

# Postpartum Family Planning in Bangladesh

A Situation Analysis and Way Forward

September 2019







# **Postpartum Family Planning** in Bangladesh

A Situation Analysis and Way Forward

Sharad Barkataki Fauzia Akhter Huda **Quamrun Nahar** Mizanur Rahman

September 2019

**MEASURE** Evaluation

University of North Carolina at Chapel Hill 123 West Franklin Street, Suite 330 Chapel Hill, NC 27516 USA Phone: +1 919-445-9350 measure@unc.edu

www.measureevaluation.org

#### RDM/icddr,b

68, Shaheed Tajuddin Ahmed Sarani Mohakhali, Dhaka 1212, Bangladesh Phone: +880 (0)2-982-7001 to 10

info@icddrb.org

https://www.icddrb.org/

This publication was produced with the support of the United States Agency for International Development (USAID) under the terms of USAID's Research for Decision Makers (RDM) Activity cooperative agreement no. AID-388-A-17-00006 and of MEASURE Evaluation cooperative agreement no. AID-OAA-I-14-00004. Views expressed herein do not necessarily reflect the views of the U.S. Government or USAID. TR-19-386

ISBN: 978-1-64232-210-1







# **ACKNOWLEDGMENTS**

We thank the United States Agency for International Development (USAID) for its support of this work.

We would like to thank several individuals who made important contributions to this report.

We would like to thank Dr. Shams El Arifeen from icddr,b, who provided support and guidance throughout the process of researching and writing this report. We must also thank Ms. Tasnuva Wahed and Dr. Hassan Rushekh Mahmood of icddr,b, who provided important research assistance and helped to identify many of the documents and articles cited in this report. We thank Dr. Siân Curtis (MEASURE Evaluation, University of North Carolina, USA) for her guidance provided to the Bangladesh MEASURE Evaluation team involved in this work.

We would like to thank Dr. Md. Moinuddin Ahmed, Line Director – CCSDP, DGFP, Dr. Nurun Nahar Begum Deputy Director – CCSDP, DGFP, Mr. Pranab Kumar Neogi, Line Director –FSD-FPP, DGFP, Mr. Md. Mahbub-Ul-Alam, Program Manager (Quality Assurance) – FSD-FPP, DGFP, who all provided their valuable time to meet with the researchers. In so doing, they provided important insights, ideas, and documents on the postpartum family planning program in Bangladesh.

We would like to thank Dr. AbuJamil Faisel, EngenderHealth, and Dr. Mizanur Rahman, EngenderHealth, who sat with the researchers, provided their insights and experiences of working on PPFP in Bangladesh, and identified important documents for the researchers' further reading. Dr. Faisel also helped to review the early draft versions of this report, providing an important insights into the history of the PPFP program and its current status.

Finally, we are grateful to the USAID/Bangladesh team members who reviewed this report and provided important insights and documents. In particular, we would like to thank Dr. Kanta Jamil, Dr. Samina Chowdhury, Ms. Brenda Doe, and Mr. Azmal Hossain for the time they took to review the report, the additional documents that they were able to identify for this report, and their suggestions and guidance on the PPFP program in Bangladesh.

Without the combined assistance and support of all these individuals, this report would not have been possible.

Cover photo: Matlab village women in Bangladesh walk to a fixed site clinic held weekly in the village health worker's home to receive immunizations for their infants and family planning services for themselves. © 2004 Jean Sack, Courtesy of Photoshare.

#### Suggested citation:

Barkataki, S., Huda, F., Nahar, Q., Rahman, M. (2019). Postpartum Family Planning in Bangladesh: A Situation Analysis and Way Forward. Dhaka, Bangladesh and Chapel Hill, NC, USA: icddr,b, and MEASURE Evaluation, University of North Carolina.

# **CONTENTS**

| ACKNOWLEDGMENTS   | 2  |
|---|----|
| ABBREVIATIONS   | 4  |
| EXECUTIVE SUMMARY   | 6  |
| Need for PPFP in Bangladesh   | 6  |
| Methods   | 6  |
| Review of PPFP Programming in Bangladesh                              | 6  |
| PPFP Interventions in Bangladesh                                      | 6  |
| Factors Affecting PPFP Interventions in Bangladesh                    | 7  |
| Discussion  | 7  |
| Recommendations   | 8  |
| 1. INTRODUCTION   | 9  |
| 2. THE NEED FOR PPFP IN BANGLADESH                                    | 10 |
| 2.1. Birth Spacing  | 10 |
| 2.2. Unmet Need and Unintended Pregnancies                            | 11 |
| 2.3. Changes in Insusceptibility                                      | 12 |
| 2.4. Menstrual Regulation and Abortions in Bangladesh                 | 12 |
| 3. WHO PPFP PROGRAMMING RECOMMENDATIONS                               |    |
| 3.1. Proposed Model for PPFP Intervention in Bangladesh               | 14 |
| 4. REVIEW OF PPFP PROGRAMMING IN BANGLADESH                           | 15 |
| 4.1. Existing PPFP Services in Bangladesh                             | 15 |
| 4.1.1. Government PPFP Interventions                                  | 15 |
| 4.1.2. NGO Interventions That Include PPFP Components                 | 18 |
| 4.1.3. Private Sector Interventions for PPFP                          | 18 |
| 4.2. Factors Affecting PPFP Programming in Bangladesh                 | 19 |
| 4.2.1. Sources of Family Planning Methods                             | 19 |
| 4.2.2. Coverage of ANC, Facility Delivery, PNC, and EPI in Bangladesh | 19 |
| 4.2.3. Awareness and Acceptance                                       | 20 |
| 4.2.4. Coordination between DGFP and DGHS                             | 21 |
| 4.2.5. Biases   | 21 |
| 5. DISCUSSION   | 22 |
| 6. RECOMMENDATIONS  | 24 |
| REFERENCES  | 26 |

# **ABBREVIATIONS**

ANC antenatal care

BCC behavioral change communication

BDHS Bangladesh Demographic and Health Survey

BHFS Bangladesh Health Facility Survey

BKMI Bangladesh Knowledge Management Initiatives

BMMS Bangladesh Maternal Mortality Survey

CC community clinic

CCSDP Clinical Contraception Service Delivery Program

CHW community health worker
CPR contraceptive prevalence rate

DGFP Directorate General of Family Planning
DGHS Directorate General of Health Services

DGNM Directorate General of Nursing and Midwifery

DH district hospital

DHS demographic and health survey
DLI disbursement linked indicator

EPI expanded program for immunization

FP family planning

FPW family planning worker
FWA family welfare assistant
FWV family welfare visitor

FSDP Field Service Delivery Program

HFS Healthy Fertility Study

HSS health systems strengthening

IEC Information, Education, and Communication
IEM Information, Education, and Motivation

IUD intrauterine device

LARC long-acting reversible contraceptives

LAPM long-acting and permanent methods

MCWC Mother and Child Welfare Center

MH Mayer Hashi

MIS management information system

MMR maternal mortality ratio

MNCH maternal, newborn, and child health

MNCHAH maternal, neonatal, child, and adolescent health

MOH&FW Ministry of Health and Family Welfare

MO-MCH Medical Officer – Maternal and Child Health

MR menstrual regulation

NGO nongovernmental organization

NSV no-scalpel vasectomy

NTC National Technical Committee

OB/GYN obstetrician/gynecologist

OGSB Obstetrics – Gynecology Society of Bangladesh

OP operational plan
PAC post-abortion care

PIP project implementation plan

PM permanent methods

PMMU Program Monitoring and Management Unit

PNC postnatal checkup
POP progestogen only pill

PPFP postpartum family planning

SBA skilled birth attendant

SHOPS Strengthening Health Outcomes through Private Sector

SMC Social Marketing Company

TFR total fertility rate

UHC Upazila Health Complex

UH&FWC Union Health and Family Welfare Center

UNFPA United Nations Population Fund

USAID United States Agency for International Development

WHO World Health Organization

# **EXECUTIVE SUMMARY**

Postpartum family planning (PPFP) focuses on providing family planning (FP) counseling and services to women and couples in the first 12 months after birth. This publication reviews the policies, programs, and status of PPFP in Bangladesh and seeks to identify the need, gaps, and future focus areas for PPFP in the country.

# **Need for PPFP in Bangladesh**

The evidence suggests that birth spacing has been improving in Bangladesh. However, there is evidence that despite overall improvements, there have been increases in the proportion of women ages 15 to 19 who have birth intervals less than 24 months, while the proportion in the 20 to 24 age group and those above 40 continue to have relatively high proportions of women who have birth intervals less than 24 months.

The contraceptive prevalence rate (CPR) in Bangladesh has stalled at around 62 percent since 2010, and there is a large gap between the total fertility rate (TFR) of 2.3 and the wanted fertility rate of 1.6. The data also shows that there remains a high unmet need for FP in currently married women in Bangladesh. Other studies in Bangladesh have shown that postpartum women in Bangladesh are not using modern FP methods, despite a desire to space and limit children. Furthermore, unintended pregnancies continue to remain high (26%) in Bangladesh, and was especially a problem in older age groups.

Data from the Bangladesh Demographic and Health Survey (BDHS) indicates that the duration of postpartum insusceptibility (which is a combination of women who are postpartum amenorrhoeic or abstaining from sexual intercourse) following a birth has been falling since 1994, despite increases in the proportion of women who were exclusively breastfeeding (which tends to increase insusceptibility). However, median duration of insusceptibility in the lowest wealth quintile was the lowest amongst all the wealth quintiles, indicating that the poorest women were at the greatest risk of short-birth intervals.

Bangladesh was estimated to have a high annual menstrual regulation (MR) rate of 10 per 1,000 women of reproductive age in 2014, even though only 42 percent of health facilities in Bangladesh were found to provide MR services. Further, an estimated 27 percent of women seeking MR services were turned away because they were outside the window of time within which an MR could be legally provided. The estimated number of induced abortions performed in Bangladesh in 2014 was 1,194,000, while the number of women treated for abortion related complications was 257,000.

#### **Methods**

Documents and literature published between the periods of 2004–2017 on PPFP, long-acting reversible contraceptives (LARC), and permanent methods (PM) related to Bangladesh were considered for inclusion in the review process. In addition, government and nongovernmental organizations (NGOs) working on PPFP and related issues were contacted, in order to understand the status of their work on PPFP and collect additional relevant information and documents.

