

DATA QUALITY AND QUALITY IMPROVEMENT TRAINING

Module 4: Data quality assessment and improvement tools
(Routine DQA and DQA)



DQA/RDQA

- Two data quality assurance tools
- The DQA (data quality assessment tool) focuses exclusively on (1) verification of the quality of reported data and (2) assessment of the management of data and systems to report standard program indicators.
- The RDQA (routine data quality assessment) tool is a simplified version of the DQA, which allows programs and projects to assess the quality of their data and improve data management and reporting systems.

Differences between DQA and RDQA

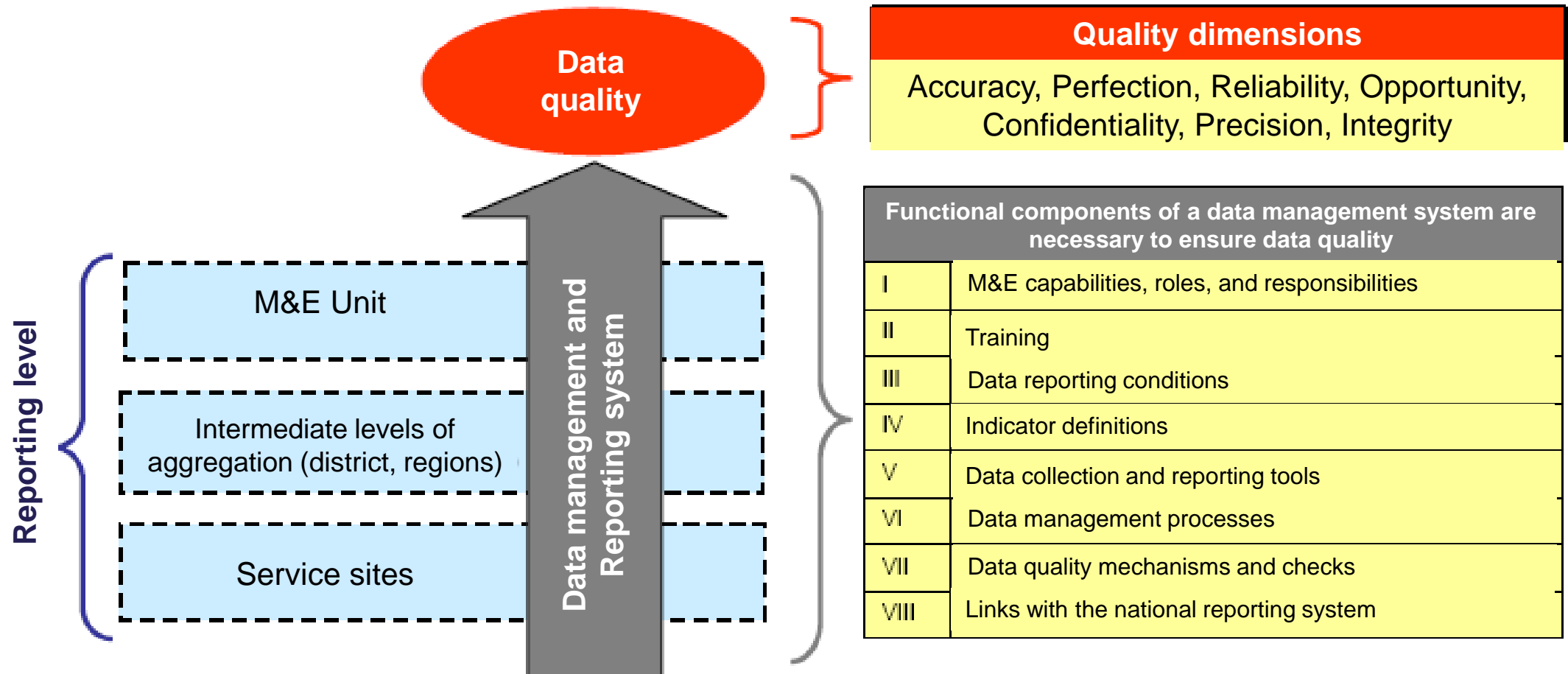
DQA

- Standardized approach to implementation
- Conducted by an external auditing team
- Limited entry recommended by programs

