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Mayer Hashi Project

Strengthening National Family Planning Information Systems through Data Quality Assessment: *Lessons from Bangladesh*

INTRODUCTION

The Bangladesh Family Planning Program has made significant headway since independence in 1971. Contraceptive prevalence has increased nearly eight-fold over the past 30 or more years, from just 8% in 1975 to 61% in 2011, and the total fertility rate has fallen from 6.3 to 2.3 lifetime births per woman (NIPORT, Mitra and Associates, & ICF International, 2013).

To monitor progress, a Management Information Systems (MIS) Unit was created under the Directorate General of Family Planning (DGFP) in 1979. The MIS Unit established a regular system of data collection and reporting on national program performance for family planning, reproductive health, and maternal and child health services. EngenderHealth Bangladesh has been providing technical assistance to the MIS Unit of DGFP since 2005, currently under the U.S. Agency for International Development (USAID)–funded Mayer Hashi project. As part of its systems strengthening assistance, EngenderHealth Bangladesh introduced regular Data Quality Assessments (DQAs) to strengthen the DGFP MIS. DQA is an auditing process to assess the quality of the reported data/statistics and strengthen the data management system. Production of high-quality data depends on systematic data assessment. Without regular verification of data quality, an MIS system may lose control over data collection and processing.

EngenderHealth introduced DQA as part of its overall technical assistance to the DGFP to assist in developing a system whereby the DGFP/MIS Unit can continuously monitor its own data collection and ensure quality. The MIS Unit uses DQA to:

- Assess the quality of DGFP service statistics at all tiers of their data collection system (see Figure 1 below), to check the accuracy of information, completeness of reporting, and consistency of data
- Identify gaps and limitations in data collection and compilation, record keeping, and reporting
- Provide recommendations to strengthen the system to ensure accurate information for reporting indicators

Figure 1 (page 2) shows how data flow in the DGFP MIS from the fieldworkers at the community level up to the national level. Data are processed at the union, upazila (subdistrict), district, and national levels. Until recently, most data management was conducted manually, allowing for human error, especially given the fact that data had to be transcribed and processed at several levels. In March 2011, the DGFP changed to a partly computer-based system from the district level up. The main strength of the DGFP MIS system is its detailed data collection and ability to generate contraceptive use estimates at each level.

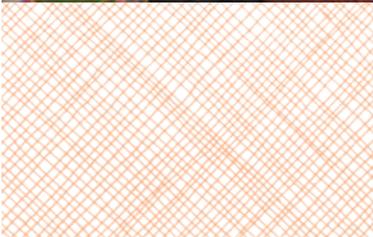
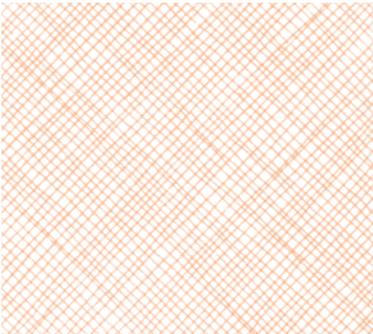
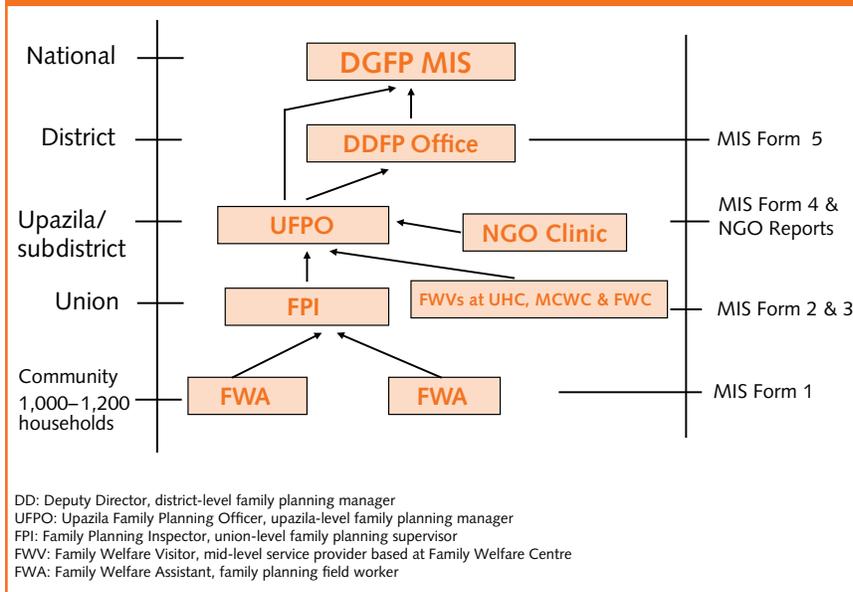