# Review of PPFP Programming in Bangladesh

# PPFP Interventions in Bangladesh

The Government of Bangladesh has been implementing limited PPFP interventions in Bangladesh since 2002. Since 2015, they also developed a draft *National Action Plan for Postpartum Family Planning (PPFP)*, incorporated PPFP programming into various operational plans (OPs) in Bangladesh's 4<sup>th</sup> Health, Population, and Nutrition Sector Programme Implementation Plan (PIP), issued a number of circulars related to PPFP programming, and made international commitments to implement PPFP programming. However, while there have been some advances (particularly in the allocation of funds for limited PPFP interventions and calls for integration of PPFP into various related activities and delivery options), a full assessment of the National Action Plan for PPFP implementation, the government circulars, and PPFP activities mentioned in the PIP and its OPs has not been done and the PPFP intervention appears to have been limited in scale and scope so far. In addition, though there have been significant moves to the private sector provision of health services, the National Action Plan does not specify a strategy to address private sector provision of PPFP.

There have also been a number of NGO interventions, and two private sector interventions, related to PPFP programming in Bangladesh. However, these interventions have been either limited in scope and scale, and/or demonstrated little impact, where evaluations have been done.

# Factors Affecting PPFP Interventions in Bangladesh

There have been significant increases in the coverage of FP services, antenatal care (ANC), facility deliveries, postnatal care (PNC), and immunization in Bangladesh over the last decade. However, clients are increasingly turning to the private sector to source FP, ANC, delivery care, and PNC, and adequate coverage of PPFP will need to address the private sector provision of these services. In addition, many public and private providers are not trained in PPFP.

The data also suggests that FP demand generation activities have been poorly implemented and deteriorated over time. Recent evaluations have shown that PPFP counseling and methods are not generally offered during delivery care, and that when they are offered, acceptance of long-acting reversible contraceptives (LARC) or permanent methods (PM) are relatively low. In addition, provider and client biases also affect the use of PPFP services.

Finally, coordination between the Directorate General of Health Services (DGHS) and the Directorate General of Family Planning (DGFP) continues to be challenge. Analysis of Bangladesh Health Facility Survey 2014 data indicates that many DGFP and DGHS facilities are not ready to provide the full set of PPFP services, often lacking basic equipment and supplies or trained staff to provide PPFP service. Though recent developments have addressed some of the funding issues related to implementing PPFP services, DGHS and DGFP control different types of facilities that provide ANC, delivery care, PNC, and immunization, and any integration of PPFP with these services will require these two directorates to coordinate and ensure all their facilities are ready and providers are trained to offer PPFP services as part of an integrated package of services.

#### **Discussion**

In summary, the review identified a number of gaps and challenges that will need to be addressed for an effective PPFP implementation.

- There does not exist effective PPFP information dissemination strategies, as mentioned in the National Action Plan for PPFP.
- Immediate PPFP is still mostly considered to be female sterilization and IUD; more work needs to be done to inform providers that implants and progestogen only pills (POPs) are also approved by the National Technical Committee (NTC) and provide training.
- The private sector increasingly provides ANC, delivery care, and PNC services. However, the National Action Plan does not address how the PPFP program will ensure the private sector provision of PPFP.
- Other stakeholders such as the Directorate General of Nursing and Midwifery (DGNM) also provide ANC and delivery services, and will need to be engaged in order to increase the effectiveness of the PPFP.
- Overall, there is limited PPFP counseling and poor offer and acceptance of LARC/PM immediately after delivery.
- Provider vacancies at public facilities are high, and in MCWCs in particular, posing a significant challenge to the promotion of PPFP.
- The complete availability of equipment and supplies necessary to provide LARC/PM in facilities remains a challenge.
- Imprest funds for LARC/PM procedures is governed by DGFP, and both DGHS and private providers encounter difficulties in reimbursement of costs. While the recently approved imprest funds made available to DGHS is an important first step in enabling an effective PPFP intervention, the amount allocated will likely need to be revised as a full costing of the intervention becomes more clear.
- The Bangladesh FP program is evidently weak in behavioral change communication (BCC) efforts—strategies, material, and products are poorly developed, thinly spread, and infrequently disseminated—and those on PPFP are no exception.
- Women in the younger age-groups, the poor, and the oldest age groups, continue to experience relatively high rates of shorter birth intervals.

#### **Recommendations**

We propose the following set of recommendations for PPFP programming in Bangladesh, on the basis of the findings from this review:

- 1. National action plan strengthening:
  - i. Revise the *National Action Plan for PPFP* to include strategies for private sector provision of PPFP, given the increasing use of the private sector for MCH.
  - ii. Update and operationalize the existing government *National Action Plan for PPFP*, in coordination with development partners. This will include strengthening the coordination mechanism between DGFP and DGHS to ensure that human resources in DGHS are trained and the DGHS health facilities and logistics are ready to provide PPFP information, counseling, and services at the proposed different points of contact; i.e., during ANC, delivery care, PNC, and EPI.
  - iii. Cost the entire PPFP intervention and allocate appropriate budgets.
  - iv. Develop a monitored mechanism to ensure an effective and timely transfer of imprest funds and postpartum contraceptives from DGFP to DGHS.
  - v. Mandate PPFP information dissemination during ANC, and counseling for adoption of suitable methods during ANC.
  - vi. Strengthen the provision of PPFP counseling and services during EPI campaigns in the community. This particular element of the PPFP intervention is likely to have the greatest coverage and most effectively reach lower wealth quintiles, given the high rates of vaccination coverage.
  - vii. Engage the DGNM in the provision of PPFP.

#### 2. Private sector engagement:

- i. Engage and advocate with the private sector on provision of PPFP, particularly during ANC and delivery.
- ii. Mandate PPFP information dissemination and counseling during ANC and delivery care in private clinics.
- iii. Provide training to all private sector providers (hospitals, clinics, OB/GYNs, physicians, nurses, and paramedics) on PPFP benefits, counseling, and methods.

#### 3. Training:

- i. Identify and train specially designated "FP counselors" at all facilities in the public, private, and NGO sectors to supplement the advice provided by OB/GYNs and physicians, who often do not have the time and/or are reluctant to provide FP advice to pregnant and/or recently delivered women.
- ii. Provide training on PPFP counseling, methods, and benefits to all providers (physicians, nurses, paramedics, and all relevant field health personnel) from DGHS, DGFP, DGNM, private sector, and NGOs, and any other person coming into contact during ANC, PNC, delivery, and EPI service provision, in order to limit the impact of provider shortages.

#### 4. Coordination between DGHS and DGFP:

- i. Advocate to DGHS on the maternal, neonatal, and child health benefits of PPFP to facilitate closer coordination between DGFP and DGHS.
- ii. Strengthen the integration of PPFP counseling and services into DGFP field personnel and DGHS field personnel home visits, whenever they may come into contact with pregnant or recently delivered women.
- iii. Offer PPFP information, counseling, and services during all deliveries at facilities.
- iv. Improve the availability of LARC/PM services in facilities and strengthen the readiness of facilities to provide LARC/PM. In particular, this will require coordination between DGHS and DGFP to ensure that the appropriate material, equipment, supplies, and trained personnel are available in facilities.

#### 5. Raising awareness and generating demand:

- i. Produce and distribute BCC materials with appropriate PPFP information to every pregnant woman and women who have recently delivered.
- ii. Address limited awareness amongst younger women about PPFP options and benefits, and integrate PPFP messaging into the Adolescent Health Program and various adolescent activities.

#### 6. Implementation research on:

- i. Identifying the best methods of reaching the 15–24 age group to increase birth spacing and lengthen birth intervals.
- ii. Identifying the best methods of reducing provider bias against specific methods, and specifically as a postpartum method.
- iii. Examining the qualitative reasons behind poor PPFP offer and utilization.
- iv. Improving private sector PPFP service delivery.
- v. Improving the delivery of PPFP counseling and services during ANC, PNC, and EPI services.

# 1. INTRODUCTION

Postpartum family planning (PPFP) focuses on providing family planning (FP) counseling and services to women and couples in the first 12 months after birth. PPFP addresses the needs of individuals who wish to space their children (called *spacers*) as well as those who have reached their desired family size (called *limiters*). WHO has recognized PPFP as a life-saving intervention for mothers and children and there is a significant body of global evidence that suggests that maternal, perinatal, infant, and child mortality and morbidity can be affected by limiting short birth intervals (World Health Organization, 2013).

This publication reviews the policies, programs, and status of PPFP in Bangladesh and seeks to identify the need, gaps, and future focus areas for PPFP in the country. Research for Decision Makers (International Centre for Diarrhoeal Disease Research, Bangladesh [icddr,b]) and MEASURE Evaluation—both projects funded by the United States Agency for International Development (USAID)—reviewed the policies, programs, and status of PPFP, in Bangladesh, to identify the need, gaps, and future focus areas for PPFP in the country. This work aligns with USAID's goal of preventing child and maternal deaths. Documents and literature published between the periods of 2004–2017 on PPFP, long-acting reversible contraceptives (LARC), and permanent methods (PM) related to Bangladesh were considered for inclusion in the review process.

In addition, government and NGOs working on PPFP and related issues were contacted, in order to understand the status of their work on PPFP and identify additional relevant information. Published and unpublished documents on PPFP including reports, presentations, posters, leaflets, flipcharts, books, calendars, BCC materials and booklets were collected from the organizations identified as working on PPFP-related issues. Furthermore, interviews were conducted with two individuals from the Field Services Delivery Program (FSDP) in the Directorate General of Family Planning (DGFP), another two individuals from the Clinical Contraceptive Service Delivery Program (CCSDP) in the DGFP, and two individuals from EngenderHealth, to understand the status of the PPFP program and related documents. USAID also supplied documents and inputs related to NTC meetings and government circulars and decisions related to PPFP.

This report is organized into sections. First, we present the evidence on the need for PPFP in Bangladesh. Second, we present the recommendations on PPFP programming from WHO and the implications for programming in Bangladesh. Third, we review policies, programs, and literature related to PPFP in Bangladesh. Fourth, we discuss and summarize the findings, gaps, and challenges. Finally, we propose a set of recommendations for PPFP in Bangladesh on the basis of the evidence collected during this review.

# 2. THE NEED FOR PPFP IN BANGLADESH

The need for an effective PPFP intervention in Bangladesh can be understood by examining a number of key indicators related to PPFP programming. First, an effective PPFP intervention would counsel the benefits of longer birth intervals and help to meet the FP needs of women who seek to limit or space their births, resulting in improvements in birth spacing over time. Thus, understanding how birth spacing has changed in Bangladesh and the evidence on birth spacing and its impact on maternal and child health outcomes both in Bangladesh and globally, is a critical part of assessing the need for PPFP in Bangladesh. Second, an effective PPFP intervention is likely to lower unmet need for FP and unintended pregnancies. Thus, examining the status of unmet need and unintended pregnancies will provide further evidence on the need for PPFP in Bangladesh. Third, the importance of PPFP can be reflected in changes in *insusceptibility* (which measure the length of time that a woman is insusceptible to pregnancy in the postpartum period). As *insusceptibility* drops, the need for a PPFP intervention becomes more urgent. Finally, an effective PPFP program is likely to lower the number of unwanted pregnancies that are terminated through MR procedures and abortion. Consequently, if MR and abortion procedures are high in Bangladesh, the importance of an effective PPFP intervention that may lower unwanted pregnancies, becomes more critical. In the following subsections, we examine each of these dimensions of need for PPFP, in order to identify the status of PPFP in Bangladesh, and the important elements of a program that a PPFP intervention may need to strengthen.

