



Assessment of the MaMoni Health Systems Strengthening Project in Bangladesh

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Cover

A mother and her baby at the Maternal & Child Health Training Institute, Dhaka, Bangladesh. Photo: Courtesy of Kibae Park, United Nations

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ABBREVIATIONS

ACPR	Associates for Community and Population Research
ANC	antenatal care
BCC	behavior change communication
BEmOC	basic emergency obstetric care
BHFS	Bangladesh Health Facility Survey(s)
CC	community clinic
CEmOC	comprehensive emergency obstetric care
CI	confidence interval
CSP	community service provider
DH	district hospital
DID	difference-in-differences
DGFP	Directorate General of Family Planning
FP	family planning
icddr,b	International Centre for Diarrhoeal Disease Research, Bangladesh
IMCI	Integrated Management of Childhood Illnesses
IMPAC	Integrated Management of Pregnancy and Childbirth
IR	intermediate result
IUD	intrauterine device
LARC/PM	long-acting reversible contraceptives and permanent methods
MaMoni HSS	MaMoni Health Systems Strengthening
MCH	maternal and child health
MNCH	maternal, newborn, and child health
MCWC	Maternal and Child Welfare Center
MOHFW	Ministry of Health and Family Welfare
MTP	medically trained provider
NGO	nongovernmental organization
NIPORT	National Institute of Population Research and Training
ORS	oral rehydration solution
PNC	postnatal care
RD	rural dispensary
RDM	Research for Decision Makers
TFR	total fertility rate

UHC	Upazila Health Complex
UHFWC	union health and family welfare center
USC	union subcenter
USAID	United States Agency for International Development
WHO	World Health Organization

EXECUTIVE SUMMARY

The United States Agency for International Development (USAID)-supported MaMoni Health Systems Strengthening (MaMoni HSS) project sought to improve the use of integrated family planning (FP), maternal, newborn, and child health (MNCH), and nutrition services in six low-performing districts of Bangladesh from September 2013 to September 2017. Save the Children in Bangladesh implemented the project.

The MaMoni HSS project pursued a multipronged strategy to ensure service delivery at the different types of health facilities in the six districts. At the union-level facilities, it focused on ensuring primary-level outpatient care and increasing skilled birth attendance and round-the-clock delivery care. At the district and upazila levels, MaMoni HSS focused on referrals for maternal and newborn care, including caesarean section services, management of preeclampsia/eclampsia, care for newborns at specialized units, and management of severe acute malnutrition. Although the MaMoni HSS project followed this multipronged strategy, its primary purpose was to strengthen the delivery of services at the union-level facilities. Moreover, although the project worked with community clinics (CCs) for growth monitoring and promotion, counseling, and antenatal care (ANC), the CCs were not a focus area of the intervention.

Assessment Objectives

This facility assessment had three purposes:

1. To identify changes in the availability of FP-MNCH services at public health facilities in the MaMoni HSS project-supported districts.
2. To identify changes in readiness to provide FP-MNCH services at public health facilities in the MaMoni HSS project-supported districts.
3. To assess whether any changes in the availability and readiness to provide FP-MNCH services were greater in MaMoni HSS-supported districts than in districts not supported by the MaMoni HSS project (especially at union-level¹ facilities).

With the support of USAID, the Research for Decision Makers (RDM) Activity, implemented by the International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b), and MEASURE Evaluation examined changes in key availability and readiness indicators for the provision of FP-MNCH services at public health facilities in districts supported by the MaMoni HSS project. Because the project focused its strengthening activities at the union level, this assessment considered changes at union-level facilities only.

Method

Using data from the Bangladesh Health Facility Surveys (BHFS), in which facilities were oversampled in the MaMoni HSS-supported districts in 2014 and 2017, we conducted a difference-in-differences (DID) analysis of indicators on the availability of services and the readiness of union-level facilities to provide services in MaMoni HSS and non-MaMoni districts. Changes between 2014 and 2017 in MaMoni HSS-supported districts and in non-MaMoni districts were compared to identify whether the improvements at facilities in MaMoni HSS districts were greater than in non-MaMoni districts. In MaMoni HSS districts,

¹ "There are 8 [divisions](#) and 64 [districts](#) in Bangladesh, each district further subdivided into [upazila](#) (lit. subdistricts). The area within each subdistrict, except for those in metropolitan areas, is divided into several [unions](#), with each union consisting of multiple [villages](#)." Source: "Local government in Bangladesh," available at https://en.wikipedia.org/wiki/Local_government_in_Bangladesh#Village,_municipal_and_city_administration.

161 union-level public facilities were sampled in 2014 and 231 in 2017. In non-MaMoni districts, 429 union-level public facilities were sampled in 2014 and 446 in 2017.

Key Findings and Discussion

Overall, in terms of *basic client services*, we found that improvements in the availability of child growth monitoring services were more significant at union-level facilities in MaMoni HSS districts than in non-MaMoni districts; the availability of other basic services increased similarly in MaMoni HSS and non-MaMoni districts. For *ANC services* (especially hemoglobin and urine protein testing), the improvements in diagnostic capacity were more significant at union-level facilities in MaMoni HSS districts than in non-MaMoni districts. The availability of items needed for *delivery care* (especially the neonatal bag and mask, oxytocin, and magnesium sulphate) increased more significantly in MaMoni HSS districts than in non-MaMoni districts. For *newborn care*, the availability of medications increased more significantly in MaMoni HSS districts than in non-MaMoni districts. The availability of all six items considered to be *basic equipment for client services* (especially thermometers, adult scales, and light sources) showed more improvement at union-level facilities in MaMoni HSS districts than in non-MaMoni districts (Table ES1).

Table ES1. Summary of key findings for union-level facilities

Indicator	Project impact	Remarks
Basic client services: child preventive care	Had an impact	<ul style="list-style-type: none"> Increase in child growth monitoring services was much higher in MaMoni HSS districts than in non-MaMoni districts. Increases in other basic services were similar in both areas.
Basic equipment for client services	Had an impact	<ul style="list-style-type: none"> Increase in the combined availability of all six items (adult scales, child or infant scales, thermometers, stethoscopes, blood pressure apparatus, and light sources) was higher in MaMoni HSS than in non-MaMoni districts. Increases in the availability of thermometers, adult scales, infant scales, and light sources were higher in MaMoni HSS districts than in non-MaMoni districts.
Basic laboratory diagnostic tests	Had an impact	<ul style="list-style-type: none"> Increase in diagnostic capacity (hemoglobin, urine protein, urine glucose, and pregnancy test) was much higher in MaMoni HSS districts than in non-MaMoni districts. Capacity to conduct a blood glucose test was almost nil in both MaMoni HSS and non-MaMoni districts.
Readiness to provide child curative care	No impact	<ul style="list-style-type: none"> Decline in the combined availability of all 10 items (deworming drugs, paracetamol, amoxicillin, oral rehydration solution [ORS], zinc tablets or syrup, growth charts, child scale, trained staff, and guidelines) needed for child curative care. Declined in both types of districts and availability was very low. Increase (although sometimes marginally) in MaMoni HSS districts in the availability of individual items needed for child curative care, except for guidelines, trained staff, amoxicillin, and paracetamol, whose availability declined significantly. Decrease or no change was observed in the availability of individual items in non-MaMoni districts.
Readiness for FP services	No impact	<ul style="list-style-type: none"> No significant change in the combined availability of all six FP items (guidelines, trained staff, blood pressure apparatus, oral pills, injectables, and condoms) in MaMoni HSS districts, whereas their combined availability increased in non-MaMoni districts.

Readiness for ANC	Had an impact	<ul style="list-style-type: none"> • Much greater increase in the combined availability of all six items (guidelines, trained staff, blood pressure apparatus, hemoglobin testing, urine protein testing, and iron or folic acid tablets) needed for ANC in MaMoni HSS districts than in non-MaMoni districts. • Greater increases in hemoglobin and urine protein testing capacities in MaMoni HSS districts than in non-MaMoni districts. • Decline in the availability of trained staff and guidelines in MaMoni HSS districts, in contrast with marginal increases in non-MaMoni districts.
Readiness for delivery care	Had partial impact	<ul style="list-style-type: none"> • Zero combined availability of all items (guidelines, trained staff, examination lights, delivery packs, suction apparatus, neonatal bags and masks, partographs, gloves, injectable oxytocin, injectable antibiotics, magnesium sulphate, skin disinfectant, and intravenous fluid sets) in both types of districts. • Greater increase in neonatal bags and masks, oxytocin, and magnesium sulphate in MaMoni HSS districts than in non-MaMoni districts. • Significant declines in the availability of both guidelines and suction apparatus in MaMoni HSS and non-MaMoni districts.

The MaMoni HSS project made good progress on some of the other indicators. For example, the indicator, “all basic client services with normal delivery,” increased from 22 percent to 43 percent in project-supported districts, although the change was even greater in non-MaMoni districts (from 14% to 35%). For the indicator, “all basic client services without normal delivery,” an increase from 54 percent to 72 percent was found at union-level facilities in MaMoni HSS, comparing favorably with a smaller change in non-MaMoni districts (from 42% to 54%). Similarly, in MaMoni HSS districts, performance on the indicator, “all six equipment items available for client services,” increased from 18 percent to 32 percent, although there was scant change in non-MaMoni districts (from 23% to 22%). The MaMoni HSS districts’ performance on the indicator, “all six items required for ANC services,” increased from five percent to 28 percent, in comparison with only a slight change in non-MaMoni districts (from 3% to 5%).

However, when service readiness was measured using a systems approach—that is, as the proportion of facilities having all items required for delivering a specific service—it was poor in all districts we assessed. For example, performance on the indicators, “all six basic amenities for client services,” “all 10 items to provide child curative care,” and “all five basic tests available” (for diagnostic services), was poor by any standard, and pointed to poor system readiness and the limited impact of the MaMoni HSS project in those areas. There was no appreciable improvement in service readiness at the systems level in certain services in MaMoni HSS districts, even though individual components may have shown an increase. It appeared that MaMoni HSS may have focused on a limited set of service readiness components rather than the whole set of components/items needed to provide appropriate quality FP-MNCH services.

The findings also showed that the project did not appear to have an effect on two important areas of services: *FP* and *child curative care*. (Service readiness improvements were greater in non-MaMoni districts than in MaMoni HSS districts for FP, and the proportion of staff trained on FP methods declined at union-level facilities in MaMoni districts.) Moreover, both MaMoni and non-MaMoni districts did poorly in their readiness to provide child curative care.

The lack of availability of elements/components/items for services was a dominant issue largely at union-level facilities, which suggests that there were challenges with the supply chain maintained by the central directorate (of FP or of health services). Usually, following the central procurement of products/equipment, they are supplied to facilities (popularly known as “push” supply). Once supplies are

exhausted, facilities are supposed to make requisitions for resupply. However, this did not seem to happen on a routine basis, especially at union-level facilities. One limitation of union-level facilities was that they were unable to procure locally. The implementation of an electronic requisition system could allow for further improvements in the supply chain.

Training of providers on service delivery topics is a vital issue for quality services. One key finding was that the proportion of staff trained on specific services was low to moderate across all services, and there were no appreciable changes in trained staff in either MaMoni HSS or non-MaMoni districts.

The availability of guidelines for service provision was also low at union-level facilities across most services offered. This indicator could be improved relatively easily.

Overall, although it was clear that MaMoni HSS improved several key elements of ANC, normal delivery, child preventive care, and newborn care, the project did not implement a model based on a systems approach. Rather, there appeared to have been a focus on some specific services and components, which saw significant improvements, while leaving overall readiness for some services largely unchanged.

Recommendations

Based on the findings of this study, a few recommendations are offered that the health ministry may consider to enhance the readiness of union-level facilities in Bangladesh (Table ES2).

Table ES2. Summary of recommendations

Evidence	Recommendation
The availability of 24/7 delivery services decreased at union-level facilities in MaMoni HSS districts, although the availability of normal delivery services increased	<ul style="list-style-type: none"> Although the availability of normal delivery services increased considerably in both MaMoni HSS and non-MaMoni districts, the readiness of facilities and quality of care at facilities need to improve so that clients are served well. Undertake a study to determine the association between the improved availability and readiness of delivery services at union-level facilities and increased use.
The availability of ANC-related diagnostic capacity increased at MaMoni HSS-supported union-level facilities	<ul style="list-style-type: none"> The health ministry should maintain high-level availability of ANC-related diagnostic tests at union-level facilities throughout the country.
Even with some improvements, the lack of availability of equipment and supplies required for a specific service was common at union-level facilities in MaMoni and non-MaMoni districts	<ul style="list-style-type: none"> Improve the supply chain to maintain the availability of essential items and readiness for services offered at union-level facilities. Introduce an electronic supply management and monitoring system phase-wise, starting with a few districts.
A substantial proportion of facilities lacked a provider trained in specific service(s) at union-level facilities in MaMoni and non-MaMoni districts	<ul style="list-style-type: none"> Improve the training capacity and the frequency of training to increase training coverage for providers, including partnering with the private sector and nongovernmental organizations to build capacity.
The lack of availability of service guidelines was common at union-level facilities in MaMoni and non-MaMoni districts	<ul style="list-style-type: none"> Improve the availability of service guidelines and job aids at union-level facilities.

The lack of readiness for FP services was common at union-level facilities in MaMoni and non-MaMoni districts

- The Directorate General of Family Planning should pay prioritized attention to the readiness for FP services, an easily fixable problem.

Although the availability of individual items/components needed to provide specific client services was high in some cases, the availability of all necessary items/elements was very low at union-level facilities in both MaMoni and non-MaMoni districts

- The health ministry should adopt a “systems approach” to help address this deficiency, meaning to ensure the availability of *all* components needed to provide a service.
 - Introduce service-specific checklists of essential items and equipment linked to routine requisition/supply chain systems for each facility to increase the availability of *all* necessary items.
-

INTRODUCTION

Country Context

Bangladesh has made rapid improvements in health and social development, despite confronting many social, economic, and demographic challenges since the 1970s. Beginning in 1979, the strengthening of the country's FP-MNCH program has been a key driver of advances made. In close collaboration with nongovernmental organizations (NGOs) and donor partners, improvements in FP-MNCH services have led to a decline in the total fertility rate (TFR) by two-thirds: from nearly seven children per woman in the 1970s to the current 2.3 children per woman (Cleland, Phillips, Amin, & Kamal, 1994; National Institute of Population Research and Training [NIPORT], Mitra and Associates, and ICF International, 2016). This rapid decline in fertility also contributed to other favorable health outcomes (Streatfield, Campaoré, Rossier, Soura, Bonfoh, Jaeger, . . . Byass, 2014), including an under-five mortality rate below the Millennium Development Goal of 48 deaths per thousand live births (NIPORT, et al., 2016), and big improvements in the proportion of under-five children who were malnourished. The maternal mortality rate also declined by more than 40 percent between 2001 and 2016, from 322 to 196 per 100,000 live births (NIPORT, ORC Macro, Johns Hopkins University, & icddr,b] 2003; NIPORT, icddr,b, & MEASURE Evaluation, 2017a).

Despite such progress on key FP-MNCH indicators, many challenges remain. The 2016 Bangladesh Maternal Mortality and Health Care Survey revealed that the use of maternal healthcare services was low, with only 37 percent of pregnant women receiving the recommended four or more ANC checkups; only 47 percent of births occurring in health facilities; and approximately one-half of all births (52%) being assisted by a medically trained provider (MTP) (NIPORT, et al., 2017a). The same survey found that the maternal mortality rate had remained relatively stagnant since 2010, at around 196 per 100,000 live births. There have been similar challenges in the FP environment, with the 2017–2018 Bangladesh Demographic and Health Survey showing a TFR stalled at about 2.3 children since 2011, an unmet need for FP at 12 percent, and the use of long-acting reversible contraceptives and permanent methods (LARC/PM) increasing by only one percent between 2004 and 2014 (NIPORT, et al., 2005; NIPORT, et al., 2016; NIPORT, et al., 2019). This relative stagnation in FP indicators was evident despite the average woman achieving her desired fertility by her late twenties and the large-scale interventions intended to increase the use of LARC/PM. The 2017–2018 Bangladesh Demographic and Health Survey also showed that chronic and acute malnutrition continued to be a challenge, with 31 percent of children under age five found to be stunted, 8 percent found to be wasted, and 22 percent of children overall found to be undernourished (NIPORT, et al., 2019). Moreover, large rural-urban disparities in the use of FP-MNCH services persisted, and women from the poorest socioeconomic strata were systematically marginalized from seeking healthcare. For example, only 27 percent of women in the lowest wealth quintile delivered at facilities, compared with 78 percent of women in the highest wealth quintiles (NIPORT, et al., 2019).

Such FP-MNCH challenges are likely to have been impacted by gaps in the availability of FP-MNCH services, and the readiness of facilities to provide those services throughout the country. In 2017, the BHFS showed persistent gaps in the availability and readiness of facilities to provide some FP-MNCH services (NIPORT, Associates for Community and Population Research [ACPR], & ICF, 2017b). According to the 2017 BHFS, although outpatient child curative care was available for 37 percent of facilities (excluding community clinics), only 3 percent of facilities providing child curative services had the readiness to provide child curative care. Similarly, out of the 69 percent (excluding community clinics) of facilities providing FP services, only half of the facilities were ready to provide FP services, according

to World Health Organization (WHO) criteria (WHO, 2013). The picture was similarly poor for ANC, delivery, postnatal care (PNC), and newborn services, according to WHO criteria.

Overview of the Health Service Environment

There are three types of health service providers in the country: government, private, and NGO. Government/public providers usually do not charge direct fees for services, whereas private providers (inclusive of traditional practitioners) and NGOs usually charge direct fees. Public healthcare provision in urban and rural Bangladesh falls under different jurisdictions. The Ministry of Health and Family Welfare (MOHFW) is the primary healthcare provider in rural areas, offering services through several channels: using fieldworkers to provide doorstep services, outreach satellite clinics, CCs, union subcenters (USCs), union health and family welfare centers (UHFWCs), and subdistrict health complexes. The management of government health facilities by the MOHFW is split between the Directorate General of Health Services and the Directorate General of Family Planning (DGFP). The Directorate General of Health Services manages all district-level facilities, most facilities at the upazila level, some at the union level, and all community-level government facilities, whereas the DGFP manages most facilities at the union level and some of the upazila-level facilities. In urban areas, the Ministry of Local Government and Rural Development is in charge of providing primary healthcare, especially in the City Corporations (Ministry of Planning, 2018). The adequate provision of health services in Bangladesh relies on coordination between the MOHFW and the Ministry of Local Government and Rural Development, and on coordination within the MOHFW by different units.

