Performance of Routine Information System Management (PRISM)

USER'S KIT

Analyzing Data from a PRISM Assessment

May 2019

USAID
FROM THE AMERICAN PEOPLE

MEASURE
Evaluation

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CONTENTS

ABBREVIATIONS

ANC   antenatal care

ANC1   antenatal care first visit

ART   antiretroviral therapy

DTP3   diphtheria-tetanus-pertussis vaccine third dose (Penta3)

EPI   expanded program on immunization

FP   family planning

HIS   health information system

HMIS   health management information system

HR   human resources

ICT   information and communication technology

IDSR   integrated disease surveillance and response (notifiable diseases)

IPT   intermittent preventive treatment

ITN   insecticide-treated bed net

MAT   Management Assessment Tool

MFL   master facility list

MOH   Ministry of Health

M&E   monitoring and evaluation

OBAT   Organizational and Behavioral Assessment Tool

PRISM   Performance of Routine Information System Management

RHIS   routine health information system

SDP   service delivery point

SOP   standard operating procedure

TB   tuberculosis

UN   United Nations

USAID   United States Agency for International Development

VF   verification factor

OVERVIEW OF THE PRISM SERIES

Using data to make evidence-informed decisions is still weak in most low- and middle-income countries. Especially neglected are data produced by routine health information systems (RHIS). RHIS comprise data collected at public, private, and community-level health facilities and institutions. These data, gleaned from individual health records, records of services delivered, and records of health resources, give a granular, site-level picture of health status, health services, and health resources. Most are gathered by healthcare providers as they go about their work, by supervisors, and through routine health facility surveys.

When routine data are lacking, or are not used, the results can be lower-quality services, weak infection prevention and control responses, lack of skilled health workers available where they are needed, and weak supply chains for drugs and equipment. These factors contribute to poor health outcomes for people.

MEASURE Evaluation, which is funded by the United States Agency for International Development (USAID), has provided technical and financial assistance to strengthen RHIS for more than 15 years. We have contributed to best practices at the global level and to the strengthening of RHIS data collection, data quality, analysis, and use at the country level. One of the project's mandates is to strengthen the collection, analysis, and use of these data for the delivery of high-quality health services.

MEASURE Evaluation developed the Performance of Routine Information System Management (PRISM) Framework and suite of tools in 2011 for global use in assessing the reliability and timeliness of an RHIS, in making evidence-based decisions, and in identifying gaps in an RHIS so they can be addressed and the system can be improved. The framework acknowledges the broader context in which RHIS operate. It also emphasizes the strengthening of RHIS performance through a system-based approach that sustains improvements in data quality and use. PRISM broadens the analysis of RHIS performance to cover three categories of determinants that affect performance:

- **Behavioral determinants**: The knowledge, skills, attitudes, values, and motivation of the people who collect, analyze, and use health data

- **Technical determinants**: The RHIS design, data collection forms, processes, systems, and methods

- **Organizational determinants**: Information culture, structure, resources, roles, and responsibilities of key contributors at each level of the health system

Figure 1. PRISM Framework

2018 PRISM Series Offers

With USAID's support, MEASURE Evaluation has revised the PRISM Tools and developed other elements, based on the PRISM Framework, to create a broad array of materials: the "PRISM Series." It's available on the MEASURE Evaluation website (https://www.measureevaluation.org/prism) and has the following components:

- **PRISM Toolkit**

  o PRISM Tools (this is the fundamental manual of PRISM Tools)

  o PRISM Tools to Strengthen Community Health Information Systems

- **PRISM User's Kit** (consisting of four guidance documents)

  o Preparing and Conducting a PRISM Assessment

  o Using SurveyCTO to Collect and Enter PRISM Assessment Data

  o Analyzing Data from a PRISM Assessment (this document)

  o Moving from Assessment to Action

- **PRISM Training Kit**

  o Participant's Manual

  o Facilitator's Manual

  o 9 PowerPoint training modules

This new, more comprehensive PRISM Series is useful for designing, strengthening, and evaluating RHIS performance and developing a plan to put the results of a PRISM assessment into action.

The revised "PRISM Tools"—the PRISM Series' core document—offers the following data collection instruments:

RHIS Overview Tool

This tool examines technical determinants, such as the structure and design of existing information systems in the health sector, information flows, and interaction of different information systems. It looks at the extent of RHIS fragmentation and redundancy and helps to initiate discussion of data integration and use.

