproductive health service is broad based and includes these as well as other stakeholders such as service providers and women’s rights organizations.⁵ Nevertheless, studies have suggested that there is room and need for improvement in access to quality MR services.^{4,6} In addition, a recent review of the MR program has argued that it has been marginalized within overall health policy in Bangladesh over the last decade.⁷

A government authorization rule regulates MR,⁸ which is generally performed with manual vacuum aspiration (MVA). The rule gives specific guidance for the provision of MR services, covering the types of providers who can offer the service, namely, doctors, family welfare visitors (FWVs) and paramedics*; the context of service provision, either outpatient or inpatient; and the maximum number of weeks permitted since the last menstrual period (LMP). Although MR is allowed up to eight weeks after LMP when performed by FWVs and paramedics, and up to 10 weeks after LMP when performed by a physician, providers sometimes perform the procedure later.^{6,9}

A national study has estimated that there were 653,000 MRs and 647,000 induced abortions in Bangladesh

in 2010.¹⁰ These values translate to respective national annual rates of 18.3 and 18.2 per 1,000 women of reproductive age. This new evidence suggests that unsafe induced abortion continues to be widespread, even though MR is available. This may be due to inadequate access to good-quality MR services—that too few facilities offer the service, that the service is not of adequate quality, that it is unaffordable, that women may not know where to obtain MR, or that they may be unaware that it is permitted by the government.

Overview of MR Services

Maternal health services in Bangladesh are provided at community and facility levels through a national network of public-sector facilities, ranging from Union Health and Family Welfare Centres (UH&FWCs), which are rural clinics staffed by FWVs and paramedics, to larger clinics called Mother and Child Welfare Centres (MCWCs) and *Upazila* Health Complexes (UHCs), and hospitals. FWVs are important actors in the provision of MR services, especially in rural areas. At the community level, female family welfare assistants (FWAs) mainly provide family planning services and some maternal health services to rural women.

Over time, MR training and service facilities were extended in phases, and services are now available throughout the country. As of 2011, about 10,600 doctors and 7,200 paramedics trained in MR were posted in government clinics at national, district, upazila and union levels.¹¹ Additionally, nongovernmental organization (NGO) clinics provide MR services throughout Bangladesh, and many private physicians obtain MR training from specialized centers and offer services in their private practices. However, inadequate action by the government over the last several years has led to a situation wherein FWVs trained in MR provision are reaching retirement age without adequate numbers of newly trained providers being added to replace them.⁴

*Paramedics include providers such as sub-assistant community medical officers (SACMOs) and medical assistants.

Two important justifications for introducing and then scaling up MR were the high rates of hospitalization due to complications of induced abortion and the high levels of maternal mortality resulting from septic abortion. Before MR became widely available, a substantial proportion of admissions to gynecology units of large hospitals were due to complications of induced abortions; in the 1980s, an estimated 15.4% of maternal deaths were due to abortion.¹² Studies have documented the progress that was made in the years immediately after the MR program was initiated. The proportion of abortion complication patients with severe infections, meaning infections that had spread beyond the reproductive tract, fell from 29% in 1977 to 18% in 1994 based on data for Dhaka Medical College Hospital.¹³ At the same time, the case fatality rate from abortion complications in this facility decreased from 5% to 0.2%.^{*13} And in the Matlab demographic surveillance area, the number of abortion-related deaths per 100,000 women of reproductive age fell dramatically, from about 17 deaths in 1976–1985 to slightly more than two deaths in 1996–2005.⁷

Some evidence suggests that the share of maternal mortality due to complications from induced abortion has also declined since initiation of the MR program. A 1980s study of rural areas found that the proportion of maternal deaths attributable to abortion was 15%.¹⁴ Roughly two decades later, the first of the country's two maternal mortality surveys—the 2001 BMMS[†]—found a substantially lower proportion, only 5%.¹⁵ And the 2011 BMMS found an even smaller percentage, merely 1% in 2007–2010.¹⁶ If this last estimate is accurate, it points to a steep decline in the proportion of maternal deaths due to unsafe abortion.

A 2002 situation analysis conducted in five districts and at the central level⁶ found that despite the wide availability of MR services in Bangladesh, many barriers persist when it comes to access to MR services and postabortion care (PAC) services as well. The study demonstrated that dissemination of information on safe MR services was difficult; many government facilities were not woman friendly; privacy, confidentiality and even cleanliness were often lacking; the layout of government facilities was not conducive to good patient-provider interaction; and, because of space constraints, most facilities had no separate space for the recovery of the patients. Inadequate facilities were

especially prevalent in rural areas. NGO clinics provided better services but tended to charge substantial fees to the clients. The study further discovered that providers were often judgmental, imposed unnecessary preconditions such as spousal or parental consent, refused services on religious grounds and denied MR services at public facilities so that they could provide the same privately at their homes.

The study pointed out a number of other shortcomings in the MR program as well. Many providers were not conversant with medical standards regarding the use of MR syringes (the maximum number of times recommended for reusing one set is 50 procedures) and often performed more than double the recommended number with one syringe. Providers frequently did not adhere to standard practices regarding infection prevention or provide antibiotics after MR. Gross underreporting of up to 70% of the true number of MRs carried out resulted in poor monitoring and led to shortages of drugs and materials, including MR syringes. Additionally, the study showed that post-MR family planning counseling in government facilities was almost nonexistent, and that government facilities also lacked information on either post-MR follow-up or MR complications.

A recent qualitative study found that poor Bangladeshi women were forced to seek out informal providers for their reproductive health care needs.¹⁷ Results suggested that the country's existing health workforce faced mounting challenges, including staff shortages and poor geographic coverage—specifically, professionals unwilling to work in rural areas; skill mix imbalances, whereby too many or too few workers had specific skills; and a weak knowledge base. This particularly affected maternal and other reproductive health care services, which 85% of the population obtained from informal providers. Except for some specific family planning and maternal health services, the public sector was poorly equipped to address sexual health problems, and the gap thus created, the study noted, had been largely filled by unregulated, informal providers. Another qualitative study described brokers or middlemen who intercept potential MR clients and steer them toward informal facilities of questionable quality.¹⁸

Taken together, studies of MR provision in Bangladesh have highlighted several barriers to access: cost of service, distance to facilities, preference for providers in the informal sector, poor quality of care (including punitive behaviors of providers and discrimination against poor women), gender-based stigma at the community and family levels, poor-quality clinical services (including lack of a standard protocol for infection prevention), shortages of drugs and supplies, including MR syringes, and insufficient training of providers.

*In this study, the case fatality rate was defined as the number of deaths per 100 postabortion cases; the rate was based on cases treated in the study facility.

†The name of this survey has changed over time. In 2001, it was Bangladesh Maternal Health Services and Mortality Survey; in 2010, it was Bangladesh Maternal Mortality and Health Care Survey. However, the acronym has remained the same.

Unsafe Abortion and Its Health Consequences

Unsafe abortion was prevalent in Bangladesh before the advent of MR services and has continued since the MR program was established, as noted above. Research from the 1970s to the 1990s provides some insights into the consequences of unsafe abortion.^{4,13,19} The few available studies from this time period suggest that the health consequences of unsafe abortion were severe and extensive before MR services became available. For example, one study from the 1980s showed that the mean duration of a hospital stay for PAC was about six nights.²⁰ Another study of 452 women hospitalized for complications of induced abortion in 1993 calculated a mean duration of 5.4 nights in the hospital for those involving no surgery, 5.2 nights for those needing dilation and curettage (D&C) and 11.2 nights for those involving surgery.¹³

A national study of public-sector facilities found that the annual rate of treatment for complications of unsafe induced abortion was 2.7 per 1,000 women of reproductive age in 1995.²¹ As the private sector was not included, this study undercounted treatment. Moreover, use of health facilities appears to have been extremely poor at that time, evident in the low proportion delivering at a health facility among women giving birth—in 1996–1997, only 4% delivered in a facility. But by 2011, about 29% of women did so. This trend suggests that access to PAC in health facilities is likely to have improved over the past 15 years or so, and possibly also that women’s preference for facility-based health care has increased over time.

Treating the complications of induced abortion consumes substantial quantities of scarce resources such as hospital beds, blood for transfusion, costly medications and the time of medical personnel that could be used to treat other medical conditions. Such treatment continues to cost a large sum to the government health system. A study found that in 2008, the national incremental health system cost for postabortion complications in the public sector alone totaled to US\$1.6 million.²²

Scope of This Report

This report provides new information on factors associated with access to and quality of MR and PAC services in Bangladesh. It presents additional findings on provision of these services from the aforementioned national study that estimated the incidence of MR and induced abortion.¹⁰ Drawing on nationally representative, facility-based survey data, the report documents the extent of provision of these services by administrative division and type of facility in 2010 and examines many of the factors that are associated with access to MR and PAC.

The next section details the methods used in conducting the surveys on which the report is based. The third section then presents findings in regard to the MR program, highlighting factors associated with women’s access to services as well as providers’ views on how the program could be improved. The fourth section examines the provision of PAC and factors associated with access to quality PAC. In the final section, we discuss implications for policies and programs based on the new evidence.

Data Sources and Methods

For our study, we collected data from three sources: a nationally representative Health Facilities Survey (HFS) of public- and private-sector facilities that provide reproductive health care, a Health Professionals Survey (HPS) of a purposive sample of experts highly knowledgeable about provision of MR and PAC services in Bangladesh, and service statistics on MR and PAC provided by the central offices of NGOs, from their complete networks of clinics. These sources and the methods used to collect and analyze the data are detailed below.

Data Sources

Health Facilities Survey. The HFS was conducted to collect information on facilities' provision of MR and PAC services. We included in our HFS sample frame all public- and private-sector health facilities considered likely to provide MR services or to provide medical care for women with abortion complications or both. Using the most recent Ministry of Health and Family Welfare lists of health facilities in Bangladesh, the *2008 Statistical Yearbook of Bangladesh*²³ and information obtained from the Directorate General of Health Services and Directorate General of Family Planning, we identified 5,301 facilities nationally (Table 1, page 22). The public sector has five main types of health facilities, listed in the table in order of bed size, from largest to smallest: medical college hospitals,* district hospitals, UHCs, MCWCs and UH&FWCs. The last are staffed by FWWs and paramedics, and provide a range of primary health care services, as well as MR services, but not PAC. The private sector has clinics that we divided into three size categories (based on bed count), to allow comparisons by size.

*For the purposes of sampling and analysis, we grouped together private- and public-sector medical colleges, as they are similar in terms of service provision, size and access.