FIGURE 1. CURRENT DGFP MIS DATA FLOW SYSTEM



After completing the client visits, the team conducts a debriefing at the facility, upazila, and district levels before returning to DGFP Headquarters in Dhaka. The DQA Team prepares a written report for the MIS Director and the Director General, DGFP. If any inconsistencies were found during the DQA that warrant follow-up communication to the district or to all districts, the DGFP sends an official communication with specific recommendations on how to address the findings. Depending on the nature and frequency of any inconsistencies found in reporting and/or record keeping, these may eventually also lead to systemic changes and strengthening of the MIS.

EngenderHealth has been providing technical assistance to the MIS Unit in using the DQA approach and has been

DQA PROCESS

Figure 2 presents the process of DQA schematically. At each step in the process, the DQA Team compares available statistics with records from a higher level to check for inconsistencies. At each level, in addition to verifying records, the DQA Team meets with the staff involved in data collection and management to assess their data management knowledge and skills. The DQA Team selects the districts and subdistricts to visit at the DGFP Headquarters in Dhaka, based in part on their performance in providing long-acting and permanent methods of contraception (LA/PMs): Sudden spikes in performance may be a reason for selecting a district or subdistrict, as these may reflect actual increases in performance or problems in data management.

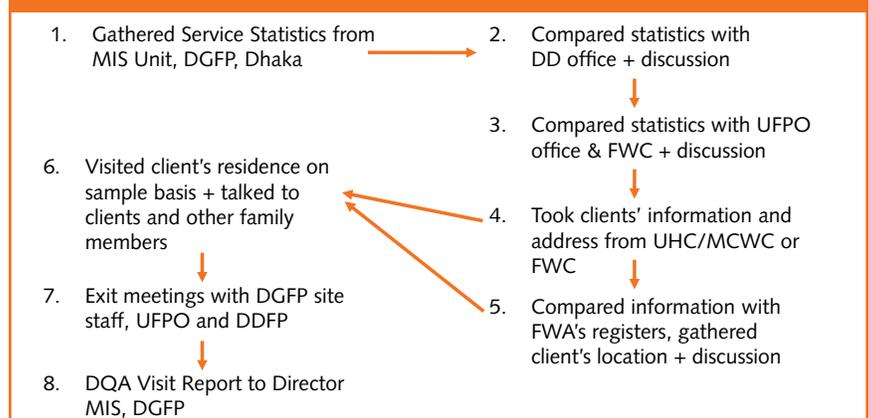
conducting regular joint DQA visits to check the validity and authenticity of the data gathered. On occasion, USAID staff members have accompanied the team. During all field trips, the reported statistics were verified and corrective measures suggested during exit meetings with service facility staff and DGFP subdistrict and district staff. In 2007, EngenderHealth also provided assistance in developing an operations manual for data recording and reporting for fieldworkers. The manual contained detailed instructions on how to collect family planning performance data, how to complete the data collection forms, and how to report for each level of the DGFP system. EngenderHealth’s assistance focused on the LA/PM portions of the manual.

After verification of the records available at the district and subdistrict levels, the DQA Team works with district officials to select several facilities to visit. At the facility level, statistics are verified against the records available from the upazila (subdistrict) level. From the facility records, a random sample of LA/PM clients is selected from the client register. These clients are to be visited at their homes to confirm that they indeed received the LA/PM procedure indicated in the facility records. All LA/PM clients, as part of their informed consent, give permission for follow-up visits. It is important to note that before the clients are visited for the DQA visit, the local Family Welfare Assistant (FWA), who knows all family planning clients in the area, visits the selected clients at their home to request their consent for the DQA visit. On average, a DQA Team selects about 30 clients from each subdistrict to visit at their homes.