Performance Diagnostic Tool

This tool determines the overall level of RHIS performance: the level of data quality and use of information. This tool also captures technical and organizational determinants, such as indicator definitions and reporting guidelines, the level of complexity of data collection tools and reporting forms, and the existence of data-quality assurance mechanisms, RHIS data use mechanisms, and supervision and feedback mechanisms.

Electronic RHIS Performance Assessment Tool

This tool examines the functionality and user-friendliness of the technology employed for generating, processing, analyzing, and using routine health data.

Management Assessment Tool

The Management Assessment Tool (MAT) is designed to take rapid stock of RHIS management practices and to support the development of action plans for better management.

Facility/Office Checklist

This checklist assesses the availability and status of resources needed for RHIS implementation at supervisory levels.

Organizational and Behavioral Assessment Tool

The Organizational and Behavioral Assessment Tool (OBAT) questionnaire identifies behavioral and organizational determinants, such as motivation, RHIS self-efficacy, task competence, problem-solving skills, and the organizational environment promoting a culture of information.

Uses of the PRISM Tools

These PRISM tools can be used together to gain an in-depth understanding of overall RHIS performance, to establish a baseline, and to rigorously evaluate the progress and effectiveness of RHIS strengthening interventions every five years, contributing to the national RHIS strategic planning process. Each PRISM tool can also be used separately for in-depth analysis of specific RHIS performance areas and issues.

I. RHIS PERFORMANCE: DATA QUALITY INDICATORS

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Instructions for Part I, Sections A-E and G-I

The five indicators presented in Sections A-E and G-I are the same as the ones proposed in the PRISM Tools, namely:

Indicator 1: Antenatal care first visit (ANC1)

Indicator 2: Diphtheria-tetanus-pertussis vaccine third dose (DTP3) immunizations in children under one

Indicator 3: Clients currently on antiretroviral therapy (ART)

Indicator 4: Tuberculosis (TB) cases notified (all types)

Indicator 5: Confirmed malaria cases treated

These indicators are entirely subject to in-country adaptation/customization according to the country context and the indicators of interest to the parties conducting the PRISM assessment for the purposes of the data accuracy assessment. The number of indicators assessed may also increase or decrease accordingly. The "sample" five indicators listed above are presented in the sections below to match the questions in the PRISM Tools, but can be replaced in the following tables with the five (or more/less) indicators selected for a specific PRISM Assessment.

<u>Note:</u> The assessment period for Indicator 4 is sometimes a quarter (3 months) instead of a month as for the other four indicators.

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A.   Completeness of Source Documents

Indicator: Percentage of facilities with completely filled primary source documents, such as registers, patient records, etc. for selected indicators (i.e., source documents contain the data relevant to the selected indicators)

$$\% = 100 \text{ x } \frac{\text{Total \# of assessed facilities with a completely filled primary source document}}{\text{Total \# of assessed facilities expected to report on the selected indicators}}$$

Data Source: Module 2b: RHIS Performance Diagnostic Tool (Health Facility Level)			
Indicator	Period	Numerator	Denominator
ANC1 visits	Month 1	Sum of **FQ020_1a**=1	Sum of **FQ017**=1
	Month 2	Sum of **FQ020_2a**=1	
	Month 3	Sum of **FQ020_3a**=1	
	All months	Total of numerators above	3 x (sum of **FQ017**=1)

Data Source: Module 2b: RHIS Performance Diagnostic Tool (Health Facility Level)			
Indicator	Period	Numerator	Denominator
DTP3 (Penta3) in children under one	Month 1	Sum of **FQ028_1a**=1	Sum of **FQ025**=1
	Month 2	Sum of **FQ028_2a**=1	
	Month 3	Sum of **FQ028_3a**=1	
	All months	Total of numerators above	3 x (sum of **FQ025**=1)
Clients currently on ART	Month 1	Sum of **FQ036_1a**=1	Sum of **FQ033**=1
	Month 2	Sum of **FQ036_2a**=1	
	Month 3	Sum of **FQ036_3a**=1	
	All months	Total of numerators above	3 x (sum of **FQ033**=1)
TB cases notified (all types)	Quarter	Sum of **FQ044_1a**=1	Sum of **FQ041**=1
Confirmed malaria cases treated	Month 1	Sum of **FQ056_1a**=1	Sum of **FQ052**=1
	Month 2	Sum of **FQ056_2a**=1	
	Month 3	Sum of **FQ056_3a**=1	
	All months	Total of numerators above	3 x (sum of **FQ052**=1)