†We reviewed the list of private facilities to eliminate clinics that were highly unlikely to provide MR or PAC services—that is, facilities whose names indicated that they specialized in services other than maternal health care or general medical services (e.g., those specializing in dermatology or ophthalmology).

We used a stratified multistage sample design (Appendix Table 1, page 29). Administratively, Bangladesh is composed of six divisions having a total of 64 districts. The first stage of sampling entailed random selection of 16 of the 64 districts (Table 1). The second stage of sampling was to select facilities, and this process differed by facility type. Because of their large caseload, all public and private medical colleges in Bangladesh were included in the sample, including those in the nonsampled districts. We included all 15 district hospitals, all 98 UHCs and all 28 MCWCs in the sampled districts. We randomly selected 273 (24%) of the 1,131 UH&FWCs in the sampled districts; however, we used different sampling fractions by division to ensure that a sufficiently large number of these facilities was selected in all divisions. For example, 29% of all UH&FWCs in the only district sampled in Sylhet division were selected, whereas 18% of all UH&FWCs in the four sampled districts of Dhaka division were selected.

A list of private clinics was obtained from the Directorate General of Health Services.[†] We included in our study private clinics having one or more beds and divided them into three bed-size categories (1–19, 20–49 and ≥50 beds). The overall sample fraction for all private clinics was 16%, and the total number to be sampled was 250 clinics. We selected a sampling fraction for each bed-size category, partly to ensure adequate representation of each category, and also to permit analysis by bed-size group. During fieldwork, the original sampling fractions for small clinics (1–19 beds) in Khulna and Rajshahi divisions proved too small to obtain a sufficient number of facilities, so we increased the sampling fractions for these two divisions and surveyed additional facilities in all six selected districts in these divisions.

At each selected facility, we interviewed a senior staff member who was knowledgeable about the facility's provision of MR and PAC services—in hospitals, the respondent was typically the chief of the obstetrics and gynecology department; in smaller facilities, typically the director of the facility or another senior staff member. Respondents were asked a range of questions on the provision of MR and PAC in their facility, including

questions on the facilities' physical capacity to provide various services. In the case of UH&FWCs, we administered a slightly shorter questionnaire to one FWW or sub-assistant community medical officer at the facility*; when multiple providers were stationed at one UH&FWC, the respondent chosen was asked to respond for the entire facility.

We weighted the survey data to produce national estimates, taking into account the probability of selection into the sample and percent nonresponse, by division and facility type. The weighting factor for a given category of facilities was the inverse of the product of its sampling fraction and the response rate. For greater accuracy, we calculated weights based on the proportion of beds a facility contributed to the total rather than the number of facilities. All analyses were weighted and used the survey (svy) command prefix in Stata 12.1 (StataCorp, College Station, TX, USA) to adjust for the complex survey design of the HFS.

Health Professionals Survey. The HPS was conducted to collect expert opinions on the conditions under which women obtain unsafe abortion and PAC, as well as MR services. On the basis of information gathered from program planners and other stakeholders, we prepared a list of health professionals who were known to be familiar with MR and PAC services, covering all sectors and a wide range of professions. A purposive sample of 160 professionals was selected, and 151 were successfully interviewed. These interviewed professionals came from all six divisions of Bangladesh and from 33 of the 64 districts. They included researchers (32% of the total), obstetrician-gynecologists and other, nonspecialist physicians (25%), program managers (20%), administrative health officials (14%) and other professionals (9%). The majority worked in urban areas, but we made an effort to include professionals who were familiar with the conditions related to abortion in rural areas as well. Of the entire group, 41% had worked in rural areas for six months or longer in the past five years.

The HPS obtained experts' opinions on a number of aspects of induced abortion, including abortion providers, methods used, health complications and costs, overall and for four subgroups: poor and nonpoor rural women and poor and nonpoor urban women. We chose these four subgroups because access to health care in general—including PAC—likely varies according to where a woman lives and her economic status. The survey also obtained experts' perspectives on barriers to the provision of MR and PAC, and ways to improve these services. Most of the questions asked were closed-ended questions.

NGO Service Statistics. We did not sample NGOs as part of the HFS. Instead, we gathered data from the head offices of all major NGOs that offer MR or PAC services in Bangladesh, collecting information by division on the numbers of MR and PAC cases for 2010 for all clinics in each organization's network. We adopted this approach for NGOs for two reasons. First, their service statistics on caseloads were judged to be complete, so we preferred a complete count to one estimated from a random sample. Second, resource constraints led us to decide to collect these data from central head offices rather than the more expensive approach of canvassing a sample of NGO clinics spread throughout the country.

We collected data from seven NGOs: Family Planning Association of Bangladesh (FPAB), Urban Primary Health Care Project (UPHCP), Reproductive Health Services Training and Education Program (RHSTEP), Marie Stopes Bangladesh, Association for Prevention of Septic Abortion, Bangladesh (BAPSA), Bangladesh Women's Health Coalition (BWHC) and BRAC.

Survey Fieldwork

Survey fieldwork took place from June through November 2010. The field staff consisted of 10 research associates (RAs) and two quality control officers (QCOs), recruited for the study. Two weeks of training were provided. The QCOs and senior professionals of BAPSA periodically visited the field to liaise with government officials and private entities, and to check the quality of the data collected by the RAs. In addition, survey activities were headed by a responsible senior staff member (field coordinator) who continuously supervised and monitored the research team. The RAs were organized into two teams, and each QCO was assigned to monitor and supervise one team on a daily basis.

Limitations

The methodological approach and data used in this study have some limitations. Given the lack of empirical data on induced abortion in particular, we relied on the HPS to obtain experts' estimates and opinions for information on a number of topics, including women's sources for

*Because UH&FWCs are simple in structure and organization, we designed a special questionnaire for these facilities. It was identical to the main HFS questionnaire except for two modifications: a section of the questionnaire on physical and organizational attributes was omitted, and, because FWCs do not provide PAC, that section of the main questionnaire was also omitted.

Definitions

Menstrual regulation (MR): We used the government's definition of MR, that is, a procedure to establish nonpregnancy that is performed by a trained provider in a facility and within the permissible number of weeks LMP (according to the type of provider). However, we also included an additional category in our count of MRs: Because we recognize that some trained FWWs and paramedics also unofficially provide MRs outside of facilities or in women's homes, we also classify and count these as MR procedures.

Induced abortion: We defined induced abortion as the termination of a pregnancy by a procedure or action taken by a provider or a woman herself, outside of the definition of MR above.

Unsafe abortion: We defined unsafe abortion as the termination of a pregnancy by an untrained provider, in an unhygienic environment or both.²⁴

Postabortion care (PAC): In this study, we obtained information on two aspects of PAC: treatment given to women with postabortion complications for the complications, and contraceptive counseling and services. Comprehensive PAC includes these types of care and, in addition, counseling regarding STI/HIV prevention and provision of or referral for testing and treatment of STIs (topics that were not included in this study).

induced abortion, the proportion of women who experience serious complications, the proportion of women needing care who receive it and the average cost of induced abortions. These estimates do not provide accurate empirical measures of women's behaviors; instead, they provide an approximate, but valuable profile of conditions of induced abortion. The validity of the data rests on the fact that the HPS interviewed very experienced professionals who come from a wide range of perspectives (medical and nonmedical) and who were geographically dispersed across the country.

The HFS data are based on a nationally representative sample of facilities that are potential providers of MR, PAC or both: As a sample survey, it necessarily has a margin of sampling error. In addition, because the data were estimates and opinions provided by a respondent for each facility, these data will also have other types of errors. These errors were minimized because the survey was nationally representative and because the respondents were senior staff with in-depth knowledge about the services and patient populations of their facility, but the fact that the data are estimates made by facility staff must be borne in mind when interpreting the findings.

We used the most up-to-date lists of both public and private facilities available from the Ministry of Health and Family Welfare (the Directorate General of Health Services and Directorate General of Family Planning), and both the accuracy of weights and the representativeness of our sample depend on the completeness and accuracy of these lists. To the extent that the lists are incomplete or incorrect, our estimates will be affected.

Although the questions posed to HFS respondents distinguished clearly complications resulting from MRs as opposed to those resulting from unsafe abortion, it is possible that some cases of complications reported as resulting from MRs may have in fact resulted from unsafe abortions.

Data on the extent of underreporting of MR services are scarce, although it is known to be substantial. As a result, the factors we used to adjust for underreporting are approximate figures only, and in fact may be somewhat conservative as well. In addition, it is possible that some facilities actually providing MR reported that they do not offer MR services because of stigma or questions of legality; if this is the case, our findings may underestimate of the proportions of facilities providing MR.

Factors Associated with Access to MR

Bangladeshi women's success in obtaining MR depends on the ease with which they can access a provider of MR within the health system. First, they must know about the MR program. Even though the program has been supported by the government since the late 1970s, its existence has not been widely publicized, and many women are not aware of the service. As of 2007, nearly one-fifth of married Bangladeshi women had still never heard of MR.²⁵ Second, women must know where to obtain services and that there is a maximum permitted number of weeks after LMP for the procedure. Studies have also found that distance and lack of transportation to facilities, waiting time to obtain services and cost may be important additional barriers.^{4,6,26} Furthermore, women may worry about whether they will be treated respectfully or be subjected to abusive or unfriendly treatment by the provider, and about whether they will have confidentiality if, for instance, they do not want their husband, family or community to find out about the MR. Our findings from the HFS and HPS provide additional insights into some of the factors associated with access to MR.

MR Services in Bangladesh

In 2010, about 653,000 MRs were performed in Bangladesh (Table 2, page 23). Of these, nearly two-thirds were performed by the public sector—46% by UH&FWCs and 17% by other types of public facilities.* Private clinics performed another 9% of MRs, and NGOs accounted for the remaining 28%. In general, this pattern was seen throughout all six divisions, although private clinics accounted for a relatively larger share of MRs in Dhaka and Khulna, and NGOs accounted for a relatively larger share in Sylhet.

On average, among public- and private-sector facilities that provided MR services, the annual caseload was 158 MRs per facility (Table 3, page 24). As would be expected, this number varied widely by facility type, and there was overall a strong relationship between the size of a facility and its MR caseload: Hospitals averaged much larger caseloads than smaller public facilities or private clinics. Private medical colleges had lighter MR caseloads than district hospitals; however, MCWCs, which have a smaller

average bed size than UHCs, had comparatively much larger average caseloads, presumably because they specialize in reproductive health services.

