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## USING DASHBOARDS TO HARNESS THE POWER OF DATA FOR INFORMED DECISION MAKING



### CHALLENGE Obtaining high-quality pharmaceutical data is difficult in developing country settings

Effective pharmaceutical management requires an array of information from across all levels of the health system. Policy makers, program managers, and healthcare providers use this information in different ways: to make programmatic and financial decisions, ensure medicines and health

supplies are available, assess product safety and quality, monitor treatment outcomes, and forecast future needs, among other uses. The varied uses of health information across a pharmaceutical system underscore the need for data to be relevant, accurate, and timely. Unfortunately, many developing countries lack the systems to collect, analyze, and use these types of data which can impede effective decision making. Alternatively, when data are available, the sheer volume of information is so large or presented in a way that the data can be difficult to access or understand.

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### SIAPS ACTIVITIES Information dashboards elevate data for better decision making

SIAPS is working to help governments, hospitals, and health facilities better manage data by strengthening the systems that support effective pharmaceutical information management. In addition to improving the collection, quality, and analysis of data, SIAPS is working in partnership with local stakeholders to develop informational dashboards which highlight and make available the key pieces of data needed for effective decision making.

supplies. By compiling, analyzing, and presenting pharmaceutical data in a central, easy-to-understand dashboard, country stakeholders have a built-in early warning system to flag potential issues, identify solutions, and avert major delays or gaps in medicines availability.

#### Bangladesh: Managing LMIS data across the health system

The SIAPS team in Bangladesh introduced three coordinated electronic logistics management information systems, one at the sub-district level (Upazila Inventory Management System [UIMS]), another at the central level (Supply Chain Information Portal [SCIP]), and a third implemented

SIAPS has created dashboard displays for a variety of purposes, but of key concern for many SIAPS countries is avoiding shortages, stock-outs, and expiries of essential medicines and health

at 21 warehouses under the Directorate General of Family Planning (DGFP) (Warehouse Inventory Management System [WIMS]). Together, these management information systems provide a comprehensive platform to show the status of family planning commodities in Bangladesh. Central, regional, and sub-district-level managers of the DGFP enter data, such as consumption and stock on hand, into the UIMS. This information is then consolidated and uploaded to the SCIP, which presents the data through easy-to-understand charts, maps, and tables.

### Ethiopia: Tracking pharmaceutical system performance

In **Ethiopia**, the continuous results monitoring system (CRMS) uses dashboards to display data for ten indicators that track performance and result trends for pharmaceutical system and service-related parameters. Monthly stock status is reported on key products and shows timely, relevant data on months of stock available, future orders, number of patients, and expiration dates.

## RESULTS **Better data quality and availability lead to better pharmaceutical management decisions**

As a result of implementation of the information management systems and dashboards in Bangladesh in 2010, continuous monitoring of stock status is now ongoing and program managers are able to make more fully informed supply chain decisions. There have been no stock-outs of oral pills since 2010. Potential stock-outs have been reduced by more than 85% at both sub-district stores and service delivery points since 2009, while under-stock of the same commodities was reduced by 60% during the same period. Stock-out of contraceptives (condoms, oral pills, IUDs, and injectables) at service delivery points was reduced from 4.08% in February 2014 to 0.96% in August the same year. Additionally, only one upazila store had a stock-out of injectables, whereas 15 out of 21 warehouses and 78 out of 488 upazila stores had stock-outs of injectables in 2009.

CRMS in Ethiopia has institutionalized a mechanism to review reports which brings together relevant stakeholders to examine the

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accomplishments and challenges, and provides oversight for the continuous improvement process. Since introducing CRMS in 2010 to track different indicators, a reduction of 15 percentage points (from 25% to 10%) was observed between number treated and doses dispensed, a proxy measure for inventory control. The percentage of malaria cases treated empirically (without laboratory confirmation contrary to the national guideline) was reduced from a high of 80% in 2011 to 28% in 2014. The percentage of health facilities with good storage practices (available shelves, organized storage, etc.) increased from 68% in 2010 to 84% in 2013. The percentage of health facilities with availability of Coartem 24 (adult formulation as an indicator product) increased from 67% in 2012 to 86% in 2013.

## NEXT STEPS **Making dashboards user-friendly, transparent, and actionable early warning systems**

In Bangladesh, SIAPS is working to hand over tools to implementing partners in collaboration with MOHFW by training a pool of district-based master trainers to ensure that the inventory management tools continue to be used appropriately. In addition, DGFP recently issued a communiqué declaring the formation of the national-level Inventory Tools Management Committee to coordinate and oversee in-country use of WIMS, UIMS, and SCIP.

In Ethiopia, review of the CRMS report, which currently occurs at the zonal and regional levels, will be decentralized so that Drug and Therapeutics Committees within health facilities can also review the reported data. Experience in implementing CRMS will be documented developed into a tool kit for other countries considering implementation.

SIAPS continues to leverage its expertise in developing information dashboards with a

recently launched early warning system to track HIV and AIDS commodities in West Africa. SIAPS trained supply chain and program officers in target countries on how to use the dashboard to access commodity data and detect early warning signs that point to potential stock management issues. The West Africa dashboard will enable in-country supply chain managers and other

stakeholders including USAID, UNAIDS, WAHO, and Global Fund to improve forecasting, supply planning, and procurement to support the continuous availability of ARVs and rapid test kits. The system is slated to be expanded to track additional commodities for malaria and family planning in the next year.

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**ABOUT SIAPS** | The Systems for Improved Access to Pharmaceuticals and Services (SIAPS) program works to assure access to quality pharmaceutical products and effective pharmaceutical services through systems-strengthening approaches to achieve positive and lasting health outcomes. SIAPS is funded by the US Agency for International Development (USAID) and is implemented by Management Sciences for Health. For more information, visit [www.SIAPSprogram.org](http://www.SIAPSprogram.org).



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