B. Completeness of Reported Data

Indicator: Percentage of monthly facility reports completely filled with data for selected indicators (i.e., reports contain the data relevant to the selected indicators) (Target=95%)

Scenario 1

This scenario is valid when facilities are randomly sampled in a sampled district.

$$\% = 100 \text{ x } \frac{\text{Total \# of facilities that submitted a complete report on the selected indicators}}{\text{Total \# of facilities expected to report on the selected indicators}}$$

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)			
Indicator	Period	Numerator	Denominator
ANC1 visits	Month 1	Sum of **DQ024a_1b**	Sum of **DQ023_1a**
	Month 2	Sum of **DQ024b_1b**	Sum of **DQ023_1b**
	Month 3	Sum of **DQ024c_1b**	Sum of **DQ023_1c**
	All months	Total of numerators above	Total of denominators above
DTP3 (Penta3) in children under one	Month 1	Sum of **DQ024a_2b**	Sum of **DQ023_2a**
	Month 2	Sum of **DQ024b_2b**	Sum of **DQ023_2b**
	Month 3	Sum of **DQ024c_2b**	Sum of **DQ023_2c**
	All months	Total of numerators above	Total of denominators above
Clients currently on ART	Month 1	Sum of **DQ024a_3b**	Sum of **DQ023_3a**
	Month 2	Sum of **DQ024b_3b**	Sum of **DQ023_3b**
	Month 3	Sum of **DQ024c_3b**	Sum of **DQ023_3c**
	All months	Total of numerators above	Total of denominators above
TB cases notified (all types)	Month 1	Sum of **DQ024a_4b**	Sum of **DQ023_4a**
	Month 2	Sum of **DQ024b_4b**	Sum of **DQ023_4b**
	Month 3	Sum of **DQ024c_4b**	Sum of **DQ023_4c**
	All months	Total of numerators above	Total of denominators above
Confirmed malaria cases treated	Month 1	Sum of **DQ024a_5b**	Sum of **DQ023_5a**
	Month 2	Sum of **DQ024b_5b**	Sum of **DQ023_5b**
	Month 3	Sum of **DQ024c_5b**	Sum of **DQ023_5c**
	All months	Total of numerators above	Total of denominators above

Scenario 2

This scenario is valid either (1) when the assessment is done at the health facility level only or (2) when the sampled health facilities are located outside the sampled districts.

$$\% = 100 \text{ x } \frac{\text{Total \# of assessed facilities that submitted a complete report on the selected indicators}}{\text{Total \# of assessed facilities expected to report on the selected indicators}}$$

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)			
Indicator	Period	Numerator	Denominator
ANC1 visits	Month 1	Sum of **FQ021_1a**=1	Sum of **FQ017**=1
	Month 2	Sum of **FQ021_2a**=1	
	Month 3	Sum of **FQ021_3a**=1	
	All months	Total of numerators above	3 x (sum of **FQ017**=1)
DTP3 (Penta3) in children under one	Month 1	Sum of **FQ029_1a**=1	Sum of **FQ025**=1
	Month 2	Sum of **FQ029_2a**=1	
	Month 3	Sum of **FQ029_3a**=1	
	All months	Total of numerators above	3 x (sum of **FQ025**=1)
Clients currently on ART	Month 1	Sum of **FQ037_1a**=1	Sum of **FQ033**=1
	Month 2	Sum of **FQ037_2a**=1	
	Month 3	Sum of **FQ037_3a**=1	
	All months	Total of numerators above	3 x (sum of **FQ033**=1)
TB cases notified (all types)	Quarter	Sum of **FQ047_1a**=1	Sum of **FQ041**=1
Confirmed malaria cases treated	Month 1	Sum of **FQ057_1a**=1	Sum of **FQ052**=1
	Month 2	Sum of **FQ057_2a**=1	
	Month 3	Sum of **FQ057_3a**=1	
	All months	Total of numerators above	3 x (sum of **FQ052**=1)

C.   Reasons for Missing Data

Indicator: Top three reasons given during the assessment for missing data

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Instructions for Part I, Sections C and I

Use the following steps to identify the top three reasons why data were missing. Adapt the indicators to the ones in which you are interested. The example here uses variables DQ025_1, DQ025_2, DQ025_3, DQ025_96, and DQ025o.

1. Count the number of occurrences of individual specified reasons (**DQ025_1**, **DQ025_2**, and **DQ025_3**), then sort in descending order of frequency.