RDQA

- Program self-assessment
- Flexible use by programs for monitoring and oversight or to prepare for an external audit
- The program develops and implements its own action plan

RDQA CONCEPTUAL FRAMEWORK



RDQA OBJECTIVES

- Quickly **CHECK** (1) the quality of reported data for the selected primary indicators at sites and (2) the ability of data management systems to collect, check, and report quality data.
- **IMPLEMENT** measures for appropriate action plans to improve data management and the reporting system, and to improve data quality.
- **MONITOR** capacity improvements, data management performance, and the reporting system to produce quality data.

USES OF RDQA (1)

- **Review of data quality as an element of ongoing monitoring.** For example, data quality checks can be included in previously scheduled monitoring visits of service sites.
- **Initial assessments and monitoring of data management and reporting systems.** For example, repeated assessments (biannual or annual) of the system's ability to collect quality data and report them at all levels can be used to identify weaknesses and monitor necessary improvements.

USES OF RDQA (2)

- **Improve staff training on data management and reporting.** For example, M&E staff can be trained on RDQA and made aware of the need to strengthen key functional areas associated with data management and data reporting to produce quality data.
- **Prepare for a formal data quality audit.** The RDQA tool can help identify data quality issues and weaknesses in data management and in the reporting system, which can be strengthened to improve timeliness.

USES OF RDQA (3)

- **External assessment of data quality by partners.**

Use of the RDQA for external assessments can be more frequent, more restructured, and less resource intensive than data quality assurance that uses the DQA version.

Potential users of RDQA

- Program directors
- M&E supervisors and staff nationally and peripherally
- Donors and other sponsors

Comment:

Although the data quality verification tool has not been designed to evaluate the quality of services provided, its use could help improve service quality as a result of the availability of better-quality data associated with the program's performance.

Main steps of RDQA

System assessment

- Identify the underlying causes of the problem and lay the groundwork for the resolution process.

Data verification

- Identify whether there is a data quality issue and evaluate the severity of the issue.
- Evaluate the validity and consistency of reported results.
- Perform site-level cross-validation (cross-check primary source data with another source).

Development of an action plan

- Actions for resolving identified issues based on the conclusions of the system assessment and data verification.

Post-DQA follow-up actions

- Describe the specific needs or types of support that will be needed.



Using the RDQA tool for system assessment

RDQA: EXCEL TOOL

- RDQA checklists are in Excel format.
- The checklists can be printed and completed by hand.
- In the dashboard, electronic entry generates summary statistical graphs for each site in the reporting system.
- The dashboard shows two (2) graphs for each site visited.

RDQA: EXCEL TOOL (2)

- A radar chart (spider chart) shows the qualitative data produced during the assessment of the collection and reporting system.

This chart can be used to identify priority areas to improve.