MaMoni Health Systems Strengthening Project Overview

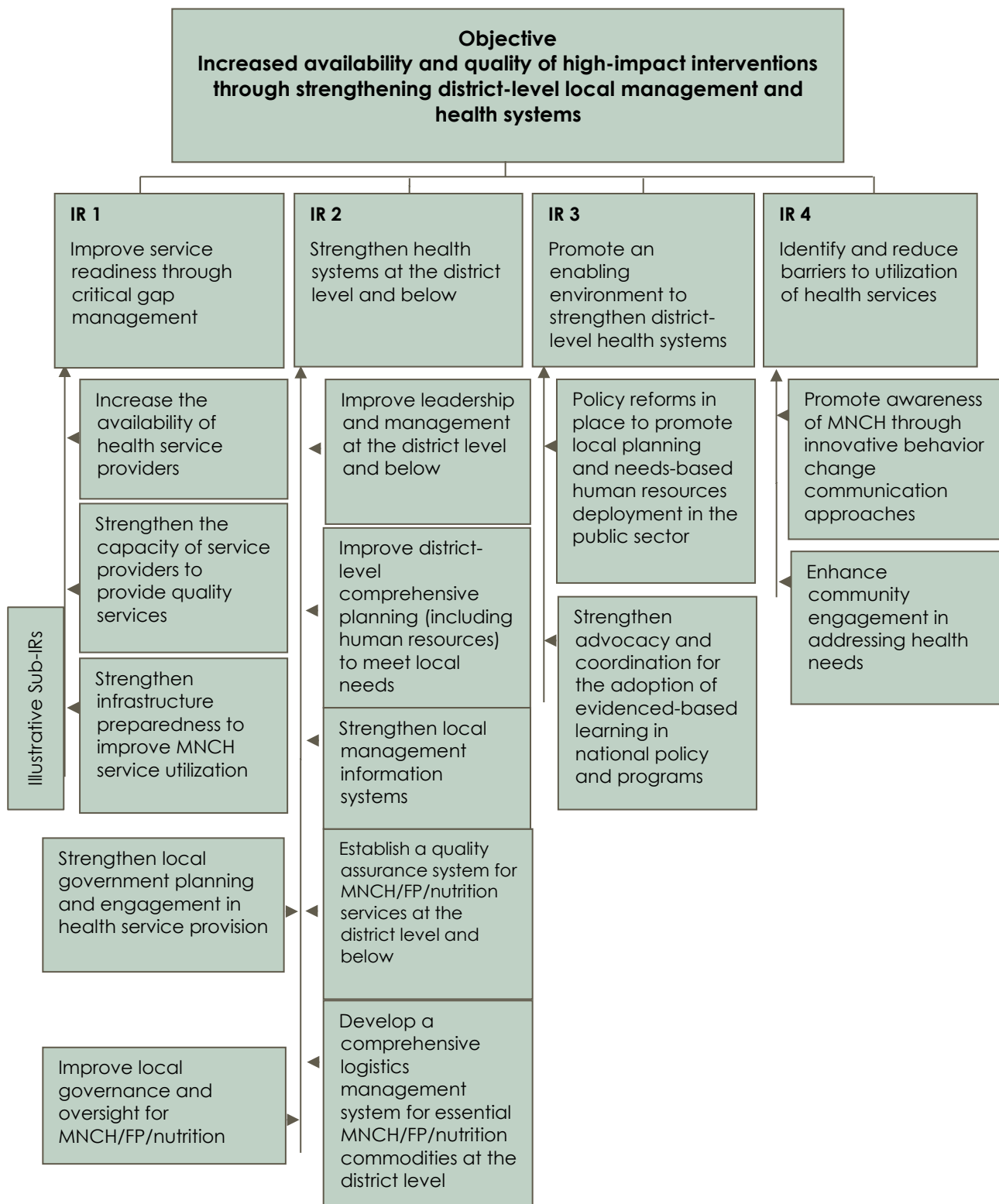
The MaMoni HSS project was a four-year, US\$50 million program intended to improve the use of integrated FP-MNCH and nutrition services in six low-performing districts of Bangladesh. Funded by USAID, the project was awarded in September 2013 and ended in September 2017. The award was led by Jhpiego and was implemented in Bangladesh by Save the Children, Bangladesh.

The MaMoni HSS project supported the MOHFW to strengthen district-level management of health systems and the scale-up of 17 prioritized maternal and newborn health interventions under the Ending Preventable Child and Maternal Death and a Promise Renewed global agendas (<https://www.measureevaluation.org/resources/publications/fs-16-185>). The development hypothesis of the MaMoni HSS project proposed to strengthen district-level management of health systems, and then work strategically at the national level to support policies and standards that promoted the interventions at all levels. The result would be to improve access to and use of quality health services at affordable costs in the districts, leading to improved health outcomes. The MaMoni HSS project strengthened district-level management of health systems by investing in policy and regulatory issues, human resources, infrastructure, emergency transport, performance monitoring and management, equity, access and demand creation, local governance, accountability and community linkages, and supply chains. The MaMoni HSS project had four intermediate results (IRs):

1. Improve service readiness through critical gap management.
2. Strengthen health systems at the district level and below.
3. Promote an enabling environment to strengthen district-level health systems.
4. Identify and reduce barriers to the use of health services.

The results framework for the MaMoni HSS project is presented in Figure 1.

Figure 1. Results framework for the MaMoni HSS project



The four IRs, in turn, contributed to the USAID/Bangladesh Country Development Cooperation Strategy's *Development Objective (DO) 3: Health Status Improved*, which included the following three IRs (https://www.usaid.gov/sites/default/files/documents/1860/Bangladesh_CDCCS_2011-20192.pdf):

- Increased use of effective FP and reproductive health services
- Increased use of integrated essential FP, health, and nutrition services
- Strengthened health systems and governance

The MaMoni HSS project selected six districts for interventions because of their low coverage of services and high mortality. The six selected districts were Bhola, Habiganj, Jhalokathi, Lakshimpur, Noakhali, and Pirojpur. As of 2014, the total population in those districts was projected to be 12,226,755 (Table 1). Table 1 provides a profile of the districts selected:

Table 1. Profile of MaMoni HSS project districts²

Districts	Number of upazilas	Number of unions	Population	Number of health facilities			
				DH/MCWCs*	UHC*	Union-level facilities	CC*
6	40	377	12,226,755	10	33	329	1,107

* DH – district hospital; MCWC – Maternal and Child Welfare Center; UHC – Upazila Health Complex; CC – community clinic

The MaMoni HSS project had a multipronged strategy for ensuring service delivery at the different types of health facilities with a special focus on union-level facilities, where it worked on ensuring primary-level outpatient care, increasing skilled birth attendance, and providing round-the-clock delivery care. In addition, at the district and upazila levels, the project focused on referral services for maternal and newborn care, including caesarean section services, management of preeclampsia/eclampsia, care for newborns at specialized units, and management of severe acute malnutrition. The project also worked with CCs for growth monitoring and promotion, counseling, and ANC; however, the CCs were not a focus area of the intervention.

Assessment Objectives

This facility assessment had three purposes:

1. To identify changes in the availability of FP-MNCH services at public health facilities in the MaMoni HSS project-supported districts
2. To identify changes in readiness to provide FP-MNCH services at public health facilities in the MaMoni HSS project-supported districts
3. To assess whether any changes in availability and readiness to provide FP-MNCH services were greater in MaMoni HSS-supported districts than in districts not supported by the MaMoni HSS project (especially at union-level³ facilities)

With the support of USAID, the RDM Activity, implemented by the icddr,b, and MEASURE Evaluation examined changes in key availability and readiness indicators for the provision of FP-MNCH services at public health facilities in districts supported by the MaMoni HSS project. Because the MaMoni HSS project focused its strengthening activities at the union level, the assessment also focused on looking at

² Figures are as of December 2014.

³ "There are 8 [divisions](#) and 64 [districts](#) in Bangladesh, each district further subdivided into [upazila](#) (lit. subdistricts). The area within each subdistrict, except for those in metropolitan areas, is divided into several [unions](#), with each union consisting of multiple [villages](#)." Source: "Local government in Bangladesh," available at https://en.wikipedia.org/wiki/Local_government_in_Bangladesh#Village,_municipal_and_city_administration.

the changes from union-level facilities. This assessment, therefore, partially addresses the achievement of the first two IRs (Figure 1). However, the assessment of the third and fourth IRs was not part of this activity.

Scope of the Facility Assessment

The scope of this facility assessment was limited to the three questions stated below. This was not an evaluation of the entire MaMoni HSS project. The primary questions this facility assessment sought to address were as follows:

1. How much did the availability of FP-MNCH services increase at public health facilities in MaMoni HSS project-supported districts?
2. How much did readiness to provide FP-MNCH services increase at public health facilities in MaMoni HSS project-supported districts?
3. Were increases in availability and readiness to provide FP-MNCH services at public health facilities in MaMoni HSS project-supported districts greater than those in the districts that were not supported by the project, especially at union-level facilities?

METHODS

Overview

During the 2014 BHFS (NIPORT, et al., 2016), public health facilities in the six MaMoni HSS districts were oversampled to allow for a separate analysis of the situation in those districts. Information was then collected and analyzed from all sampled public health facilities (except the CCs) in the six districts on the availability of essential health services for FP-MNCH, and the readiness of health facilities to provide those services. The CCs were excluded from the analysis because, as noted previously, the MaMoni HSS project was not focused on them. The service readiness indicators were developed based on indicators proposed by WHO, USAID, the World Bank, the International Health Facility Assessment Network, and other stakeholders.

During the 2017 BHFS, health facilities in the six MaMoni HSS districts were again oversampled to allow for a separate analysis of the situation in the six project districts. Information was again collected on service availability and service readiness, using the same set of indicators used during the 2014 baseline. These data were then analyzed to arrive at answers to the assessment questions.

Assessment Design

The overall method relied on the data collected in 2014 and 2017 on health service availability and readiness at public health facilities in MaMoni HSS project districts and nonproject districts. In this scheme, the MaMoni HSS districts were treated as intervention areas and the rest of the districts (nonproject or non-MaMoni) as comparison areas. The 2014 BHFS fieldwork was conducted between May and July 2014, and the 2017 BHFS fieldwork was conducted between July and October 2017. The assessment compared the changes between 2014 and 2017 in MaMoni HSS and non-MaMoni districts. The estimation strategy used to assess changes in availability and readiness to provide FP-MNCH services by public health facilities in MaMoni HSS districts was a DID design using control variables in a regression model. In the classical sense, this model identifies the changes that result from a program as the difference between a sample of facilities in the MaMoni HSS intervention area and a comparison sample of facilities in the comparison area (non-MaMoni), in terms of the trend each experienced in an outcome before the program had been implemented to an endpoint after it had been implemented (Bertrand, et al., 2003). The DID model used was as follows:

$$Y_{ijt} = \beta_0 + \beta_1 \cdot P_j + \beta_2 \cdot T_t + \beta_3 \cdot P_j \cdot T_t + \varepsilon_{ijt}$$

where Y_{ijt} is the service availability or service readiness outcome of interest for facility i in cluster j at time t (baseline or end line); P_j controls for differences between the MaMoni HSS and comparison facilities and takes 0 for comparison facilities and 1 for MaMoni HSS facilities; T_t is a binary variable with value 0 for baseline and 1 for end line; and $P_j \cdot t$ is the interaction between time and intervention variables. β_3 is the coefficient of interest showing the DID estimates; the program impact is obtained from the coefficient. Equation 1 was estimated for a selected group of service availability and readiness indicators. If β_3 were found to be statistically significant in any particular model, it suggested that the MaMoni HSS intervention had a statistically significant change on the selected indicator. An important assumption of the model was that, in the absence of the intervention, the project and comparison area facilities would have experienced the same trend in outcomes. The major strength of the DID approach is that it addresses two potential sources of bias from unobserved factors: time trends in the indicators unrelated to the program and preexisting differences in the service availability and readiness indicators in program

and comparison areas. The DID approach's ability to control for preexisting differences was desirable for this assessment because program areas were not randomly selected and could have differed systematically from comparison areas in preexisting conditions (e.g., the health service environment and sociodemographic characteristics), which could have influenced the outcomes.

The assessment focused on changes in availability and readiness of FP-MNCH services at union-level public health facilities in MaMoni HSS districts in relation to non-MaMoni districts, given that IR 1 and IR 2 focused on improving service readiness and strengthening district-level health systems, especially at the union level. The indicators focused on the availability and readiness of FP-MNCH services at the facilities.

Limitations

The validity of the estimated program impact based on DID relies on an assumption of “parallel trend” of the outcomes between the program and comparison groups (Cameron & Trivedi, 2005). That is, the model is based on the assumption that the program and comparison groups would have experienced the same secular trends in the outcomes in the absence of the program. The validity of the assumption cannot be tested directly. The common technique for indirectly assessing the assumption by examining whether there were preprogram secular trends was not applicable to this assessment, given that preprogram data were not available to provide estimates of the trends.

The MaMoni HSS areas were not randomly selected, raising the potential for selection bias to affect the results. The DID model allowed program and comparison areas to differ on both observed and unobservable characteristics so long as the parallel trend assumption held; therefore, the selection bias was a concern if it affected the time trend in the outcomes of interest.

Last, the comparison area had routine health systems strengthening activities as part of the Government of Bangladesh's Health Sector Program. Therefore, the assessment did not compare “MaMoni HSS activities” with “no MaMoni HSS activities” in the comparison areas; rather, it compared MaMoni HSS activities (which targeted underperforming districts) with regular HSS activities provided by the Government of Bangladesh. The assessment scope was framed to reflect this situation, but this needs to be kept in mind when interpreting the findings.

The DID estimation of the impact of MaMoni interventions on a certain indicator was done in logistic regression by testing the interaction of *time* (2014 vs. 2017) and *area* (MaMoni-supported districts vs. non-MaMoni districts). It was decided that the interventions had an impact on a certain indicator if the interaction was *significant* at 5 percent or less. For example, the change in the availability of all six items (adult scales, child or infant scales, thermometers, stethoscopes, blood pressure apparatus, and light sources) from 2014 to 2017 was higher in MaMoni HSS districts than in non-MaMoni districts. The change was positive and significant at the 5 percent level.

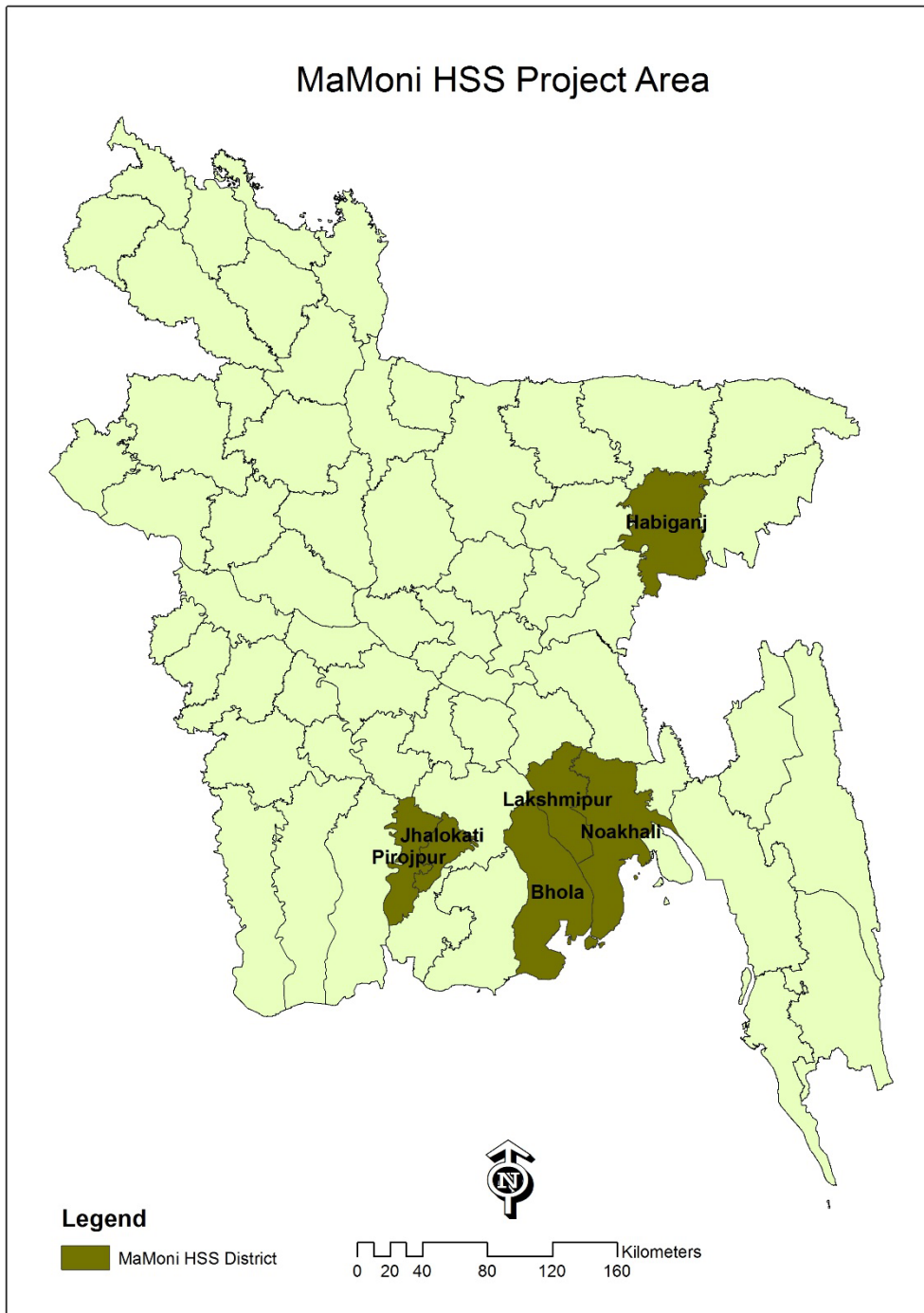
Data

Sampling Method

The sample for the 2014 and 2017 BHFS was a stratified random sample of all health facilities in the country, designed to provide representative results for Bangladesh, for the different facility types and different management authorities, and for each of the eight divisions of the country. Stratification was achieved by separating the health facilities by facility type in each division. Implicit stratification by management authorities was achieved by sorting the frame based on the management authorities in each explicit sampling stratum before sample selection.

The MaMoni HSS sample was selected from the districts of Bhola, Habiganj, Jhalokati, Lakshimpur, Noakhali, and Pirojpur (Figure 2).

Figure 2. MaMoni HSS project areas



Sampling Frame

A list of all registered health facilities provided by the MOHFW was used as the sampling frame for sample selection in the 2014 and 2017 BHFS. The allocation of the BHFS sample considered the divisional distribution of the health facilities. Other factors, such as indicator precision, either on national or on domain levels, and budget allocation were also considered.

Sampling Allocation

The sample size determination was achieved by controlling the survey precision at the division level and by facility type at the national level. The precision level for the oversampled districts was also controlled. By controlling the relative standard error for an indicator at the 30 percent level, within 15 percent at the domain level, and within 20 percent at the oversampled districts level, and to ensure that the survey precision was comparable across divisions, a sample of facilities was allocated based on a power allocation among sampling domains, divisions, oversampled districts, and health facility types. Table 2 presents the allocation of the health facilities in MaMoni HSS and non-MaMoni districts in 2014 and 2017.

Table 2. Weighted and unweighted number of facilities in MaMoni HSS and non-MaMoni districts in 2014 and 2017

Facility type	2014				2017			
	MaMoni HSS districts		Non-MaMoni districts		MaMoni HSS districts		Non-MaMoni districts	
	Un-weighted number	Weighted number	Un-weighted number	Weighted number	Un-weighted number	Weighted number	Un-weighted number	Weighted number
District and upazila public health facilities	50	4.1	244	43.3	47	3.8	246	40.4
DH	6	0.5	56	4.6	6	0.5	56	4.3
MCWC	11	0.9	81	6.7	9	0.7	81	6.3
UHC	33	2.7	107	31.9	32	2.7	109	29.8
Union-level public health facilities	161	25.5	429	348.3	231	26.3	446	334.7
UHFWC	116	19.4	274	246.6	174	19.9	305	230.3
USC/RD	45	6	155	101.6	57	6.5	141	104.4
Total public health facilities, excluding CCs	211	29	-	-	278	30	-	-

Note: This report shows the results for union-level public health facilities in non-MaMoni districts only. The numbers for other facilities in non-MaMoni districts are not reported.