2. In the event of "write-in" responses under the "other" option (**DQ025_96**), in other words, if (sum of **DQ025_96**=1) ≥ 1, then sort through the responses (**DQ025o**). Count the number of occurrences of the individual reasons before sorting them in descending order of frequency.

   Optional: For further analysis of the "other" category, you can *manually* attribute codes to different responses (coding similar responses with the same code), and then sum the number of occurrences of these different codes before sorting them in order of frequency.

You can then rank the top three reasons why data were missing.

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)		
Indicator	Reason	Variable
What are the possible reasons for the missing data?	Staffing issues	Count of **DQ025**=1
	Not understanding the data element(s)	Count of **DQ025**=2
	Presence of other vertical reporting requirements	Count of **DQ025**=3
	Other reason(s)	Count of **DQ025**=96 If ≥1, sort, then count **DQ025o** *(see explanation above)*

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)		
Indicator	Reason	Variable
Possible reasons for missing data for ANC1 visits (3 months)	Storage or archiving problems	Count of **FQ022**=1
	Staffing issues	Count of **FQ022**=2
	Not understanding the data element(s)	Count of **FQ022**=3
	Presence of other vertical reporting requirements	Count of **FQ022**=4

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)		
Indicator	Reason	Variable
	Other reason(s)	Count of **FQ022**=96 If ≥1, sort, then count **FQ022o** *(see explanation above)*
Possible reasons for missing data for DTP3 (Penta3) in children under one (3 months)	Storage or archiving problems	Count of **FQ030**=1
	Staffing issues	Count of **FQ030**=2
	Not understanding the data element(s)	Count of **FQ030**=3
	Presence of other vertical reporting requirements	Count of **FQ030**=4
	Other reason(s)	Count of **FQ030**=96 If ≥1, sort, then count **FQ030o** *(see explanation above)*
Possible reasons for missing data for clients currently on ART (3 months)	Storage or archiving problems	Count of **FQ038**=1
	Staffing issues	Count of **FQ038**=2
	Not understanding the data element(s)	Count of **FQ038**=3
	Presence of other vertical reporting requirements	Count of **FQ038**=4
	Other reason(s)	Count of **FQ038**=96 If ≥1, sort, then count **FQ038o** *(see explanation above)*
Possible reasons for missing data for TB cases notified (all types) (1 quarter)	Storage or archiving problems	Count of **FQ048**=1
	Staffing issues	Count of **FQ048**=2
	Not understanding the data element(s)	Count of **FQ048**=3
	Presence of other vertical reporting requirements	Count of **FQ048**=4
	Other reason(s)	Count of **FQ048**=96 If ≥1, sort, then count **FQ048o** *(see explanation above)*
Possible reasons for missing data for confirmed malaria cases treated (3 months)	Storage or archiving problems	Count of **FQ058**=1
	Staffing issues	Count of **FQ058**=2
	Not understanding the data element(s)	Count of **FQ058**=3
	Presence of other vertical reporting requirements	Count of **FQ058**=4
	Other reason(s)	Count of **FQ058**=96 If ≥1, sort, then count **FQ058o** *(see explanation above)*

D. Completeness of Facility Reporting

Indicators:

- **Percentage of expected monthly reports received at the district level (Target=95%)**

$$\% = 100 \text{ x } \frac{\text{Total \# of facility reports received at the district level}}{\text{Total \# of facility reports expected at the district level}}$$

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)		
Facilities (all types)	Numerator	Denominator
Month 1	Sum of **DQ016a_1a** + Sum of **DQ016a_2a** + Sum of **DQ016a_3a** + Sum of **DQ016a_4a** + Sum of **DQ016a_1b** + Sum of **DQ016a_2b** + Sum of **DQ016a_3b** + Sum of **DQ016a_4b** + Sum of **DQ016a_1c** + Sum of **DQ016a_2c** + Sum of **DQ016a_3c** + Sum of **DQ016a_4c**	Sum of **DQ015_1a** + Sum of **DQ015_2a** + Sum of **DQ015_3a** + Sum of **DQ015_4a** + Sum of **DQ015_1b** + Sum of **DQ015_2b** + Sum of **DQ015_3b** + Sum of **DQ015_4b** + Sum of **DQ015_1c** + Sum of **DQ015_2c** + Sum of **DQ015_3c** + Sum of **DQ015_4c**
Month 2	Sum of **DQ016b_1a** + Sum of **DQ016b_2a** + Sum of **DQ016b_3a** + Sum of **DQ016b_4a** + Sum of **DQ016b_1b** + Sum of **DQ016b_2b** + Sum of **DQ016b_3b** + Sum of **DQ016b_4b** + Sum of **DQ016b_1c** + Sum of **DQ016b_2c** + Sum of **DQ016b_3c** + Sum of **DQ016b_4c**	
Month 3	Sum of **DQ016c_1a** + Sum of **DQ016c_2a** + Sum of **DQ016c_3a** + Sum of **DQ016c_4a** + Sum of **DQ016c_1b** + Sum of **DQ016c_2b** + Sum of **DQ016c_3b** + Sum of **DQ016c_4b** + Sum of **DQ016c_1c** + Sum of **DQ016c_2c** + Sum of **DQ016c_3c** + Sum of **DQ016c_4c**	
All months	Total of numerators above	3 x total of denominator above