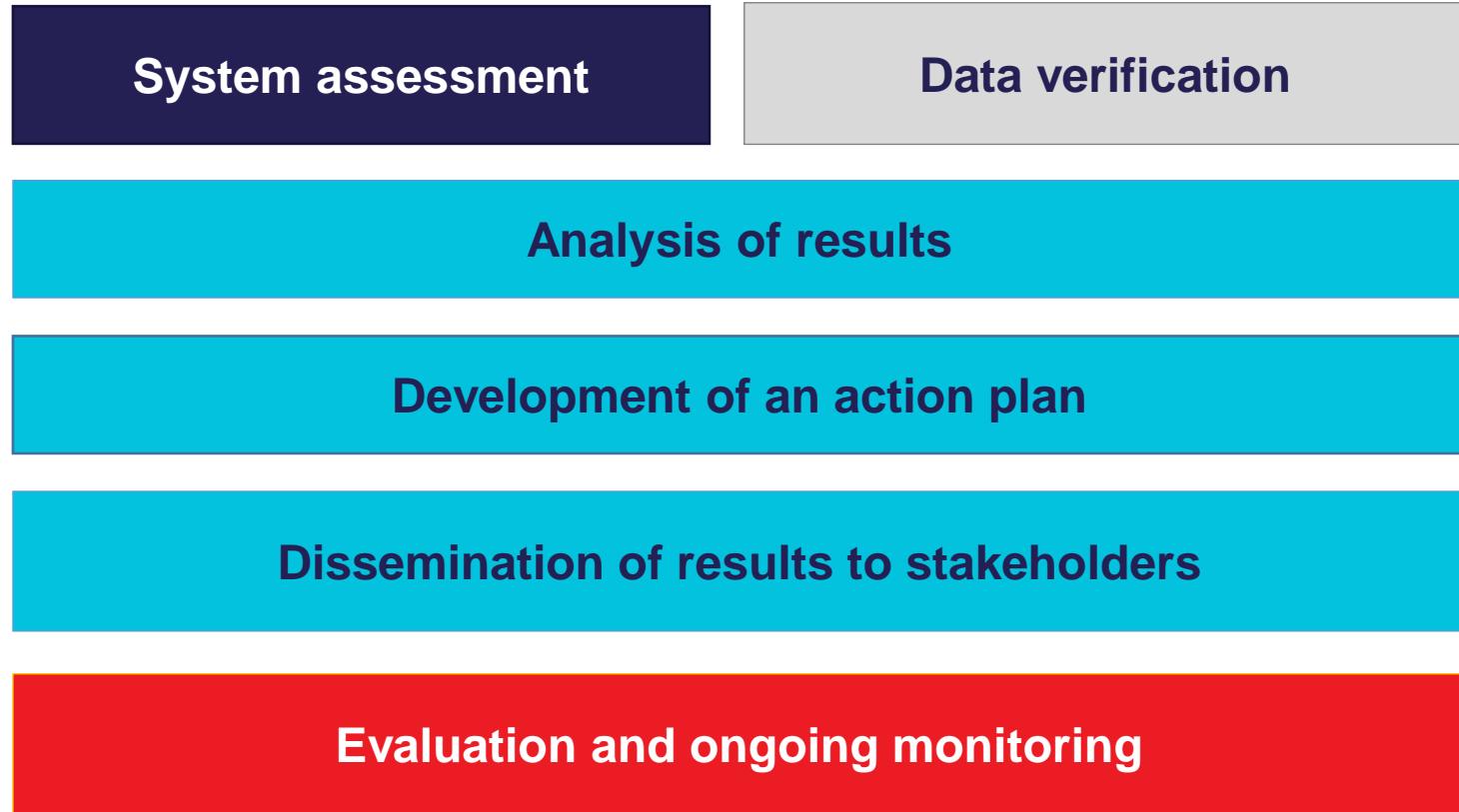
- A bar graph shows the quantitative data produced during data verifications.

This graph can be used to determine the areas of data quality to improve.

RDQA: EXCEL TOOL (3)

- A “global dashboard” shows intra- and inter-level aggregated statistics to highlight the reporting system’s strengths and weaknesses.
- The reporting system’s strengths and weaknesses are presented according to data quality dimensions in a bar graph on a 100-point scale.