# 2.1. Birth Spacing

In a systematic review of the evidence in 2006, it was estimated that 30 percent of maternal mortality and 10 percent of child mortality would be averted in the developing world, if couples spaced their pregnancies more than two years apart (Cleland, et al., 2006). In another study examining data from 52 Demographic and Health Surveys (DHS), risk of child mortality was found to be the highest in very short birth-to-pregnancy intervals of less than 12 months (Rutstein, 2008). This study also estimated that under-five mortality would decrease by 13 percent if couples waited 24 months to conceive again, and by 25 percent if couples waited 36 months (Rutstein, 2008). In the Bangladesh context, the Bangladesh Maternal Mortality and Health Care Survey of 2016 (BMMS 2016) suggested that the maternal mortality ratio (MMR) has stalled in the country since 2010, that MMR is the highest in the postpartum period, and that higher parity increases the risk of maternal death (NIPORT, icddr,b, and MEASURE Evaluation, 2017). In a study in the Matlab area of Bangladesh, an analysis of birth spacing data over 20 years found results similar to those seen globally: closely spaced pregnancies less than 24 months apart were found to be the riskiest for mother and baby and increased the risks for adverse outcomes, including early neonatal mortality, mortality for the index child, non-live birth (including abortions), preterm birth, low birth weight, and small for gestational age. Further, short interpregnancy intervals increased the risk of women for pre-eclampsia, high blood pressure, and premature rupture of membranes. The study also estimated that infant mortality would be 5.4 percent lower and child mortality would be 9.4 percent lower, if all interpregnancy intervals were in the three-to-five-year range (DaVanzo, et al., 2004; DaVanzo, et al., 2007).

There is also evidence that birth spacing has been improving in Bangladesh, which should have led to improvements in maternal, newborn, and child health. Analysis from previous Bangladesh Demographic and Health Surveys (BDHS) reveals that in the BDHS in 1994, 20 percent of births had birth intervals less than 24 months in the preceding five years. By BDHS 2004, this proportion had fallen to 16 percent, and by BDHS 2014 it was down to 11 percent (Mitra, et al., 1994; NIPORT, 2005; NIPORT, 2016). If we break down this analysis by age group, however, there is evidence that despite overall improvements, certain age-groups have not enjoyed improvements in birth intervals. In particular, there have been increases in the proportion of women ages 15 to 19 who have birth intervals less than 24 months, while the proportion in the 20 to 24 age group and those above 40 continue to have relatively high proportions of women who have birth intervals less than 24 months. The change in birth intervals since 1994 is presented in Figure 1.

49.3 60 Proportion of women 50 40 25.2 23.2 18.5 18.9 17.3 ■ BDHS 1994 30 14.2 12.6 7 ■ BDHS 2004 20 ■ BDHS 2014 10 0 15-19 25-29 35-39 20-24 30-34 40+ Age group

Figure 1. Proportion of women with birth intervals less than 24 months

Further, if we examine at the relationship between birth intervals and under 5 mortality and perinatal mortality rates, BDHS data indicates that both mortality rates were higher in children who were born within two years of the previous child.

Overall, the evidence suggests that any intervention that increases median birth intervals is likely to positively impact maternal, neonatal, and child health outcomes. Further, though there have been improvements in birth intervals in Bangladesh over the last 20 years, a significant proportion of women continue to have births within the risky 24 months of the last birth, and many of these women are most often in the younger and older age-groups. Thus, programs that target increases in birth intervals in certain age groups may improve overall birth intervals in Bangladesh further, mitigating the pernicious impacts of short birth intervals on maternal, neonatal, and child health.

# 2.2. Unmet Need and Unintended Pregnancies

While there have been significant declines in fertility since the 1970's, the contraceptive prevalence rate (CPR) in Bangladesh has stalled at around 62 percent since 2010, and there remains a large gap between total fertility rate (TFR) of 2.3 and the wanted fertility rate of 1.6 (NIPORT, 2016). This stalled CPR and the gap between TFR and the wanted fertility suggests that many women who need FP are not able to use it. Further, analysis of data from DHS surveys in 27 countries showed that 95 percent of women who are 0-12 months postpartum wanted to avoid pregnancy, but only 70 percent were using contraceptive methods (WHO, 2013). In the Bangladesh context, BDHS 2014 indicated that there was a 12 percent unmet need for FP in currently married women, that seven percent of currently married women had an unmet need for limiting births, and that five percent had an unmet need for spacing births. Further, though 57 percent of eligible women wanted no more children, only eight percent were using longacting or permanent methods (LAPM) of contraception (NIPORT, 2016). Findings from another study using BDHS data showed that in the group of women 0-23 months postpartum in Bangladesh in 2011 who were using PPFP, only eight percent were using LAPMs (Moore, et al., 2015). In a study using BDHS 2014 data, currently married women who had given birth in the last 12 months were found to have a modern CPR of 49 percent, with only 27 percent of the women reporting that they had interacted with family planning workers (FPW) in the preceding 12 months (Mostafa Kamal, et al., 2017). A study in Bangladesh's Sylhet District found that though 78 percent of recently delivered women wanted birth spacing of three years or longer, 75 percent of them were not using any contraceptive methods (Ahmed, et al., 2013).

Analysis of BDHS data also shows that unintended pregnancies continue to remain high (26%) in Bangladesh. If we disaggregate the unwanted and mistimed pregnancy data by age, we find that unintended pregnancies are especially a problem in older age groups, with 40 percent of women ages 30 to 34, and 44 percent of women ages 35 to 39 stating that their last birth was either mistimed or unwanted in 2014. Figure 2 presents the age-disaggregated analysis of BDHS data of unintended pregnancies between 1994 and 2014 (Mitra, et al., 1994; NIPORT, 2005; NIPORT, 2016).

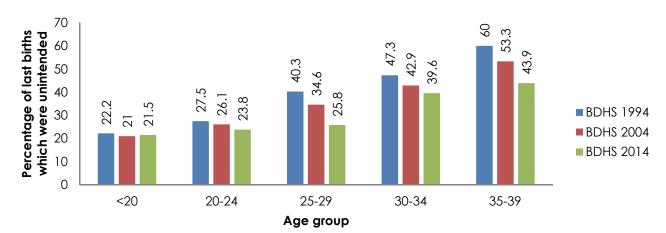


Figure 2. Percentage of last births that were unintended

Overall, a stalled CPR, high levels of unmet need for spacing and limiting births, the low utilization of PPFP, and the high levels of unwanted pregnancies (particularly in the older age groups), suggest that strengthening PPFP will play an important role in meeting the needs of the people of Bangladesh.

# 2.3. Changes in Insusceptibility

The need for PPFP can also be seen in the changes in the mean duration in months that a woman is insusceptible to pregnancy following a birth. Data from BDHS indicates that the duration of postpartum insusceptibility (which is a combination of women who are postpartum amenorrhoeic or abstaining from sexual intercourse) following a birth has been falling since 1994, despite increases in the proportion of women who were exclusively breastfeeding (which tends to increase insusceptibility). In 1994, the mean duration of insusceptibility was 12.4 months (median duration was 10.8 months). By 2014, the mean insusceptibility had fallen to 8.9 months (median duration was four months), indicating that women who had recently delivered were increasingly at risk of having shorter birth intervals, in the absence of any contraceptive use. Further, median duration of insusceptibility in the lowest wealth quintile was 3.2 months, which was the lowest amongst all the wealth quintiles, indicating that the poorest women were at the greatest risk of short-birth intervals in the absence of PPFP (NIPORT, 2005; NIPORT, 2016). Overall, this drop in insusceptibility indicates an environment where an increasing number of postpartum women are at risk of shorter birth intervals, and consequently in greater need of an effective PPFP intervention.

# 2.4. Menstrual Regulation and Abortions in Bangladesh

Evidence of the need for PPFP can also be seen if one examines the estimates of the number of MR and induced abortion procedures in Bangladesh. Using a nationally representative sample of health facilities and professionals, Hossain, et al. estimated that 430,000 MR procedures were performed in health facilities in Bangladesh in 2014 (Hossain, et al., 2017). This translates to an annual MR rate of 10 per 1,000 women of reproductive age, even though only 42 percent of health facilities in Bangladesh were found to provide MR services. Further, an estimated 27 percent of women seeking MR services were turned away because they were outside the window of time within which an MR could be legally provided (Hossain, et al., 2017). Using the same nationally representative survey, Singh, et al. estimated that the number of induced abortions performed in Bangladesh was 1,194,000 and that the number of women treated for abortion-related complications was 257,000 (Singh, 2017). These estimates of abortion and MR further support the contention that there is a gap in the FP services for women seeking to space or limit their children. This gap is further evident in the stalled CPR of 62 percent since 2010 (NIPORT, Mitra and Associates, and ICF International, 2016).

Overall, the high numbers of MR procedures and induced abortions in Bangladesh suggest that strengthening the PPFP program (together with increasing the CPR) may help to limit the number of MR procedures and induced abortions, and consequently improve maternal health outcomes in Bangladesh.

# 3. WHO PPFP PROGRAMMING RECOMMENDATIONS

WHO has identified different points of contact with maternal, newborn, and child health (MNCH) interventions during the 12-month period after childbirth, which provide opportunities to integrate PPFP activities (WHO, 2013). During the prenatal period, WHO recommends the provision of PPFP counseling during facility-based antenatal care (ANC) and community-based pregnancy screening (in cases when women do not go to facilities for ANCs). During the delivery and 48-hour postpartum periods, WHO also recommends the provision of PPFP counseling and appropriate services during any contact with women delivering in facilities or at home by skilled birth attendants (SBA). During the 48 hours to six weeks postpartum period, WHO recommends the provision of PPFP counseling and services to women whenever they receive postnatal care (PNC)—i.e., either at facilities or at home. During the period from six weeks to 12 months postpartum, WHO recommends the provision of PPFP counseling and services whenever the following occur as part of the maternal and child health program, either at facilities or at home: immunizations, well child visits, nutrition and growth monitoring, event days (such as during Vitamin A supplementation days), illness visits, and preventing mother-to-child transmission of HIV and other antiretroviral care (WHO, 2013).