- **Percentage of expected monthly reports of selected indicators that are available at the district level (Target=95%)**

$$\% = 100 \text{ x } \frac{\text{Total \# of facility reports on the selected indicators received at the district level}}{\text{Total \# of facility reports on the selected indicators expected at the district level}}$$

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)			
Indicator	Period	Numerator	Denominator
ANC1 visits	Month 1	Sum of **DQ024a_1a**	Sum of **DQ023_1a**
	Month 2	Sum of **DQ024b_1a**	Sum of **DQ023_1b**
	Month 3	Sum of **DQ024c_1a**	Sum of **DQ023_1c**
	All months	Total of numerators above	Total of denominators above
DTP3 (Penta3) in children under one	Month 1	Sum of **DQ024a_2a**	Sum of **DQ023_2a**
	Month 2	Sum of **DQ024b_2a**	Sum of **DQ023_2b**
	Month 3	Sum of **DQ024c_2a**	Sum of **DQ023_2c**
	All months	Total of numerators above	Total of denominators above
Clients currently on ART	Month 1	Sum of **DQ024a_3a**	Sum of **DQ023_3a**
	Month 2	Sum of **DQ024b_3a**	Sum of **DQ023_3b**
	Month 3	Sum of **DQ024c_3a**	Sum of **DQ023_3c**
	All months	Total of numerators above	Total of denominators above
TB cases notified (all types)	Month 1	Sum of **DQ024a_4a**	Sum of **DQ023_4a**
	Month 2	Sum of **DQ024b_4a**	Sum of **DQ023_4b**
	Month 3	Sum of **DQ024c_4a**	Sum of **DQ023_4c**
	All months	Total of numerators above	Total of denominators above
Confirmed malaria cases treated	Month 1	Sum of **DQ024a_5a**	Sum of **DQ023_5a**
	Month 2	Sum of **DQ024b_5a**	Sum of **DQ023_5b**
	Month 3	Sum of **DQ024c_5a**	Sum of **DQ023_5c**
	All months	Total of numerators above	Total of denominators above

E.   Availability of Facility Reports

Indicator: Percentage of expected monthly reports of selected indicators that are available at the facility level

$$\% = 100 \text{ x } \frac{\text{Total \# of available facility reports containing the selected indicator(s) at the assessed facilities}}{\text{Total \# of assessed facilities expected to report on the selected indicator(s)}}$$

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)			
Indicator	Period	Numerator	Denominator
ANC1 visits	Month 1	Count of **FQ021_1a**=1 + Count of **FQ021_1a**=2 + Count of **FQ021_1a**=3	Sum of **FQ017**=1
	Month 2	Count of **FQ021_2a**=1 + Count of **FQ021_2a**=2 + Count of **FQ021_2a**=3	
	Month 3	Count of **FQ021_3a**=1 + Count of **FQ021_3a**=2 + Count of **FQ021_3a**=3	
	All months	Total of numerators above	3 x (sum of **FQ017**=1)
DTP3 (Penta3) in children under one	Month 1	Count of **FQ029_1a**=1 + Count of **FQ029_1a**=2 + Count of **FQ029_1a**=3	Sum of **FQ025**=1
	Month 2	Count of **FQ029_2a**=1 + Count of **FQ029_2a**=2 + Count of **FQ029_2a**=3	
	Month 3	Count of **FQ029_3a**=1 + Count of **FQ029_3a**=2 + Count of **FQ029_3a**=3	
	All months	Total of numerators above	3 x (sum of **FQ025**=1)
Clients currently on ART	Month 1	Count of **FQ037_1a**=1 + Count of **FQ037_1a**=2 + Count of **FQ037_1a**=3	Sum of **FQ033**=1
	Month 2	Count of **FQ037_2a**=1 + Count of **FQ037_2a**=2 + Count of **FQ037_2a**=3	
	Month 3	Count of **FQ037_3a**=1 + Count of **FQ037_3a**=2 + Count of **FQ037_3a**=3	
	All months	Total of numerators above	3 x (sum of **FQ033**=1)