The RDQA process

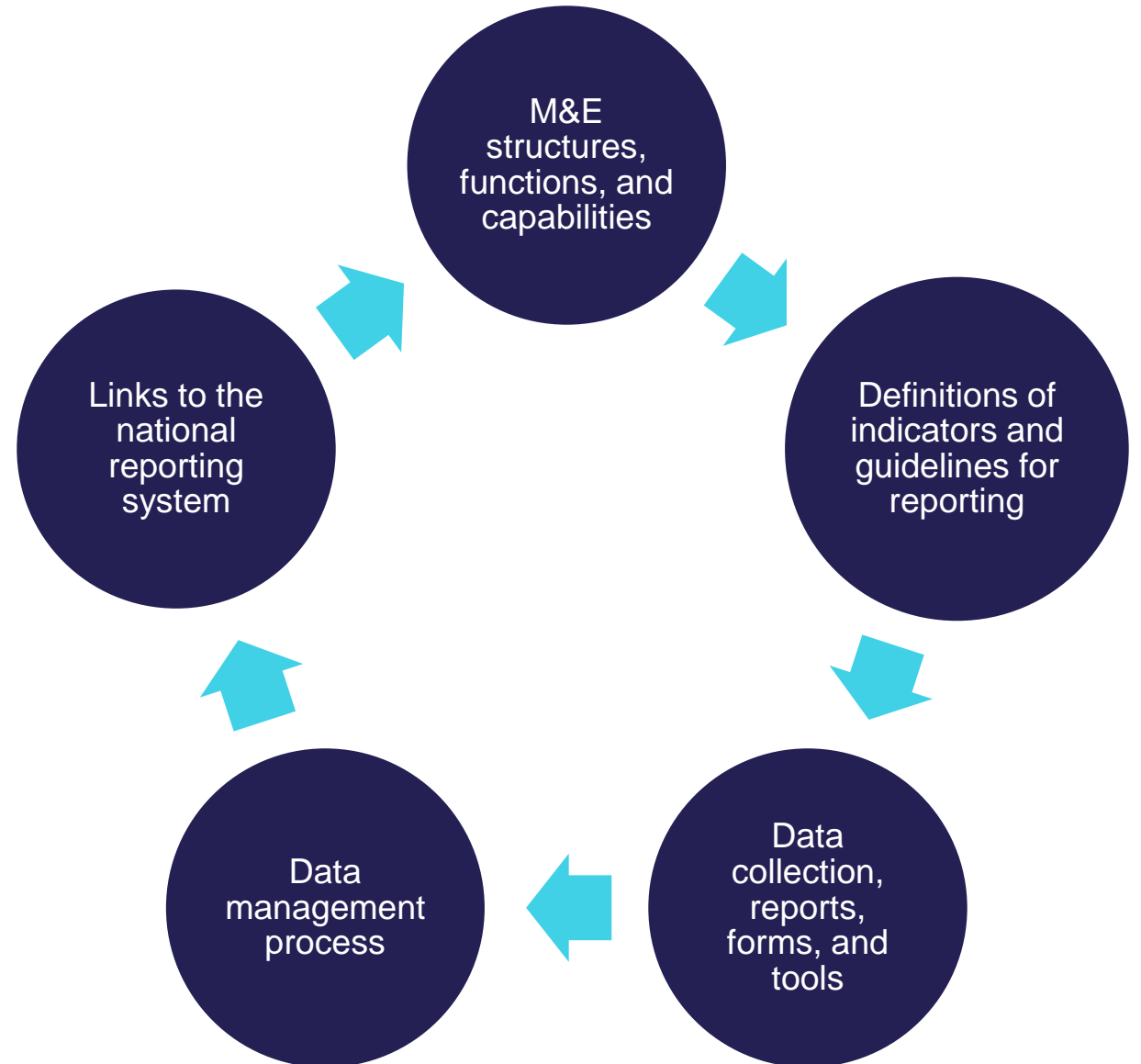


System assessment

- Objective of this assessment:

Identify potential threats to data quality stemming from the data management and reporting system due to how it is designed and implemented.

M&E areas that ensure data quality



Functional areas of an M&E system that impact data quality

QUESTIONS FOR EVALUATING SYSTEMS BY FUNCTIONAL AREA			
Functional areas		Summary questions	
I	M&E capabilities, roles, and responsibilities	1	Have key M&E and data management staff been identified and have responsibilities been clearly defined?
II	Training	2	Have most key data management and M&E staff received necessary training?
III	Data reporting criteria	3	Has the program/project clearly described (in writing) what was reported to whom and how and when reporting is necessary?