Abbreviations: DH – district hospitals; MCWC – mother and child welfare center; UHC – upazila health complex; UHFWC – union health and family welfare center; USC – union subcenter; RD – rural dispensary.

The sample size in the MaMoni HSS districts in 2014 was 211, including all DHs and MCWCs in the six districts, a sample of the upazila- and union-level facilities, and excluding all CCs. In the 2017 survey, the total sample size in the MaMoni HSS districts was 278, including all DHs and MCWCs, a sample of the upazila- and union-level facilities, and excluding all CCs. The unweighted comparison areas' sample sizes for union-level facilities was 429 in 2014 and 446 in 2017 (Table 2). The weighted and unweighted numbers used in each of the tables (Tables 3-13) and figures (Figures 3-13) are shown in Appendix 1.

Data Collection

One questionnaire was used for the 2014 and 2017 BHFS data collection: *Facility Inventory Questionnaire* (<https://dhsprogram.com/pubs/pdf/SPA23/SPA23.pdf>). This questionnaire was developed based on

the service provision assessment component of USAID's Demographic and Health Surveys Program. The questionnaire was loaded onto tablet computers and administered in computer-assisted personal interviews. Based on the preparedness indicators that were developed, the questionnaire captured information on the availability of service components for the provision of FP-MNCH services.

Data collection for the surveys was contracted to ACPR, a private data collection agency, under the local supervision of NIPORT, and the overall supervision of ICF. Interviews were conducted at the facility level during both surveys. Following training on the questionnaires and ethical issues in human subject research, the interviewers visited the randomly selected facilities to administer the facility questionnaire. The respondent at each facility was a person designated by the facility director.

Survey teams, quality control officers from the subcontractor, field coordinators, and core team members ensured data quality through supervision, monitoring, and data quality checks, including field check tabulations during fieldwork for both surveys. Staff from NIPORT, ICF, and icddr,b visited field sites to monitor quality, and attended debriefing sessions during the fieldwork to review problems in the field and check the data. All data were collected using computer tablets that had the questionnaires installed. Data cleaning was done by the data collection agencies using programs developed by ICF.

Ethical Considerations

For both surveys, 2014 and 2017, ethical clearance for protocols and data collection instruments were obtained from the Bangladesh Medical Research Council. Similarly, all interviewers received training on ethical issues in human subjects research. All participation was voluntary, and informed consent was obtained from participants before the interview. No individual names or other personal identifiers were included in the electronic data files. Data management personnel followed data security protocols.

RESULTS

Basic Client Services and Amenities

Key findings

- The availability of child curative care, child growth monitoring, FP, and ANC services was very high (91 percent and higher) at public health facilities (excluding CCs) in MaMoni HSS districts in 2017. Normal delivery services were available at only 64 percent of the public health facilities (excluding CCs) in 2017.
- Nearly all union-level facilities in MaMoni HSS and non-MaMoni districts offered child curative care and ANC services in both 2014 and 2017.
- The biggest improvements in service availability at the union-level facilities in MaMoni HSS districts were in child growth monitoring, child vaccination, and normal delivery services, which increased by 22 percent, 11 percent, and 25 percent, respectively. The increases were similar at union-level facilities in non-MaMoni districts, except for child growth services, which increased by only nine percentage points.
- The availability of all six basic client services (outpatient curative care for sick children, child growth monitoring, facility-based child vaccination services, any modern methods of FP, ANC, and normal delivery) increased from 22 percent to 43 percent between 2014 and 2017 at the union-level facilities in MaMoni HSS districts. The availability of all six basic client services increased from 14 percent to 35 percent between 2014 and 2017 at the union-level facilities in non-MaMoni districts.
- The availability of all six basic equipment items (adult scale, child or infant scale, thermometer, stethoscope, blood pressure apparatus, and light source) required to provide health services increased from 22 percent to 37 percent at all public health facilities (excluding CCs) between 2014 and 2017.
- The availability of all six basic equipment items required to provide health services increased from 18 percent to 32 percent at the union-level facilities in MaMoni HSS districts, whereas their availability remained unchanged, at 22 percent, at union-level facilities in non-MaMoni districts. Of the six basic equipment items, the biggest improvements at union-level facilities in MaMoni HSS districts were found in the availability of child scales and light sources, both of which increased by 18 percentage points between 2014 and 2017.
- Individual diagnostic test availability increased significantly at union-level facilities in MaMoni HSS districts, with hemoglobin, urine protein, urine glucose, and urine pregnancy testing increasing by 48 percentage points, 40 percentage points, 26 percentage points, and 25 percentage points, respectively, from 2014 to 2017. The increases in non-MaMoni districts were much smaller, ranging from one to seven percentage points.
- The availability of all five diagnostic tests remained low, with approximately two percent of union-level facilities having them in both MaMoni HSS and non-MaMoni districts.

Background

To improve the health status of the population, a health system needs to have essential inputs and requisite support systems that promote the effective and efficient delivery of health services. Although healthcare services can be offered under various conditions, some common inputs are essential under all conditions to ensure the quality of services and those services' acceptability and use. The essential inputs are human resources, infrastructure, basic amenities, equipment, diagnostic capacity, and pharmaceutical and medical supplies.

This section presents the results on the changes that occurred between the 2014 and 2017 BHFS in MaMoni HSS districts and non-MaMoni districts for the availability of basic health services, basic amenities and equipment, and diagnostic capacity.

Availability of Basic Health Services

Policymakers and program managers were interested in the overall availability of key health services to identify gaps in their provision. The basic client services are:

- Outpatient curative care for sick children
- Child growth monitoring services
- Facility-based child vaccination services
- Provision of modern methods of FP
- ANC
- Normal delivery

Table 3. Availability of client services in MaMoni HSS districts in 2014 and 2017

Among public health facilities, the percentages of facilities that offer basic client services in MaMoni HSS districts by level of facilities, 2014 and 2017

Services provided	District and upazila public health facilities		Union-level public health facilities		Total public health facilities, excluding CCs	
	2014	2017	2014	2017	2014	2017
Curative care for sick children	100	100	99	100	99	100
Child growth monitoring	78	100	72	94	73	95
Child vaccination (EPI) ¹	90	92	69	80	72	82
Any FP ²	90	100	92	90	92	91
ANC	100	100	98	98	99	98
Normal delivery	96	100	33	58	42	64
All basic client services with normal delivery ³	60	92	22	43	28	50
All basic client services without normal delivery ³	64	92	54	72	55	75
Number of facilities (weighted)	4	4	25	26	29	30

¹ Routine series of DPT/pentavalent, polio, and measles vaccinations offered at the facility, excluding any outreach services. EPI: Expanded Program on Immunization.

² Facility provides, prescribes, or counsels clients on any of the following: contraceptive pills (combined or progestin-only), injectables (combined or progestin-only), implants, intrauterine devices (IUDs), male condoms, female sterilization (tubal ligation), male sterilization (vasectomy), periodic abstinence method, or Lactational Amenorrhea Method.

³ Basic client services are outpatient curative care for sick children, child growth monitoring, facility-based child vaccination, any modern FP methods, ANC, and normal delivery.

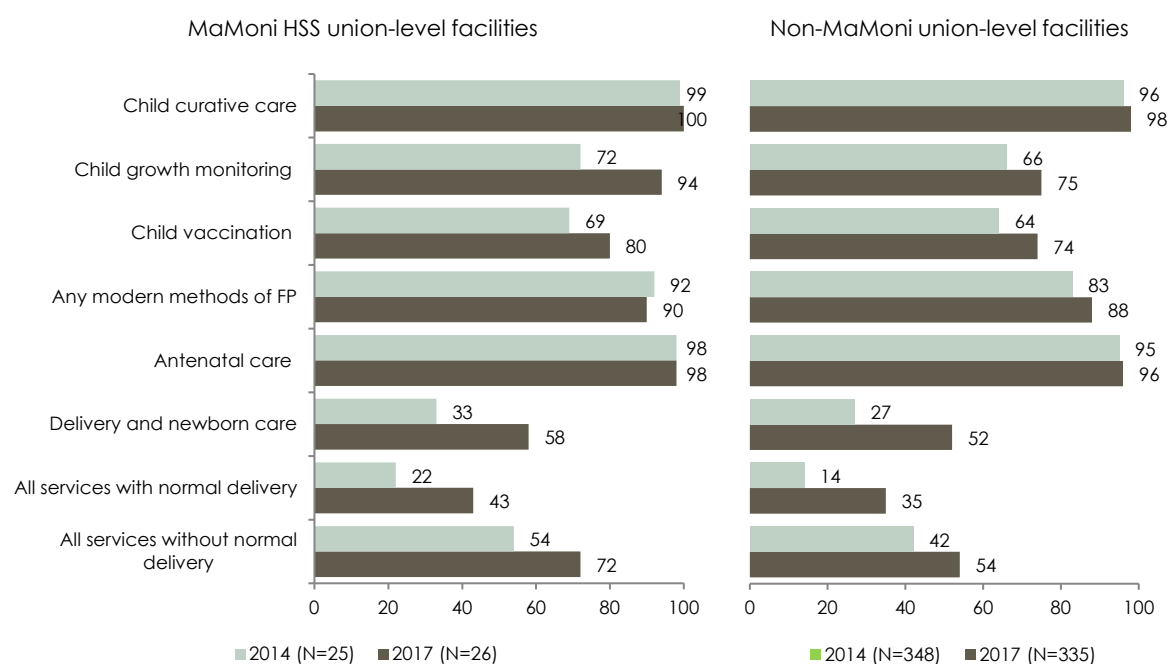
Table 3 shows that nearly all public health facilities (excluding CCs) in MaMoni HSS districts offered both outpatient curative care for sick children and ANC services in 2014 and 2017. The availability of child

growth monitoring services increased from 73 percent to 95 percent, and the availability of child vaccination increased from 72 percent to 82 percent at public health facilities (excluding CCs) between 2014 and 2017. The availability of normal delivery also increased, from 42 percent to 64 percent. In MaMoni HSS districts, facilities offering all six basic client services, including normal delivery, almost doubled, from 28 percent to 50 percent between 2014 and 2017. Overall, where service availability was not already high, the data indicated big improvements in basic service availability at public health facilities in MaMoni HSS districts. However, it should be noted that 50 percent of all public health facilities still did not offer all six basic client services in the MaMoni HSS districts.

Figure 3 compares the availability of basic client services at union-level facilities in MaMoni HSS and non-MaMoni districts. Nearly all union-level facilities in MaMoni HSS and non-MaMoni districts offered child curative and ANC services. Between 2014 and 2017, there was a 22 percentage-point increase in the availability of child growth monitoring services, an 11 percentage-point increase in the availability of child vaccination services, and a 25 percentage-point increase in the availability of normal delivery services at union-level facilities in MaMoni HSS districts. This compares with similar increases in the availability of child vaccination and normal delivery services, and a smaller increase (nine percentage points) in child growth monitoring services in non-MaMoni districts. The proportion of union-level facilities offering any modern methods of FP also did not increase in MaMoni HSS districts, compared with a 5 percentage-point increase in non-MaMoni districts.

Figure 3. Availability of client services at union-level facilities in MaMoni HSS and non-MaMoni districts in 2014 and 2017

Among union-level public health facilities, the percentages of facilities that offer basic client services in MaMoni HSS and non-MaMoni districts, 2014 and 2017



General Service Preparedness

Availability of Basic Amenities

The availability of the following basic amenities was assessed, as follows:

- Regular electricity
- Improved water source
- Privacy during consultation
- Client latrine
- Communications equipment (land/mobile phone)
- Computer with Internet access

In addition to these basic amenities, the availability of emergency transport was examined. Emergency transport is expected to be available primarily at higher-level facilities. Its availability also depends on what services the facility provides.

Table 4. Availability of basic amenities in MaMoni HSS districts in 2014 and 2017

Among public health facilities, the percentages of facilities that have basic amenities in MaMoni HSS districts, by level of facilities, 2014 and 2017

Basic amenities	District and upazila public health facilities		Union-level public health facilities		Total public health facilities, excluding CCs	
	2014	2017	2014	2017	2014	2017
National electricity grid	94	98	69	86	72	88
Regular electricity ¹	60	74	26	36	31	41
Improved water source ²	96	100	85	92	87	93
Visual and auditory privacy ³	44	56	45	60	45	59
Client latrine ⁴	84	73	73	65	75	66
Communications equipment ⁵	68	83	11	2	19	13
Computer with Internet ⁶	68	88	9	20	17	29
Emergency transport ⁷	78	80	0	0	11	11
Separate latrine for female clients	64	65	40	26	43	31
All six basic amenities ⁸	8	21	0	1	1	4
At least five basic amenities ⁸	40	66	3	6	8	14
Number of facilities (weighted)	4	4	25	26	29	30

Note: The indicators presented in this table comprise the basic amenities domain for assessing general service readiness in the health facility assessment methodology proposed by WHO and USAID. (WHO 2012).

¹ Facility is connected to a central power grid and there has not been an interruption in power supply lasting for more than two hours at a time during normal working hours in the seven days before the survey, or the facility has a functioning generator with fuel available on the day of the survey, or the facility has back-up solar power.

² Water is piped into the facility or piped onto the facility grounds, or water is from a public tap or standpipe, a tube well or borehole, a protected dug well, protected spring, or rainwater, or bottled water, and the outlet from this source is within 500 meters of the facility.

³ A private room or screened-off space is available in the general outpatient service area that is a sufficient distance from other clients such that a normal conversation can be held without the client being seen or heard by others.

⁴ The facility has a functioning flush or pour-flush toilet, a ventilated improved pit latrine, or composting toilet.

⁵ The facility has a functioning landline telephone, a functioning facility-owned cellular phone, or a private cellular phone that is supported by the facility.

⁶ The facility has a functioning computer with access to the Internet that is not interrupted for more than two hours at a time during normal working hours, or the facility has access to the Internet via a cellular phone inside the facility.

⁷ The facility has a functioning ambulance or other vehicle for emergency transport that is stationed at the facility and had fuel available on the day of the survey, or the facility has access to an ambulance or other vehicle for emergency transport that is stationed at another facility or that operates from another facility.

⁸ All six basic amenities include regular electricity, improved water source, visual and auditory privacy, client latrine, communications equipment, and computer with Internet access.

Table 4 presents the results for the availability of basic amenities at public health facilities in MaMoni HSS districts in 2014 and 2017. Figure 4 presents the availability of basic amenities at union-level facilities in both MaMoni HSS and non-MaMoni districts. As Table 4 shows, emergency transport was mainly available at the district level; there was no availability at the union-level facilities. In the following subsections, findings on the availability of the other basic amenities in MaMoni HSS and non-MaMoni districts are presented.

Regular electricity was considered to be available if a facility was connected to a central power grid and if one of the following conditions was met:

- The power supply was not interrupted for more than two hours at a time during normal working hours in the seven days preceding the day of survey.
- The facility had a functioning generator with fuel available on the day of survey.
- The facility had back-up solar power.

Forty-one percent of all public health facilities (excluding CCs) in MaMoni districts had regular electricity in 2017 (Table 4). The availability of regular electricity at union-level facilities increased by 10 percentage points in MaMoni HSS districts compared with a 3 percentage-point increase at union-level facilities in non-MaMoni districts (Figure 4).

Overall, an improved water source was present in more than 90 percent of the public facilities (excluding CCs) in MaMoni HSS districts in 2017 (Table 4). Between 2014 and 2017, there were improvements in the proportion of union-level facilities with improved water sources in MaMoni HSS and non-MaMoni districts, which saw increases of 7 percentage points and 5 percentage points, respectively (Figure 4).

In all public health facilities (excluding CCs) in MaMoni HSS districts, the availability of audiovisual privacy increased from 45 percent to 59 percent between 2014 and 2017 (Table 4). Union-level facilities saw increases of 15 percentage points and 34 percentage points in MaMoni HSS and non-MaMoni districts, respectively (Figure 4).

There were decreases in the availability of client latrines at public health facilities (excluding CCs) in MaMoni HSS districts between 2014 and 2017, with the proportion falling from 75 percent to 66 percent (Table 4). This trend was also observed at union-level facilities in MaMoni HSS districts (8 percentage-point decrease). However, in non-MaMoni districts, the proportion of union-level facilities with client latrines increased from 74 percent to 82 percent (Figure 4).

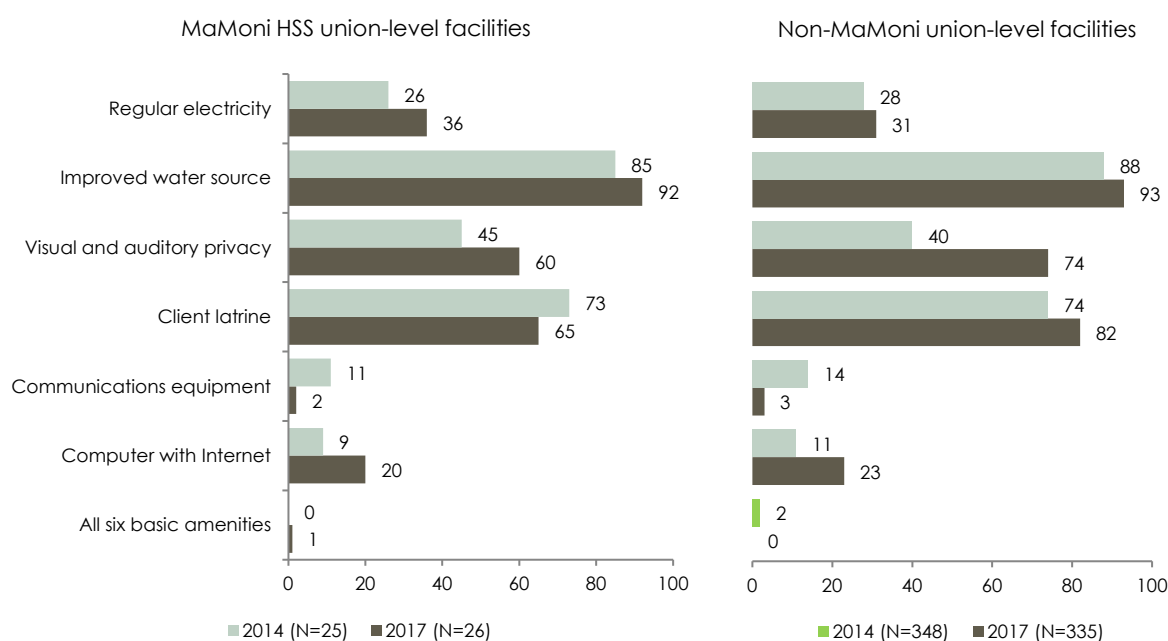
From 2014 to 2017, the proportion of public health facilities (excluding CCs) with communications equipment fell, from 19 percent to 13 percent in MaMoni HSS districts (Table 4). The proportion of union-level facilities in MaMoni HSS districts with communications equipment fell from 11 percent in 2014 to 2 percent in 2017. In non-MaMoni districts, the proportion of union-level facilities with communications equipment also fell, from 14 percent in 2014 to 3 percent in 2017 (Figure 4).

There was a 12 percentage-point increase in the proportion of public health facilities (excluding CCs) with a computer that had Internet services (Table 4). The proportion of union-level facilities with a computer that had Internet services more than doubled in both MaMoni HSS and non-MaMoni districts, with an increase from 9 percent to 20 percent, and 11 percent to 23 percent, respectively (Figure 4).

