

# Documenting Health Data Quality Practices in Tanzania

Since 2008, MEASURE Evaluation–Tanzania (MEval-TZ) has been conducting annual data quality assessments (DQAs) within selected HIV testing, care, and treatment programs. The DQAs aim to identify strengths and weaknesses in data collection, aggregation, and reporting at all levels, from health facilities to intermediate reporting levels of implementing partners (IPs) to the national headquarters of those partners and ultimately to USAID. The assessments also aim to improve the capacity of IPs and health facilities to collect and report good-quality data and to carry out internal DQAs. After each round of DQAs, MEval-TZ supported IPs and health facilities to develop action plans to address gaps that have been identified in their health information systems (HIS).

MEval-TZ conducted this study to describe key facilitators of and barriers to the effectiveness of DQAs in strengthening data quality, to understand the contribution of the DQAs in strengthening HIS, to assess the effects of MEval-TZ's monitoring and evaluation (M&E) system-strengthening activities at the subnational level, and to identify successes and opportunities for improving data quality interventions.

## Methods

Semistructured in-depth interviews were held with 19 key informants from Dar es Salaam, Mtwara, Arusha, Iringa, Dodoma, and Mwanza on DQAs conducted between 2013 and 2018. The key informants were staff from the Tanzanian headquarters of four IPs: the Elizabeth Glaser Pediatric AIDS Foundation, Deloitte Consulting Limited, Selian Lutheran Hospital, Baylor College of Medicine Children's Foundation–Tanzania, four intermediate reporting levels, and 10 health facilities within the selected regions.

To quantify the effect of MEval-TZ's data quality improvement interventions, a secondary analysis of quantitative data reported in DHIS 2 between 2013 and 2017 was also conducted. The analysis compared two antenatal care (ANC) and prevention of mother-to-child transmission of HIV (PMTCT) data quality indicators (reporting rates and reporting timeliness) and three health outcome indicators (proportions of ANC clients coming for their first visit before 12 weeks' gestation, HIV-exposed

children receiving HIV confirmatory testing at 18 months of age, and laboratory-confirmed malaria cases among all ANC visits) for 43 district councils reached by MEval-TZ's interventions and 45 district councils not reached by the project.

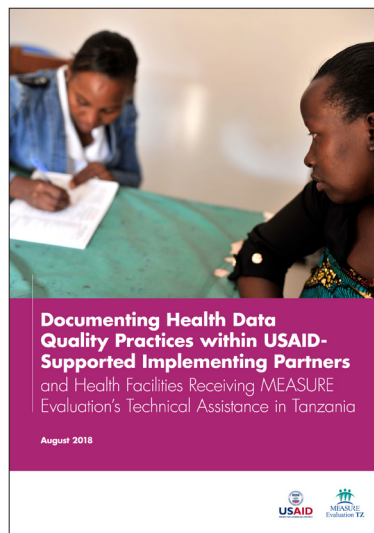
## Results

Respondents reported that most DQAs were conducted by MEval-TZ, and most respondents had an action plan in place as a result of their last DQA. The DQAs conducted by MEval-TZ were often followed by M&E capacity building activities, such as training M&E officers and data clerks at the IPs on key M&E concepts and administering supportive supervision visits.

## Facilitators of and Barriers to DQA Effectiveness

Respondents described factors that facilitated implementation of action plans: staff commitment; frequent supportive supervision; training of M&E staff, healthcare workers, and data clerks; and participation in regular data review meetings.

Factors that helped maintain or improve data quality were improved capacity for data management, commitment of staff and health management teams to obtain good quality



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data, supportive supervision and mentorship, availability of human and financial resources, and feedback to health facilities about data quality.

Factors that hindered implementation of action plans were poor documentation of patient information, competing priorities, shortages of human resources, infrequent follow-up, and short project life spans. Factors related to staff and to the health system that compromised or undermined data quality were also identified. Staff factors were limited understanding of the definitions of indicators, lack of commitment among staff, poor documentation of clients lost to follow-up, and lack of training for new staff. Examples of health system factors were delays in getting results of viral load tests, staff shortages, and poor management of data flow from health facilities to the district level.

## Contribution of DQAs in Strengthening HIS

Respondents said they gained a variety of skills from the capacity building activities conducted by MEval-TZ, including professional development as M&E officers, proper filing and arrangement of patient files, proper documentation of client information, implementation of internal DQAs, development of M&E plans, and use of DHIS 2 data to plan and budget.

