Impact of a Computerized Inventory Management System in Ensuring Commodity Security of Contraceptives in Bangladesh

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Significance/Background

In Bangladesh, great progress has been made in reducing unmet needs for family planning products and increasing the contraceptive prevalence rate. The strong demand for family planning that has been created, coupled with effective policy and investment, have led to a continuous reduction in the annual population growth rate over the past 10 years. To maintain this progress, the availability of a range of safe and high-quality contraceptives at service delivery points, as per is essential. This requires the presence of an efficient logistics management information system that provides real-time information on availability of commodities that allows managers to react quickly and efficiently to avoid stock-outs, and plan for procurement and distribution more accurately.

Program Intervention/Activity Tested

Bangladesh has introduced a logistics management information system that includes electronic tools at the upazila (sub-district) level (the Upazila Inventory Management System [UIMS]) and also at the central level (the web-based Supply Chain Information Portal [SCIP]). Central, regional, and upazila-level managers of the Directorate General of Family Planning (DGFP) enter logistics data, such as consumption and stock on hand, into the UIMS. This information is then consolidated and uploaded to the portal. A key feature of the portal is an interactive dashboard which presents easy-to-understand charts, maps, and tables on stock levels throughout the country to foster effective and efficient decision-making. The portal, which became operational in 2011, is the first of its kind for information management in the public sector.

Methodology

The USAID-supported Systems for Integrated Access to Improved Pharmaceuticals and Services (SIAPS) Program, implemented by Management Sciences for Health, supported the revision, maintenance and implementation of the UIMS tool in all 488 upazilas in Bangladesh. Using data from past stock reports and current reports available on the portal, a comparative study (August 2009 versus March 2013) was carried out for two short term methods-oral pill & Injectables and one long-term method-IUD. Data was retrieved from the web-based SCIP to conduct the analysis. The parameters of stock status are stock-out, potential stock-out, under, satisfactory, and over-stock as per DGFP definitions. Stock-outs are defined when there is a zero balance at the end of the month for a given commodity at the Family Planning store or the service delivery point. Potential stock-out is defined as current balance of stock sufficient for 0.1 to 0.6 months (3 to 18 days), according to average monthly consumption. Under-stock is considered when

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stocks levels will last between 0.7 and 1.6 months. Satisfactory or acceptable level is when stock will cover 1.7 to 3.0 months of use. An overstock is defined as stock available for more than 3 months of current consumption. Each of these stock levels was considered in the analysis. Qualitative information regarding how these data have been used for decision-making was also collected.

Results/Key Findings

The analysis showed that implementing the electronic tools had two major positive effects: stock-outs have been reduced, and data is used to make more informed decisions. For example, the analysis showed that has been no stock-out of oral pills since 2010. Similarly, potential stock-out was reduced by more than 85 percent at both upazila stores and service delivery points compared with 2009, while under-stock of the same commodities was also reduced by 60percent during the same period at both levels. Any type of stock-out (stock-out, potential stock-out and under-stock) of injectables and IUDs has gone down significantly in 2013 in comparison with 2009.

The availability of logistics data has improved decision making at several levels of the system. At the national level, the SCIP data have allowed the Directorate General of Family Planning to adopt a more scientific approach to quantification that considers different policy scenarios to produce a more accurate forecast of needs. The SCIP provides logistics information that gives a clear picture on actual consumption and whether commodities are available at satisfactory levels. DGFP now organizes quarterly logistics coordination forum meeting and yearly forecasting working group meeting, where all relevant stakeholders, including donors, are present. Data from the SCIP allows in-depth, interactive discussion among partners to prepare, review, revise, and update the national needs for contraceptives to revise forecasting, fund-gap analysis, and supply planning. As a result, at the time the analysis was conducted, the DGFP had at least a 12-month supply of commodities on hand, with procurements planned to restock before the supply ran out.

Program Implications/Lessons

Introducing a computerized inventory management system at upazila and central levels has reduced stock-out rates at each tier of distribution of the Bangladesh Family Planning Program. Policy makers are now proactively reviewing the SCIP-LMIS data to make evidence-based decisions which positively affect the supply planning process. Tools such as those described contribute to demand forecasting, fund-gap analysis and the promotion of decentralized decision-making.