Availability of MR Services by Facility Type

Results from the HFS showed that not all facilities in the public and private sectors that potentially could provide MR services actually reported doing so. Nationally, only 57% of these facilities reported providing MR (Table 2). The proportion offering MR services varied widely by division, ranging from 37% in Khulna to 76% in Barisal.

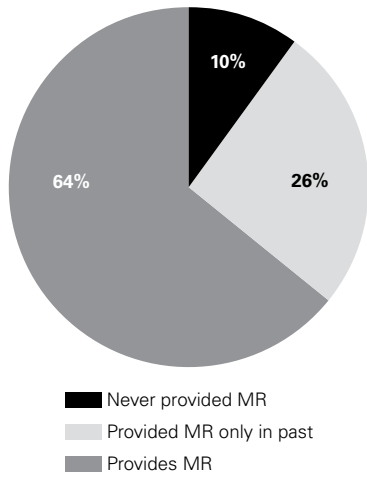
The likelihood that a facility offered MR services was also related to the type of facility (Tables 4 and 5, page 25).† For example, the proportion of MCWCs and UHCs that offered these services (83–100%) was substantially higher than the national average of 48%. Private clinics, however, which are similar in size (as measured by bed counts), were nonetheless much less likely to provide MR services (36%).

UH&FWCs play a particularly important role in MR provision; primarily located in rural areas (where three-quarters of Bangladeshis live) and staffed by FWVs or paramedics, these facilities are more numerous and widely distributed, particularly in rural areas, than other types of public or private facilities. However, only about two-thirds of UH&FWCs provided MR in 2010 (Figure 1, page 10). Twenty-six percent had provided MR in the past, while the remaining 10% had never done so. The proportion of UH&FWCs providing MR services did not vary greatly among the six divisions, with one exception—in Khulna Division, only a third of these facilities did so. These findings point to potentially serious gaps in coverage, especially because among the 36% of these facilities not providing MR, only about one in four reported that there were other providers close by (data not shown).

*This includes private medical college hospitals, which we grouped with public medical college hospitals because they are similar in terms of service provision, size and access.

†Medical college hospitals that have an NGO clinic on their premises are classified as providing MR services, and the results presented in Table 4 reflect this special situation.

FIGURE 1. About two-thirds of Union Health and Family Welfare Centres in Bangladesh offer MR services.



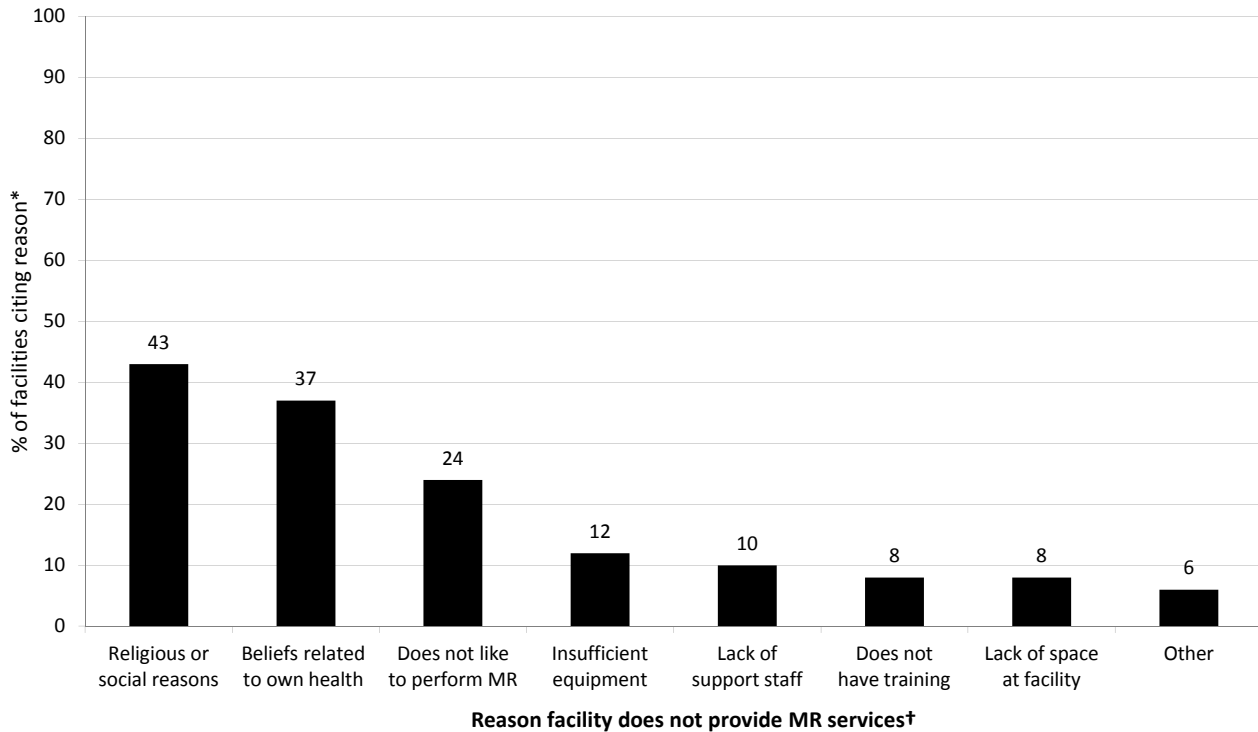
Note: MR=menstrual regulation. Source: Health Facilities Survey.

Respondents at UH&FWCs that did not provide MR were also asked their reasons for not doing so: 43% cited religious or social reasons, 37% mentioned beliefs related to their own health, and 24% stated that they disliked performing MR (Figure 2). Surprisingly, issues with training, equipment or staff were much less often mentioned—overwhelmingly, the reasons given for not providing MR were either religious or cultural.

Capacity to Provide Services

At all types of public and private facilities that were potential providers of MR (except for UH&FWCs, which were not questioned on this topic), the HFS also gathered information on necessary equipment and trained staff. Two-thirds of these facilities reported that they had both functional MVA equipment and trained staff (Table 5). However, only 48% of these facilities actually provided MRs. This gap between a facility’s capability to provide MRs and its actual provision of the service was especially large among private clinics: Despite 60% having both the equipment and trained staff to provide MRs, only about one-third of these facilities did so. This gap was very large

FIGURE 2. Religious and social concerns are the reasons most commonly cited by respondents at UH&FWCs for not offering MR services.



*Denominator is UH&FWCs not offering MR services. †Multiple responses possible. Notes: MR=menstrual regulation. UH&FWC=Union Health and Family Welfare Centre. Source: Health Facilities Survey.

among hospitals as well—62% had both equipment and trained staff, and were therefore able to provide MR services, but merely 37% actually did so; however, the larger number of private medical college hospitals and district hospitals determine this overall average low proportion for all hospitals as a group. Public medical college hospitals are a small proportion of this group, and many house MR-providing NGOs on their premises and therefore may be considered to be providing the service. On the other hand, there was hardly any gap for MCWCs and UHCs; 87% had equipment and trained staff to provide MRs in 2010, and 86% did so.

Despite the relatively high proportion of facilities that reported having staff members trained to perform MVA, experts from the HPS viewed inadequate training as a major issue for the MR program (Figure 3). More than two-thirds estimated that few MR providers were adequately trained, and only 1% felt that most were. Based on the findings from both surveys, it appears that although a high proportion of health facilities report having staff with the training to perform MVA, the quality of their training is perceived by other health professionals as being inadequate. These findings point to the need for an overall improvement in MR training, as well as for refresher training to maintain provider skills.

Further compounding this problem is the fact, mentioned previously, that trained FWVs and paramedical providers are reaching retirement age without adequate

numbers of new staff being trained to replace them.*⁴ We see some evidence of this “aging out” effect in the characteristics of the paramedics or FWVs surveyed at UH&FWCs: 80% were older than 40 years of age, and almost two-thirds had worked as health care providers for more than two decades. Only 1% had worked in this capacity for less than 10 years.†

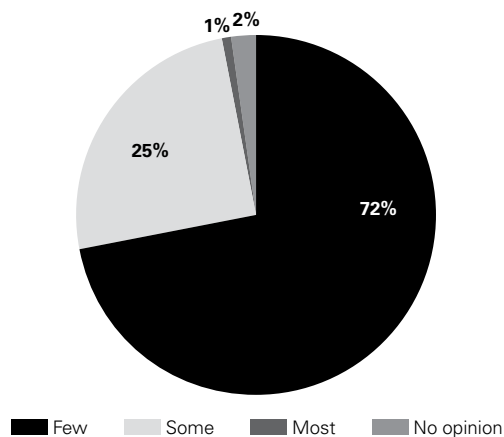
Post-MR Family Planning Counseling and Contraceptive Provision

Among surveyed facilities that provide MR services, most (96%, not shown) reported providing family planning counseling to all or almost all of their MR patients. However, provision of contraceptive methods was much lower. Only 26% of facilities reported providing methods to all MR patients, and 15% stated that they did not provide them to any (Table 6, page 26). Private facilities were in general much less likely to provide family planning methods to their MR patients, with 78% reporting that they did not provide them to any of their patients (as compared with 1% of public facilities); almost all public facilities that provide MR services reported routinely providing contraceptive methods to more than half or all of their MR patients. Among facilities that did provide methods, the most common ones supplied were the pill, condom, IUD and injectables; fewer facilities routinely offered sterilization (male or female) or emergency contraceptive pills.

Rejection for MR Services

Responses from the HFS indicated that an estimated 26% of all women seeking MR services were rejected in 2010 (Table 7, page 26).‡ The proportion rejected varied substantially by type of facility: On average, it was lowest in public

FIGURE 3. More than two-thirds of health professionals consider few MR providers to have adequate training.*



*Respondents were asked, “What proportion of MR providers do you think have adequate training?” Possible answer choices were Few, Some, and Most. *Note:* MR=menstrual regulation. *Source:* Health Professionals Survey, 2010.

*The Directorate General of Family Planning recruited some new FWVs in 2011; however, these recruits are not reflected in our data, which were collected in 2010.

†Although selection of UH&FWC respondents may have been somewhat biased toward those who are more experienced and therefore older, this would at most apply only to those facilities having two or more FWVs, or approximately 8% of all UH&FWCs in our sample; moreover, other factors are likely to have influenced the selection of UH&FWC respondents for the survey, such as availability of staff for the interview.