In all public health facilities (excluding CCs) in MaMoni HSS districts, the availability of all six basic amenities was 4 percent in 2017, a slight increase in their availability in 2014 (Table 4). Figure 4 shows that the availability of all six basic client amenities at union-level public health facilities in both MaMoni HSS and non-MaMoni districts was almost zero.

Figure 4. Availability of basic amenities at union-level facilities in MaMoni HSS and non-MaMoni districts in 2014 and 2017

Among union-level public health facilities, the percentages of facilities that have basic amenities in MaMoni HSS and non-MaMoni districts, 2014 and 2017



Availability of Basic Equipment

The delivery of quality basic health services requires specific equipment. WHO and USAID have proposed a list of seven basic pieces of equipment that should be available at a health facility to ensure its readiness to deliver basic health services (WHO, 2012). The seven basic pieces of equipment are:

- Adult scale
- Child scale
- Infant scale
- Thermometer
- Stethoscope
- Blood pressure apparatus
- Light source

Table 5 presents the findings on the availability of the basic equipment needed to provide quality basic health services in MaMoni HSS districts. This table shows that the proportion of public health facilities (excluding CCs) with adult scales in MaMoni HSS districts increased from 77 percent in 2014 to 80 percent in 2017. Figure 5 shows that part of this overall increase was due to a 4 percentage-point increase in the proportion of union-level facilities with adult scales in MaMoni HSS districts. There were no comparable increases in the proportion of union-level facilities with adult scales in non-MaMoni districts. There was also a 17 percentage-point increase in the proportion of union-level facilities with child or infant scales in MaMoni HSS districts from 2014 to 2017 (Table 5). By contrast, the proportion of union-level facilities with child or infant scales in non-MaMoni districts decreased by 5 percentage points (Figure 5). Similarly, the proportion of union-level facilities with thermometers in non-MaMoni districts decreased from 2014 to 2017 by 11 percentage points, whereas there was a 7 percentage-point increase in the proportion of union-level facilities in MaMoni HSS districts with thermometers (Figure 5). The

availability of stethoscopes was high (above 92%) in both MaMoni HSS and non-MaMoni districts in 2014 and 2017. The availability of blood pressure apparatus was also high, with more than eight of every ten union-level facilities in both MaMoni HSS and non-MaMoni districts having this item in 2014, and nine of every ten having it in 2017 (Figure 5). The availability of light sources at public health facilities in MaMoni HSS districts increased by 18 percentage points from 2014 to 2015 (Table 5). This achievement was also reflected at facilities at the union-level in MaMoni HSS districts (18 percentage-point increase), whereas the increase in non-MaMoni districts was 9 percentage points (Figure 5). Overall, the availability of all six basic equipment items increased by 14 percentage points at union-level facilities in MaMoni HSS districts, whereas their overall availability actually fell by 1 percentage point at union-level facilities in non-MaMoni districts (Figure 5).

Table 5. Availability of basic equipment in MaMoni HSS districts in 2014 and 2017

Among public health facilities, the percentages of facilities that have basic equipment in MaMoni HSS districts, by level of facilities, 2014 and 2017

Basic equipment	District and upazila public health facilities		Union-level public health facilities		Total public health facilities, excluding CCs	
	2014	2017	2014	2017	2014	2017
Adult scale	86	90	75	79	77	80
Child scale ¹ or infant scale ²	70	85	56	74	58	75
Thermometer	88	93	81	88	82	89
Stethoscope	96	100	95	98	95	98
Blood pressure apparatus ³	96	100	89	94	90	95
Light source ⁴	62	88	33	51	37	56
All six equipment items available	44	71	18	32	22	37
At least five equipment items available	72	89	47	69	50	72
Number of facilities (weighted)	4	4	25	26	29	30

Note: The indicators presented in this table comprise the basic equipment domain for assessing general service readiness in the health facility assessment methodology proposed by WHO and USAID (WHO, 2012).

¹ A scale with gradation of 250 grams, or a digital standing scale with a gradation of 250 grams or lower where an adult can hold a child to be weighed is available somewhere in the general outpatient area.

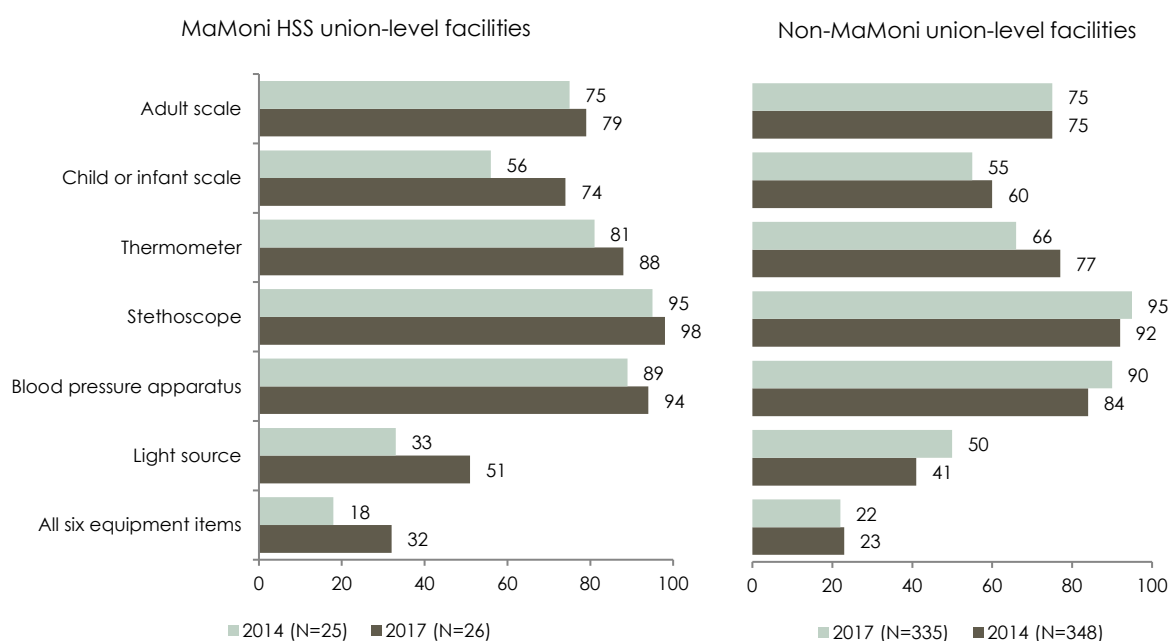
² A scale with gradation of 100 grams, or a digital standing scale with a gradation of 100 grams where an adult can hold an infant to be weighed is available somewhere in the general outpatient area.

³ A digital blood pressure machine or a manual sphygmomanometer with a stethoscope is available somewhere in the general outpatient area.

⁴ A spotlight source that can be used for client examination or a functioning flashlight is available somewhere in the general outpatient area.

Figure 5. Availability of basic equipment at union-level facilities in MaMoni HSS and non-MaMoni districts in 2014 and 2017

Among union-level public health facilities, the percentages of facilities that have basic equipment in MaMoni HSS and non-MaMoni districts, 2014 and 2017



Availability of Diagnostic Capacity

The provision of diagnostic services (i.e., laboratory tests and diagnostic imaging) is essential for clinical decision making and for enhanced delivery of quality healthcare.

Table 6. Availability of diagnostic capacity in MaMoni HSS districts in 2014 and 2017

Among public health facilities, the percentages of facilities that offer basic diagnostic tests in MaMoni HSS districts by level of facilities, 2014 and 2017

Basic Diagnostic tests	District and upazila public health facilities		Union-level public health facilities		Total public health facilities, excluding CCs	
	2014	2017	2014	2017	2014	2017
Hemoglobin	64	72	12	60	19	62
Blood glucose	12	20	1	2	3	4
Urine protein	46	59	2	42	8	44
Urine glucose	20	34	2	28	4	29
Urine pregnancy test	30	56	2	27	6	31
All five basic tests are available ¹	8	11	1	2	2	3
Number of facilities(weighted)	4	4	25	26	29	30

¹ Hemoglobin, blood glucose, urine protein, urine glucose, and urine pregnancy test.

Table 6 presents information on the diagnostic capacity at public health facilities in MaMoni HSS districts. The tests are based on those proposed by WHO and USAID for measuring diagnostic capacity

as a component of assessing general service preparedness (WHO, 2012). In reviewing the information on diagnostic capacity, remember that the health facilities in the MaMoni HSS districts varied with respect to the types of diagnostic tests they offered. For example, MCWCs and union-level facilities often do not offer basic diagnostic tests. Advanced-level diagnostic tests and imaging are found only in DHs or UHCs. From 2014 to 2017, the capacity of public health facilities (excluding CCs) in the MaMoni HSS districts to perform basic diagnostic tests increased, especially for such tests as hemoglobin, urine protein, urine glucose, and urine pregnancy, where increases were 43 percentage points, 36 percentage points, 25 percentage points, and 25 percentage points, respectively. Because of the low availability of some tests, the overall availability of the five basic tests at public health facilities (excluding CCs) in MaMoni HSS districts was very low (reaching only 3% in 2017) (Table 6).

Figure 6. Availability of diagnostic tests at union-level facilities in MaMoni HSS and non-MaMoni districts in 2014 and 2017

Among union-level public health facilities, the percentages of facilities that offer basic diagnostic tests in MaMoni HSS and non-MaMoni districts, 2014 and 2017

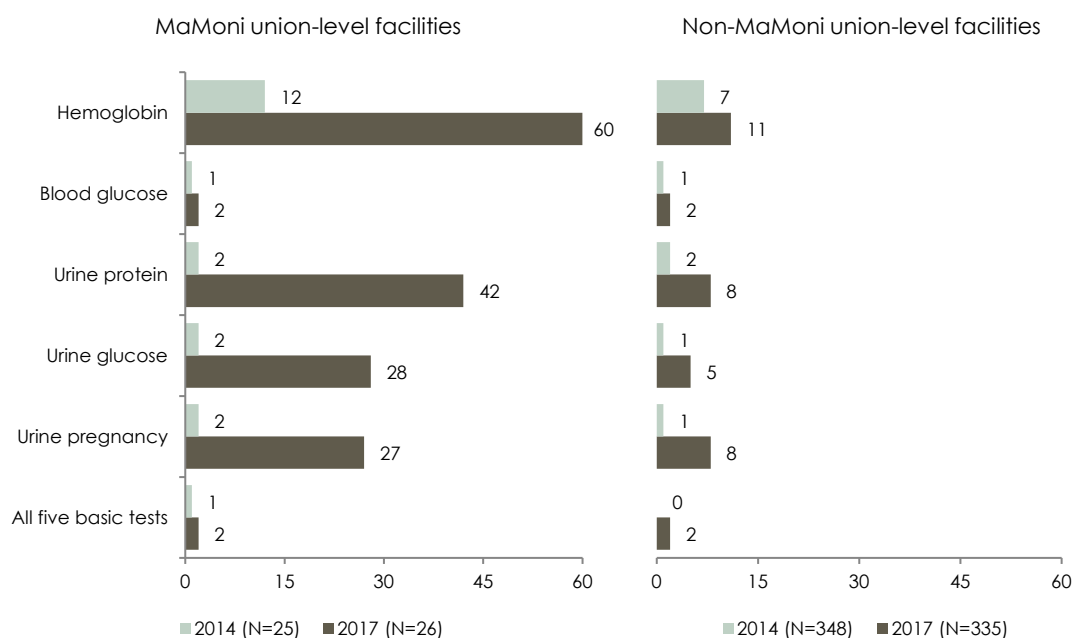


Figure 6 presents the changes in basic diagnostic test capacity at union-level facilities in both MaMoni HSS and non-MaMoni districts. The proportion of union-level facilities offering hemoglobin tests in MaMoni HSS districts increased fivefold (from 12% to 60%) between 2014 and 2017, compared with only a 4 percentage-point increase (from 7% to 11%) in the proportion of union-level facilities offering this test in non-MaMoni districts. There was a similarly large increase in the proportion of union-level facilities in MaMoni HSS districts offering urine protein tests, increasing from 2 percent in 2014 to 28 percent in 2017. There were also large increases observed in the availability of urine glucose and urine pregnancy tests at union-level facilities in MaMoni HSS districts, increasing by 26 and 25 percentage points, respectively. In non-MaMoni districts, changes in the availability of diagnostic tests were smaller, increasing by only between 4 and 7 percentage points for these tests. The only test where there was almost no change at union-level facilities in both MaMoni HSS and non-MaMoni districts was for blood glucose testing, where the increase was 1 percentage point (from 1% to 2%) in both areas. In sum, although there were large increases in the availability of individual diagnostic tests at union-level facilities in MaMoni HSS districts, overall availability of all five basic tests increased from only 1 percent to 2

percent at union-level facilities in MaMoni HSS districts. The increase in the availability of individual diagnostic tests at union-level facilities in non-MaMoni districts was lower than in MaMoni HSS districts, but because of the low availability of blood glucose testing at union-level facilities in MaMoni HSS districts, overall availability of all five basic diagnostic tests at union-level facilities in non-MaMoni districts was also only 2 percent in 2017.

Key findings

The availability of child curative care services was almost universal at union-level facilities in both MaMoni HSS and non-MaMoni districts in 2014 and 2017.

- The availability of all 10 items (including deworming medication, paracetamol, amoxicillin, ORS, zinc tablets or syrup, growth chart, thermometer, child scale, trained staff, and guidelines) needed to provide appropriate quality child health services at all public health facilities (excluding CCs) was very low, at 3 percent in 2017, representing a small decline from 8 percent in 2014.
- In 2014, only 6 percent of union-level facilities in MaMoni HSS districts were ready to provide quality child health services (had all 10 items needed to provide child curative care). This had decreased to 1 percent by 2017. The readiness of union-level facilities in non-MaMoni districts also declined (5% in 2014 to 1% in 2017).
- There was a marked decline in the availability of amoxicillin, paracetamol, and Integrated Management of Childhood Illness (IMCI) guidelines at union-level facilities between 2014 and 2017.
- Improvements were observed in the availability of thermometers (from 86% to 92%) and growth charts (from 47% to 59%) between 2014 and 2017 in MaMoni HSS union-level facilities. In non-MaMoni union-level facilities, the changes were small or negative.

Child Health Services

Background

Bangladesh has experienced a significant decline in infant and child mortality and is committed to further reducing deaths of newborns and children under age five. Central to achieving this goal is ensuring the availability of high-quality child curative care services. WHO has identified specific tracer items that facilities should have to be considered ready to provide child curative care (WHO, 2012). The tracer items include the following 10 indicators that were assessed during this study:

- **Integrated Management of Childhood Illnesses (IMCI) guidelines:** National or other guidelines on IMCI are available at the facility.
- **IMCI trained staff:** At least one provider who has received in-service training on at least some components of IMCI.
- **Equipment:** Availability of a child scale, thermometer, and growth chart.
- **Medicines:** Availability of ORS; zinc tablets/syrup; amoxicillin syrup/suspension/dispersible; paracetamol syrup/suspension; and mebendazole/albendazole.

The results of the assessment of readiness to provide child curative care services using the tracer items given above follow.

As seen in Table 3, the availability of child curative care was almost universal (99% and higher) at public health facilities (excluding CCs) in both 2014 and 2017. Similarly, child curative care services were almost universal at union-level facilities both in MaMoni HSS and non-MaMoni districts (Figure 3).

Table 7 presents information on the availability of the 10 tracer items needed to offer outpatient curative care for sick children at public health facilities (excluding CCs) in MaMoni HSS districts in 2014 and 2017. The availability of all 10 items at public health facilities (excluding CCs) was low and declined during the period (from 8% to 3%). The decline in the indicators occurred both at district and union levels. Among all tracer items, improvements were observed only for thermometers (from 87% to 92%), growth chart availability (from 51% to 63%), and zinc tablets or syrups (28% to 32%). There were large declines in the availability of amoxicillin, paracetamol, and IMCI guidelines. It should be noted that the 2017 assessment period coincided with declines in drug availability at the national level.

Table 7. Availability of tracer items (indicators) to provide child curative care in MaMoni HSS districts in 2014 and 2017

Among public health facilities offering child curative care, the percentages of facilities that have tracer items to provide child curative care in MaMoni HSS districts, by level of facilities, 2014 and 2017

Items/components	District and upazila public health facilities		Union-level public health facilities		Total public health facilities, excluding CCs	
	2014	2017	2014	2017	2014	2017
Mebendazole/albendazole	70	77	88	86	86	85
Paracetamol	86	79	87	74	87	75
Amoxicillin	82	65	88	70	87	69
ORS	82	84	38	36	44	42
Zinc tablets or syrup	58	51	23	29	28	32
Growth chart	76	89	47	59	51	63
Thermometer	96	95	86	92	87	92
Child scale ¹	80	79	59	54	62	57
IMCI ² (trained at any time)	92	82	70	63	73	66
IMCI guidelines	76	60	56	48	59	50
All 10 items	18	14	6	1	8	3
Number of facilities (weighted)	4	4	25	26	29	30

Note: ORS = oral rehydration solution.

¹ A scale with gradation of 250 grams, or a digital standing scale with gradation of 250 grams or less, where an adult can hold a child to be weighed.

² At least one provider of child health services at the facility reported receiving in-service training in IMCI. Training refers only to in-service training. The training should have involved structured sessions, and does not include individual instruction that a provider may have received during routine supervision.

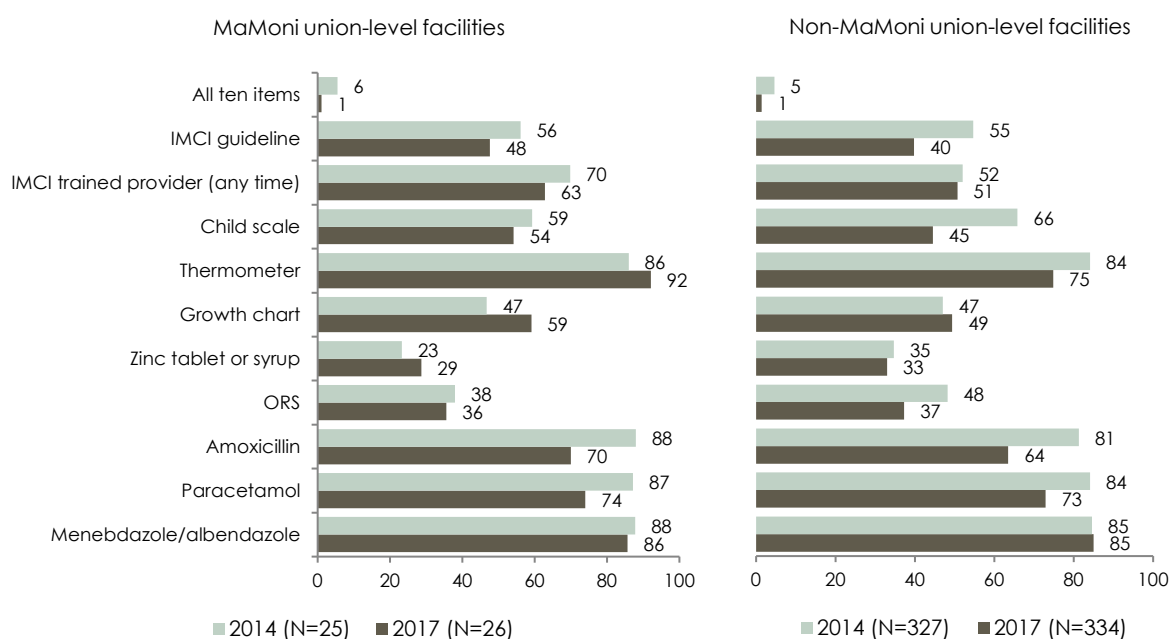
Figure 7 presents information on the availability of the 10 tracer items at MaMoni HSS union-level facilities and non-MaMoni union-level facilities in 2014 and 2017. In general, the availability of all 10 items was low and declined both at MaMoni HSS union-level facilities and non-MaMoni union-level facilities. The availability of all 10 items declined from 6 percent to 1 percent at MaMoni union-level facilities, and from 5 percent to 1 percent at non-MaMoni union-level facilities. Therefore, only 1 percent of union-level facilities in both areas was ready to provide appropriate quality child curative care in 2017. The only improvements in the availability of tracer items at union-level facilities in MaMoni HSS districts were in the availability of thermometers, growth charts, and zinc tablets/syrups. The availability of

thermometers increased by 6 percentage points in MaMoni HSS districts but decreased by 9 percentage points in non-MaMoni districts. The availability of growth charts increased significantly, by 12 percentage points, to 59 percent in MaMoni HSS union-level facilities by 2017, compared with only a 2 percentage-point increase in non-MaMoni districts. There was also a 6 percentage-point increase in the availability of zinc tablets/syrups in MaMoni HSS districts, whereas there was a 2 percentage-point decline in non-MaMoni districts.