Further, different contraceptive options have been identified for PPFP depending on the needs of women and their breastfeeding status (WHO, 2013; WHO, 2015; DGFP, 2016) These options are presented in Figure 3 below.

6 weeks 6 months Birth 48 hours 3 weeks 4 weeks 1 year Lactational Amenorrhea Method (LAM) Implant, Minipill BREASTFEEDING **WOMEN** Tubectomy Tubectomy Implant, Injectables, Minipill **NON-BREAST-IUD** IUD **FEEDING WOMEN** Tubectomy Tubectomy Combined Pill Condom ALL MEN NSV N.B: - Method should not be started at the white portion of time bar.

Figure 3. Recommended contraceptive options for PPFP

# 3.1. Proposed Model for PPFP Intervention in Bangladesh

Following-up on the recommendations of the WHO programming model, the activities listed below will be important elements of an effective PPFP implementation in Bangladesh.

- Generating demand among pregnant women for PPFP through:
  - Counseling pregnant women during ANC visits on the benefits of birth spacing, on appropriate and
    effective methods based on their spacing and limiting needs, and on deciding, before delivery, which
    method to accept at delivery
  - O Counseling women during PNC and EPI visits on the benefits of birth spacing and choosing an appropriate and effective method based on their spacing and limiting needs
- Readying public, private, and NGO facilities to provide PPFP by:
  - Ensuring the availability of the required trained providers
  - Ensuring the availability of the required equipment and supplies
- Offering PPFP counseling and all appropriate PPFP methods immediately after facility delivery by:
  - o Engaging Directorate General of Health Services (DGHS) facilities and providers in offering PPFP
  - Engaging private-sector and NGO facilities and providers, particularly obstetricians and gynecologists, in providing PPFP

# 4. REVIEW OF PPFP PROGRAMMING IN BANGLADESH

# 4.1. Existing PPFP Services in Bangladesh

A review of PPFP services in Bangladesh identified a number of PPFP strategies and interventions that were planned for the country. These interventions were to be implemented by the Government, NGOs, and private for-profit facilities. The details and status of these interventions are presented in the following subsections.

#### 4.1.1. Government PPFP Interventions

In 2002, the Government of the People's Republic of Bangladesh began a PPFP intervention with the promotion of tubectomy to women who were to undergo caesarean section and normal vaginal delivery in 16 government facilities (both health and FP facilities) from eight districts in the country. The goal was to provide permanent FP solutions to women who wanted to limit their childbearing. However, due to several challenges, including coordination between the DGFP and the DGHS (which governs the government facilities that primarily provide ANC and delivery care), logistics, a lack of timely flow of imprest funds,¹ and limited stakeholders' interest or engagement, the intervention was not scaled-up as planned (Government of People's Republic of Bangladesh, 2016). A policy brief from an analysis of BDHS 2014 data recommended that PPFP counseling be implemented through training of health and FP workers (NIPORT and ICF International, 2016). In 2015, a draft *National Action Plan for Postpartum Family Planning (PPFP)* for Bangladesh was developed, approved, and circulated by the NTC of the DGFP. This action plan was the result of coordination between the government and development partners, including DGFP, DGHS, USAID, United Nations Population Fund (UNFPA), Mayer Hashi II (MH-II) project, and the MaMoni Health Systems Strengthening (HSS) project. The action plan proposed the implementation of the following activities to effectively implement a PPFP intervention and laid out an initial general implementation plan (Government of People's Republic of Bangladesh, 2016):

- Generating user demand
- BCC activities
- Availability of a PPFP methods package
- Capacity building
- Logistic supply chain management and quality improvement activities

The action plan identified a number of challenges and constraints to PPFP programming in Bangladesh and suggested solutions to mitigate those constraints and challenges. However, the action plan does not specify how to integrate PPFP into PNC and EPI sessions, how to engage the private sector in the provision of PPFP, or how to engage other stakeholders like the DGNM, in the provision of PPFP. The constraints and challenges, and their solutions, identified in the NTC's National Action Plan for PPFP are presented in Table 1.

<sup>&</sup>lt;sup>1</sup>Funds allocated to DGFP for FP initiatives, but which are used by DGHS to implement FP initiatives.

Table 1. Constraints/challenges to increasing access to PPFP services

| Challenges/constraints  | Solutions   |
|---|---|
| Lack of client awareness of availability of PPFP services                         | Demand-generation activities related to PPFP services need to be undertaken at different levels with communities, providers and field workers.  |
| No or limited information about the PPFP during ANC, PNC, and Immunization visits | In March 2016, the National Technical Committee (NTC) gave approval for integrating information about PPFP during all ANC, PNC, and Immunization visits, and availability and provision of short-acting methods like pills, condoms, and Injectable from the Immunization sites.                    |
| Limited availability of trained service providers                                 | <ul> <li>Have a dedicated regional trainers pool and plan for training of all service providers engaged with maternity services</li> <li>Along with the MH-II Project/EngenderHealth, DGFP has also started provider trainings to quickly increase the number of PPFP service providers.</li> </ul> |
| Availability of Kelly's Forceps for postpartum IUD placement                      | This equipment needs to be added to the IUD essential equipment list.   |
| Provider bias toward postpartum IUDs  | Advocacy and training to address provider misconceptions and biases.  |

Further, DGFP published a circular in March 2016 with instructions for PPFP counseling to women during their ANC visits, during PNC, and during their visits to EPI centers for vaccination of their children (Government of People's Republic of Bangladesh, 2016). The circular did not specify the mechanism through which this counseling and training would occur and does not address what will happen to women who receive ANC or PNC from private sector providers. Following the 66<sup>th</sup> NTC meeting, the government also issued two additional circulars—the first on POPs, and the second on implants—in April 2016, stating that both methods could be offered immediately after birth, instead of the previous advice recommending six weeks after birth (DGFP, 2016).

At the London Family Planning Conference in July 2017, Bangladesh pledged to fully implement its *National Action Plan for PPFP* by training doctors, midwives, nurses, and Family Welfare Visitors (FWVs) in 64 district hospitals (DHs). Further, the government committed to spend US \$615 million to the FP program between 2017 and 2021, a 67 percent increase over the 3<sup>rd</sup> Health, Population, and Nutrition Sector Programme (2012–2016). The Government of Bangladesh also planned to operationalize its new National Adolescent Health Strategy with a special focus on FP needs (Government of People's Republic of Bangladesh, 2017).

We further reviewed the BCC materials and job aids related to promotion of PPFP available with the DGFP. A total of 58 BCC materials were found from government websites.<sup>2</sup> These materials were developed through a collaboration between the Information, Education and Communication (IEC) Unit of the DGFP, Bureau of Health Education, and USAID-supported projects like the Bangladesh Knowledge Management Initiatives (BKMI) project, and the MH-II project. The types of BCC materials that were developed included leaflets, fliers, pictorial cards, banners, television commercials, flash card, a web-based e-toolkit, and mobile app-based e-toolkit. The main messages identified were on types of PPFP methods, and the importance and options in choosing those methods. However, how effectively these BCC materials have been disseminated and used is not clear.

We also examined the Ministry of Health and Family Welfare's (MOH&FW) 4<sup>th</sup> Health, Population, and Nutrition Sector Programme Implementation Plan (PIP) for any reference to PPFP planning (Ministry of Health and Family Welfare, Government of the People's Republic of Bangladesh, 2017). There was mention of PPFP in several places in the PIP. The PIP notes that harmonizing DGHS and DGFP on various activities, including on PPFP, will be an important

http://etoolkits.dghs.gov.bd/toolkits/bangladesh-fp/postpartum-fp; http://etoolkits.dghs.gov.bd/toolkits/bangladesh-fp/diirgh-meyaadi-pribaar-priklpnaa-pddhti; http://etoolkits.dghs.gov.bd/toolkits/bangladesh-fp/mhilaader-jny-sthaayyii-pribaar-priklpnaa-pddhti; http://etoolkits.dghs.gov.bd/toolkits/bangladesh-fp/sthaayyii-pribaar-priklpnaa-pddhti

part of this sector program. In various places in the document, the PIP calls for training DGHS personnel, doctors, and paramedics on PPFP, the importance of providing PPFP at both the community and facility levels, the importance of implementing the National Action Plan on PPFP, prioritizing PPFP as part of Component 3 of the PIP (Provision of Quality Healthcare), and for organizing mothers' events at MCWC's to promote PPFP to all. When we examined the individual operational plans (OPs) in the PIP, we found references to PPFP in four different unit OPs. The CCSDP of DGFP mentions the quality provision of PPFP services in Objective #3 of its OP and calls for an effective implementation of PPFP, particularly for LARC/PM, post-MR, and post-abortion care (PAC) FP services. The CCSDP OP also mentions the importance of a special focus on hard-to-reach and low performing areas including urban slums and the importance of placing imprest funds at DHs, medical college hospitals, and other specialized hospitals. It also has activities related to training of doctors from DGHS, DGFP, private sector, and NGOs on PPFP, introducing an e-toolkit and e-learning on PPFP, and organizing workshops at the division, district, and subdistrict levels on PPFP for medical personnel from all sectors, including the private sector and NGOs. Finally, it has an indicator of performance related to facility readiness to provide PPFP in Sylhet and Chittagong Divisions. In the Maternal, Neonatal, Child, and Adolescent Health (MNCHAH) OP, PPFP is mentioned as one of the areas that USAID has committed to supporting within the MNCHAH OP. Furthermore, MNCAH commits to conduct a crosscutting activity under the maternal health activity that will strengthen "PPFP and capacity development of service providers on surgical contraception, IUDs and MR." PPFP is also mentioned in the Information, Education, and Communication (IEC) OP, where it notes that there is a lack of PPFP counseling in the country and that many deliveries occur at home. The IEC unit of DGFP also calls for promoting PPFP in low-performing areas, as part of its crosscutting activities. Finally, the Family Planning Field Service Delivery (FP-FSD) of DGFP OP calls for supporting the provision of PPFP as part of its crosscutting activities. The statuses of implementation of PPFP objectives and activities mentioned in the PIP and the OPs are not known.

The World Bank has also noted that PPFP in Bangladesh has achieved limited coverage. To that end, as part of its credit and grant to Bangladesh, it has proposed a disbursement linked indicator (DLI) that measures improvements in facility readiness to provide PPFP services in 617 targeted facilities in the Chittagong and Sylhet Divisions. The targeted facilities include DHs, Upazila Health Complexes (UHCs), and Union Health and Family Welfare Centers (UH&FWCs) (The World Bank, 2017). This DLI is likely to strengthen the government's focus on PPFP.