‡Respondents were asked, “How many women in the past month were rejected for MR services at this facility?” If they were unable to provide a number, they were then asked: “What percentage of all women who sought MR services at this facility were rejected?” If they gave a percentage, the number of women rejected was calculated based on the MR caseload of the facility. The percentage of women rejected was then calculated by dividing the number of women rejected by an estimate of the number of women seeking MR (the sum of the number of MRs provided, adjusted for underreporting, and the number of women rejected).

hospitals (11%) and at least two times higher in all other types of facilities (24–30%). Across divisions, the proportion rejected ranged from a low of 21% in Rajshahi to a high of 37% in Sylhet (data not shown). The proportion in Chittagong and Khulna Divisions was close to the national average, at 25% and 24% of all women seeking MRs, respectively, while it was above average in Dhaka and Barisal, where about 30% of women seeking MR were turned away. The proportion rejected was slightly higher in rural than in urban areas (31% vs. 22%, data not shown). This is a worrying finding, as women in rural areas are less likely to have other safe providers of MR to go to when turned away. These findings from the HFS were similar to the rates of rejection estimated by the HPS respondents.

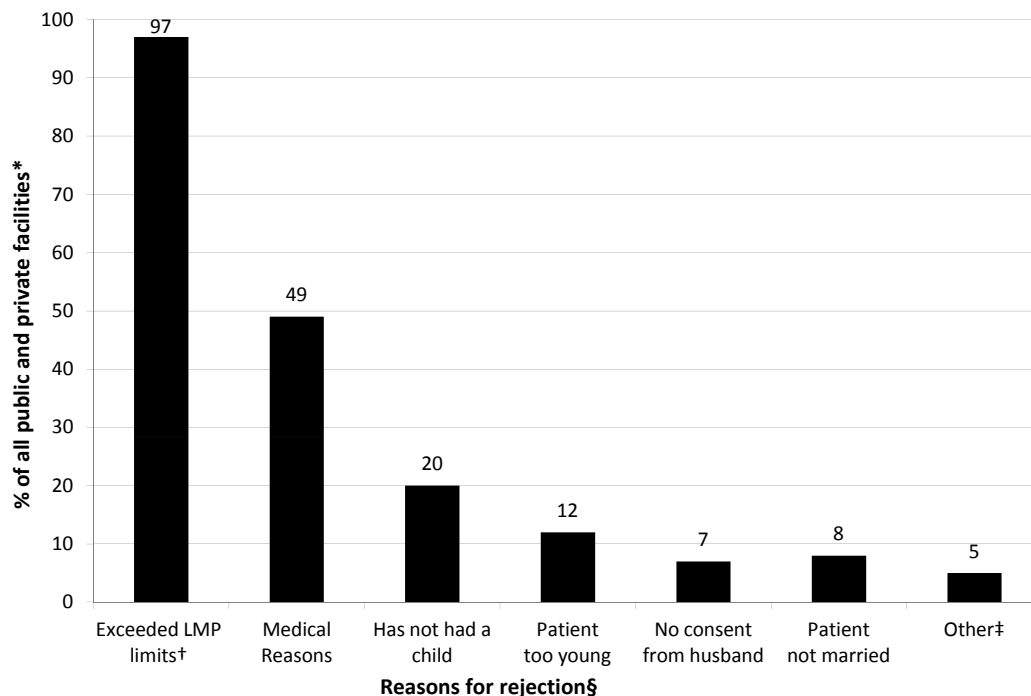
Examining the proportion of facilities that reject MR clients by facility type, certain patterns emerge (Table 7). Overall, only 13% of facilities providing MR reported that they rejected no women in 2010—that is, the large majority of these facilities rejected at least some. Private clinics were the least likely to reject women (31% rejected

none), but even in this category, more than two-thirds of facilities still turned away some clients.

Facilities gave a range of reasons for rejection (Figure 4). Almost all of those rejecting some women (97%) said they commonly did so because the LMP limits had been exceeded, while 49% cited unspecified medical reasons. Yet, respondents also gave a range of reasons that go beyond the government authorization rule, which by implication provides for rejection only if the number of weeks LMP is exceeded: These reasons included the client not having had any children as yet (20%) and being too young (12%). Also, 7% and 8%, respectively, gave “no consent from husband” and “client not married” as reasons for rejection.

When facilities rejected women for MR, most (89%) provided some sort of counseling (data not shown). However, the topics on which women were counseled ranged widely: 90% of facilities said they gave advice to continue the pregnancy, 61% said they gave information on family planning, and fewer than half (23–39%) counseled

FIGURE 4. Providers mainly reject women seeking MRs because of exceeded LMP limits, but many also do so for reasons outside of official criteria.



*Denominator is the 87% of facilities that reported rejecting any women seeking MR. †Limit is eight weeks LMP if MR is performed by a family welfare visitor or paramedic, and 10 weeks LMP if it is performed by a doctor. ‡Includes cannot afford fee, supplies not available, doctor is absent, doctor not confident in procedure, client refused post-MR contraception, client had many previous MRs and religious reasons. §Multiple responses were permitted. Notes: LMP=last menstrual period. MR=menstrual regulation. Source: Health Facilities Survey, 2010.

the woman on matters such as not self-inducing, not going to a traditional provider and the consequences of unsafe abortion. Only 11% said that they referred rejected clients to other facilities providing MR services.

Complications from MR

In the HFS, facilities that provide PAC were asked what proportion of their postabortion patients were treated for complications resulting from MRs.* To differentiate complications from induced or spontaneous abortion versus complications from MR, we first asked providers to estimate the total number of PAC cases, from any cause, at their facility. We then asked them to estimate the number or percentage of abortion complication cases in the past month that were due to MR; we subtracted this number from the total number of postabortion cases to obtain separate estimates for complications from MR and abortion (either induced or spontaneous).

Overall, these facilities reported that just under 22% of their complication caseload was due to MR. Nationally, we estimate that 78,000 women or 2.2 per 1,000 women of reproductive age are treated annually for MR complications (Table 8, page 26). Expressed another way, an estimated 120 women are treated for MR complications for every 1,000 MRs. Although the treatment rate is much lower for MR complications than for complications of induced abortion in Bangladesh, it is still considerably higher than would be expected for MVA procedures, which are extremely safe when done in hygienic, equipped settings by adequately trained health professionals.²⁷⁻²⁹

The accuracy of this estimate of the incidence of complications due to MR depends on the correctness of HFS respondents' perception of the source of the complications experienced by their postabortion patients. This group includes those with complications from induced abortion, from spontaneous abortion and from unsafe MRs. Even if these results to some extent overestimate the rate of complications from MR, they nevertheless give cause for concern for two reasons. First, some women who have complications from MR would not have obtained treatment at facilities and thus would not be counted in these estimates. Second, as noted, the estimated rate of treatment for MR complications is many times higher than would be expected

if MRs are performed under hygienic conditions by a trained health professional.

Providers' Opinions on Barriers to MR

Survey respondents identified a wide range of barriers to obtaining MR services. Fully 88% of HFS respondents reported that objections by the husband or family were barriers, 85% mentioned LMP limits and 85% cited fear on the part of the woman (Table 9, page 27). A majority also pointed to cost, lack of information on services and distance to a facility as barriers, and large proportions mentioned provider-related constraints such as inadequate training and equipment, and unfriendly provider attitudes (30–43%). These findings were generally consistent with those from the HPS—a majority of HPS respondents pointed to LMP limits (83%), fear (76%), husband or family objections (72%), cost to the woman (63%) and distance from a facility (59%) as barriers faced by women seeking MR (data not shown). In addition, HPS respondents were more likely to mention inadequate training of providers as a barrier (72% compared with 43% of HFS respondents), possibly because of the sensitivity of the question to providers.

When asked about ways to eliminate these barriers, HPS respondents said that it was important to increase services in rural areas (83%), inform women about LMP limits (81%), improve provider training (80%) and provide information to women on services (77%; data not shown). Many also noted the importance of increasing staffing at facilities (60%), reducing cost (56%), retraining providers to change attitudes (52%) and providing more or better equipment at facilities (48%).

Although our surveys did not collect data on the cost of an MR procedure, respondents' frequent mentioning of cost as a barrier implies that facilities are improperly and unofficially charging for services (something that previous studies have found),^{4,6,26} that women are shouldering costs other than facility fees (such as transportation expenses or fees for drugs not available in the facility), or that women resort to private facilities because of issues such as access, quality of care or privacy.

*The question in the HFS was: "Considering all patients treated in this facility for abortion complications in the past month (both as in-patients and as out-patients), about what percentage do you think had complications because of a menstrual regulation (MR) procedure?" A second question was also asked: "In the past month, about how many women do you think had complications because of a menstrual regulation (MR) procedure?"

Unsafe Abortion and Barriers to Accessing PAC

Unsafe abortion persists in Bangladesh as an important cause of morbidity among women. Even though the role of unsafe abortion as a cause of maternal deaths appears to have declined greatly over the recent decade,³⁰ it can have serious health, economic and social consequences for women and for society, in the short term and to some extent in the long-term as well. The HFS and HPS provide new insights regarding the conditions under which women obtain abortions, estimated levels of complications needing facility-based PAC, and numbers obtaining such care, with specific attention to provision of PAC services and barriers that women encountered in accessing these services.

Morbidity from Unsafe Abortion and PAC

On the basis of the HFS, we estimated that nearly 280,500 women were treated for complications of either spontaneous or induced abortion in 2010 (Table 10, page 27).^{*} Because of the difficulty that providers have in identifying whether postabortion patients have had a spontaneous or induced abortion—particularly in the case of incomplete induced abortions without other complications—the HFS inquired about the total number of women treated for any post-abortion complications.

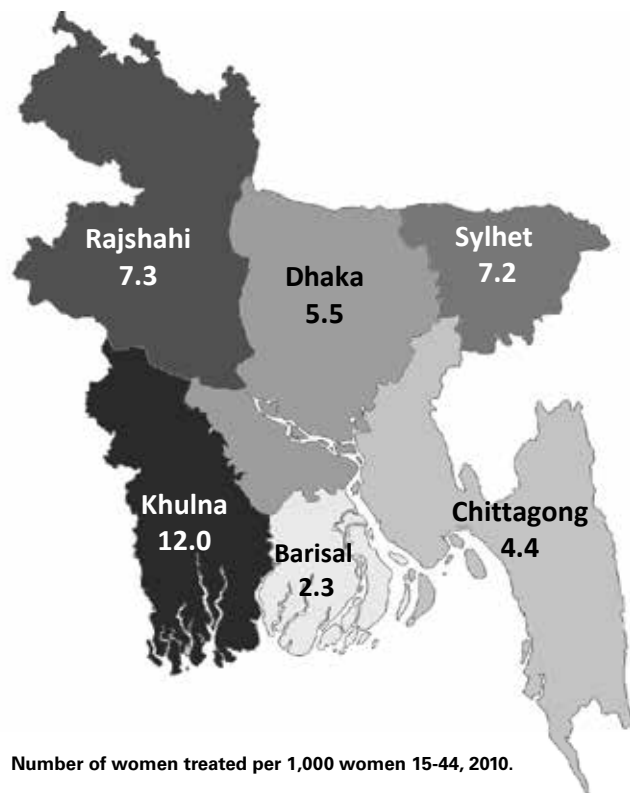
Applying an indirect technique, we then estimated that 231,400 of these patients were treated for complications of induced abortion nationally, a rate of 6.5 per 1,000 women of reproductive age in 2010.¹⁰ The rate was below average in Barisal (two) and well above average in Khulna (12), but it was close to the national rate in the other divisions (Figure 5).