There were large declines in the availability of amoxicillin and paracetamol at union-level facilities in both areas between 2014 and 2017. At MaMoni HSS union-level facilities, the availability of amoxicillin decreased by 18 percentage points (88% to 70%), almost identical to the decline at non-MaMoni union-level facilities. The availability of paracetamol declined from 87 percent to 74 percent in MaMoni HSS districts, with a similar decline seen in non-MaMoni districts (Figure 7). As noted above, the low level of availability of amoxicillin and paracetamol in 2017 coincided with a countrywide shortage of antibiotics and other drugs in Bangladesh.

Figure 7. Availability of tracer items (indicators) to provide child curative care at union-level facilities in MaMoni HSS and non-MaMoni districts in 2014 and 2017

Among union-level public health facilities offering child curative care, the percentages facilities that have tracer items to provide child curative care in MaMoni HSS and non-MaMoni districts, 2014 and 2017



Overall, MaMoni HSS union-level facilities experienced an increase in three of ten tracer items to provide child curative care, whereas non-MaMoni union-level facilities did not experience an increase in any of the items, except a 2 percentage-point increase for growth chart.

Family Planning Services

Key findings

- The availability of any modern FP method (including emergency contraceptives) fell from 92 percent in 2014 to 90 percent in 2017 at union-level facilities in MaMoni HSS districts, in comparison with an increase, from 83 percent to 88 percent, at union-level facilities in non-MaMoni districts.
- The availability of female and male sterilization decreased from 27 percent to 23 percent at union-level facilities in MaMoni HSS districts between 2014 and 2017, whereas it increased from 28 percent to 31 percent during the same period at union-level facilities in non-MaMoni districts.
- The availability of LARC/PM at union-level facilities in MaMoni HSS districts increased from 74 percent in 2014 to 85 percent in 2017, with similar increases seen at union-level facilities in non-MaMoni districts (from 69% to 75%) during the same period.
- Service readiness for FP (as measured by the availability of all six items needed to provide FP [condoms, injectables, oral pills, blood pressure apparatus, trained staff, and guidelines]) dropped marginally, from 51 percent to 50 percent at public health facilities, excluding CCs, in MaMoni HSS districts from 2014 to 2017. The largest declines were in the availability of trained staff and injectables in MaMoni HSS districts.
- Approximately 50 percent of union-level facilities in MaMoni HSS and non-MaMoni districts were ready to provide FP services (had all six items available). Almost no change in readiness occurred at union-level facilities in MaMoni HSS districts between 2014 and 2017. By contrast, the readiness of union-level facilities in non-MaMoni districts improved by 14 percentage points during the same period.
- The availability of trained staff declined at union-level facilities in MaMoni HSS districts but increased in non-MaMoni districts. The availability of injectable contraceptives declined in both MaMoni HSS and non-MaMoni districts. Condom availability declined slightly and that of oral pills improved slightly. The availability of blood pressure apparatus increased slightly in both MaMoni HSS and non-MaMoni districts.

Background

Bangladesh has an impressive track record for FP, having lowered the TFR from 6.3 in 1975 to 2.3 in 2011. However, fertility change has slowed noticeably in recent years, and stayed the same in 2014 as in 2011. Use of modern contraceptives has declined, and a shift away from permanent and irreversible contraceptive methods has occurred. The use of LACR/PM increased by 1 percentage point between 2007 and 2011 and has remained at 8 percent since then (NIPORT, et al., 2009; NIPORT, et al., 2013; NIPORT, et al., 2016). The use of injectables increased from 7 percent to 12 percent from 2011 to 2014 (NIPORT, et al., 2013; NIPORT, et al., 2016).

Health facilities and healthcare providers play an important role in making FP services available. The public-sector facilities—especially UHCs, DHs/medical college hospitals, private hospitals, and MCWCs—are the primary sources for sterilization, IUDs, and implants. The private sector—mainly pharmacies—is the major supply source for pills, injectables, and condoms. Government fieldworkers are also an important source of pills and injectables.

The following section compares the results from the 2014 and 2017 BHFS data on the availability of FP services and the readiness of health facilities to provide FP services in MaMoni HSS and non-MaMoni districts.

Findings

Availability of Family Planning Services

Table 8 presents information on the availability of FP services at MaMoni HSS health facilities (excluding CCs) in 2014 and 2017. The availability of any modern FP method (including emergency contraceptives) remained at the same level in 2014 and 2017 (92% in 2014 and 91% in 2017). The availability of LACR/PM increased from 76 percent to 87 percent. However, there was a decline in the availability of female or male sterilization (35% in 2014 and 31% in 2017).

Table 8. Availability of FP services in MaMoni HSS districts in 2014 and 2017

Among public health facilities, the percentages of facilities that offer FP services in MaMoni HSS districts, by level of facilities, 2014 and 2017

Services	District and upazila public health facilities		Union-level public health facilities		Total public health facilities, excluding CCs	
	2014	2017	2014	2017	2014	2017
Male or female sterilization ¹	86	85	27	23	35	31
Any LARC/ PM ²	90	97	74	85	76	87
Any modern FP (including emergency contraceptives) ³	90	100	92	90	92	91
Number of facilities (weighted)	4	4	25	26	29	30

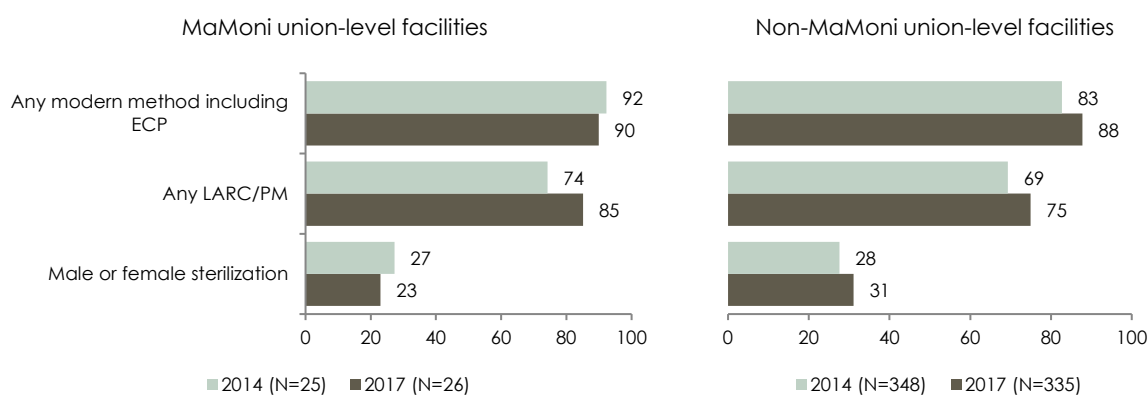
¹ Providers at the facility perform male or female sterilization or counsel clients on male or female sterilization.

² Facility provides, prescribes, or counsels clients on any of the following long-term and permanent methods of FP: implants, IUDs, female sterilization (tubal ligation), or male sterilization (vasectomy).

³ Facility provides, prescribes, or counsels clients on any of the following: contraceptive pills (combined or progestin-only), injectables (combined or progestin-only), implants, IUDs, male condoms, female sterilization (tubal ligation), or male sterilization (vasectomy), and emergency contraceptives.

Figure 8. Availability of FP methods at union-level facilities in MaMoni HSS and non-MaMoni districts in 2014 and 2017

Among union-level public health facilities, the percentages of facilities that offer FP services in MaMoni HSS districts, by level of facilities, 2014 and 2017



Note: ECP – emergency contraceptive pill; LARC/PM – long-acting and reversible contraceptives (IUD, implant), or permanent methods (female and male sterilization).

Figure 8 compares information on the availability of FP services between MaMoni HSS and non-MaMoni districts at the union-level facilities and in 2014 and 2017. Overall, the availability of any modern method was higher in MaMoni HSS districts than in non-MaMoni districts in both 2014 and 2017. The availability of any modern method declined slightly in MaMoni HSS districts from 2014 to 2017, but it increased (from 83% to 88%) in non-MaMoni districts. The availability of any LARC/PM increased in both MaMoni HSS and non-MaMoni districts. The availability of male or female sterilization declined slightly in MaMoni HSS districts but increased in non-MaMoni districts.

Availability of Tracer Items (Indicators) for FP Service Readiness

WHO has specified a set of tracer items (indicators) that facilities should have available to be considered ready to offer FP services (WHO, 2012). This study used six items (indicators) from the list of WHO tracer items (indicators) (WHO, 2012) to assess the readiness of facilities to provide FP services. The study assessed the availability of the following service components:

- **Trained staff:** At least one staff member had received in-service training on FP at any time
- **Guidelines:** National or other guidelines on FP
- **Equipment:** Blood pressure apparatus
- **Commodities:** Condoms, injectables, and oral pills

Table 9 presents information on the availability of these items for FP readiness at public health facilities (excluding CCs) in MaMoni HSS districts. The overall availability of all six tracer items at public health facilities in MaMoni HSS districts dropped slightly, from 51 percent in 2014 to 50 percent in 2017. There were declines in the availability of trained staff, condoms, and injectables across all public health facilities (excluding CCs) in the MaMoni HSS districts, with the availability of injectables declining the most (13 percentage points). The biggest increase in availability at public health facilities (excluding CCs) was for the blood pressure apparatus, which increased from 90 percent to 96 percent.

Table 9. Availability of tracer items (indicators) for FP service readiness in MaMoni HSS districts in 2014 and 2017

Among public health facilities offering short-acting FP services (pill, injectable, and condom), the percentages of facilities that have tracer items to provide the FP services in MaMoni HSS districts, by level of facilities, 2014 and 2017

Items/components	District and upazila public health facilities		Union-level public health facilities		Total public health facilities, excluding CCs	
	2014	2017	2014	2017	2014	2017
Condoms	96	88	95	93	95	92
Injectables	98	86	93	80	94	81
Oral pills	96	90	93	97	93	96
Blood pressure apparatus ¹	96	100	89	95	90	96
Staff trained in FP ²	96	87	82	77	84	78
Guidelines on FP ³	80	64	66	72	68	71
All six items	64	53	49	50	51	50
Number of facilities	4	4	24	24	28	28

Note: The measures presented in the table concerning guidelines for FP and staff trained in FP comprise the staff and training domains, and blood pressure apparatus comprises the equipment domain, for assessing readiness to provide FP services in the health facility assessment methodology proposed by WHO and USAID (WHO, 2012).

¹ A functioning digital blood pressure apparatus or a manual sphygmomanometer with a stethoscope.

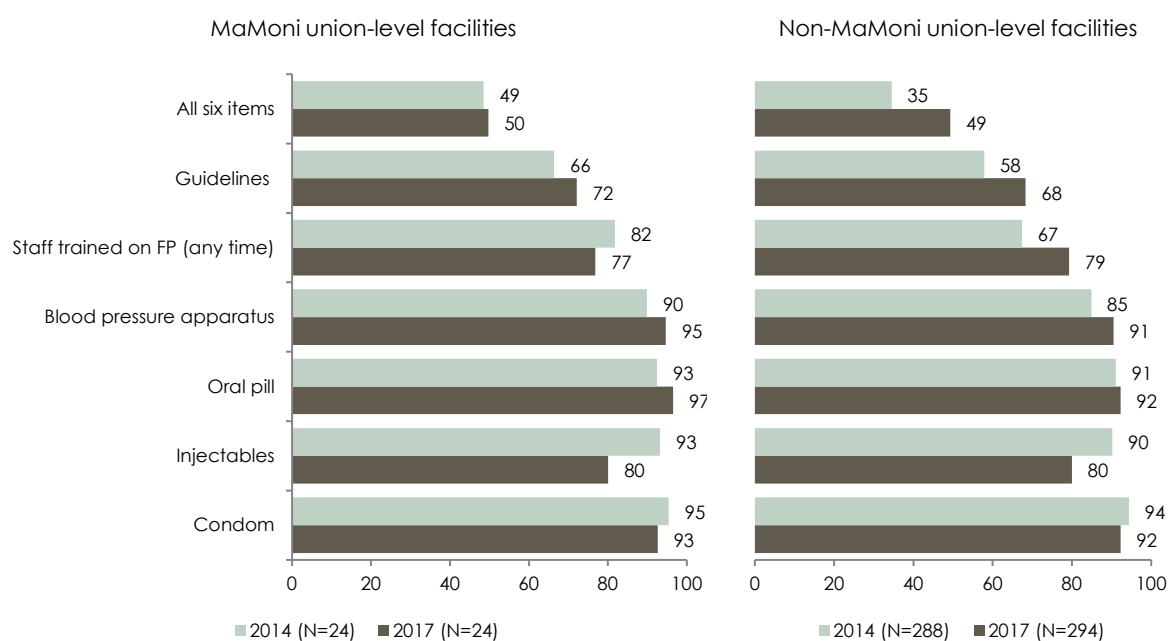
² The facility had at least one staff member interviewed who was providing FP services and who reported receiving in-service training in some aspect of FP. The training should have involved structured sessions; it does not include individual instruction that a provider may have received during routine supervision.

³ National guidelines or any other guidelines on FP.

Figure 9 compares the availability of tracer items (indicators) for readiness to provide FP services at union-level health facilities between MaMoni HSS and non-MaMoni districts and between 2014 and 2017. The availability of all items was higher in MaMoni HSS districts than in non-MaMoni districts in 2014. It remained almost unchanged in MaMoni HSS districts but increased in non-MaMoni districts, from 35 percent to 49 percent. The values of the individual indicators were, by and large, higher in MaMoni HSS districts than in non-MaMoni districts in 2014. The availability of guidelines, blood pressure apparatus, and oral pills increased slightly in both types of districts. The availability of trained staff declined at MaMoni HSS union-level facilities but increased at non-MaMoni union-level facilities, whereas the availability of injectables and condoms declined in both MaMoni HSS and non-MaMoni districts.

Figure 9. Availability of FP tracer items (indicators) at union-level facilities in MaMoni HSS and non-MaMoni districts in 2014 and 2017

Among union-level public health facilities offering short acting FP services (pill, injectable, and condom), the percentages of facilities that have tracer items to provide the FP services in MaMoni HSS and non-MaMoni districts, 2014 and 2017



Antenatal Care Services

Key findings

- ANC service availability was almost universal (above 95 percent) at union-level facilities both in MaMoni HSS districts and non-MaMoni districts in 2014 and 2017.
- Service readiness for ANC (as measured by the availability of all six items needed to provide ANC [guidelines, trained staff, blood pressure apparatus, hemoglobin testing, urine protein testing, and iron or folic acid tablets]) at all facilities was 29 percent in 2017—a marked improvement from 10 percent in 2014. This positive change was primarily because of improvements at the union-level facilities (increases in readiness from 5% to 28%). The readiness of union-level facilities in non-MaMoni districts did not change much.
- Improvements at the union-level facilities were due to increased hemoglobin testing capacity and urine protein testing capacity.
- Individual, component-wise readiness was almost universal for availability of blood pressure apparatus and iron or folic acid (more than 90%) across union-level facilities in both MaMoni HSS and non-MaMoni districts both in 2014 and 2017. The availability of guidelines and trained staff did not improve in MaMoni HSS districts, although there were small increases in the guidelines and training indicators in non-MaMoni districts.

Background

ANC is one of the key components of safe delivery. ANC by a medically trained provider (MTP) is one of the essential services needed to monitor the health and well-being of a mother and her child, to identify complications associated with pregnancy, and to prevent adverse pregnancy outcomes. WHO and the Government of Bangladesh recommend four or more ANC visits with an MTP during pregnancy.

WHO has identified a set of six tracer items that a facility needs to offer appropriate quality ANC services (WHO 2012). This measure requires that all the following six items are available for a health facility to be considered ready to offer quality ANC services:

- **Trained staff:** At least one provider of ANC who has received in-service ANC training.
- **Guidelines:** National or other ANC guidelines are available at the facility.
- **Equipment and diagnostic capacity:**
 - Blood pressure apparatus
 - Hemoglobin testing capacity
 - Urine protein testing capacity
- **Medicines:** Iron or folic acid tablets

Findings

As seen in Table 3, the availability of ANC services was almost universal at public health facilities (excluding CCs) in MaMoni HSS districts in 2014 and 2017. This almost universal availability of ANC services (above 95%) was also found at union-level facilities in non-MaMoni districts in 2014 and 2017.

Table 10 presents the indicators for (1) district- and upazila-level facilities, (2) union-level facilities, and (3) all facilities (excluding CCs) in the MaMoni HSS districts during 2014 and 2017. The availability of all six items needed to provide ANC services at all public health facilities (excluding CCs) in MaMoni HSS districts was 29 percent in 2017, a marked improvement from 10 percent in 2014. This positive change

was owing primarily to improvements at the union-level facilities. By contrast, the changes in the indicators at the district level were small and had minimal influence on the overall changes between 2014 and 2017, given that the number of district and upazila facilities was relatively small.

Examining the individual component-wise availability at all facilities, excluding CCs, there was almost universal availability of blood pressure apparatus and iron or folic acid (96% for both) in 2017. The availability of guidelines, trained staff, and diagnostic testing capacity were at moderate levels, ranging from 57 percent to 69 percent at all facilities (excluding CCs).

Table 10. Availability of tracer items to provide ANC services in MaMoni HSS districts in 2014 and 2017

Among public health facilities offering ANC services, the percentages of facilities that have tracer items to provide the services in MaMoni HSS districts, by level of facilities, 2014 and 2017

Items/components	District and upazila public health facilities		Union-level public health facilities		Total public health facilities, excluding CCs	
	2014	2017	2014	2017	2014	2017
Guidelines on ANC ¹	76	57	60	57	62	57
Staff trained on ANC at any time ²	96	92	72	66	75	69
Blood pressure apparatus ³	96	98	90	96	91	96
Hemoglobin testing capacity	64	72	13	61	20	62
Urine protein testing capacity	56	67	16	64	22	64
Iron or folic acid tablets	100	92	94	97	95	96
All six items	42	34	5	28	10	29
Ultrasonography	8	0	0	0	1	0
Number of facilities offering ANC	4	4	25	26	29	30

Note: The guidelines for ANC and staff trained in ANC comprise the training domain, and the blood pressure apparatus indicator comprises the equipment domain, for assessing readiness to provide ANC services in the health facility assessment methodology proposed by WHO and USAID (WHO, 2012).