## Effects of M&E System Strengthening Activities at the Subnational Level

As a result of the DQAs, IPs developed or updated their project M&E plans, increased budgets for M&E

and DQA, improved the timeliness of reporting, and conducted routine internal DQAs. The M&E-system strengthening activities also reduced overreporting and underreporting, decreased data discrepancy, reduced loss to follow-up, and promoted understanding of data quality indicators.

## Secondary Analysis of DHIS 2 Data

The analysis of data quality and health outcome indicators revealed difficulty in using DHIS 2 data to quantify the effects of MEval-TZ's HIS strengthening interventions. ANC indicator reporting rates, PMTCT indicator reporting rates, and the timeliness of PMTCT data reporting increased similarly for district councils that were and were not supported by MEval-TZ. The timeliness of ANC data reporting also improved in both types of districts, although the improvement was larger in the districts that the project supported.

The percentage of ANC clients coming for their first visit before 12 weeks' gestation declined in MEval-TZ-supported districts but declined and then slightly increased in non-MEval-TZ-supported districts. The percentage of HIV-exposed children who received HIV confirmatory testing at 18 months of age increased from 2013 to 2015 and then dropped in 2016 both in districts that did and did not receive the project's support. The percentage of laboratory-confirmed malaria cases among all ANC clients decreased in MEval-TZ-supported districts but steadily increased in non-MEval-TZ-supported districts. (The non-MEval-TZ-supported districts were randomly selected but tended to be in regions with a higher prevalence of malaria.)

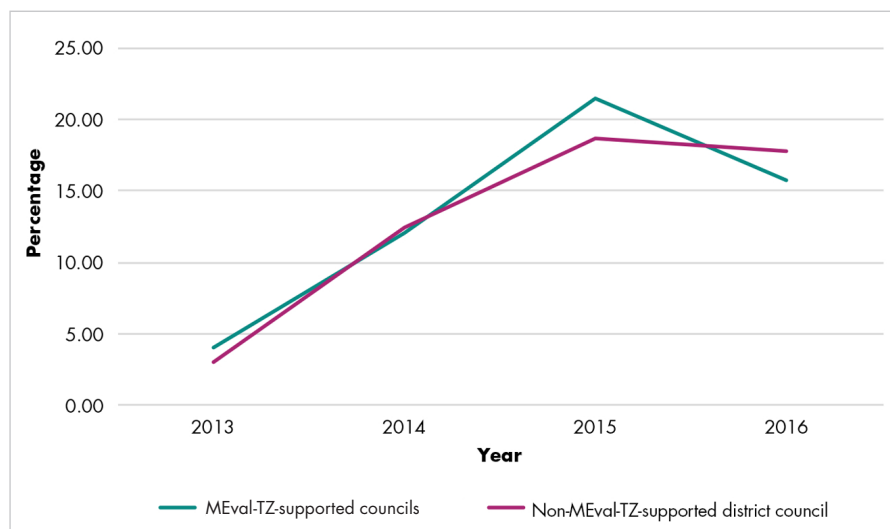
*Training helped me to know the meaning of M&E, components of M&E, and how to do M&E. I was not informed on DQA at facility level and how to analyze data at facility level since it was not my specialization; therefore they have transformed me from an environmentalist to a person skilled in M&E.*

KII respondent at Deloitte USAID Boresha Afya in Iringa



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**Figure 1. Percentage of HIV-exposed children who received HIV confirmatory testing at 18 months of age in MEval-TZ-supported and non-MEval-TZ-supported district councils**



The government's efforts since 2013 to roll out the DHIS may have contributed to changes observed in data quality indicators, while health outcome changes may have resulted from factors beyond MEval-TZ's influence.

## Recommendations

1. Continue annual external DQAs for all IPs and supported health facilities, followed by action plans, training, mentorships, coaching, supportive supervision, and reassessment. Capacity building activities should be repeated annually.
2. Work with the government of Tanzania, local government authorities, and IPs to support health facilities in their information and communication technology infrastructure.
3. Consider establishing zonal offices to extend the reach of MEval-TZ's work to all health facilities at the district level.
4. Consider developing and promoting online courses on DQA for all IPs and health facilities.
5. Consider expanding DQAs beyond HIV (e.g., to family planning and malaria).

This research has been supported by the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) through the United States Agency for International Development (USAID) under the terms of MEASURE Evaluation-Tanzania associate award AID-621-LA-14-00001. MEASURE Evaluation-Tanzania is implemented by the Carolina Population Center at the University of North Carolina at Chapel Hill, in partnership with ICF International; John Snow, Inc.; Management Sciences for Health; Palladium; and Tulane University. Views expressed are not necessarily those of PEPFAR, USAID, or the United States government. FS-18-297