On average, facilities treated 151 PAC cases per year, although this number varied widely according to facility type, from 671 at public hospitals to 100 at private clinics (Table 3). UH&FVCs were not asked about PAC treatment, as they are not equipped to provide such care; although some of these facilities may provide basic treatment, almost all refer PAC patients to higher-level facilities.

Importantly, however, all of these numbers and rates are likely underestimates of the true number of women

experiencing complications in Bangladesh, as they account only for women who receive care at a health facility. HPS respondents estimated that 60% of women experiencing complications of unsafe induced abortion needing care do not receive it (data not shown). Although the proportion of women receiving care did not vary widely across the four subgroups studied (Table 11, page 28), respondents believed that poor women were, on average, more likely to receive care in a health facility, a pattern that we suspect is due to nonpoor women having the resources to confidentially obtain care at a doctor's private practice or in their homes.

FIGURE 5. The rate of treatment for complications of induced abortion in Bangladesh varies widely across divisions.

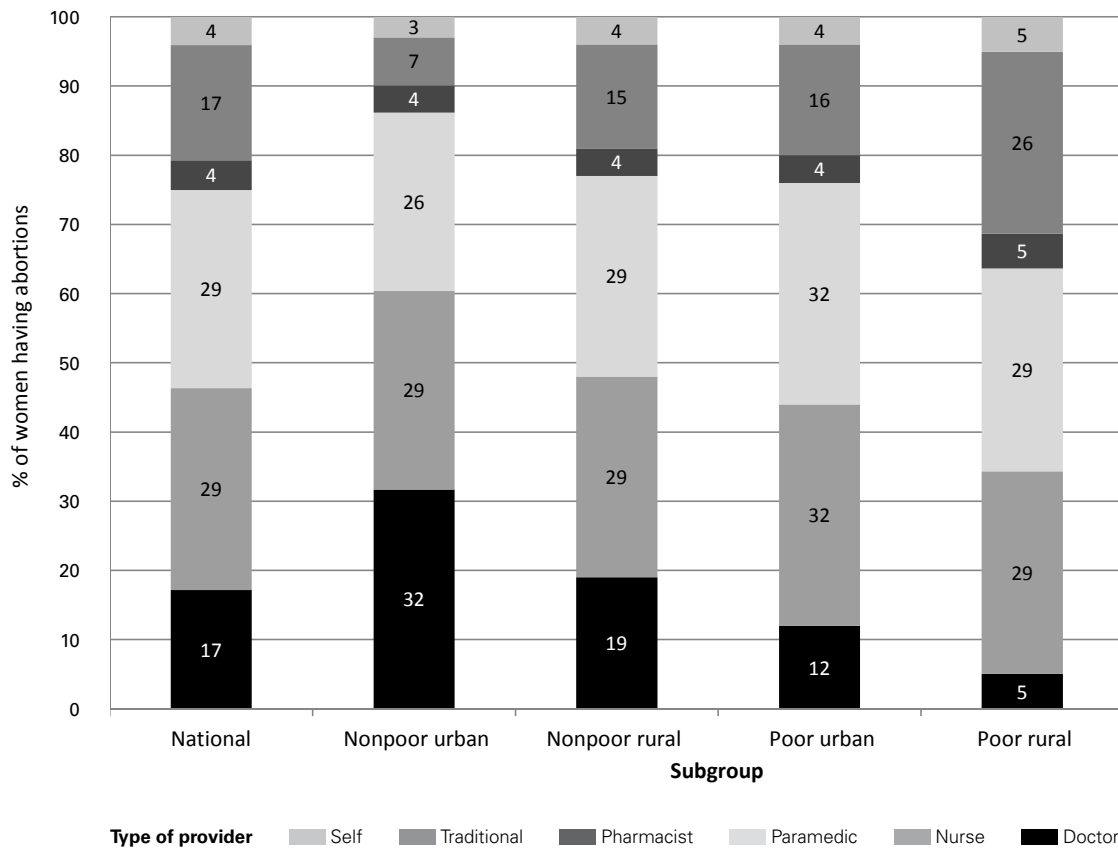


Number of women treated per 1,000 women 15-44, 2010.

Source: Health Facilities Survey

^{*}This number excludes the roughly 78,000 women treated for complications resulting from MRs.

FIGURE 6. Women who are better off economically and those who live in urban areas are more likely to obtain abortions from trained providers.*



*Trained providers = doctors and nurses. *Source:* Health Professionals Survey, 2010.

Mortality in Health Facilities From Unsafe Abortion

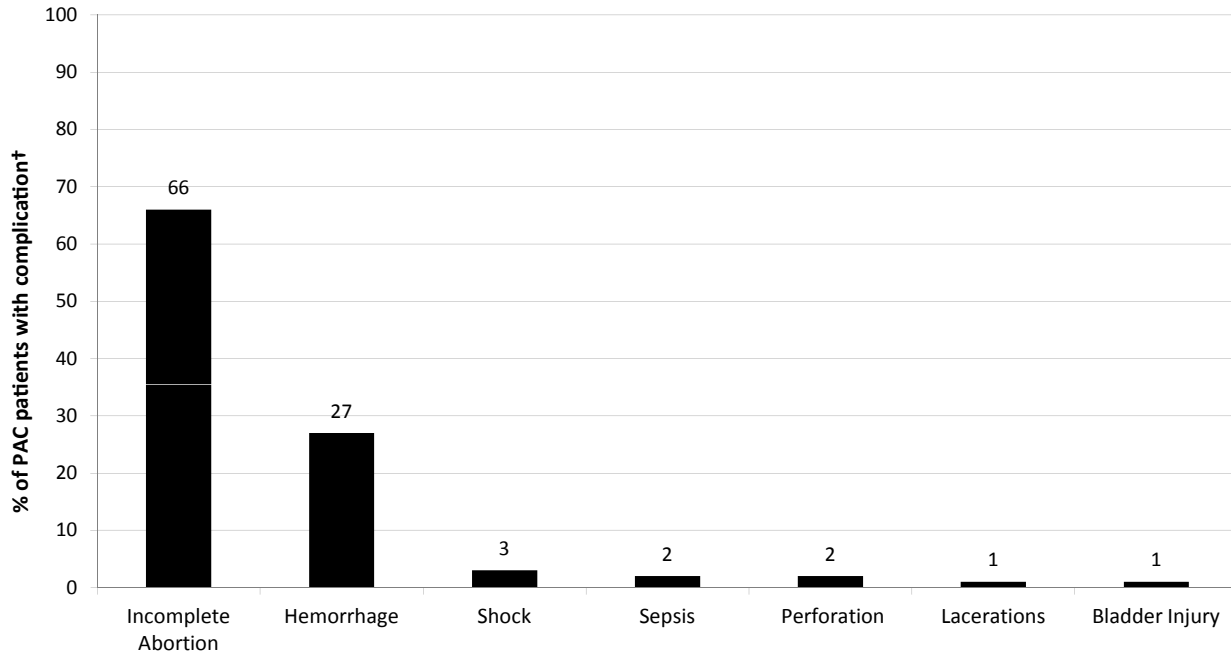
In 2010, there were an estimated 102 deaths at health facilities due to abortion complications (not shown). The majority of these (73%) occurred at medical colleges and district hospitals, and the rest at private clinics and other public facilities. This number translates to a national case fatality rate of 44 per 100,000 women treated in facilities for induced abortion complications. This rate undercounts the true prevalence of abortion-related deaths, however, as it does not include deaths occurring outside of facilities and does not adjust for misclassification or underreporting of abortion-related deaths within facilities. In addition, as this estimate is based on the small number of health facilities that reported any deaths (even though the sample is nationally representative), it should be interpreted with caution.

Socioeconomic Disparities in Conditions of Abortions

According to HPS respondents' opinions, poor women and rural women may be particularly at risk for complications from induced abortion (Figure 6). Their estimates suggested that to obtain an abortion, poor urban women are more likely than their nonpoor counterparts to go to informal or traditional providers (16% vs. 7%), who are usually untrained and very likely to perform procedures that result in complications, and much less likely to go to a doctor (12% vs. 32%), usually trained and much less likely to perform procedures that result in complications. The pattern was similar for poor and nonpoor rural women, but in general, estimates suggested they are less likely to go to safe providers than their urban peers.

The large differences in cost for an abortion performed by trained compared with untrained providers (estimated from HPS responses) may help explain these perceived

FIGURE 7. Only a small proportion of PAC patients are estimated to experience severe complications.*



*Respondents were asked, “What percentage of the post-abortion patients at this facility had these complications?” †Does not add to 100%, as patients can have more than one type of complication. *Note:* PAC=postabortion care. *Source:* Health Facilities Survey, 2010.

disparities between the poor and nonpoor groups. HPS respondents estimated that in rural areas, an abortion provided by a doctor would cost 500–1,100 *taka*, while in urban areas, the cost would be even higher, at 900–2,100 *taka*. These costs are significant in light of income levels: The average monthly per capita income is roughly 2,000 *taka* in rural areas of Bangladesh and 3,700 *taka* in urban areas.^{*31} By comparison, the HPS respondents estimated that the cost of an abortion done by informal-sector providers can be substantially less, at 30–400 *taka* across the rural-urban spectrum and according to whether women are poor or not.

