Data Quality for Monitoring and Evaluation Systems

Monitoring and evaluation (M&E) systems produce data that are used to document progress toward health program goals and objectives. Often, these systems produce data that are incomplete, inaccurate, and tardy, owing to insufficient capacity in the health system or inadequate system design.

High-quality data are at the core of program activities. For example, the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) emphasizes the need to improve data quality. To that end, PEPFAR guidance suggests that low- and middle-income countries (LMICs) employ more stringent and systematic data quality assurance procedures, which can be achieved with data quality assessments (DQAs). Supporting these assessments is at the core of the work MEASURE Evaluation is doing in this arena.

MEASURE Evaluation understands that data must be of high quality if they are to be relied upon to inform decisions on health policy, health programs, and allocation of scarce resources. Accurate, complete, and timely data show what is happening on the ground; bad data call the system itself into question. MEASURE Evaluation conducts data quality assessments and builds the capacity of LMICs to conduct their own, and to generate and use high-quality data.

In its portfolio for assuring data quality, MEASURE Evaluation includes monitoring and evaluation (M&E) tools designed to document progress toward goals and objectives and to improve health programs. Our tools help countries evaluate the capacity of their M&E systems to collect, compile, and report quality data for planning; measure the accuracy of reporting priority indicators; and troubleshoot data quality issues. We also offer training materials to

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help countries assess data quality, and we conduct research to help institutionalize data quality assurance techniques.
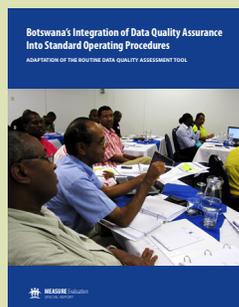
We offer the following resources:

- With the World Health Organization (WHO), we helped to develop a **Data Quality Review (DQR) tool** to evaluate data quality across program areas as a part of a larger assessment of health facility service availability and readiness. We provide DQR guidance documents, data collection tools, training materials, and an Excel-based tool to facilitate assessments.

Data Quality and Gender

Women, men, boys, girls, and transgender people have different health needs, access to care, and health outcomes. Gender-related data and analyses are critical to understanding how HIV and AIDS may impact these population groups and whether PEPFAR programs are meeting the unique needs of these groups. Sex- and age-disaggregated data and gender-sensitive indicators that specifically measure gender equality are important for efficient and effective PEPFAR programs. Indeed, PEPFAR requires them (where applicable).

Nevertheless, timely access to and analyses of high-quality data to manage program activities and report on core indicators can be problematic. Implementing partners often find it laborious to take the steps needed to collect, analyze, and report disaggregated data, and some may not understand the value or utility of sex- and age-disaggregated data for program monitoring.

MEASURE Evaluation is currently working on an approach to assess and improve data quality and the use of age- and sex-disaggregated data and gender-sensitive indicators. We are adapting data quality and data use tools to create a gender-related DQA tool to address challenges in both the quality and use of gender-specific data in routine health information systems. A benefit of this tool is that the implementing partner receives site-specific feedback, as well as a set of organizational findings and recommendations to contribute to improvement of data quality and use.

With better gender-related data and recognition of their value, partners can make more effective program and policy decisions. Such data can contribute to increased access to and uptake of evidence-informed interventions, thus accelerating progress toward epidemic control and achievement of the global 90-90-90 goals.

Integrating Data Quality at the Country Level

MEASURE Evaluation has documented an effort to integrate data quality assurance activities in standard operating procedures at the country level. We worked with the Government of Botswana to formalize data quality assurance for each level of the health system and to develop policies and procedures to track and continuously improve data quality. This effort is described in the case study shown on the right: https://www.measureevaluation.org/resources/publications/sr-13-79

We worked with the government of Botswana to formalize data quality assurance for different levels of the health system and to develop policies and procedures to track and continuously improve data quality. (See the box on the left.)

The following data quality resources are online at http://www.measureevaluation.org/measure/our-work/data-quality:

- Guidance to PEPFAR country programs on addressing fundamental constraints to good results reporting

  Data Quality Assurance Tool for Program-Level Indicators

- DQA tools designed for use by external audit teams and RDQA tools designed for capacity building and self-assessment

  Data Quality Audit Tool (DQA): Guidelines for Implementation; also available in French and Spanish

  Data Quality Audit (DQA): Excel Templates

  Routine Data Quality Assessment (RDQA) Curriculum Materials

  Routine Data Quality Assessment Tool (RDQA): Case Study Materials

  Routine Data Quality Assessment Tool (RDQA): Guidelines; also available in French, Portuguese, and Spanish

  Routine Data Quality Assessment Tool (RDQA): Excel Workbook; also available in French, Portuguese, and Spanish

  Multi-Indicator Routine Data Quality Assessment Tool (M-RDQA): Excel Workbook; also available in French, Portuguese, and Spanish

We also offer a tool for program managers to assess M&E plans, take stock of the capabilities of management units to manage data, and assess data-collection and reporting systems.

- Monitoring and Evaluation Systems Strengthening Tool; also available in French

- M&E Systems Strengthening Tool Templates; also available in French

The Data Quality Review (DQR) toolkit proposes an integrated approach to data quality. It unifies and builds upon previous tools and methods designed to assess data quality at facility level:

- Module 1: Framework and Metrics, WHO, 2017

- Module 2: Desk Review of Data Quality, WHO, 2017

- Module 3: Data Verification and System Assessment, WHO, 2017

- The **Data Quality Audit (DQA) tool** permits formal auditing of data quality for priority HIV and AIDS, tuberculosis, and malaria indicators in programs or projects. It was developed for PEPFAR and the Global Fund as an integral part of performance-based measures of data accuracy for selected indicators. MEASURE Evaluation has also produced a capacity-building and self-assessment version of the tool for facilities: **the Routine Data Quality Assurance (RDQA) tool**.

- The RDQA facilitates the evaluation of data quality at health facilities, as a part of routine supervisory visits. The tool permits the collection of data quality performance metrics that can be monitored over time to show trends in the reporting system's capacity to produce high-quality data.

- To enable countries to build capacity for data quality, MEASURE Evaluation has developed a **training curriculum centered on the RDQA tool**. The curriculum contains facilitator and participant guides, presentations, exercises, and case studies for a three-day training in data quality assurance methods and tools. MEASURE Evaluation has conducted such trainings in Kenya, Nigeria, Tanzania, Côte d'Ivoire, Guyana, Mozambique, Botswana, South Africa, Zimbabwe, Uganda, Haiti, Paraguay, Peru, the Dominican Republic, and Nepal.

- Finally, MEASURE Evaluation has documented an effort to **integrate data quality assurance** activities in **standard operating procedures** at the country level.