In April 2018, the Ministry of Finance, Peoples Republic of Bangladesh, acting upon a request from MOH&FW, approved the request for the disbursement of imprest funds from CCSDP, DGFP to DHs, medical college hospitals, and specialized hospitals, for a PPFP program. Subsequently, in June 2018, MOH&FW issued a letter to 93 DHs, medical college hospitals, and specialized hospitals, opening an imprest fund account for each hospital for 100,000 Taka for the PPFP program. The funds were to go from the CCSDP, DGFP to the administrators of each of the listed 93 hospitals. The total amount allocated for the PPFP program across the 93 hospitals was 9,300,000 Taka, or approximately US \$110,000 for the whole country (Government of the People's Republic of Bangladesh, Ministry of Finance, 2018; Government of the People's Republic of Bangladesh, Health Education and Family Welfare Division, 2018). Thus, while the allocation of the budgets by the government for PPFP are an important first step and the true marginal costs of this program are yet to be determined, the explicit budget allocation for PPFP currently remains relatively modest.

Overall, a full assessment of the *National Action Plan for PPFP* implementation, government circulars, and PPFP activities mentioned in the PIP and its OPs has not been done and the PPFP intervention appears to have been limited in scale and scope so far. However, there is data in the DGFP suggesting that the number of PPFP IUDs and PPFP tubectomies has been steadily increasing since 2013, though the numbers in this MIS data do not match the numbers reported by the Programme Management and Monitoring Unit (PMMU) of the MOH&FW (Government of People's Republic of Bangladesh, Progamme Management and Monitoring Unit, Planning Wing, Ministry of Health and Family Welfare, 2016). Part of the reason for this discrepancy may have been a gap in reporting the performance of private clinics.<sup>3</sup> Given the discrepancy between the MIS and the numbers of postpartum IUDs and tubectomy in the PMMU report, we do not report the numbers here.

<sup>&</sup>lt;sup>3</sup> Personal communication with USAID, 2018.

#### 4.1.2. NGO Interventions That Include PPFP Components

Several different NGOs have implemented interventions with PPFP components. In 2009, Mayer Hashi I (MH-I), a government program supported by USAID and implemented by EngenderHealth, was launched to expand the use of LAPM in 21 low- performing areas of the country. In 2013, MH-II was launched and expanded the LAPM program to 64 districts with a special emphasis on PPFP. The project was also supported by UNFPA in its 13 Maternal and Neonatal Health Initiative project districts. However, a midterm performance evaluation of MH-II indicated that the overall effect of the program on LAPM use was limited, and there was, in general, a transition away from permanent methods to short-term methods (Senlet, et al., 2016).

The Healthy Fertility Study (HFS) between 2007 and 2013 examined the feasibility of a community-based intervention for PPFP in Bangladesh. It was jointly designed and implemented by the MOH&FW, USAID's Maternal and Child Health Integrated Program, Johns Hopkins Bloomberg School of Public Health, and a local NGO, Shimantik (Jhpiego, et al., 2011). It used community health workers (CHWs) to integrate PPFP counseling during household visits and community organizers to lead community-wide meetings on PPFP. Later in the intervention, CHWs were also provisioned to provide short-term methods to women they were counseling, and later trained to administer injectables as well. The intervention was successful in increasing PPFP by 15 percentage points over comparison areas with no interventions, while the proportion of low birth intervals was significantly lower in the intervention as well. In addition, the proportion of preterm births, women and children with anemia, and the proportion of underweight and stunted children were all significantly better in the intervention arm. This provided evidence that an integrated PPFP community-based intervention in Bangladesh, with provision of short-term methods and injectables by CHWs during home visits, was a feasible and effective way to improve PPFP in Bangladesh. Further, a qualitative analysis of barriers to lactational amenorrhea method (LAM) use indicated that LAM use could promote exclusive breastfeeding, and that LAM use did not predict future contraceptive use (Ahmed, et al., 2013; Ahmed, et al., 2015).

Similar to the HFS study, MH-II had also piloted the community-level provision of the first dose of injectables by trained Family Welfare Assistants (FWAs) in three districts in the hope of reducing the barrier of attending a clinic to receive a dose. This community-based intervention was approved by the NTC and is now planned for rollout all over Bangladesh by the government, supported in some areas by the MaMoni Health Systems Strengthening (HSS) project. The extent to which the government and MaMoni has effectively implemented this program is not known. Additionally, the "Surjer Hashi" program will provide PPFP counseling as part of all ANC in its network.<sup>4</sup>

Finally, in 2017, UNFPA, in collaboration with the DGFP, launched a program in some areas of the country to recruit midwives as FP counselors who would provide PPFP counseling to women visiting health facilities for ANC, PNC, and EPI activities. In January 2018, the first set of midwives had been selected and trained, and no impact assessment had been done or was available at the time of conducting this review.<sup>5</sup>

#### 4.1.3. Private Sector Interventions for PPFP

Two private sector interventions for PPFP activities were identified. In 2008, with technical assistance from EngenderHealth, service providers from three private sector hospitals of Ad-Din in Dhaka, Jessore, and Kushtia, were trained on postpartum insertion of IUDs and immediate postpartum tubectomy. As of March 2016, these hospitals were still providing the services, though assessment of this intervention beyond the continuation of these services, was not available (Government of People's Republic of Bangladesh, 2016). In 2011, the Strengthening Health Outcomes through Private Sector (SHOPS) project was launched as a collaboration between the Social Marketing Company (SMC), EngenderHealth, AITAM, Obstetrics – Gynecology Society of Bangladesh (OGSB), USAID, and the Government of the People's Republic of Bangladesh. The project was implemented between 2012–2014 and intended to engage the private sector in the provision of PPFP by addressing the barriers to its provision. It focused on ensuring appropriate logistics and supplies necessary for PPFP provision in private facilities, the training of service providers at private sector hospitals and private medical schools on counseling and providing PPFP methods, the implementation of quality assurance, and relationship building and troubleshooting to ensure PPFP provision. The project's self-reported lessons learned included the need for ongoing dialogue to ensure effective private sector implementation, the need for close monitoring of private sector providers, that many senior doctors simply did not have the time to ensure PPFP counseling and provision, and that consumer awareness and demand for PPFP needed to be strengthened (Masud, 2013; Rahaim, et al., 2011).

<sup>&</sup>lt;sup>4</sup> Personal communication with USAID, 2018.

<sup>&</sup>lt;sup>5</sup> Personal communication with the Directorate General of Family Planning, 2018.

# 4.2. Factors Affecting PPFP Programming in Bangladesh

The review of PPFP services and the related literature identified a number of contextual factors that may affect the provision of PPFP in Bangladesh. The contextual factors likely to affect PPFP are presented in the following subsections.

#### 4.2.1. Sources of Family Planning Methods

BDHS 2014 data indicated that 49 percent of modern FP users sourced their contraceptive methods from the public sector, while 43 percent sourced them from the private sectors (NIPORT, Mitra and Associates, and ICF International, 2016). NGOs and the non-medical sectors accounted for four percent each of the remaining sources for modern FP methods. Within the private sector, the biggest source of FP methods were pharmacies for short-acting methods, and private hospitals for LARC/PM. Any PPFP strategy that ignores the private sector provision of PPFP services is thus likely to limit the impact of the program (NIPORT, Mitra and Associates, and ICF International, 2016).

# 4.2.2. Coverage of ANC, Facility Delivery, PNC, and EPI in Bangladesh

The use of facility deliveries increased from 23 percent in BMMS 2010 to 47 percent in BMMS 2016 (NIPORT, icddr,b, and MEASURE Evaluation, 2012; NIPORT, icddr,b, and MEASURE Evaluation, 2017). Private sector facilities accounted for most of the increase in facility deliveries between 2010 and 2016, with 29 percent of all deliveries occurring in private facilities by 2016. In the public sector, most of the deliveries occurred in upazila level and higher facilities. If we consider only facility deliveries, we find that one-third of the facility deliveries occur in DGHS facilities, while two-thirds of facility deliveries occur in private sector facilities. While inequity has declined in Bangladesh, a woman in the richest quintile was 3.4 times more likely to deliver in a facility (76% of women in the highest quintile delivered in facilities, while only 22% of women in the lowest quintiles delivered in facilities) (NIPORT, icddr,b, and MEASURE Evaluation, 2017). Any facility-based postpartum tubectomy or IUD service provision is thus likely to impact the richest quintiles more than the lowest quintiles, unless facility-based delivery improves amongst the poor. Further, the large proportion of private sector deliveries means that PPFP programming will need to ensure that private sector facilities are included in the strategy.

In the case of ANC, BMMS 2016 data showed that 74 percent of women received at least one ANC from a medically-trained provider and 22 percent of pregnant women received ANC at home. The Rangpur division of the country had the biggest proportion of women who received ANC at home (50%). Overall, the biggest source of ANC was the private sector, with 58 percent of ANC seekers now going to the private sector to get them. Finally, qualified medical doctors provide ANC to 68 percent women and Family Welfare Visitors (FWVs) and equivalent service providers provide ANC to another five percent of women (NIPORT, icddr,b, and MEASURE Evaluation, 2017). However, a recent survey across 46 districts indicates that many of these medical doctors which provide ANCs, are not trained in both PPFP and LARC/PM—only 46 percent of obstetricians and gynecologists (OB/GYNs) and 51 percent of the Medical Officers – Maternal and Child Health (MO–MCH) had received training on LARC/PM since 2014, while only 27 percent of OB/GYNs and 25 percent of MO–MCHs had received training on PPFP since 2014 (MEASURE Evaluation, 2018). Thus, any PPFP strategy that is integrated with ANC service provision will need to take into account the large proportion of women who receive ANC at home, the large proportion that receive ANC through the private sector, that qualified doctors are the largest group that provide ANCs, and that large percentages of qualified doctors are not trained on either LARC/PM or on PPFP.

Using BMMS 2016 data, we also see that 48 percent of women now receive PNC within the recommended two days of delivery. However, only six percent of women who delivered at home (who are most often women in the poorest quintile) received a PNC within two days of delivery. Younger women were also more likely to receive a PNC than older women, and first parity women were also more likely to receive PNC. There was also large regional variation in PNC in the country, with Mymensingh Division having the lowest PNC (with 33%), while in Khulna Division 62 percent of women had a PNC. Any strategy that integrates PPFP with PNC, will have to take into account that many poor women who deliver at home do not receive the recommended PNC and that there is regional variation in the proportion of women who receive a PNC (thus impacting the effectiveness of any integrated PPFP program) (NIPORT, icddr,b, and MEASURE Evaluation, 2017).