Provision of PAC Services by Facility Type

Survey results indicated that the large majority of health facilities that have the capability to provide PAC do provide it—only 16% of such facilities did not provide PAC (excluding from this estimate UH&FWCs, which are not expected to provide this care; Table 10). The proportion providing PAC varied somewhat across divisions, ranging from 78–80% in Dhaka and Khulna to 87–92% in Rajshahi, Barisal and Chittagong, and reaching 100% in Sylhet. Public facilities were more likely to provide PAC than private facilities, with 94–96% and 80% offering this care, respectively (Table 4). The private sector accounted for about half

of all PAC cases treated (Table 10): This large proportion suggests that women may have problems accessing less costly public-sector services or they may perceive public-sector services to be of poor quality, or both.

Even though UH&FWCs do not have the capacity or trained staff to treat the full range of abortion complications, we nonetheless found that they commonly offered PAC patients some treatment before referring them to other facilities. Although we have only partial information on this topic,[†] these nonrepresentative data suggest that overall, 39% of UH&FWCs provided women needing PAC with some treatment, and 95% referred these women (not shown)—indicating that most providing some PAC also provided referrals. Provision of PAC was higher among UH&FWCs that provided MR services (49% of facilities reported providing PAC) than among the rest (26% of these facilities did so). Both of these groups of UH&FWCs most frequently referred patients to a UHC.

*69 *taka* = US\$1 (source: Internal Revenue Service 2011, Treasury Reporting Rates of Exchange as of December 31, 2010, <<http://www.irs.gov/businesses/small/article/0,,id=242375,00.html>>, accessed July 10, 2012.)

†Only a subset of UH&FWC respondents (42%) were asked this question.

Severity of Complications

According to HFS respondents, facilities that offered PAC treated a range of complications (Figure 7). Hemorrhage and incomplete abortion were the most common complications treated (in an average of 27% and 66% of all PAC patients, respectively), but a host of other, more severe complications were also treated, including shock (3% of all patients), sepsis (2%), and uterine perforation (2%), as well as bladder injuries and cervical or vaginal lacerations (2% altogether). Two percent of all facilities reported having at least one death following complications of unsafe abortion in the past year; the proportion was much higher, however, in large public facilities (17%), to which the most severe cases would have been referred.

Results from the HPS show that among all women obtaining abortions, a relatively low proportion are estimated to obtain services from the most unsafe types of providers (informal or traditional providers and self-induced by the woman herself), ranging from 10% of nonpoor urban women to about 30% of poor rural women (Figure 6). This profile of abortion service provision is consistent with the relatively low proportion of severe complications reported by HFS respondents.

Facilities' Infrastructure

The physical attributes of health facilities in Bangladesh vary by facility type (Table 12, page 28). Overall, 94% of facilities had an operating theater, 59% had a maternity ward and 30% had a gynecology ward. Almost all public facilities had drug stores, as did 77% of private clinics. In general, public hospitals were better equipped; however, even these facilities had some limitations of capacity. Only 29% of public hospitals (large institutions with about 300 beds on average) had intensive care units, for example, and only 32% of all public and private facilities had blood transfusion systems. Thus, most public hospitals were not equipped to handle the most severe postabortion complications; also, the large majority of all facilities appeared to be inadequately equipped to treat hemorrhage.

Counseling and Provision of Contraceptives to PAC Patients

The surveys obtained information on provision of contraceptive counseling and services to all PAC patients—including those treated for complications of spontaneous abortion, induced abortion and MRs. In general, HFS respondents reported that their facility offered counseling to a high proportion of PAC patients, on a range of topics. Almost all facilities providing PAC reported offering some type of counseling to PAC patients (99%, not shown). The

most common topic of counseling was family planning (reported by 91% of facilities), followed by pain management (75%), emergency contraception (74%), infection prevention (65%), advice to return for a follow-up visit (63%) and counseling about reproductive tract infections and STIs (45%).

Although provision of family planning counseling was common, provision of actual methods was much less so (Table 13, page 29). Only 34% of facilities providing PAC offered contraceptive methods to PAC patients. This proportion varied widely by facility type: MCWCs and UHCs were the most likely to provide methods, with 83% doing so, whereas public hospitals and, in particular, private clinics lagged behind, with 40% and 13% providing methods, respectively. The low proportion of public hospitals offering family planning services to PAC patients likely reflects the low proportion providing any family planning services overall (Table 4).

Among facilities offering methods, patterns were similar by facility type in regard to the proportion of patients who received contraceptive methods. Nationally, 17% of facilities that offered methods provided them to all PAC patients, and an additional 56% provided them to more than half (but not all) of these patients; however, none of the private clinics reported providing methods to all PAC patients, and greater proportions of private clinics reported providing methods to less than half of their patients (52%) than did either type of public facility (18–31%).

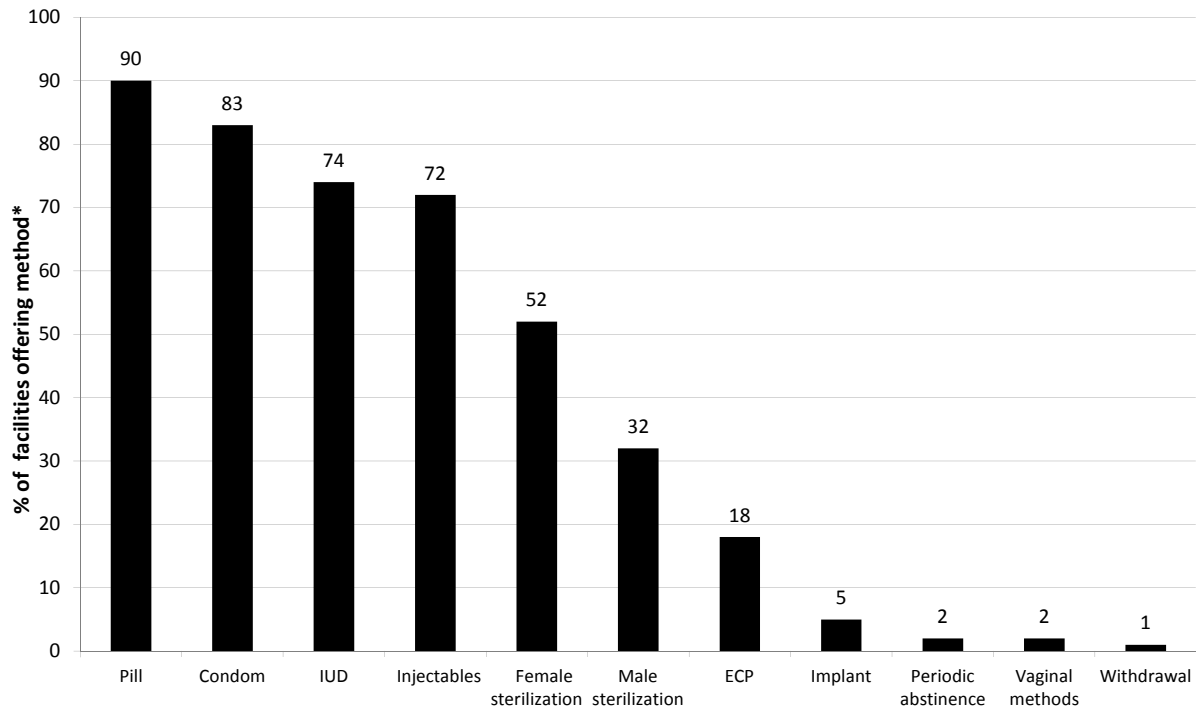
Facilities offering contraceptive methods to PAC patients offered a wide variety (Figure 8, page 18). The most common methods provided were the pill, condom, IUD and injectables, but a sizable proportion of facilities reported providing both male and female sterilization as well. Less common were emergency contraceptive pills (offered by 18% of facilities), and facilities seldom provided certain other methods (implants, vaginal methods or counseling on periodic abstinence or withdrawal, offered by just 1–5% of facilities to PAC patients). Of note, almost a fifth of all facilities that provided contraceptive methods to such patients experienced stock-outs of contraceptive supplies (not shown).*

Opinions on How to Improve Services

HFS respondents gave a wide range of suggestions on how treatment for abortion complications could be improved at their facility, many of which are consistent with the barriers identified in the study. For example,

*Respondents were asked, "Do you have any problems with running out of family planning supplies?"

FIGURE 8. The pill, condom, IUD and injectables are the contraceptive methods most likely to be offered to PAC patients.



*Denominator is public and private facilities that offer contraceptive methods to PAC patients. *Notes:* PAC=postabortion care. ECP=emergency contraceptive pill. *Source:* Health Facilities Survey, 2010.

65% said that increased availability of equipment would improve PAC, a recommendation that aligns with our finding that only about two-thirds of facilities nationally have functional MVA equipment (Table 5), and that many facilities do not have the physical capacity to treat severe complications (Table 12). More than half of respondents (58%) said increased provision of contraceptive services and counseling would improve care, and 51% stated that increasing the number of facilities in Bangladesh providing PAC would help the situation in their own facility. A large majority of respondents (78%) said increased provider training would improve PAC, a fact supported by our finding that roughly one-fourth of facilities did not have a staff member trained to perform MVA, let alone more complex procedures.

Conclusions and Recommendations

Our study highlights several areas where improvement is needed if all women who seek MR or PAC are to have easy access to quality services. Below, we discuss key findings and their implications for policies and programs, and offer some pertinent recommendations.

Increase Availability of MR Services

We found that more than four in 10 facilities that are potential providers of MR services, including about a third of UH&FWCs, do not in fact offer these services. Considering the importance of MR to Bangladesh's family planning program, this high proportion of facilities that do not provide MR in itself constitutes a barrier to access for women seeking MR. This is particularly true in rural areas, where women may not have the resources to travel to another facility. In part, many facilities may not be providing MR because they do not have providers trained in MVA or do not have the necessary equipment; however, there is a large gap between the share of facilities that are capable of providing MR and the share that actually provide it.

Areas in which action is needed to increase the number of facilities providing MR include the following:

- Increasing the training of providers, through continuous recruitment and training programs and through refresher training courses;
- Strengthening systems for procuring and distributing equipment; and
- Conducting research to explore why providers choose not to provide this service, and to develop ways for encouraging provision. Evidence from our study offers some insight on this last point, showing that the reasons most frequently mentioned by FWVs and paramedics for not providing MR services were social and religious concerns and beliefs.

Reduce Rejections of Women for MR Services

Given that many women who seek MR are rejected because they have exceeded the permitted maximum LMP limit, increased public education on these limits is needed. In addition, as many providers give reasons for rejecting women that are outside official criteria for MR provision, refresher training for providers on permitted

criteria for rejecting clients seeking MR and on medical ethics and patients' rights may also lower rejection rates. Our study found that women who were rejected often received little counseling to help them weigh their options, and most facilities did not give women advice on how to avoid unsafe abortion providers or procedures, both important topics of counseling.