KEY FINDINGS

Between October 2009 and June 2012, as part of the Mayer Hashi project, EngenderHealth and MIS Unit staff members conducted 43 DQAs in 22 districts. In addition, eight

FIGURE 2. STEPS OF DATA QUALITY ASSESSMENT



national-level nongovernmental organizations (NGOs) that provide LA/PMs were visited to review their data management and record-keeping systems and to provide them with feedback. While the members of the MIS Unit have accepted the DQA methodology as of key importance, have been trained to use it, and do not have another methodology for verifying data quality, the MIS staff members do not yet undertake the DQAs without project support.

It is important to note that most MIS records are problem-free. However, this brief focuses on the kinds of issues identified through the DQA that have helped improve the overall quality of the MIS. Some of the key findings from DQA visits include the following:

Duplication of LA/PM performance reporting

In most districts, NGOs provide LA/PM services in district sadar (headquarters) upazila. According to the MIS guidelines, the NGOs should submit a performance report to the district sadar Upazila Family Planning Officer (UFPO), who compiles and files all service records and client consent forms. The NGOs also provide a client statement to the UFPO for the clients' home upazila for contraceptive acceptance rate documentation. During DQA visits, it was found that in preparing their report for the district, some UFPOs include the information sent to the home upazilas as well as what is recorded from the NGOs directly. As a result, some clients are counted twice.

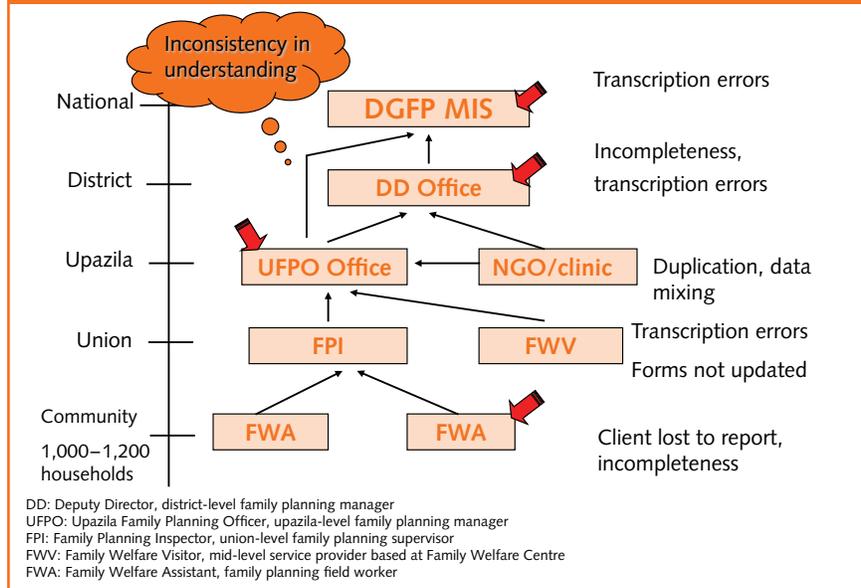
Incomplete understanding

Inconsistencies in understanding the MIS reporting mechanisms were observed at all levels. The statistical assistants who compile the data at the upazila and district levels were found in particular to lack understanding about data flow. For example, the MIS guideline suggests that facility-based LA/PM performance must be compiled from the service register of the respective service delivery sites in the relevant format (MIS Form 3). There is no scope to add service statistics from any other sources, but in some DQA visits, it was found that statistical assistants were adding data from population-based reports or other sources outside the facility. This created errors and confusion in performance reporting.

Transcription errors and inconsistencies in the reported data

During several DQA visits, transcription errors were noted when data were transferred from the district (DDFP office)

FIGURE 3. MIS DATA REPORTING ERRORS



to the national level and also from the upazila to the district level. In some cases, the variations were substantial. Many of the transcription errors and data inconsistencies were due to an incomplete understanding and a lack of communication between data management staff at the different levels. Figure 3 provides an overview of the most prevalent reporting errors at all levels.

Weak client record keeping in urban areas

Weak client record keeping creates problems for locating clients for follow-up and client verification. In urban areas, NGOs and the private sector provide LA/PM services, and their record-keeping systems are quite different from the DGFP's systems. As a result, some clients could not be traced during DQA visits.