In terms of vaccination coverage, the most recent data available from BDHS 2014 indicates that coverage of vaccination in children ages less than 12 months was very high, with coverage exceeding 95 percent for BCG, Pentavalent 1, Pentavalent 2, Polio 1, and Polio 2, and coverage of 90.9 percent for Pentavalent 3 and for Polio 3. Only two percent of children ages 12–23 months had not received any vaccinations. However, there was regional variation in vaccination coverage, with Sylhet Division performing the worst and Rangpur Division performing the best (NIPORT, Mitra and Associates, and ICF International, 2016). Any program that integrates PPFP intervention with the EPI program is likely to achieve high coverage.

# 4.2.3. Awareness and Acceptance

Generally, the FP demand generation activities have been poorly implemented, and the situation appears to have deteriorated recently in Bangladesh. Consider two indicators related to demand generation: Women-FP worker contact within the preceding six months declined from about 40 percent in 1994 to about 20 percent in 2014; and women's exposure to FP messages declined from about 50 percent in 1994 to 30 percent in 2014 (Mitra, et al., 1994; NIPORT, Mitra and Associates, and ICF International. 2016).

As noted previously, a recommended point of contact for PPFP is during ANC. However, there is evidence to suggest that existing use of BCC materials is not strong. For example, a survey across 46 districts in 2015 suggests that only about one percent of home visits by FP workers and two percent of visits by pregnant women to facilities resulted in the provision of FP BCC materials to those women (MEASURE Evaluation, 2017). Nevertheless, there is evidence that women have some knowledge about the availability of PPFP. In 2017, a follow-up survey across 46 districts of Bangladesh indicated that:

- 20% of women knew that IUDs could be inserted during normal or caesarean delivery at a facility
- 28% of women knew that tubectomy could be obtained during normal delivery at a facility
- 65% of women knew that tubectomy could be obtained during caesarean delivery at a facility (MEASURE Evaluation, 2018)

This evidence suggests that there is low to moderate awareness about postpartum LARC/PM options. Further, the success of the PPFP program will also be dependent on the extent to which PPFP is offered at delivery. The 2017 survey<sup>6</sup> (MEASURE Evaluation, 2018) also indicated that:

- Only 14 percent of women who delivered at facilities were offered IUDs or tubectomy<sup>7</sup> (9% with normal delivery and 17% with caesarean delivery)
- Only three percent of women who delivered at facilities accepted IUD/tubectomy at birth
  - o In other words, about 23 percent of those who were offered IUD or tubectomy accepted a method (6% with normal delivery and 29% with caesarean delivery accepted a method)
- More women with caesarean delivery at public facilities (23%) were offered IUD/tubectomy than private facilities (17%), but acceptance was greater in private facilities (31%) than public facilities (23%)

This suggests that a significant challenge to the existing PPFP program is that far too few women who deliver at facilities are being offered a LARC/PM. Thus, there is a considerable scope to improve PPFP simply by offering LARC/PM to more recently delivered women. The result of this low rate of offering postpartum LARC/PM is that overall IUD or tubectomy acceptance is only three percent, which may help to explain the low prevalence of LARC/PM in Bangladesh, and the limited impact of the existing PPFP program.

This evidence also indicates that more of the offers and acceptance of postpartum IUD or tubectomy were among women who had a caesarean section. This effectively left out of the PPFP program the large number of women who had normal deliveries. In Bangladesh, combining data on age-cohort birth fertility rates and facility delivery rates, we estimate that there were about 1.5 million births in facilities (one million at private-sector facilities and half a million at

<sup>&</sup>lt;sup>6</sup> The surveys identified 4,494 births born during April 2014 to June 2017; 46 percent took place in facilities (65% of facility deliveries took place in the private-sector); and 28 percent were caesarean (or 61% of facility deliveries were caesarean).

<sup>&</sup>lt;sup>7</sup> Most of these women were offered tubectomies, and only a very small proportion were offered IUDs.

public-sector facilities) in 2016 (NIPORT, icddr,b, and MEASURE Evaluation, 2017; Singh, et al., 2017). If all women delivering at facilities were offered a method, and acceptance rates were the same (MEASURE Evaluation, 2018), there would be approximately 350,000 women receiving PPFP annually, most of which would be tubectomies. This number would be equal to about 2.4 times of the permanent methods served and 46 percent of the LARC/PM procedures served by DGFP in 2017. Offering implants and POPs in addition to IUDs and tubectomies to postpartum women in facilities would further increase these numbers and increase choices for women.

#### 4.2.4. Coordination between DGFP and DGHS

DGFP and DGHS, the two wings of the MOH&FW, have strong parallel infrastructures within Bangladesh.

One-third of facility deliveries take place at facilities that are governed by the DGHS (a small proportion take place at Mother and Child Welfare Centers [MCWC] governed by the DGFP). In addition, many ANC and PNC occur in public-sector facilities that are managed by DGHS clinical providers and the EPI program is managed by DGHS service providers. On the basis of discussions with DGFP and NGO partners, there was also suggestion that DGHS providers may not see FP services as their responsibility and consequently do not provide or counsel about PPFP. This means that any PPFP program that intends to integrate with ANC, facility-based delivery, PNC, and the EPI (as WHO recommends), will need to ensure that the service can be provided through DGHS staff and facilities. This will require strong coordination between DGFP and DGHS and the timely transfer of imprest funds, logistics, training, and supply of contraceptive methods to DGHS. The imprest fund issue has begun to be addressed, with the allocation of 9,300,000 Taka for PPFP in DHs, medical college hospitals, and specialized hospitals in April 2018, and the approval of transfer of these funds directly from CCSDP, DGFP to the hospitals. However, the full extent of the program remains to be costed, and remaining elements of the proposed program need to be appropriately funded and implemented.

Moreover, there is likely to be a challenge in ensuring the availability and readiness of LARC/PM services in public sector health facilities. For example, analysis of data from the Bangladesh Health Facility Survey 2014 indicates that many facilities within Bangladesh do not provide LARC/PM methods—only 63 percent of all health facilities in Bangladesh offer IUD services, 38 percent offer implants, 28 percent offer tubectomies, and 28 percent offer no-scalpel vasectomy (NSV). Furthermore, of the limited number of facilities that do provide LARC/PM, most are not ready to provide LARC/PM. Overall, only 14 percent of public facilities that provide IUDs, 39 percent of public facilities that provide implants, 14 percent of public facilities that provide tubectomy, and 28 percent of the public facilities that provide NSV, are ready to provide those services (NIPORT, ACPR, and ICF International, 2016). The biggest impediments to readiness were the availability of trained staff—for example, Mother and Child Welfare Centers (MCWCs) are supposed to be important sources of facility deliveries at the upazila level and below, but only half of them have the trained providers necessary to provide implants and tubectomies—and the availability of equipment and supplies at those facilities.

#### 4.2.5. Biases

There is evidence that there may be biases that may affect the provision of FP services in Bangladesh, which may in turn affect the provision of PPFP. In a recent study in private hospitals across Dhaka Division and Chittagong City, surveyed obstetricians, gynecologists, and nurses had misconceptions about the effectiveness of LARC/PM over short-acting methods. In particular, they saw IUDs and implants in a more negative light than the other methods. They also thought that men preferred short-acting methods, and as such, women should not use LARC/PM methods that husbands had not approved (Ugaz, et al., 2016). Further, discussion with DGFP stakeholders suggest that DGHS providers do not see FP as their responsibility. Another study examining barriers to LARC use across five countries (Bangladesh, Tanzania, Niger, Mozambique, and Ethiopia) found that all the countries had similar barriers. The barriers related to PPFP provision included limited awareness about LARCs amongst the young, myths and misconceptions about LARC use and side-effects, providers refusing to offer LARCs to clients who were considered too young or unmarried, and stigmas around adolescent sexuality and contraception (Yinger, 2016).

<sup>&</sup>lt;sup>8</sup> Personal communication with the Directorate General of Family Planning, 2018.

# 5. DISCUSSION

WHO and Bangladesh have recognized the importance of PPFP to improve maternal, neonatal, and child health outcomes. In recognition of the importance of PPFP, WHO has provided a series of programming recommendations for PPFP, including recommending the integration of PPFP counseling during ANC, and PPFP counseling and service delivery during delivery, PNC, and opportunities for infant care, such as EPI.

Despite improvements in CPR and maternal and child health mortality and morbidity over the years, there is significant evidence to suggest that Bangladesh needs a PPFP program. This supporting evidence includes a stalled CPR, high levels of unmet need for spacing and limiting, low levels of PPFP utilization among postpartum women, low prevalence of LARC/PM in women who want to limit their further child bearing, high levels of unwanted pregnancies (particularly in the older age groups), high proportions of women with short birth intervals in younger age groups and the highest age-groups, and the very high numbers of MR procedures and induced abortions in Bangladesh.

In recognition of the need for PPFP, Bangladesh has been implementing limited PPFP initiatives within the country since 2002, primarily in the area of immediate postpartum LARC/PM. These interventions have met with limited success, but have all been limited in their scope and scale. Furthermore, there have been limited NGO and private sector interventions on PPFP within the country.

In 2015, Bangladesh developed a *National Action Plan for PPFP*. This action plan called for the integration of PPFP counseling with ANC and delivery care, with a focus on LARC/PM. Furthermore, the Bangladesh government issued circulars in 2016 encouraging PPFP counseling during all ANC, PNC, and EPI sessions, and the use of implants and POPs for immediate postpartum use, in order to encourage greater PPFP coverage. Bangladesh has also committed to operationalize and implement its PPFP intervention in the 4<sup>th</sup> Sector Health Programme, and planned activities and appropriated funding for PPFP. To that end, the Bangladesh government approved the creation of imprest funds which CCSDP, DGFP was to distribute to hospitals, specialized hospitals, and medical college hospitals to implement PPFP. The amount allocated was however, relatively modest (9,300,000 Taka) and additional budgeting and funding for PPFP activities will be needed. Thus, the evidence suggests that this *National Action Plan for PPFP* is yet to be fully implemented, and it will require close coordination and discussion between DGFP and DGHS for an effective and faster implementation. Additionally, since the private sector and midwives also provide ANC and delivery services, engaging the private sector and DGNM in the provision of PPFP will be necessary to improve the PPFP intervention.

In summary, the review identified a number of gaps and challenges that will need to be addressed for an effective PPFP implementation.