Improve Quality of MR Care

Our findings point to three main areas in which the quality of care needs to be improved:

- First, a point mentioned above in regard to rejection applies here as well: Providers should not reject MR clients because of their own personal values (e.g., because a woman is too young or unmarried).
- Second, provision of family planning counseling and services to MR patients is part of good-quality care and should be standard practice. However, only 31% of public-sector facilities and 7% of private-sector clinics offered family planning methods to all of their MR patients; another 60% and 9%, respectively, offered methods to more than half of their clients but not all. There is clearly room for improving the integration of contraceptive services into MR services in both sectors. In fact, increasing the provision of such services at facilities was the most cited suggestion by HFS respondents for reducing the level of unintended pregnancies in Bangladesh.³²
- Third, the safety of MR services also needs improvement. Our study finds that about two per 1,000 women of reproductive age are treated for MR complications every year—that is, about 12 per every 100 MRs. Although HFS respondents may have overestimated this number (e.g., if some of these patients instead had had unsafe induced abortions), the reported rate of treatment for complications is many times higher than expected if MVA procedures are done under hygienic clinical conditions and by trained providers.²⁷⁻²⁹ Other studies have pointed to potential reasons for these high rates, including the inappropriate use of MVA equipment, repeated use of syringes meant to be discarded after 50 uses and failure to adhere to proper equipment

sterilization practices.^{4,6} To avoid these problems, increased supervision is needed along with improved basic training and refresher training. The MR guidelines currently being developed by the government³³ when finalized and broadly implemented would address quality of care issues and strengthen the national MR program. Another option would be to offer MR using medication (mifepristone plus misoprostol), which is less invasive than MVA. A recent study showed that NGOs using this approach found it to be acceptable and feasible in Bangladesh.³⁴

Increase Availability of PAC Services

When women do resort to an unsafe abortion, they are likely to develop complications. Therefore, it is important to ensure widespread availability of and access to facilities providing PAC. However, we found that one in six health facilities in Bangladesh did not provide any PAC services—but while almost all public facilities provide PAC, one in five private facilities do not. In addition, based on health professionals' perceptions, an estimated 60% of women with complications did not get PAC care. Findings from the HFS showing that a sizable proportion of private facilities do not provide PAC, in particular, is a significant problem, as many women may prefer to go to private clinics, likely to maintain privacy or avoid stigma.

Improve Provision of Contraceptive Services to PAC Patients

As with MR services, facilities are much more likely to provide counseling on family planning as part of PAC than to provide actual methods. To reduce the number of unintended pregnancies in Bangladesh (and in turn, the need to resort to unsafe abortion), it is crucial to improve provision of contraception at facilities providing PAC. Although PAC guidelines recommend that family planning services be provided to all patients, our findings reveal large gaps in the extent to which providers comply with this recommendation. In 2010, among PAC-providing facilities, 66% reported not offering methods at their facility, and in a large minority of those offering methods, less than half of patients received a method.

Reduce Disparities in Health Consequences of Unsafe Induced Abortion

Poor and rural women are at increased risk for complications from induced abortion because they are less likely to go to trained providers, and more likely to attempt to self-induce an abortion or go to traditional providers. In addition, many of these women are unable to distinguish safe MR providers

from unsafe abortion providers. Our study confirms patterns of inequality in access to services related to abortion and PAC. These findings reinforce the importance of addressing income-related disparities. Improving contraceptive access for poor and rural women is an important and needed step. Increasing access to quality PAC that includes comprehensive family planning services would also improve health outcomes and equip poor women to prevent future unwanted pregnancies. Educating all women, especially poor and rural women, about MR services should be a high priority.

Improve Systems for Monitoring the Provision of MR and PAC

Given the importance of tracking the incidence of MR and PAC over time, the government of Bangladesh should improve the quality of its existing record-keeping procedures, both in the public sector, where a system for collecting data exists but underreporting is common, and in the private sector, from which limited or no data appear to be collected. Systematic compilation of NGO service statistics should also be an ongoing activity. Our study gives estimates of MR and PAC for one point in time only; having consistent and comparable data on a continuous basis would improve the government's ability to identify gaps or problems in the health system that affect provision of these important services.

Acronyms

BAPSA	Association for Prevention of Septic Abortion, Bangladesh
UH&FWC	Union Health and Family Welfare Centre
FWV	Family welfare visitor
HFS	Health Facilities Survey
HPS	Health Professionals Survey
LMP	Last menstrual period
MCWC	Mother and Child Welfare Centre
MR	Menstrual regulation
MVA	Manual vacuum aspiration
PAC	Postabortion care
SACMO	Sub-assistant community medical officer (a type of paramedic)
UHC	Upazila Health Complex

TABLE 1. Selected population, administrative and health facility characteristics, Bangladesh

Characteristic	Division							Average bed size†
	Bangladesh	Barisal	Chittagong	Dhaka	Khulna	Rajshahi*	Sylhet	
Population of women 15–44	35,601,229	2,136,760	6,576,957	11,112,599	4,503,456	8,979,999	2,291,458	na
No. of districts	64	6	11	17	10	16	4	na
No. of sampled districts	16	2	3	4	2	4	1	na
HEALTH FACILITIES‡								
Public hospitals	121	7	21	47	11	27	8	315
Public medical college hospitals	19	1	4	7	1	5	1	751
Private medical college hospitals§	42	0	6	24	0	8	4	378
District hospitals	60	6	11	16	10	14	3	127
Other public facilities	521	42	109	132	64	134	40	37
Upazila Health Complexes (UHCs)	421	34	89	105	50	109	34	40
Mother and Child Welfare Centres (MCWCs)	100	8	20	27	14	25	6	27
Union Health and Family Welfare Centres (UH&FWCs)	3,127	220	587	798	459	865	198	na
Private clinics**	1,532	50	232	459	351	385	55	17
≥50 beds	69	0	8	47	3	9	2	99
20–49 beds	228	6	56	97	25	27	17	27
1–19 beds	1,235	44	168	315	323	349	36	10
Total number of health facilities	5,301	319	949	1,436	885	1,411	301	178

*In early 2010, the eight northerly districts of Rajshahi Division (about half the population of Rajshahi) became a new administrative division, Rangpur. The sample was drawn to represent the original Rajshahi Division; therefore, data presented here are for that division, which includes Rangpur.

†Weighted average based on the Health Facilities Survey sample (see Appendix Table 1).

‡Excludes nongovernmental organization facilities, for which facility-specific data were not collected.

§Private medical college hospitals are included under the public hospitals category as they are similar to public medical college hospitals in service provision, size and access.

**Includes clinics with one or more beds that offer maternal health care or general health care. Excludes clinics that specialize in types of health care such as optometry, mental health and tuberculosis, which are not potential providers of menstrual regulation or postabortion care services.

Sources: **Population**—reference 10; **Number of health facilities**—reference 23 and lists obtained from the Directorate General of Health Services (DGHS) and the Directorate General of Family Planning (DGFP); **Average bed size**—2010 Health Facilities Survey.

TABLE 2. Selected measures of MR provision, by division, Bangladesh, 2010

Measure	Bangladesh	Barisal	Chittagong	Dhaka	Khulna	Rajshahi*	Sylhet
% OF MRs[†] PERFORMED BY:							
All public facilities	63	71	61	55	43	79	53
Union Health and Family Welfare Centres	46	42	42	42	30	60	34
Other public facilities‡	17	29	19	13	13	19	20
Private clinics	9	3	3	15	21	4	2
NGOs	28	26	35	30	35	17	45
Total	100	100	100	100	100	100	100
Total no. of MRs performed	653,078	42,740	99,494	223,569	61,833	197,148	28,294
% of facilities providing MR§	57	76	63	57	37	59	72

*In early 2010, the eight northerly districts of Rajshahi Division (about half the population of Rajshahi) became a new administrative division, Rangpur. The sample was drawn to represent the original Rajshahi Division; therefore, data presented here are for that division, which includes Rangpur.

†Adjusted for underreporting (see reference 10).

‡Includes medical college hospitals, Upazila Health Complexes, and Mother and Child Welfare Centres. Private medical college hospitals are included here as they are similar to public medical college hospitals in service provision, size, and access.

§Among public- and private- sector facilities; excludes NGO facilities.

Note: MR=menstrual regulation. NGO=nongovernmental organization.

Source: Health Facilities Survey.

TABLE 3. Average caseload of MR and PAC, according to sector and type of facility, Bangladesh, 2010

Sector and type of health facility	Average MR caseload per year*	Average PAC caseload per year†
PUBLIC SECTOR		
Public hospitals	542	671
Public medical college hospitals‡	na	1327
Private medical college hospitals§	518	656
District hospitals	667	443
Other public facilities	220	158
Upazila Health Complexes	184	167
Mother and Child Welfare Centres	347	121
Union Health and Family Welfare Centres (UH&FWCs)	152	na
PRIVATE SECTOR		
All private clinics	110	100
≥50 beds	117	130
20–49 beds	118	197
2–19 beds	109	83
All facilities	158	151

*Adjusted for underreporting (see reference 10).

†Due to both induced and spontaneous abortion; does not include cases due to complications of MR (see Data Sources and Methods).

‡Nongovernmental organization (NGO) clinics are physically based within many of the 19 public medical colleges, and where this occurs, that public hospital does not provide additional MR services, apart from those offered by the NGO clinic. Data for NGO clinics were collected separately, in an aggregate form, and are not available for each medical college. As a result, we do not present an average caseload for public medical colleges, as it would represent only that subset of these facilities that do not have NGO clinics on their premises.

§Private medical colleges are included here as they are similar to public medical colleges in service provision, size, and access.

Notes: NGO facilities are not included in this table as they were not surveyed in the Health Facilities Survey. MR=menstrual regulation, PAC=postabortion care. na=not applicable.

Source: Health Facilities Survey.

TABLE 4. Percentage of facilities offering reproductive health services, according to type of service and by type of facility, Bangladesh, 2010

Type of service	% of all facilities*	Public facilities				Private Clinics
		Public hospitals†	MCWCs	UHCs	Total	
Menstrual regulation	48	37	100	83	77	36
Postabortion care	84	94	96	96	96	80
Specialized (obstetrics and gynecology)	57	96	44	28	43	62
Maternity and delivery	91	99	93	92	93	91
Family planning services (temporary or permanent)	55	52	100	87	83	43
Antenatal care	75	94	100	97	97	65
Postnatal care	77	96	100	99	99	69
Treatment of reproductive tract infections and STIs	41	87	89	75	80	25

*Excludes Union Health and Family Welfare Centres, which were administered a shorter questionnaire that did not collect data on these items. (For the percentage of Union Health and Family Welfare Centres offering menstrual regulation services, see Figure 1.) Also excludes nongovernmental organization facilities because they were not included in the Health Facilities Survey; aggregate data on service provision were obtained from nongovernmental organization providers.