Reporting of drop-out

There are two options for collecting drop-out information in the MIS: by the DGFP fieldworker (Family Welfare Assistants, or FWAs) through their community-based register, and by the Family Welfare Visitor (FWV)¹ at the facility. DQA visits revealed that FWAs provide drop-out information in their monthly report, as instructed. However, the FWVs' drop-out reports, based on the facility client register, were neither compiled nor reported in the monthly reports. This information is essential to assess the drop-out pattern for long-acting methods, as the FWV provides and removes IUDs and keeps the records for both IUD and implant service delivery.

HEALTH SYSTEM STRENGTHENING CHANGES

The FWAs are the basis of the Bangladesh Family Planning Program. They are also the first line of reporting. However,

¹ The FWV is a key mid-level family planning service delivery provider.

as they focus particularly on providing short-acting resupply methods, and as only 15% of women of reproductive age reported being visited by an FWA in the last six months (NIPORT, Mitra and Associates, & ICF International, 2013), the DQAs revealed the need for a facility-based reporting system for LA/PMs in the national reporting system. Based on the DQA's recommendations, the DGFP incorporated these elements into their national MIS in August 2005. After introducing facility-based reporting for LA/PM, it became clear that LA/PM performance had always been underreported in the population-based reports. In 2011–2012, EngenderHealth also suggested changes in the MIS forms to reflect the uptake of postpartum family planning, which had been introduced recently, both at the community level and at the facility level.

Since 2005, EngenderHealth has organized a range of meetings and workshops to disseminate the findings of the DQAs, along with other observations on the national MIS. As a result of the implementation of the DQAs, over time various improvements are notable in the MIS system: fewer errors in reporting, as a result of better trained personnel who work with clearer guidelines; and fewer transcription errors and fewer misunderstandings in data management, also as a result of better training, instructions, and monitoring. It is important to note that overall, the DGFP MIS provides a reliable picture of family planning and maternal and child health service delivery in the country, and this has been further improved as a result of DQA. The DGFP continues to use DQA as a methodology for ensuring data quality and as a management tool for decision making.

LESSONS LEARNED

The joint implementation of DQAs revealed the following lessons:

- The DQAs' categorical demonstration of underreporting of LA/PM usage in the MIS was revolutionary for the DGFP. The detection of reporting errors and investigation of what was behind these errors revealed weaknesses in the system and offered opportunities for discussion with the data collec-

tion and management staff at each level on how to strengthen their work—and, in a broader sense, how to strengthen the system. Based on the DQA findings, the DGFP requested EngenderHealth to provide technical assistance in strengthening the capacity of the staff, and between January and June 2008, more than 1,000 DGFP staff, including district and subdistrict managers and statistical assistants, were oriented on the DGFP data management and reporting system.

- Debriefings with the DGFP staff at different levels during DQA visits in the years since these orientations provided an opportunity to refresh their knowledge on the data management and reporting system. At the same time, by participating in the DQAs, senior DGFP MIS staff members have obtained first-hand knowledge on record keeping in the field and have exchanged views with management staff on how to improve the situation.
- The DQA process provides the DGFP with an opportunity to review their reporting forms and formats on a regular basis, assess which of these may need to be revised or updated, and decide whether it is necessary to develop new data collection tools.
- As one of the DGFP's performance measures, DQA remains prominent in upper management's attention. If this consideration can be translated into additional funding for data quality improvements, the DQA framework can have a lasting impact.

REFERENCES

National Institute of Population Research and Training (NIPORT), Mitra and Associates, and ICF International. 2013. *Bangladesh Demographic and Health Survey 2011*. Dhaka, Bangladesh and Calverton, Maryland, USA.

Note: This brief draws on the following resources: the DGFP MIS Unit database; the LA/PM database, Mayer Hashi project, EngenderHealth, Bangladesh Country Office; DQA visit reports prepared by the DQA team, Mayer Hashi project, EngenderHealth; and the Data Quality Audit Tool, Guideline for Implementation, September 2008. This tool was developed with support from USAID under the terms of Cooperative Agreement GPO-A-00-03-00003-00.

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