- Effective PPFP information dissemination strategies do not currently exist, as mentioned in the *National Action Plan* for PPFP.
- Immediate PPFP is still mostly considered to be female sterilization and IUDs; more work needs to be done to inform providers that implants and POPs are also approved by the NTC and to provide training to them.
- The private sector increasingly provides ANC, delivery care, and PNC services. However, the *National Action Plan for PPFP* does not address how the PPFP program will ensure the private sector provision of PPFP.
- Other stakeholders such as the DGNM also provide ANC and delivery services, and will need to be engaged in
  order to increase the effectiveness of the PPFP.
- Overall, there is limited PPFP counseling and poor offer and acceptance of LARC/PM immediately after delivery.
  - One-third of the facility deliveries take place at facilities that are governed by DGHS. Discussion with stakeholders suggests that the DGHS providers perceive FP as not their responsibility and therefore are reluctant to promote PPFP.
  - Two-thirds of the facility deliveries take place in the private sector, and most of the providers are OB/ GYNs who have not been engaged in the promotion of PPFP and sometimes are indifferent.
  - Providers (particularly medical doctors) are poorly trained on LARC/PM and PPFP.

- Provider vacancies at public facilities are high, and in MCWCs in particular, posing a significant challenge to the promotion of PPFP.
- The complete availability of equipment and supplies necessary to provide LARC/PM in facilities remains a challenge.
- Imprest funds for LARC/PM procedures is governed by DGFP, and both DGHS and private providers encounter difficulties in reimbursement of costs. While the recently approved imprest funds made available to DGHS is an important first step in enabling an effective PPFP intervention, the amount allocated will likely need to be revised, as a full costing of the intervention becomes more clear.
- The national FP program in Bangladesh is evidently weak in BCC efforts—strategies, material, and products are poorly developed, thinly spread, and infrequently disseminated—and those on PPFP are no exception.
- Women in the younger age-groups, the poor, and the oldest age groups, continue to experience relatively high rates of shorter birth intervals.

# 6. RECOMMENDATIONS

We propose the following set of recommendations for PPFP programming in Bangladesh, on the basis of the findings from this review.

#### 1. National action plan strengthening:

- i. Revise the *National Action Plan for PPFP* to include strategies for private sector provision of PPFP, given the increasing use of the private sector for MCH.
- ii. Update and operationalize the existing government *National Action Plan for PPFP*, in coordination with development partners. This will include strengthening the coordination mechanism between DGFP and DGHS to ensure that human resources in DGHS are trained and the DGHS facilities and logistics are ready to provide PPFP information, counseling, and services at the proposed different points of contact (i.e., during ANC, delivery care, PNC, and EPI).
- iii. Cost the entire PPFP intervention and allocate appropriate budgets.
- iv. Develop a monitored mechanism to ensure an effective and timely transfer of imprest funds and postpartum contraceptives from DGFP to DGHS.
- v. Mandate PPFP information dissemination during ANC, and counseling for adoption of suitable methods during ANC.
- vi. Strengthen the provision of PPFP counseling and services during EPI campaigns in the community. This particular element of the PPFP intervention is likely to have the greatest coverage and most effectively reach lower wealth quintiles, given the high rates of vaccination coverage.
- vii. Engage the DGNM in the provision of PPFP.

#### 2. Private sector engagement:

- i. Engage and advocate with the private sector on provision of PPFP, particularly during ANC and delivery.
- ii. Mandate PPFP information dissemination and counseling during ANC and delivery care in private clinics.
- iii. Provide training to all private sector providers (hospitals, clinics, OB/GYNs, physicians, nurses, and paramedics) on PPFP benefits, counseling, and methods.

#### 3. Training:

- i. Identify and train specially designated "FP counselors" at all facilities in the public, private, and NGO sectors to supplement the advice provided by OB/GYNs and physicians, who often do not have the time and/or are reluctant to provide FP advice to pregnant mothers or recently delivered women.
- ii. Provide training on PPFP counseling, methods, and benefits to all providers (physicians, nurses, paramedics, and all relevant field health personnel) from DGHS, DGFP, DGNM, private sector, and NGOs, and any other person coming into contact during ANC, PNC, delivery, and EPI service provision, in order to limit the impact of provider shortages.

#### 4. Coordination between DGHS and DGFP:

- i. Advocate to DGHS on the maternal, neonatal, and child health benefits of PPFP to facilitate closer coordination between DGFP and DGHS.
- ii. Strengthen the integration of PPFP counseling and services into DGFP field personnel and DGHS field personnel home visits, whenever they may come into contact with pregnant or recently delivered women.
- iii. Offer PPFP information, counseling, and services during all deliveries at facilities.
- iv. Improve the availability of LARC/PM services in facilities and strengthen the readiness of facilities to provide LARC/PM. In particular, this will require coordination between DGHS and DGFP to ensure that the appropriate material, equipment, supplies, and trained personnel are available in facilities.

#### 5. Raising awareness and generating demand:

- i. Produce and distribute BCC materials with appropriate PPFP information to every pregnant woman and recently delivered woman.
- ii. Address limited awareness amongst younger women about PPFP options and benefits, and integrate PPFP messaging into the Adolescent Health Program and various adolescent activities.

#### 6. Implementation research on:

- i. Identifying the best methods of reaching the 15–24 age group to increase birth spacing and lengthen birth intervals.
- ii. Identifying the best methods of reducing provider bias against specific methods, and specifically as a postpartum method.
- iii. Examining the qualitative reasons behind poor PPFP offer and utilization.
- iv. Improving private sector PPFP service delivery.
- v. Improving the delivery of PPFP counseling and services during ANC, PNC, and EPI services.

# **REFERENCES**

Ahmed, S., McKaig, C., Begum, N., Mungia, J., Norton, M., Baqui, A. H. (2015). The effect of integrating family planning with a maternal and newborn health program on postpartum contraceptive use and optimal birth spacing in rural Bangladesh. *Studies in Family Planning*: 46(3):297–312. Retrieved from <a href="https://www.ncbi.nlm.nih.gov/pubmed/26347092">https://www.ncbi.nlm.nih.gov/pubmed/26347092</a>.

Ahmed, S., Norton, M., Williams, E., Ahmed, S., Shah, R., Begum, N., . . . Baqui. A. H. (2013). Operations research to add postpartum family planning to maternal and neonatal health to improve birth spacing in Sylhet District, Bangladesh. *Global Health: Science and Practice*; 1(2):262–276. Retrieved from <a href="mailto:ncbi.nlm.nih.gov/">ncbi.nlm.nih.gov/</a> pubmed/?term=Baqui%20AH%5BAuthor%5D&cauthor=true&cauthor\_uid=25276538.

Cleland, J., Bernstein, S., Ezeh, A., Faundes, A., Glasier, A., & Innis, J. (2006). Family planning: The unfinished agenda. *The Lancet*; 368(9549):1810–1827. Retrieved from <a href="https://www.ncbi.nlm.nih.gov/pubmed/17113431">https://www.ncbi.nlm.nih.gov/pubmed/17113431</a>.

DaVanzo, J., Hale, L., Razzaque, A., & Rahman, M.. (2007). Effects of interpregnancy interval and outcome of the preceding pregnancy on pregnancy outcomes in Matlab, Bangladesh. *BJOG*; 114(9):1079–1087. Retrieved from <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2366022/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2366022/</a>.

DaVanzo, J., Razzaque, A., Rahman, M., Hale, L., Ahmed, K., Ali Khan, . . . Gausia, K.. (2004). Working Paper: The Effects of Birth Spacing on Infant and Child Mortality, Pregnancy Outcomes, and Maternal Morbidity and Mortality in Matlab, Bangladesh. Santa Monica, CA, USA: RAND Corporation Publications Department. Retrieved from <a href="https://www.rand.org/pubs/working\_papers/WR198.html">https://www.rand.org/pubs/working\_papers/WR198.html</a>.

Directorate General of Family Planning, Government of the People's Republic of Bangladesh. (2016). Memo No: Directorate of Family Planning/CCSDP/5502, Dhaka, Bangladesh, April 2016.

Directorate General of Family Planning, Government of the People's Republic of Bangladesh. (2016). Memo No: Directorate of Family Planning/FSD(Meeting)–03/2015–16/222, Dhaka, Bangladesh, April 2016.

Directorate General of Family Planning, Government of the People's Republic of Bangladesh. (2016). *Proceedings of the 66th meeting of the National Technical Committee (NTC)*. Memo No: DGFP/MCH-S/NTC-4/138/5 (Part-05)/320, Dhaka, Bangladesh, March 2016.

Government of the People's Republic of Bangladesh. (2017). *Family Planning 2020 Commitment*. London, England: Family Planning Summit, 2017. Retrieved from <a href="http://www.familyplanning2020.org/Bangladesh">http://www.familyplanning2020.org/Bangladesh</a>.

Government of the People's Republic of Bangladesh. (2016). *Notice to provide PPFP care during ANC, PNC and visit at EPI centre*. (in Bangla). Memo No: DGFP/CCSDP/NTC – 63/2010/5403. Dhaka, Bangladesh: Government of the People's Republic of Bangladesh.

Government of the People's Republic of Bangladesh. (2016). *Postpartum Family Planning (PPFP) National Action Plan.* Dhaka, Bangladesh: Government of the People's Republic of Bangladesh.

Government of the People's Republic of Bangladesh, Health Education and Family Welfare Division. (2018). Regarding approval for opening of account for Impret Fund or Permanent Advance Fund for operating postpartum family planning (PPFP) program in the government Medical College Hospitals, District Sadar Hospitals, and other Specialized Hospitals. Memo No: 59,00,0000.116.002.002.2018–131, June 2018. Dhaka, Bangladesh: Government of the People's Republic of Bangladesh.

Hossain, A., Maddow-Zimet, I., Ingerick, M., Bhuiyan, H.U., Vlassof, M., & Singh, S. (2017). *Access to and quality of menstrual regulation and postabortion care in Bangladesh: Evidence from a survey of health facilities, 2014.* New York, NY, USA: Guttmacher Institute. Retrieved from <a href="https://www.gutmacher.org/report/menstrual-regulation-poastabortion-care-bangladesh">https://www.gutmacher.org/report/menstrual-regulation-poastabortion-care-bangladesh</a>.

Jhpiego, Save the Children, Futures Group International, Academy for Educational Development (AED), American College of Nurse Midwives (ACNM), & IMA World Health. (2011). *Addressing Unmet Need for Family Planning in Maternal, Neonatal, and Child Health Programs, ACCESS – FP Final Report.* Bethesda, MD, USA: USAID.

Masud, A. *Integrating postpartum family planning services in the private facilities of Bangladesh.* (2013). Presentation by Strengthening Health Outcomes through the Private Sector (SHOPS).

MEASURE Evaluation. (2017). *Bangladesh Mayer Hashi II 2015 Baseline Evaluation Report*. Chapel Hill, NC, USA: MEASURE Evaluation, University of North Carolina. Retrieved from <a href="https://www.measureevaluation.org/resources/publications/tr-17-183">https://www.measureevaluation.org/resources/publications/tr-17-183</a>.