†Includes all medical college hospitals and district hospitals. Private medical college hospitals are included here because they are similar to public medical college hospitals in service provision, size and access.

Notes: MCWC=Mother and Child Welfare Centre. UHC=Upazila Health Complex.

Source: Health Facilities Survey.

TABLE 5. Measures of MR services and availability of MVA equipment and trained staff, by type of facility, Bangladesh, 2010

Measure	All facilities*,†	Private sector clinics	Public sector*	
			Hospitals‡	Other public facilities§
% providing MR services	48	36	37	86
% having:				
Functional MVA kits	70	65	68	88
At least one staff member trained to perform MVA	73	67	71	89
Both	67	60	62	87

*Excluding Union Health and Family Welfare Centres (UH&FWCs), which were administered a shorter questionnaire that did not collect data on these items. (For the percentage of UH&FWCs offering MR services, see Figure 1.)

†Also excludes nongovernmental organization facilities because they were not included in the Health Facilities Survey; aggregate data on service provision were obtained from nongovernmental organization providers.

‡Includes public and private medical college hospitals and district hospitals.

§Mother and Child Welfare Centres (MCWCs) and Upazila Health Complexes (UHCs).

Notes: MR=menstrual regulation. MVA>manual vacuum aspiration.

Source: Health Facilities Survey.

TABLE 6. Percent distribution of facilities that provide MR services according to the proportion of MR patients who receive a contraceptive method, by type of facility, Bangladesh, 2010

% of MR patients receiving a method	Total*	Private clinics	Public facilities†
None	15	78	1
Less than half	7	6	8
More than half but not all	52	9	60
All	26	7	31
Total	100	100	100

*Excludes nongovernmental organization facilities because they were not included in the Health Facilities Survey.

†Includes medical colleges, district hospitals, Mother and Child Welfare Centres, Upazila Health Complexes, and Union Health and Family Welfare Centres.

Source: Health Facilities Survey.

TABLE 7. Selected measures of rejection of women seeking MR services among facilities that provide MR, by type of facility, Bangladesh, 2010

Measure	All facilities providing MR*	Public hospitals†	Other public facilities‡	UH&FWCs	Private clinics
% of facilities rejecting no women seeking MR	13	17	4	10	31
No. of women rejected§	165,576	1,814	41,868	95,969	25,925
% rejected among all women seeking MR	26	11	30	24	30
Average no. of women rejected**	64	84	99	54	70

*Excludes nongovernmental organization facilities because they were not included in the Health Facilities Survey.

†Includes public and private medical college hospitals and district hospitals.

‡Mother and Child Welfare Centres (MCWCs) and Upazila Health Complexes (UHCs).

§Respondents were either asked, "How many women in the past month were rejected for MR services at this facility?" or, if they were unable to provide a number, they were then asked: "What % of all women who sought MR services at this facility were rejected?" If a percentage was given, the number of women rejected was calculated based on the MR caseload of the facility.

**Among facilities that rejected women seeking MR services.

Source: Health Facilities Survey.

TABLE 8. Annual rates of treatment for MR complications, according to division, Bangladesh, 2010

Division	No. of cases of MR complications treated annually:	
	Per 1,000 women 15–44	Per 1,000 MRs
Bangladesh	2.2	120
Barisal	1.7	87
Chittagong	1.3	88
Dhaka	2.5	126
Rajshahi*	1.6	71
Khulna	4.1	295
Sylhet	2.3	188

*In early 2010, the eight northerly districts of Rajshahi Division (about half the population of Rajshahi) became a new administrative division, Rangpur. The sample was drawn to represent the original Rajshahi Division; therefore, data presented here are for that division, which includes Rangpur.

Source: Health Facilities Survey.

TABLE 9. Perceived barriers women face in accessing MR services as cited by Health Facilities Survey respondents, Bangladesh, 2010

Barrier*	% of respondents citing barrier
Husband/family objections	88
Gestational age limits	85
Fear	85
Cost to the woman	62
Lack of information on services	60
Distance/transportation	59
Inadequate training of providers	43
Understaffing at facility	35
Inadequate equipment at facility	32
Hostile/unfriendly provider attitudes	30

*Respondents were asked, "What barriers do you think women face in trying to get menstrual regulation services?". Multiple responses were permitted.

Source: Health Facilities Survey.

TABLE 10. Selected measures of PAC services, by division, Bangladesh, 2010

Measure	Bangladesh	Barisal	Chittagong	Dhaka	Khulna	Rajshahi*	Sylhet
% of PAC† cases treated by:							
Public hospitals‡	26	23	35	27	4	33	52
Other public facilities§	28	59	21	22	31	33	22
Private clinics	43	15	42	48	64	32	23
NGOs	2	3	3	3	1	2	3
Total	100	100	100	100	100	100	100
Total no. of women treated	280,453	8,924	40,789	74,107	59,852	75,738	21,044
% of facilities that provide PAC**	84	92	87	78	80	89	100

*In early 2010, the eight northerly districts of Rajshahi Division (about half the population of Rajshahi) became a new administrative division, Rangpur.

The sample was drawn to represent the original Rajshahi Division; therefore, data presented here are for that division, which includes Rangpur

†Due to both induced and spontaneous abortion; excludes women treated for complications from menstrual regulation (see Data Sources and Methods).

‡Private medical college hospitals are included here as they are similar to public medical college hospitals in service provision, size and access.

§Mother and Child Welfare Centres (MCWCs) and Upazila Health Complexes (UHCs).

**Percent based on hospitals, MCWCs, UHCs and private clinics.

Notes: Union Health and Family Welfare Centres (UH&FWCs) are excluded, as they do not provide PAC. PAC=postabortion care. NGO=nongovernmental organization.

Source: Health Facilities Survey.

TABLE 11. Health professionals' estimates of the percentage of women with complications from induced abortion who obtain PAC at a health facility, among women who had complications from unsafe induced abortion, according to socioeconomic subgroup and by division, Bangladesh, 2010

% of women obtaining PAC at a facility	% obtaining PAC for complications of induced abortion in a health facility				
	Bangladesh	Rajshahi*	Khulna/Barisal	Sylhet/Chittagong	Dhaka
No. of respondents	140	29	16	30	65
Subgroup					
Nonpoor urban	35	36	66	45	23
Nonpoor rural	37	34	53	41	32
Poor urban	45	41	59	52	40
Poor rural	46	42	46	47	47
Average†	40	37	53	43	34

*In early 2010, the eight northerly districts of Rajshahi Division (about half the population of Rajshahi) became a new administrative division, Rangpur. The sample was drawn to represent the original Rajshahi Division; therefore, data presented here are for that division, which includes Rangpur.

†Averages were calculated by weighting subgroup percentages by the proportion of women in the four subgroups.

Notes: Khulna/Barisal divisions and Sylhet/Chittagong divisions were combined because of the small number of respondents in each and these divisions' similarity in socioeconomic characteristics. PAC=postabortion care.

Source: Health Professionals Survey.

TABLE 12. Indicators of service capacity by facility type, Bangladesh, 2010

Indicator	% of facilities* with indicator				
	All facilities	All public facilities	Public hospitals†	Other public facilities‡	Private clinics
Operating theatre	94	94	96	93	95
Separate MR room	22	41	27	45	14
Maternity ward	59	68	87	64	55
Gynecology ward	30	33	87	20	29
Septic ward	5	7	26	3	4
Drug store	82	94	98	94	77
Laboratory	73	81	99	77	70
Blood transfusion system	32	32	92	19	32
Intensive care unit	6	5	29	0	6

*Excludes Union Health and Family Welfare Centres (UH&FWCs); as they are small facilities and likely do not have these indicators, data on these items were not collected. Also excludes nongovernmental organization facilities, for which facility-specific information was not collected.

† Includes all medical college hospitals and district hospitals. Private medical college hospitals are included here because they are similar to public medical college hospitals in service provision, size, and access.

‡Mother and Child Welfare Centres (MCWCs) and Upazila Health Complexes (UHCs).

Note: MR=menstrual regulation.

Source: Health Facilities Survey.

TABLE 13. Selected measures of the offering and receipt of contraceptive methods in facilities providing PAC, by type of facility, Bangladesh, 2010

Measure	All facilities*	Public hospital†	Other public facilities‡	Private clinics
% of facilities that offer contraceptive methods to PAC patients	34	40	83	13
Among facilities offering methods to PAC patients, % of patients receiving method:				
Less than half	28	31	18	52
More than half but not all	56	56	59	48
All patients	17	14	23	0

*Excludes Union Health and Family Welfare Centres (UH&FWCs), as they do not provide PAC; excludes nongovernmental organization facilities, for which facility-specific information was not collected.

†Public and private medical college hospitals and district hospitals.

‡Mother and Child Welfare Centres (MCWCs) and Upazila Health Complexes (UHCs).

Note: PAC=postabortion care.

Source: Health Facilities Survey.

APPENDIX TABLE 1. Selected measures detailing selection of health facilities for the study sample, according to sector and type of facility

Sector and type of facility	No. of facilities in Bangladesh	No. of facilities in 16 sampled districts	Sampling fraction within 16 sampled districts, %	No. of facilities selected into sample	No. of facilities interviewed	Response rate, %
Total	5,301	1,945	37	729	670	92
Public sector						
Public medical colleges*, †	19	19	100	19	15	79
Private medical colleges*, †	42	42	100	42	39	93
District hospitals	60	15	100	15	15	100
Upazila Health Complexes (UHCs)	421	98	100	98	97	99
Mother and Child Welfare Centres (MCWCs)	100	28	100	28	26	93
Union Health and Family Welfare Centres (UH&FWCs)	3,127	1,131	24	273	246	90
Private sector						
Clinics with 1–19 beds	1,235	419	33	138	134	97
Clinics with 20–49 beds	228	132	55	72	59	82
Clinics with ≥50 beds	69	61	72	44	39	89

*All public medical colleges and private medical colleges in the country (64 districts) were included in the sample.

†For the purposes of sampling and analysis, we grouped together private- and public-sector medical colleges, as they are similar in terms of service provision, size and access.

Source: Health Facilities Survey.

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