¹ National ANC guidelines or other guidelines relevant to ANC.

² Facility had at least one staff member interviewed who was providing ANC services and who reported receiving in-service training in some aspect of ANC. The training should have involved structured sessions, and do not include individual instruction that a provider may have received during routine supervision.

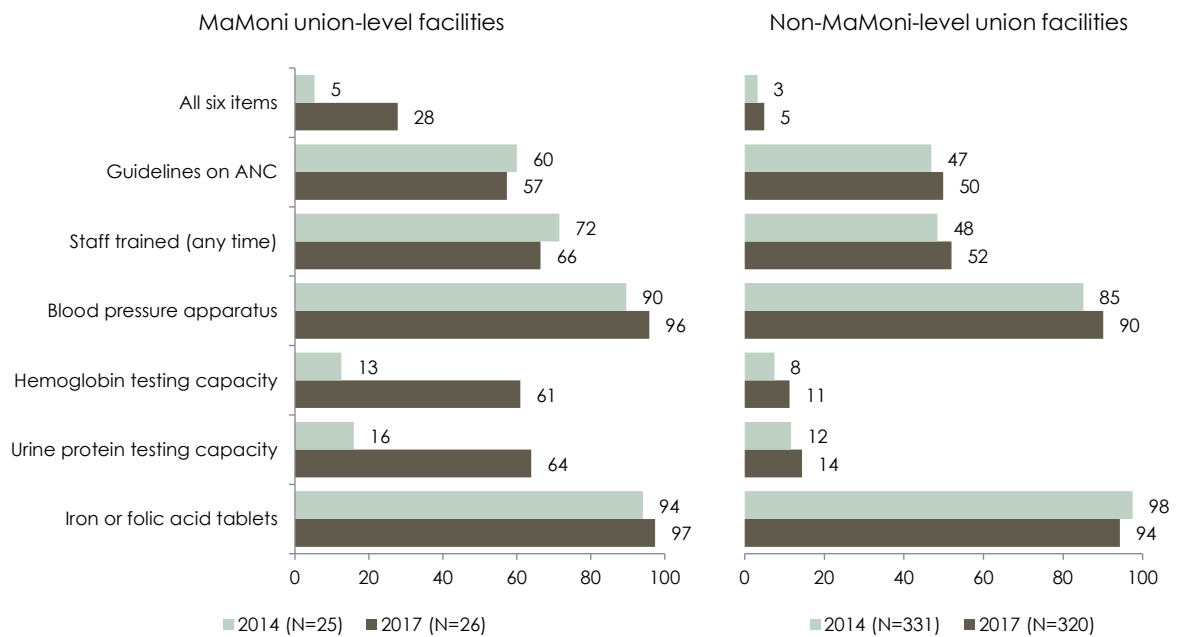
³ Functioning digital blood pressure apparatus or a functioning manual sphygmomanometer and a stethoscope.

Figure 10 compares the indicator changes for the union-level facilities between 2014 and 2017 in MaMoni HSS and non-MaMoni districts. The availability of all six items needed to provide ANC services increased from 5 percent in 2014 to 28 percent in the MaMoni HSS districts—a substantial increase compared with what was seen in the non-MaMoni districts (where the increase was from 3% in 2014 to 5% in 2017).

When individual component-wise changes were examined, the improvements at union-level facilities in MaMoni HSS districts were associated with the large increases in availability of hemoglobin testing capacity and urine protein testing capacity, which increased from 13 percent to 61 percent and 16 percent to 64 percent, respectively, between 2014 and 2017. By contrast, in non-MaMoni districts, diagnostic capacity (for hemoglobin and urine protein testing) also increased, but the extent of increase was less there compared with MaMoni districts.

Figure 10. Availability of tracer items (indicators) for readiness to provide ANC services at union-level facilities in MaMoni HSS and non-MaMoni districts in 2014 and 2017

Among union-level public health facilities offering ANC services, the percentages of facilities that have tracer items to provide the services in MaMoni HSS and non-MaMoni districts, 2014 and 2017



The changes in other indicators were small and were similar in MaMoni HSS and non-MaMoni districts. Union-level facilities in MaMoni HSS districts enjoyed a higher level of availability of guidelines, trained staff, and blood pressure apparatus in 2014 compared with non-MaMoni districts, and the availability of trained staff and guidelines actually fell marginally between 2014 and 2017 in MaMoni HSS districts. In comparison, there were marginal improvements in the availability of guidelines and trained staff at union-level facilities in non-MaMoni districts, although the absolute levels for both indicators were still lower than in MaMoni HSS districts.

Delivery and Newborn Care Services

Key findings

- In MaMoni HSS districts, the availability of normal delivery services at public health facilities (except for CCs) increased from 42 percent to 64 percent. This was mainly because of a 25 percentage-point increase in the availability of normal delivery services at union-level facilities (from 33% to 58%).
- In non-MaMoni districts, the increase in availability of normal delivery services at union-level facilities was also 25 percentage points. The MaMoni HSS project's national advocacy strategy included a component to scale up the availability of normal delivery services to all union-level facilities in the country.
- However, 24-hour availability of normal delivery services with an observed duty schedule for providers fell marginally.
- There were large increases (more than 15 percentage points) in the availability of delivery packs, neonatal bags and masks, partographs, oxytocin, magnesium sulphate, and skin disinfectant at union-level facilities in MaMoni HSS districts. These indicators of readiness for normal delivery services did not increase as much or decreased at union-level facilities in non-MaMoni districts, except for the availability of delivery packs and skin disinfectant, which matched or exceeded increases in MaMoni HSS districts.
- No union-level facilities that provided normal delivery services were ready to provide normal delivery services, both in MaMoni HSS and non-MaMoni districts. The availability of all 13 items needed to provide a quality normal delivery service was zero at union-level facilities in both MaMoni HSS and non-MaMoni districts, even though the availability of individual items was high in some cases.
- The availability of postnatal care (PNC) was high (above 96%) in MaMoni HSS districts in 2017.

Background

Appropriate medical attention and hygienic conditions during delivery reduce the risk of complications. They also reduce the risk of infections that may result in maternal mortality and/or morbidity, causing death or serious illness for the mother or her newborn. It is therefore important to increase the proportion of births delivered in a safe, clean environment, and under the supervision of trained and skilled health professionals. Institutional delivery care saves lives because, if a complication arises during labor and delivery at a health facility, a skilled birth attendant is immediately available to manage the complication or to refer the mother to the next level of care. We assessed and compared changes in the availability of delivery services, the readiness of facilities to provide delivery services, and their readiness to provide newborn care services in MaMoni HSS and non-MaMoni districts between 2014 and 2017. The set of indicators selected to assess readiness to provide normal delivery services and newborn care was based on a modified set of indicators from WHO recommendations (NIPORT, et al., 2017bf).

Findings

Availability of Delivery Services

The findings on changes in the availability of delivery and newborn childcare services in MaMoni HSS districts between 2014 and 2017 are presented in Table 11. The availability of normal delivery services increased from 42 percent to 64 percent at public health facilities in MaMoni HSS districts. Much of this increase was due to the 25 percentage-point increase in the availability of normal delivery services at union-level facilities in MaMoni HSS districts. Despite increases in the proportion of women receiving caesarean sections seen in national-level data, the availability of caesarean section deliveries at public health facilities, excluding CCs, was low (6%) and did not change between 2014 and 2017 in MaMoni HSS districts. The proportion of facilities providing PNC was 96 percent for union-level MaMoni districts in 2017.⁴

Table 11. Availability of delivery and PNC services in MaMoni HSS districts

Among public health facilities, the percentages of facilities that offer delivery and PNC services in MaMoni HSS districts, by level of facilities, 2014 and 2017

Services	District and upazila public health facilities		Union-level public health facilities		Total public health facilities, excluding CCs	
	2014	2017	2014	2017	2014	2017
Normal delivery services	96	100	33	58	42	64
Cesarean delivery	40	43	0	0	6	6
PNC	-	98	-	96	-	96
Weighted number of facilities	4	4	25	26	29	30
Provider of delivery care available on site or on-call 24 hours/day, with observed duty schedule	75	87	16	12	35	28
Weighted number of facilities offering normal delivery services	4	4	8	15	12	19

A comparison of the availability of delivery services at union-level facilities in MaMoni HSS and non-MaMoni districts between 2014 and 2017 is presented in Figure 11. The figure shows that the proportion of union-level facilities in MaMoni HSS districts that offered normal delivery services increased by 25 percentage points between 2014 and 2017. This increase was identical to increases at union-level facilities in non-MaMoni districts (which also increased by 25 percentage points).

⁴ The proportion of facilities offering PNC was not measured during the baseline.

Figure 11. Availability of normal delivery services at union-level facilities in MaMoni HSS and non-MaMoni districts in 2014 and 2017

Among union-level public health facilities, the percentages of facilities that offer normal delivery services in MaMoni HSS and non-MaMoni districts, 2014 and 2017

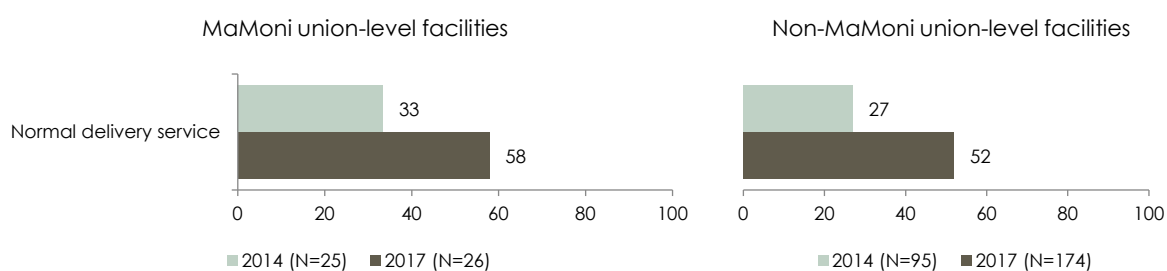


Table 11 also shows that despite large increases in the availability of normal delivery services at all public health facilities (excluding CCs) and at union-level facilities, there was actually a decline in the proportion of public health facilities (excluding CCs) that offered round-the-clock delivery services with a provider and an observed duty schedule, from 35 percent in 2014 to 28 percent in 2017. This drop in 24-hour service availability was also observed at the union-level facilities in MaMoni HSS districts and non-MaMoni districts (data not shown). By contrast, there was an increase in the proportion of district/upazila-level facilities in MaMoni districts with 24-hour normal delivery services (Table 11). The drop in 24-hour service availability may be explained, to some extent, by the large increase in the number of facilities offering normal delivery services across the country. This increase makes it challenging to ensure that the larger number of facilities also had a sufficient number of providers needed to provide 24-hour delivery services. The lag between the increase in normal delivery services availability at facilities and the number of providers available to provide normal delivery services may explain some of the drop in 24-hour normal delivery services availability at union-level facilities in both MaMoni HSS and non-MaMoni districts.

Readiness of Health Facilities to Provide Normal Delivery

The readiness of health facilities to provide normal delivery services was assessed using a modified set of 13 tracer items (tracer indicators) recommended by WHO [(NIPORT, et al., 2017b)—the minimum set of items needed to provide normal delivery services at a facility. As Table 12 shows, service readiness to provide normal delivery services did not improve between 2014 and 2017 at any of the public health facilities. This was also true at the national level (NIPORT, et al., 2017b).

There were large increases in the availability of delivery packs (from 59% to 83%), neonatal bags and masks (from 54% to 83%), partographs (from 31% to 55%), injectable oxytocin (from 25% to 44%), magnesium sulphate (from 20% to 36%), and skin disinfectant (from 27% to 43%). However, when all items were considered together, no facilities had all 13 tracer items to provide appropriate quality delivery services at public health facilities in MaMoni HSS districts. The main reason was the limited availability of antibiotics, especially at union-level facilities offering normal delivery services. There was also a big drop in the availability of guidelines at facilities. The overall availability of all 13 tracer items fell from 1 percent at all public facilities (excluding CCs) to zero percent between 2014 and 2017.

Figure 12 presents a comparison on the availability of the 13 tracer items needed to provide normal delivery services at union-level facilities in MaMoni HSS and non-MaMoni districts in 2014 and 2017. As was the case for all public health facilities (excluding CCs) in MaMoni districts, the biggest increases seen at union-level facilities in MaMoni HSS districts were in the availability of delivery packs (from 53% to 83%), neonatal bags and masks (from 48% to 81%), partographs (from 25% to 51%), injectable oxytocin

(from 11% to 37%), magnesium sulphate (from 9% to 37%), and skin disinfectant (from 16% to 38%). Increases in the availability of the same items were smaller at union-level facilities in non-MaMoni districts, except for the availability of delivery packs and skin disinfectants, which increased marginally more than in MaMoni HSS districts. As was the case at all public health facilities in MaMoni HSS districts, the availability of guidelines fell significantly at union-level facilities in both MaMoni HSS and non-MaMoni areas. The overall availability of all 13 items was zero in both MaMoni HSS and non-MaMoni districts in 2014 and 2017. Although there were large increases in the availability of certain items needed to provide normal delivery services, no union-level facility in either MaMoni HSS or non-MaMoni districts was ready to provide normal delivery services, because none had all the minimum necessary items to provide those services (especially antibiotics and guidelines).

Table 12. Availability of 13 tracer items (indicators) to provide normal delivery services in MaMoni HSS districts in 2014 and 2017

Among public health facilities offering normal delivery services, the percentages of facilities that have tracer items to provide the services in MaMoni HSS districts, by level of facilities, 2014 and 2017

Items/components	District and upazila public health facilities		Union-level public health facilities		Total public health facilities, excluding CCs	
	2014	2017	2014	2017	2014	2017
Guidelines on BEmOC ¹ or CEmOC ¹	43	29	38	15	39	18
Staff trained in IMPAC at any time ²	60	86	40	50	47	58
Examination light ³	67	74	49	58	55	61
Delivery pack ⁴	71	85	53	83	59	83
Suction apparatus	73	59	41	27	52	34
Neonatal bag and mask	67	92	48	81	54	83
Partograph ⁵	42	68	25	51	31	55
Gloves ⁶	81	78	87	84	85	83
Injectable uterotonic oxytocin	54	69	11	37	25	44
Injectable antibiotic	58	50	5	4	23	13
Magnesium sulphate	42	33	9	37	20	36
Skin disinfectant	50	62	16	38	27	43
Intravenous fluids with infusion set	65	48	17	29	33	33
All 13 items ⁷	4	0	0	0	1	0
Weighted number of facilities offering normal delivery services	4	4	8	15	12	19

¹ BEmOC (basic emergency obstetric care) guidelines or CEmOC (comprehensive emergency obstetric care) guidelines.

² Facility had at least one staff member interviewed who was providing the service and who reported receiving in-service training in Integrated Management of Pregnancy and Childbirth (IMPAC). The training should have involved structured sessions, and did not include individual instruction that a provider may have received during routine supervision.

³ A functioning flashlight is acceptable.

⁴ Either the facility had a sterile delivery pack available at the delivery site or all whether following individual equipment should be present: cord clamp, episiotomy scissors, scissors (or blade) to cut the cord, suture material with needle, and needle holder.

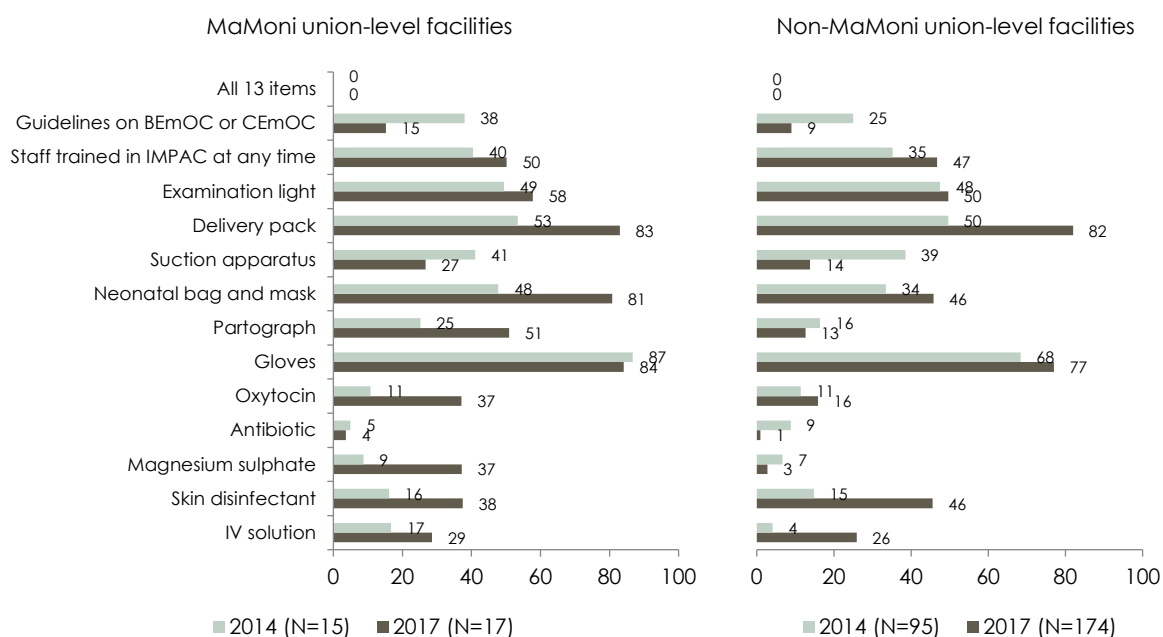
⁵ A blank partograph is available at the service site.

⁶ Disposable latex gloves or equivalent are available at the service site.

⁷ i. Guideline on BEmOC or CEmOC. ii. At least one staff member ever trained in IMPAC at any time. iii. Examination light. iv. Delivery pack. v. Suction apparatus. vi. Neonatal bag and mask. vii. Partograph. viii. Gloves. ix. Injectable uterotonic oxytocin. x. Injectable antibiotic. xi. Magnesium sulphate. xii. Skin disinfectant. xiii. Intravenous fluids with infusion set.

Figure 12. Availability of tracer items (indicators) needed to provide normal delivery services at union-level facilities in MaMoni HSS and non-MaMoni districts in 2014 and 2017

Among union-level public health facilities offering normal delivery services, the percentages of facilities that have tracer items to provide the services in MaMoni HSS districts by level of facilities, 2014 and 2017



Essential Medicines for Newborn Care

Six essential medicines were identified as necessary for the provision of newborn care in the 2014 BHFS. The findings on changes in the availability of the essential medicines for newborn care at public health facilities in MaMoni HSS districts are provided in Table 13. The data show that the availability of four of the six essential medicines for newborn care fell between 2014 and 2017 at public health facilities in MaMoni HSS districts. The only medicines that registered an increase in availability at all facilities were injectable gentamicin and chlorhexidine, which saw 18 and 48 percentage-point increases in availability, respectively.