QUESTIONS FOR EVALUATING SYSTEMS BY FUNCTIONAL AREA

Functional areas		Summary questions	
IV	Definitions of indicators	4	Are there operational definitions of indicators that meet appropriate standards and that are systematically applied at all service sites?
V	Data collection and reporting forms and tools	5	Are there standard data collection and reporting forms that are systematically used?
		6	Are basic documents retained and available in accordance with written regulations?
VI	Data management methods	7	Is there a clear report of collection, aggregations, and handling steps?

QUESTIONS FOR EVALUATING SYSTEMS BY FUNCTIONAL AREA

Functional areas		Summary questions	
VII	Data quality mechanisms and controls	8	Have problems posed by data quality been identified and have mechanisms been put in place to resolve them?
		9	Are there clearly defined methods for identifying and comparing divergences in reports?
		10	Are there clearly defined methods for periodically verifying source data?
VIII	Links to the national reporting system	11	Is the data collection and reporting system linked to the national reporting system?



Using the RDQA tool for data verification

Objectives

- Evaluate whether the sites collect and report data to measure selected indicator(s) accurately and within deadlines.
- Check the reported results with other sources of data (at the service delivery level only).

Data verification

QUANTITATIVE

Compare counted data to reported data

- **Observe or describe** *the link between service or product delivery and the preparation of the source document that records that delivery of services.*
- **Review source documents:** *Verify the availability and thoroughness of all source documents for the indicator for the selected reporting period.*
- **Verify the reported data**
- **Cross-checking:** *Perform “cross-checks” of report totals verified with other data sources.*
- **Periodic inspections:** *Verify the actual delivery of services or products to the population.*

Cross-checking/triangulation of information

- Validate the primary data source against a secondary data source for the same reporting period.

For example, verify the data from the register with the inventory registers of drugs, test kits, insecticide-treated mosquito nets, etc. to see if those figures match the reported results. If possible, cross-checks should be performed in both directions.

Service site data verification

Three sub-components:

- Consulting source documentation
- Verifying reported results
- Cross-checking reported results against other data sources

Each sub-component includes questions that service site staff should answer.

Intermediate data verification

Two sub-components

- Consulting site reports
- Verifying reported results

Each sub-component includes questions that intermediary staff and staff from the M&E unit should answer.

RDQA tool data verification

- Now, let's explore in more detail the sections of data verification in the RDQA tool
- [Multi-Indicator_RDQA_Mars2022_vierge.xls](#)

Documentation resources

- USAID/PEPFAR. (n.d.) Overview of data quality assurance and improvement tools and processes and overview of the program.
- https://rise.articulate.com/share/XpRRm67wrtb8r_Bs9xLfieMZtSBvmFzw; Password: USAID
- Christine Potts. (2018). Quality assurance framework – User manual. Bethesda, MD: Health Finance & Governance Project, Abt Associates Inc.
- World Health Organization. (2019) Data quality review: a toolkit for facility data quality assessment. Module 2. Desk review of data quality. Geneva, Switzerland: World Health Organization
- World Health Organization. (2021). Module for assessing and strengthening the quality of viral load testing data within HIV programmes and patient monitoring systems: implementation tool. Geneva, Switzerland: World Health Organization

Documentation resources

- World Health Organization. (2019). Data quality assessment of national and partner HIV treatment and patient monitoring data and systems implementation tool. Geneva, Switzerland: World Health Organization.
- Boone, D., Cloutier, S., & Lins, S. (2019). Measuring the Quality of HIV/AIDS Client-Level Data Using Lot Quality Assurance Sampling (LQAS). Chapel Hill, NC, USA: MEASURE Evaluation, University of North Carolina.
<https://www.measureevaluation.org/resources/publications/ms-19-176.html>
- MEASURE Evaluation. (2008). Data Quality Audit Tool: Guidelines for Implementation. Chapel Hill, NC, USA: MEASURE Evaluation, University of North Carolina. MS-08-29.
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FOR MORE INFORMATION

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