MEASURE Evaluation. (2018). Bangladesh Mayer Hashi II 2017 Impact Evaluation Report. Chapel Hill, North Carolina, USA: MEASURE Evaluation, University of North Carolina.

inistry of Finance, Government of the People's Republic of Bangladesh. (2018). About the opening of Imprest Fund for the Medical College Hospitals, District Sadar Hospitals and other Specialized Hospitals to operate the service of Postpartum Family Planning (PPFP) from the Development Program budget allocation for the DGFP Implemented "Clinical Contraceptive Services Delivery Program (CCSDP)." Ref: 07.104.2781.49.2012–261, April 2018. Dhaka, Bangladesh: Government of the People's Republic of Bangladesh.

Ministry of Health and Family Welfare, Government of the People's Republic of Bangladesh. (2017). *Project Implementation Plan: 4th Health, Population and Nutrition Sector Programme*. Dhaka, Bangladesh: Government of the People's Republic of Bangladesh.

Mitra, S. N., Nawab Ali, M., Islam, S., Cross, A. R., and Saha, T. (1994). *Bangladesh Demographic and Health Survey, 1993–1994*. Calverton, MD, USA: NIPORT, Mitra and Associates, & Macro International Inc. Retrieved from <a href="https://dhsprogram.com/publications/publication-FR60-DHS-Final-Reports.cfm">https://dhsprogram.com/publications/publication-FR60-DHS-Final-Reports.cfm</a>.

Moore, Z., Pfitzer, A., Gubin, R., Charurat, E., Elliot, L., & Croft, T. (2015). Missed opportunities for family planning: An analysis of pregnancy risk and contraceptive use among postpartum women in 21 low- and middle-income countries. *Contraception*; 92:31–39. Retrieved from <a href="https://www.ncbi.nlm.nih.gov/pubmed/25769442">https://www.ncbi.nlm.nih.gov/pubmed/25769442</a>.

Mostafa Kamal, S. M., Rahman, M. A., & Towhiduzzaman. (2017). The influence of family planning workers on postpartum contraceptive use among women in Bangladesh. *Journal of Family Medicine & Community Health;* 4(6):1127. Retrieved from <a href="https://www.researchgate.net/publication/319418046">https://www.researchgate.net/publication/319418046</a> The Influence of Family Planning Workers on Postpartum Contraceptive use among Women in Bangladesh.

National Institute of Population Research and Training (NIPORT), Associates for Community and Population Research (ACPR), & ICF International. (2016). *Bangladesh Health Facility Survey 2014*. Dhaka, Bangladesh: NIPORT, ACPR, & ICF International. Retrieved from <a href="https://dhsprogram.com/pubs/pdf/SPA23/SPA23.pdf">https://dhsprogram.com/pubs/pdf/SPA23/SPA23.pdf</a>.

National Institute of Population Research and Training (NIPORT), International Centre for Diarrhoeal Disease Research (icddr,b), and MEASURE Evaluation. (2017). *Bangladesh Maternal Mortality and Health Care Survey 2016: Preliminary Report.* Dhaka, Bangladesh, and Chapel Hill, NC, USA: NIPORT, icddr,b, & MEASURE Evaluation. Retrieved from <a href="https://www.measureevaluation.org/resources/publications/tr-17-218">https://www.measureevaluation.org/resources/publications/tr-17-218</a>.

National Institute of Population Research and Training (NIPORT), MEASURE Evaluation, & International Centre for Diarrhoeal Disease Research (icddr,b). (2012). *Bangladesh Maternal Mortality and Health Care Survey 2010*. Dhaka, Bangladesh, and Chapel Hill, NC, USA: NIPORT, MEASURE Evaluation, and icddr,b. Retrieved from <a href="https://www.measureevaluation.org/resources/publications/tr-12-87">https://www.measureevaluation.org/resources/publications/tr-12-87</a>.

National Institute of Population Research and Training (NIPORT), Mitra and Associates, & ICF International. (2016). *Bangladesh Demographic and Health Survey 2014*. Dhaka, Bangladesh, and Rockville, MD, USA: NIPORT, Mitra and Associates, and ICF International. Retrieved from <a href="https://dhsprogram.com/publications/publication-fr311-dhs-final-reports.cfm">https://dhsprogram.com/publications/publication-fr311-dhs-final-reports.cfm</a>.

National Institute of Population Research and Training (NIPORT), Mitra and Associates, & ORC Macro. (2005). *Bangladesh Demographic and Health Survey 2004*. Dhaka, Bangladesh, and Calverton, MD, USA: NIPORT, Mitra and Associates, and ORC Macro. Retrieved from <a href="https://dhsprogram.com/publications/">https://dhsprogram.com/publications/</a> publication-FR165-DHS-Final-Reports.cfm.

National Institute of Population Research and Training (NIPORT), & ICF International. (2016). *Bangladesh Demographic and Health Survey 2014: Policy Briefs*. 2016. Dhaka, Bangladesh and Rockville, MD, USA: NIPORT and ICF International. Retrieved from <a href="https://dhsprogram.com/publications/publication-PB10-Policy-Briefs.cfm">https://dhsprogram.com/publication-PB10-Policy-Briefs.cfm</a>.

Progamme Management and Monitoring Unit, Planning Wing, Ministry of Health and Family Welfare, Government of the People's Republic of Bangladesh. (2016). *Annual Program Implementation Report (APIR) 2016*. Dhaka, Bangladesh: Government of the People's Republic of Bangladesh.

Rahaim, S., Jahiruddin, A., Smith, M., & Li, H. (2011). *Bangladesh private sector assessment of long acting and permanent family planning methods and injectable contraceptives*. Bethesda, MD, USA: Strengthening Health Outcomes through the Private Sector, Abt Associates, Inc. Retrieved from <a href="https://www.shopsplusproject.org/resource-center/bangladesh-private-sector-assessment-long-acting-and-permanent-family-planning">https://www.shopsplusproject.org/resource-center/bangladesh-private-sector-assessment-long-acting-and-permanent-family-planning</a>.

Rutstein, S. (2008). Further evidence of the effects of preceding birth intervals on neonatal, infant, and under-five-years mortality and nutritional status in developing countries: Evidence from the Demographic and Health Surveys. *USAID*, *DHS Working Papers*, *Demographic and Health Research*; September 2008:41. Retrieved from <a href="https://dhsprogram.com/publications/publication-wp41-working-papers.cfm">https://dhsprogram.com/publications/publication-wp41-working-papers.cfm</a>.

Senlet, P., Burns, K., Guigis, S., & Khan, M. (2016). *Midterm performance evaluation of the Mayer Hashi Family Planning Project (MH-II)*. Washington, DC, USA: United States Agency for International Development. Retrieved from <a href="https://www.researchgate.net/publication/326723222">https://www.researchgate.net/publication/326723222</a> MIDTERM PERFORMANCE EVALUATION OF THE MAYER HASHI FAMILY PLANNING PROJECT MH-II.

Singh, S., Hossain, A., Maddow-Zimet, I., Bhuiyan, H.U., Vlassof, M., & Hussain, R. (2017). The incidence of menstrual regulation procedures and abortion in Bangladesh, 2014. *International Perspectives on Sexual and Reproductive Health*; 43(1):1–11. Retrieved from <a href="https://www.guttmacher.org/journals/ipsrh/2017/03/incidence-menstrual-regulation-procedures-and-abortion-bangladesh-2014">https://www.guttmacher.org/journals/ipsrh/2017/03/incidence-menstrual-regulation-procedures-and-abortion-bangladesh-2014</a>.

The World Bank. (2017). Report No: PAD2355, International Development Association, Project Appraisal Document on a Proposed Credit in the Amount of SDR361.2 Million (US\$500 Million Equivalent), and a Grant in the Amount of US\$15 Million to the People's Republic of Bangladesh for a Bangladesh Health Sector Support Project (P160846), July 2017. Health, Nutrition and Population Global Practice, South Asia Region, The World Bank. Retrieved from <a href="http://documents.worldbank.org/curated/en/509301501466454241/pdf/BANGLADESH-HSSP-PAD-07112017.pdf">http://documents.worldbank.org/curated/en/509301501466454241/pdf/BANGLADESH-HSSP-PAD-07112017.pdf</a>.

Ugaz, J., Banke, K., Rahaim, S., Wahiduzzaman, C., & Williams, J. (2016). Private providers' knowledge, attitudes and misconceptions related to long-acting and permanent contraceptive methods: A case study in Bangladesh. *Contraception*; 94(5):505–511. Retrieved from <a href="https://www.sciencedirect.com/science/article/pii/S0010782416301251">https://www.sciencedirect.com/science/article/pii/S0010782416301251</a>.

World Health Organization (WHO), USAID, & Maternal and Child Health Integrated Program (MCHIP). (2013). *Programming strategies for postpartum family planning*. Geneva, Switzerland: WHO. Retrieved from who.int/reproductivehealth/publications/family\_planning/ppfp\_strategies/en/.

World Health Organization (WHO). (2015). *Medical eligibility criteria for contraceptive use. Fifth Edition.* Geneva, Switzerland: WHO. Retrieved from <a href="https://www.who.int/reproductivehealth/publications/family\_planning/MEC-5/en/">https://www.who.int/reproductivehealth/publications/family\_planning/MEC-5/en/</a>.

Yinger, N. (2016). *Meeting the need, fulfilling the promise: Youth and long-acting reversible contraceptives.* 2016. Policy Brief, Population Reference Bureau, Washington DC, USA. Retrieved from <a href="https://www.srhr-ask-us.org/publication/meeting-the-need-fulfilling-the-promise-youth-and-long-acting-reversible-contraceptive/">https://www.srhr-ask-us.org/publication/meeting-the-need-fulfilling-the-promise-youth-and-long-acting-reversible-contraceptive/</a>.

MEASURE Evaluation
University of North Carolina at Chapel Hill
123 West Franklin Street, Suite 330
Chapel Hill, NC 27516 USA
Phone: +1 919-445-9350

measure@unc.edu

ISBN: 978-1-64232-210-1

www.measureevaluation.org

RDM/icddr,b

68, Shaheed Tajuddin Ahmed Sarani Mohakhali, Dhaka 1212, Bangladesh Phone: +880 (0)2-982-7001 to 10

info@icddrb.org

https://www.icddrb.org/

TThis publication was produced with the support of the United States Agency for International Development (USAID) under the terms of USAID's Research for Decision Makers (RDM) Activity cooperative agreement no. AID-388-A-17-00006 and of MEASURE Evaluation cooperative agreement no. AID-OAA-I-14-00004. Views expressed herein do not necessarily reflect the views of the U.S. Government or USAID. TR-19-386