Table 13. Availability of essential medicines for newborns in MaMoni HSS districts in 2014 and 2017

Among public health facilities offering delivery services, the percentages of facilities that have tracer items to provide the services in MaMoni HSS districts, by level of facilities, 2014 and 2017

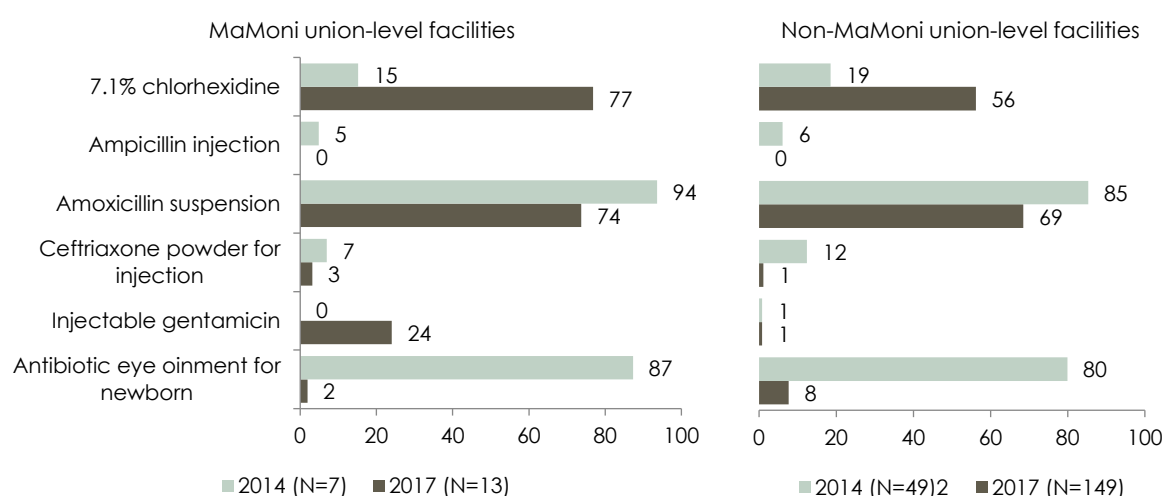
Essential medicines	District and upazila public health facilities		Union-level public health facilities		Total public health facilities, excluding CCs	
	2014	2017	2014	2017	2014	2017
Antibiotic eye ointment for newborn	81	40	86	6	85	13
Injectable gentamicin	35	52	0	24	12	30
Ceftriaxone powder for injection	79	62	6	4	30	16
Amoxicillin suspension	81	65	90	72	87	71
Ampicillin Injection	15	7	4	0	8	1
7.1% chlorhexidine	38	69	15	72	23	71
Weighted number of facilities offering normal delivery services	4	4	8	15	12	19

Note: The essential medicines and antibiotic eye ointment for children presented in this table comprise the medicines domain for assessing readiness to provide basic obstetric care in the health facility assessment methodology proposed by WHO and USAID (WHO, 2012).

Changes in the availability of the six essential medicines for newborn care at union-level facilities in MaMoni HSS and non-MaMoni districts between 2014 and 2017 were compared and the findings are presented in Figure 13. As in the case of all public health facilities, there were large increases in the availability of gentamicin and chlorhexidine at union-level facilities in both MaMoni HSS districts, increasing from zero percent to 24 percent and 15 percent to 77 percent for the medicines, respectively. In the case of union-level facilities in non-MaMoni districts, the increase in the availability of chlorhexidine was smaller (from 19% to 56%), and there was no change in the availability of gentamicin (which remained low, at 1%). During the period, there were also very large declines in the availability of antibiotic eye ointment and amoxicillin suspension at union-level facilities in both MaMoni HSS and non-MaMoni districts.

Figure 13. Availability of essential medicines to provide newborn care services at union-level facilities in MaMoni HSS and non-MaMoni districts in 2014 and 2017

Among union-level public health facilities offering delivery services, the percentages of facilities that have tracer items to provide newborn care services in MaMoni HSS districts, by level of facilities, 2014 and 2017



DISCUSSION

Using data from the 2014 and 2017 BHFS, in which facilities were oversampled in the MaMoni HSS-supported districts, we conducted a DID analysis of indicators on the availability of services and the readiness of union-level facilities to provide services in MaMoni HSS and non-MaMoni districts. Changes between 2014 and 2017 in MaMoni HSS districts and in non-MaMoni districts were compared to identify whether the improvements at facilities in MaMoni HSS districts were greater than those in non-MaMoni districts. For the DID comparison, only union-level facilities were considered because the MaMoni HSS project's primary focus was on those. In MaMoni HSS districts, 161 union-level facilities were sampled in 2014 and 231 in 2017. In non-MaMoni districts, 429 union-level facilities were sampled in 2014 and 446 in 2017. The key findings are summarized in Table 14.

Table 14. Summary of key findings

Indicator	Project impact*	Remarks
Basic client services: child preventive care	Had an impact	Increase in child growth monitoring services was much higher in MaMoni HSS than in non-MaMoni districts. Increases in other basic services were similar in both areas.
Basic equipment for client services	Had an impact	<ul style="list-style-type: none"> • Increase in the combined availability of all six items (adult scales, child or infant scales, thermometers, stethoscopes, blood pressure apparatus, and light sources) was higher in MaMoni HSS than in non-MaMoni districts. • Increases in the availability of thermometers, adult scales, infant scales, and light sources were higher in MaMoni HSS than in non-MaMoni districts.
Basic laboratory diagnostic tests	Had an impact	<ul style="list-style-type: none"> • Increase in diagnostic test capacity (hemoglobin, urine protein, urine glucose, and pregnancy test) was much higher in MaMoni districts than in non-MaMoni districts. • Capacity to conduct a blood glucose test was almost nil in both types of districts.
Readiness to provide child curative care	No impact	<ul style="list-style-type: none"> • Decline in the combined availability of all 10 items (deworming drugs, paracetamol, amoxicillin, ORS, zinc tablets or syrup, growth charts, child scales, trained staff, and guidelines) needed for child curative care. Declined in both types of districts and availability was very low. • Increases (sometimes marginal) in MaMoni HSS districts in the availability of individual items needed for child curative care, except for guidelines, trained staff, amoxicillin, and paracetamol, whose availability significantly declined. • Decrease or no change in the availability of individual items in non-MaMoni districts.
Readiness for FP services	No impact	<ul style="list-style-type: none"> • No significant change in the combined availability of all six FP items (guidelines, trained staff, blood pressure apparatus, oral pills, injectables, and condoms) in MaMoni HSS districts, whereas their combined availability increased in non-MaMoni districts.
Readiness for ANC	Had an impact	<ul style="list-style-type: none"> • Much greater increase in the combined availability of all six items (guidelines, trained staff, blood pressure apparatus, hemoglobin testing, urine protein testing, and iron or folic acid tablets) needed for ANC in MaMoni HSS districts than in non-MaMoni districts.

Indicator	Project impact*	Remarks
		<ul style="list-style-type: none"> • Greater increases in hemoglobin and urine protein testing capacities in MaMoni HSS than in non-MaMoni districts. • Declines in the availability of trained staff and guidelines in MaMoni HSS districts, in contrast with marginal increases in non-MaMoni districts.
Readiness for delivery care	Had partial impact	<ul style="list-style-type: none"> • Zero combined availability of all items (guidelines, trained staff, examination lights, delivery packs, suction apparatus, neonatal bags and masks, partographs, gloves, injectable oxytocin, injectable antibiotic, magnesium sulfate, skin disinfectant, and intravenous fluid sets) in both types of districts. • Greater increases in neonatal bags and masks, oxytocin, and magnesium sulphate in MaMoni HSS districts than in non-MaMoni districts. • Significant declines in the availability of both guidelines and suction apparatus in MaMoni HSS and non-MaMoni districts.

*The impact was determined at the 5 percent level of significance by the use of the DID model.

Overall, in terms of *basic client services*, we found that improvements in the availability of child growth monitoring services were more significant at union-level facilities in MaMoni HSS districts than in non-MaMoni districts; the availability of other basic services increased similarly in MaMoni HSS and non-MaMoni districts. For *ANC services* (especially hemoglobin and urine protein testing), the improvements in diagnostic capacity were more significant at union-level facilities in MaMoni HSS districts than in non-MaMoni districts. The availability of items needed for *delivery care* (especially the neonatal bag and mask, oxytocin, and magnesium sulphate) increased more significantly in MaMoni HSS districts than in non-MaMoni districts. For *newborn care*, the availability of medications increased more significantly in MaMoni HSS districts than in non-MaMoni districts. The availability of all six items considered to be *basic equipment for client services* (especially thermometers, adult scales, and light sources) showed more improvement in MaMoni HSS districts than in non-MaMoni districts.

The MaMoni HSS project made good progress on some of the other indicators. For example, the indicator, “all basic client services with normal delivery,” increased from 22 percent to 43 percent in project-supported districts, although the change was even greater in non-MaMoni districts (from 14% to 35%). For the indicator, “all basic client services without normal delivery,” an increase from 54 percent to 72 percent was found at union-level facilities in MaMoni HSS, comparing favorably with a smaller change in non-MaMoni districts (from 42% to 54%). Similarly, in MaMoni HSS districts, performance on the indicator, “all six equipment items available for client services,” increased from 18 percent to 32 percent, although there was scant change in non-MaMoni districts (from 23% to 22%). The MaMoni HSS districts’ performance on the indicator, “all six items required for ANC services,” increased from 5 percent to 28 percent, in comparison with only a slight change in non-MaMoni districts (from 3% to 5%).

However, when service readiness was measured using a systems approach—that is, the proportion of facilities having all items required for delivering a specific service—readiness was poor in all districts we assessed. Examples are given in Table 15. For example, performance on the indicators “all six basic amenities for client services,” “all 10 items to provide child curative care,” and “all five basic tests available” (for diagnostic services) was poor by any standard and pointed to limited impact of the MaMoni HSS project in those areas. There was no appreciable improvement in service readiness at the

systems level in certain services in MaMoni HSS districts, even though individual components may have shown an increase. It appeared that MaMoni HSS may have focused on a limited set of service readiness components rather than the whole set of components/items needed to provide appropriate quality FP-MNCH services.

The findings also showed that the project did not appear to have an effect on two important areas of services: *FP* and *child curative care*. This was seen in the service readiness data. Improvements were greater in non-MaMoni than in MaMoni HSS districts for FP, and the proportion of staff trained on FP methods declined at union-level facilities in MaMoni HSS districts. Moreover, both MaMoni and non-MaMoni districts did poorly on readiness to provide child curative care.

The lack of availability of elements/components/items for services was a dominant issue largely at union-level facilities, which suggests that there were challenges in the supply chain maintained by the central directorate (of FP or health services). Usually, following the central procurement of products/equipment, they are supplied to facilities (popularly known as “push” supply). Once the supplies are exhausted, facilities are supposed to make requisitions for resupply. However, this did not seem to happen on a routine basis, especially at union-level facilities. One limitation of union-level facilities was that they were unable to procure locally. The implementation of an electronic requisition system could allow for further improvements in the supply chain.

Training of providers on service delivery topics is a vital issue for quality services. One key finding was that the proportion of staff trained on specific services was low to moderate across all services, and there were no appreciable changes in trained staff either in MaMoni HSS or non-MaMoni districts.

The availability of guidelines for service provision was also low at union-level facilities across most services offered. This indicator could be improved relatively easily.

Overall, although it was clear that MaMoni HSS improved several key elements of ANC, delivery, child preventive care, and newborn care, the project did not implement a model based on a systems approach. Rather, there appeared to have been a focus on some specific services and components, which saw significant improvements, while leaving overall readiness for some services largely unchanged.

Table 15. Availability or readiness indicators, percentages of union-level facilities with all items available, MaMoni HSS and non-MaMoni districts in 2014 and 2017

Indicator	MaMoni HSS		Non-MaMoni		DID*
	2014	2017	2014	2017	
All basic client services with normal delivery	22	43	14	45	-10
All basic client services without normal delivery	54	72	42	54	6
All six FP items	48	50	34	49	-13
All six basic amenities for client services	0	1	2	0	3
All six equipment items available for client services	18	32	23	22	15
All six items required for ANC services	5	28	3	5	21
All 10 items to provide child curative care	5	1	5	1	0
All five basic tests available	1	1	0	1	-1

*DID = {(MaMoni HSS 2017 - MaMoni HSS 2014) - (Non-MaMoni 2017 - Non-MaMoni 2014)}

RECOMMENDATIONS

Based on the findings of this study, a few recommendations are offered that the health ministry may consider for enhancing the readiness of union-level facilities in Bangladesh (Table ES2).

Evidence	Recommendation
The availability of 24/7 delivery services decreased at union-level facilities in MaMoni HSS districts, although the availability of normal delivery services increased	<ul style="list-style-type: none"> • Although the availability of normal delivery services increased considerably in both MaMoni HSS and non-MaMoni districts, the readiness of facilities and quality of care at facilities need to improve so that clients are served well. • Undertake a study to determine the association between the improved availability and readiness of delivery services at union-level facilities and increased use.
The availability of ANC-related diagnostic capacity increased at MaMoni HSS-supported union-level facilities	<ul style="list-style-type: none"> • The ministry of health should maintain high-level availability of ANC-related diagnostic tests at union-level facilities throughout the country.
Even with some improvements, the lack of availability of equipment and supplies needed for a specific service was common at union-level facilities in MaMoni and non-MaMoni districts	<ul style="list-style-type: none"> • Improve the supply chain to maintain the availability of essential items and readiness for services offered at union-level facilities. • Introduce an electronic supply management and monitoring system phase-wise, starting with a few districts.
A substantial proportion of facilities lacked a provider trained in specific service(s) at union-level facilities in MaMoni HSS and non-MaMoni districts	<ul style="list-style-type: none"> • Improve the training capacity and the frequency of training to increase training coverage for providers, including partnering with the private sector and NGOs to build capacity.
The lack of availability of service guidelines was common at union-level facilities in MaMoni HSS and non-MaMoni districts	<ul style="list-style-type: none"> • Improve the availability of service guidelines and job aids at union-level facilities.
The lack of readiness for FP services was common at union-level facilities in MaMoni HSS and non-MaMoni districts	<ul style="list-style-type: none"> • The Directorate General of Family Planning should make attention to the lack of readiness for FP services (an easily fixable problem) a priority.
Although the availability of individual items/components needed to provide specific client services was high in some cases, the availability of all necessary items/elements was very low at union-level facilities both in MaMoni and non-MaMoni districts	<ul style="list-style-type: none"> • The MOHFW should adopt a “systems approach” to help address this deficiency, and consider the availability of ALL components needed to provide a service. • Introduce service-specific checklists of essential items and equipment linked to routine requisition/supply chain management systems for each facility to increase the availability of ALL necessary items.

CONCLUSION

Mamoni Health System Strengthening interventions demonstrated improvement in the availability of selected basic services at the union-level health facilities in Bangladesh and in readiness to provide them. However, the interventions did not follow a systems approach and thus overall availability and readiness remain a challenge.

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APPENDIX 1A. SAMPLE SIZE

Unweighted and weighted sample size used in tables (for **MaMoni HSS** district and upazila, union-level, and total public health facilities)

Table	MaMoni HSS district and upazila public health facilities				MaMoni HSS union-level public health facilities				Total MaMoni HSS public health facilities, excluding CCs			
	2014		2017		2014		2017		2014		2017	
	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted
Table 3	50	4.1	47	3.8	161	25.5	231	26.3	211	29	278	30
Table 4	50	4.1	47	3.8	161	25.5	231	26.3	211	29	278	30
Table 5	50	4.1	47	3.8	161	25.5	231	26.3	211	29	278	30
Table 6	50	4.1	47	3.8	161	25.5	231	26.3	211	29	278	30
Table 7	50	4.1	47	3.8	161	25.5	231	26.3	211	29	278	30
Table 8	50	4.1	47	3.8	161	25.5	231	26.3	211	29	278	30
Table 9	45	4	42	4	144	23	206	24	189	27	248	28
Table 10	50	4	47	4	157	25	226	26	207	29	273	30
Table 11	50	4	47	4	157	25	226	26	207	29	273	30
Table 12	48	4	48	4	48	8	137	15	96	12	184	19
Table 13	48	4	48	4	48	8	137	15	96	12	184	19

APPENDIX 1B. SAMPLE SIZE

Unweighted and weighted sample size used in chapter figures for union-level public health facilities in MaMoni and non-MaMoni districts

	MaMoni HSS union-level facilities				Non-MaMoni HSS union-level facilities			
	2014		2017		2014		2017	
	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted
Figure 3	161	25.5	231	26.3	429	348.3	446	334.7
Figure 4	161	25.5	231	26.3	429	348.3	446	334.7
Figure 5	161	25.5	231	26.3	429	348.3	446	334.7
Figure 6	161	25.5	231	26.3	429	348.3	446	334.7
Figure 7	161	25.5	231	26.3	211	29	278	30
Figure 8	161	25.5	231	26.3	429	348.3	446	334.7
Figure 9	144	23	206	24	189	27	248	28
Figure 10	157	25	226	26	207	29	273	30
Figure 11	157	25	226	26	207	29	273	30
Figure 12	48	8	137	15	96	12	184	19
Figure 13	48	8	137	15	96	12	184	19

APPENDIX 2. AVAILABILITY OF BASIC CLIENT SERVICES

Among public health facilities in MaMoni HSS districts, percentage that offered basic client services indicated and all basic client services, by facility type, 2014 and 2017 BHFS

Background characteristics	Child curative care		Child growth monitoring services		Child vaccination services		Any modern methods of FP		ANC services		Normal delivery		All basic client services with normal delivery ¹		All basic client services without normal delivery		Number of facilities	
	2014	2017	2014	2017	2014	2017	2014	2017	2014	2017	2014	2017	2014	2017	2014	2017	2014	2017
District and upazila public health facilities	100	100	78	100	90	92	90	100	100	100	96	100	60	92	64	92	4	4
DH	100	100	67	100	100	100	33	100	100	100	100	100	17	100	17	100	<1	<1
MCWC	100	100	82	100	55	67	100	100	100	100	91	100	36	67	46	67	1	1
UHC	100	100	79	100	100	97	97	100	100	100	97	100	76	97	79	97	3	3
Union-level public health facilities	99	100	72	94	69	80	92	90	98	98	33	58	22	43	54	72	25	26
UHFWC	99	100	74	95	71	80	99	99	100	100	38	66	25	48	60	77	19	20
USC/RD	100	100	68	92	62	82	71	61	93	92	17	34	13	27	35	58	6	6
Public Community clinic	99	100	69	86	87	95	93	98	99	100	3	2	2	2	60	79	83	85
Total public health facilities	99	100	70	88	83	92	93	96	99	100	13	18	8	15	58	78	112	115
Total public health facilities, excluding CCs	99	100	73	95	72	82	92	91	99	98	42	64	28	50	55	75	29	30

Note: Total public health facilities includes DH, MCWC, UHC, UHFWC, USC/RD, and CC.

¹ Basic client services include outpatient curative care for sick children, child growth monitoring, facility-based child vaccination services, any modern methods of FP, ANC, and normal delivery.

APPENDIX 3A. AVAILABILITY OF BASIC AMENITIES FOR CLIENT SERVICES

Among public health facilities in MaMoni HSS districts, the percentage with the amenities indicated that are considered basic for quality services, by facility type, 2014 BHFS

Background characteristics	Amenities											Number of facilities
	National electricity grid	Regular electricity ¹	Improved water source ²	Visual and auditory privacy ³	Client latrine ⁴	Communications equipment ⁵	Computer with Internet ⁶	Emergency transport ⁷	Separate latrine for female clients	All 6 basic amenities ⁸	At least 5 basic amenities ⁸	
District and upazila public health facility	94	60	96	44	84	68	68	78	64	8	40	4
DH	100	100	100	17	83	100	100	100	33	17	83	<1
MCWC	91	64	82	55	82	36	27	46	73	0	18	1
UHC	94	52	100	46	85	73	76	85	67	9	39	3
Union-level public health facilities	69	26	85	45	73	11	9	0	40	0	3	25
UHFWC	68	29	87	46	74	12	6	0	39	0	4	19
USC/RD	76	19	78	43	71	8	19	0	47	0	1	6
Community clinic (CC)	10	5	80	31	74	11	37	0	16	0	3	83
Total public health facilities	26	12	82	35	74	13	32	3	23	0	4	112
Total public health facilities, excluding CCs	72	31	87	45	75	19	17	11	43	1	8	29

Note: Total public health facilities includes DH – district hospital, MCWC – mother and child welfare centre, UHC – upazila health complex, UHFWC – union health and family welfare center, USC/RD – union subcenter/rural dispensary, and CC – community clinic.

Note: The indicators presented in this table comprise the basic amenities domain for assessing general service readiness in the health facility assessment methodology proposed by WHO and USAID (WHO, 2012).

¹ Facility is connected to a central power grid and there has not been an interruption in power supply lasting for more than two hours at a time during normal working hours in the seven days before the survey, or the facility has a functioning generator with fuel available on the day of the survey, or the facility has back-up solar power.

² Water is piped into the facility or piped onto the facility grounds, or the water is from a public tap or standpipe, a tube well or borehole, a protected dug well, protected spring, or rainwater, or bottled water, and the outlet from this source is within 500 meters of the facility.

³ A private room or screened-off space is available in the general outpatient service area that is a sufficient distance from other clients such that a normal conversation can be held without the client being seen or heard by others.

⁴ The facility had a functioning flush or pour-flush toilet, a ventilated improved pit latrine, or composting toilet.

⁵ The facility had a functioning landline telephone, a functioning facility-owned cellular phone, or a private cellular phone that is supported by the facility.

⁶ The facility had a functioning computer with access to the Internet that is not interrupted for more than two hours at a time during normal working hours, or the facility had access to the Internet via a cellular phone inside the facility.

⁷ The facility had a functioning ambulance or other vehicle for emergency transport that is stationed at the facility and had fuel available on the day of the survey, or the facility had access to an ambulance or other vehicle for emergency transport that was stationed at another facility or that operated from another facility.

⁸ All six basic amenities includes regular electricity, improved water source, visual and auditory privacy, client latrine, communications equipment, and computer with internet.

APPENDIX 3B. AVAILABILITY OF BASIC AMENITIES FOR CLIENT SERVICES

Among public health facilities in MaMoni HSS districts, the percentage with the amenities indicated that are considered basic for quality services, by facility type, 2017 BHFS

Background characteristics	Amenities											Number of facilities
	National electricity grid	Regular electricity ¹	Improved water source ²	Visual and auditory privacy ³	Client latrine ⁴	Communications equipment ⁵	Computer with Internet ⁶	Emergency transport ⁷	Separate latrine for female clients	All 6 basic amenities ⁸	At least 5 basic amenities ⁸	
District and upazila public health facility	98	74	100	56	73	83	88	80	65	21	66	4
DH	100	100	100	17	100	83	100	100	83	17	83	1
MCWC	89	67	100	67	78	67	67	56	44	22	67	1
UHC	100	72	100	60	67	87	92	82	67	22	63	3
Union-level public health facilities	86	36	92	60	65	2	20	0	26	1	6	26
UHFWC	87	37	90	60	67	1	15	0	28	1	5	20
USC/RD	82	32	98	62	58	4	37	0	20	0	6	7
Community clinic	40	23	91	61	58	0	47	0	9	0	12	85
Total public health facilities	52	28	92	61	60	3	42	3	15	1	13	115
Total public health facilities, excluding CCs	88	41	93	59	66	13	29	11	31	4	14	30

Note: Total public health facilities includes DH – district hospital, MCWC – mother and child welfare centre, UHC – upazila health complex, UHFWC – union health and family welfare center, USC/RD – union subcenter/rural dispensary, and CC – community clinic.

Note: The indicators presented in this table comprise the basic amenities domain for assessing general service readiness in the health facility assessment methodology proposed by WHO and USAID (WHO, 2012).

¹ Facility is connected to a central power grid and there has not been an interruption in power supply lasting for more than two hours at a time during normal working hours in the seven days before the survey, or the facility has a functioning generator with fuel available on the day of the survey, or the facility has back-up solar power.

² Water is piped into the facility or is piped onto the facility grounds, or water from a public tap or standpipe, a tube well or borehole, a protected dug well, protected spring, or rainwater, or bottled water, and the outlet from this source is within 500 meters of the facility.

³ A private room or screened-off space is available in the general outpatient service area that is a sufficient distance from other clients such that a normal conversation can be held without the client being seen or heard by others.

⁴ The facility had a functioning flush or pour-flush toilet, a ventilated improved pit latrine, or composting toilet.

⁵ The facility had a functioning landline telephone, a functioning facility-owned cellular phone, or a private cellular phone that is supported by the facility.

⁶ The facility had a functioning computer with access to the Internet that is not interrupted for more than two hours at a time during normal working hours, or the facility had access to the Internet via a cellular phone inside the facility.

⁷ The facility had a functioning ambulance or other vehicle for emergency transport that was stationed at the facility and had fuel available on the day of the survey, or the facility had access to an ambulance or other vehicle for emergency transport that was stationed at another facility or that operated from another facility.

⁸ All six basic amenities includes regular electricity, improved water source, visual and auditory privacy, client latrine, communications equipment, and computer with Internet.

APPENDIX 4A. AVAILABILITY OF BASIC EQUIPMENT TO PROVIDE CLIENT SERVICES

Among public health facilities in MaMoni HSS districts, the percentage that had the equipment considered basic to quality client services available in the general outpatient service area, by facility type, 2014 and 2017 BHFS

Background characteristics	Equipment																Number of facilities	
	Adult scale		Child scale ¹ or Infant scale ²		Thermometer		Stethoscope		Blood pressure apparatus ³		Light source ⁴		All 6 equipment items available		At least 5 equipment items available			
	2014	2017	2014	2017	2014	2017	2014	2017	2014	2017	2014	2017	2014	2017	2014	2017	2014	2017
Facility type																		
District and upazila public health facilities	86	90	70	85	88	93	96	100	96	100	62	88	44	71	72	89	4	4
DH	100	83	100	100	100	100	100	100	100	100	100	83	100	67	100	100	0	0.5
MCWC	82	100	64	89	82	89	91	100	91	100	64	78	36	67	64	89	1	1
UHC	85	88	67	81	88	93	97	100	97	100	55	91	36	73	70	87	3	3
Union-level public health facilities	75	79	56	74	81	88	95	98	89	94	33	51	18	32	47	69	25	26
UHFWC	82	83	57	77	79	88	94	99	88	95	34	52	18	34	49	74	19	20
USC/RD	52	69	54	64	87	89	97	96	94	88	27	50	18	26	41	55	6	6
Community clinic	89	88	62	61	94	77	84	86	77	63	23	58	17	14	52	61	83	85
Total public health facilities	86	86	61	65	91	80	87	89	80	71	27	57	18	20	52	64	112	115
Total public health facilities, excluding CCs	77	80	58	75	82	89	95	98	90	95	37	56	22	37	50	72	29	30

Note: Total public health facilities includes DH – district hospital, MCWC – mother and child welfare centre, UHC – upazila health complex, UHFWC – union health and family welfare center, USC/RD – union subcenter/rural dispensary, and CC – community clinic.

Note: The indicators presented in this table comprise the basic equipment domain for assessing general service readiness in the health facility assessment methodology proposed by WHO and USAID (WHO, 2012).

¹ A scale with gradation of 250 grams, or a digital standing scale with a gradation of 250 grams or lower where an adult can hold a child to be weighed, was available somewhere in the general outpatient area.

² A scale with gradation of 100 grams, or a digital standing scale with a gradation of 100 grams where an adult can hold an infant to be weighed, was available somewhere in the general outpatient area.

³ A digital blood pressure machine or a manual sphygmomanometer with a stethoscope was available somewhere in the general outpatient area.

⁴ A spotlight source that can be used for client examination or a functioning flashlight was available somewhere in the general outpatient area.

APPENDIX 4B. AVAILABILITY OF BASIC EQUIPMENT TO PROVIDE CLIENT SERVICES

Among public health facilities in MaMoni HSS districts, the percentage that had the equipment considered basic to quality client services available in the general outpatient service area, by facility type, 2014 and 2017 BHFS

Background characteristics	Equipment																		
	Adult scale		Child scale ¹ or Infant scale ²		Thermometer		Stethoscope		Blood pressure apparatus ³		Light source ⁴		All 6 equipment available		At least 5 equipment available		Number of facilities		
	2014	2017	2014	2017	2014	2017	2014	2017	2014	2017	2014	2017	2014	2017	2014	2017	2014	2017	
Facility type																			
District and upazila public health facilities	86	90	70	85	88	93	96	100	96	100	62	88	44	71	72	89	4	4	
DH	100	83	100	100	100	100	100	100	100	100	100	83	100	67	100	100	0	0.5	
MCWC	82	100	64	89	82	89	91	100	91	100	64	78	36	67	64	89	1	1	
UHC	85	88	67	81	88	93	97	100	97	100	55	91	36	73	70	87	3	3	
Union-level public health facilities	75	79	56	74	81	88	95	98	89	94	33	51	18	32	47	69	25	26	
UHFWC	82	83	57	77	79	88	94	99	88	95	34	52	18	34	49	74	19	20	
USC/RD	52	69	54	64	87	89	97	96	94	88	27	50	18	26	41	55	6	6	
Community clinic	89	88	62	61	94	77	84	86	77	63	23	58	17	14	52	61	83	85	
Total public health facilities	86	86	61	65	91	80	87	89	80	71	27	57	18	20	52	64	112	115	
Total public facilities, excluding CCs	77	80	58	75	82	89	95	98	90	95	37	56	22	37	50	72	29	30	

Note: Total public health facilities includes DH, MCWC, UHC, UHFWC, USC/RD, and CC.

Note: The indicators presented in this table comprise the basic equipment domain for assessing general service readiness in the health facility assessment methodology proposed by WHO and USAID (WHO, 2012).

¹ A scale with gradation of 250 grams, or a digital standing scale with a gradation of 250 grams or lower where an adult can hold a child to be weighed, was available somewhere in the general outpatient area.

² A scale with gradation of 100 grams, or a digital standing scale with a gradation of 100 grams where an adult can hold an infant to be weighed, was available somewhere in the general outpatient area.

³ A digital blood pressure machine or a manual sphygmomanometer with a stethoscope was available somewhere in the general outpatient area.

⁴ A spotlight source that can be used for client examination or a functioning flashlight was available somewhere in the general outpatient area.

APPENDIX 5A. READINESS OF HEALTH FACILITIES TO PROVIDE CHILD CURATIVE CARE SERVICES

Among public health facilities offering outpatient curative care for sick children in MaMoni HSS districts, percentage that had the indicated IMCI guidelines, IMCI trained staff at any time, basic equipment items, and essential medicines available, by type of facilities, 2014 BHFS

Background characteristics	IMCI guidelines	IMCI ¹ (trained at any time)	Child scale ²	Thermometer	Growth chart	Zinc tablets or syrup	ORS	Amoxicillin syrup, suspension or dispersible	Para-cetamol syrup or suspension	Mebendazole/Albendazole	Having all 10 items	Number of facilities offering outpatient curative care for sick children
District and upazila public health facilities	76	92	80	96	76	58	82	82	86	70	18	4
DH	83	83	100	100	67	67	100	83	83	83	33	0
MCWC	55	91	64	91	82	18	55	91	100	100	9	1
UHC	82	94	82	97	76	70	88	79	82	58	18	3
Union-level public health facilities	56	70	59	86	47	23	38	88	87	88	6	25
UHFWC	58	65	59	86	54	16	27	92	89	94	6	19
USC/RD	51	84	60	87	24	46	73	76	81	69	6	6
Community clinic	52	57	66	96	45	83	87	83	89	90	11	82
Total public health facilities	54	61	65	94	46	69	76	84	89	89	10	111
Total public health facilities, excluding CCs	59	73	62	87	51	28	44	87	87	85	7	29

Note: Total public health facilities includes DH – district hospital, MCWC – mother and child welfare centre, UHC – upazila health complex, UHFWC – union health and family welfare center, USC/RD – union subcenter/rural dispensary, and CC – community clinic.

Note: ORS = oral rehydration solution

¹ At least one provider of child health services interviewed at the facility reported receiving in-service training in IMCI. Training refers only to in-service training. The training should have involved structured sessions; it does not include individual instruction that a provider may have received during routine supervision.

² A scale with gradation of 250 grams, or a digital standing scale with gradation of 250 grams or less where an adult can hold a child to be weighed.

APPENDIX 5B. READINESS OF HEALTH FACILITIES TO PROVIDE CHILD CURATIVE CARE SERVICES

Among public health facilities offering outpatient curative care for sick children in MaMoni HSS districts, percentage that had the indicated IMCI guidelines, IMCI trained staff at any time, basic equipment items, and essential medicines available, by type of facilities, 2017 BHFS

Background characteristics	IMCI guidelines	IMCI (trained at any time) ¹	Child scale ²	Thermometer	Growth chart	Zinc tablets or syrup	ORS	Amoxicillin syrup, suspension or dispersible	Paracetamol syrup or suspension	Mebendazole/Albendazole	Having all 10 items	Number of facilities offering outpatient curative care for sick children
Facility type												
District and upazila public health facilities	60	82	79	95	89	51	84	65	79	77	14	4
DH	83	83	67	100	83	67	100	100	83	33	0	0
MCWC	22	78	67	89	78	33	22	78	89	100	0	1
UHC	66	82	84	96	93	53	97	56	76	78	20	3
Union-level public health facilities	48	63	54	92	59	29	36	70	74	86	1	26
UHFWC	47	61	54	92	61	24	18	73	73	89	1	20
USC/RD	50	68	55	92	53	43	89	62	77	75	2	6
Community clinic	49	61	40	79	75	86	91	75	98	98	7	85
Total public health facilities	49	62	44	83	72	72	78	73	92	94	6	115
Total public health facilities, excluding CCs	49	65	57	93	63	32	42	69	75	85	3	30

Note: Total public health facilities includes DH – district hospital, MCWC – mother and child welfare centre, UHC – upazila health complex, UHFWC – union health and family welfare center, USC/RD – union subcenter/rural dispensary, and CC – community clinic.

Note: ORS = oral rehydration solution.

¹ At least one provider of child health services interviewed at the facility reported receiving in-service training in IMCI. Training refers only to in-service training. The training should have involved structured sessions, and does not include individual instruction that a provider may have received during routine supervision.

² A scale with gradation of 250 grams, or a digital standing scale with gradation of 250 grams or less where an adult can hold a child to be weighed.

APPENDIX 6A. READINESS OF HEALTH FACILITIES TO PROVIDE FAMILY PLANNING SERVICES

Among modern FP methods offered at public health facilities in MaMoni HSS districts, percentage that had FP guidelines, at least one staff member trained on FP service delivery, the indicated contraceptive commodities available, by facility type, 2014 and 2017 BHFS

	Percentage of facilities offering any modern FP and having:														Number of facilities offering any modern FP methods	
	Guidelines on FP ¹		Staff trained in FP at any time ²		Blood pressure apparatus ³		Combined or progestin only oral pills		Combined or progestin only injectables		Male condoms		All 6 items available			
	2014	2017	2014	2017	2014	2017	2014	2017	2014	2017	2014	2017	2014	2017	2014	2017
Background characteristics																
District and upazila public health facilities	80	64	96	87	96	100	96	90	98	86	96	88	64	53	4	4
DH	100	33	50	83	100	100	100	33	100	33	100	33	50	17	0	0
MCWC	82	78	100	100	91	100	91	100	100	100	100	100	64	78	1	1
UHC	78	66	97	84	97	100	97	97	97	91	94	94	66	53	3	3
Union-level public health facilities	66	72	82	77	89	95	93	97	93	80	95	93	49	50	24	24
UHFWC	66	74	82	80	87	95	95	98	95	82	97	94	48	51	19	20
USC/RD	67	64	83	62	97	93	82	91	83	73	86	84	51	43	4	4
Community clinic	53	24	69	52	76	62	84	93	72	43	87	74	16	7	77	83
Total public health facilities	57	36	73	59	80	70	86	93	78	52	89	78	26	18	105	111
Total public health facilities, excluding CCs	68	71	84	78	90	95	93	96	94	81	95	92	51	50	28	28

Note: Total public health facilities includes DH – district hospital, MCWC – mother and child welfare centre, UHC – upazila health complex, UHFWC – union health and family welfare center, USC/RD – union subcenter/rural dispensary, and CC – community clinic.

Note: The measures presented in the table concerning guidelines for FP and staff trained in FP comprise the staff and training domains, and blood pressure apparatus comprises the equipment domain for assessing readiness to provide FP services in the health facility assessment methodology proposed by WHO and USAID (WHO, 2012).

¹ National guidelines or any other guidelines on FP.

² The facility had at least one staff member interviewed who provided the service and who reported receiving in-service training in some aspect of FP. The training should have involved structured sessions; it does not include individual instruction that a provider may have received during routine supervision.

³ A functioning digital blood pressure apparatus or a manual sphygmomanometer with a stethoscope.

APPENDIX 6B. READINESS OF HEALTH FACILITIES TO PROVIDE FAMILY PLANNING SERVICES

Among facilities in MaMoni HSS districts that offered any modern FP methods, the percentage with FP guidelines, the percentage with at least one staff member recently trained on FP service delivery, the percentage with the indicated contraceptive commodities available on the day of the survey, and the percentage with all items, by background characteristics, 2017 BHFS

Background characteristics	Percentage of facilities offering any modern FP and having:							Number of facilities offering any modern FP methods
	Guidelines on FP ¹	Staff trained in FP at any time ²	Blood pressure apparatus ³	Combined or progestin only oral pills	Progestin only injectables	Male condoms	All 6 items available	
District and upazila public health facilities	64	87	100	90	86	88	53	4
DH	33	83	100	33	33	33	17	0
MCWC	78	100	100	100	100	100	78	1
UHC	66	84	100	97	91	94	53	3
Union-level public health facilities	72	77	95	97	80	93	50	24
UHFWC	74	80	95	98	82	94	51	20
USC/RD	64	62	93	91	73	84	43	4
Community clinic	24	52	62	93	43	74	7	83
Total public health facilities	36	59	72	93	53	78	19	115
Total public health facilities, excluding CCs	68	76	96	92	78	88	49	33

Note: Total public health facilities includes DH – district hospital, MCWC – mother and child welfare centre, UHC – upazila health complex, UHFWC – union health and family welfare center, USC/RD – union subcenter/rural dispensary, and CC – community clinic.

Note: The measures presented in the table on guidelines for FP and staff trained in FP comprise the staff and training domains, and blood pressure apparatus the equipment domain for assessing readiness to provide FP services in the health facility assessment methodology proposed by WHO and USAID (WHO, 2012).

¹ National guidelines/manual or any other guidelines/instructions/job aid/checklist on FP.

² The facility had at least one staff member interviewed who provided the service and who reported receiving in-service training in some aspect of FP. The training should have involved structured sessions, and does not include individual instruction that a provider may have received during routine supervision.

³ A functioning digital blood pressure apparatus or a manual sphygmomanometer with a stethoscope.

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