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)			
Indicator	Period	Numerator	Denominator
TB cases notified (all types)	Quarter	Count of **FQ047_1a**=1 + Count of **FQ047_1a**=2 + Count of **FQ047_1a**=3	Sum of **FQ041**=1
Confirmed malaria cases treated	Month 1	Count of **FQ057_1a**=1 + Count of **FQ057_1a**=2 + Count of **FQ057_1a**=3	Sum of **FQ052**=1
	Month 2	Count of **FQ057_2a**=1 + Count of **FQ057_2a**=2 + Count of **FQ057_2a**=3	
	Month 3	Count of **FQ057_3a**=1 + Count of **FQ057_3a**=2 + Count of **FQ057_3a**=3	
	All months	Total of numerators above	3 x (sum of **FQ052**=1)

F.   Timeliness of Facility Reporting

Indicator: Percentage of facilities submitting monthly reports to the aggregation site on time (Target=100%)

$$\% = 100 \text{ x } \frac{\text{Total \# of facilities that submitted reports to the aggregation site on time}}{\text{Total \# of facility reports expected at the aggregation site}}$$

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)		
Reporting period for facilities	Numerator	Denominator
Month 1	Sum of **DQ020_1a** + Sum of **DQ020_2a** + Sum of **DQ020_3a** + Sum of **DQ020_4a**	Sum of **DQ015_1a** + Sum of **DQ015_2a** + Sum of **DQ015_3a** + Sum of **DQ015_4a**
Month 2	Sum of **DQ020_1b** + Sum of **DQ020_2b** + Sum of **DQ020_3b** + Sum of **DQ020_4b**	+ Sum of **DQ015_1b** + Sum of **DQ015_2b** + Sum of **DQ015_3b** + Sum of **DQ015_4b**
Month 3	Sum of **DQ020_1c** + Sum of **DQ020_2c** + Sum of **DQ020_3c** + Sum of **DQ020_4c**	+ Sum of **DQ015_1c** + Sum of **DQ015_2c** + Sum of **DQ015_3c** + Sum of **DQ015_4c**
All months	Total of numerators above	3 x total of denominator above

G.   Accuracy of Entered Data

Indicators:

- **Percentage accuracy between the data entered in the district (or national) database and the facility monthly report for selected indicators (Target=100%)**

Step 1: Calculating the average district verification factor (VF) deviation for the selected indicators and periods, as a percentage

$$\% = 100 \text{ x } \frac{\text{Sum of all district verification factor (VF) deviations}}{\text{Total \# of districts assessed per selected indicator}}$$

The district VF deviation is the absolute value of $|1 - A/B|$, with A representing the data as they appear in the source document (i.e., facility reports) and B representing the reported data in the district's electronic database or the paper-based reports submitted by the districts (as applicable). Essentially, the A/B division (the VF) provides a positive value representing the difference in data reported in the source documents and in the district records. The absolute value of 1 minus this fraction represents a positive number between 0 and 1 and is the district VF deviation.

This table presents the method to calculate the average district VF deviation by month for the selected indicators. **DQ026** corresponds to the first month, **DQ027** to the second month, and **DQ028** to the third month.

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)			
Indicator	Period	Numerator	Denominator
ANC1 visits	Month 1	Sum of $|1 - [$**DQ026_1a / DQ026_1b**$]|$	Number of districts assessed
	Month 2	Sum of $|1 - [$**DQ027_1a / DQ027_1b**$]|$	
	Month 3	Sum of $|1 - [$**DQ028_1a / DQ028_1b**$]|$	
	All months	Total of numerators above	3 x number of districts assessed
DTP3 (Penta3) in children under one	Month 1	Sum of $|1 - [$**DQ026_2a / DQ026_2b**$]|$	Number of districts assessed
	Month 2	Sum of $|1 - [$**DQ027_2a / DQ027_2b**$]|$	
	Month 3	Sum of $|1 - [$**DQ028_2a / DQ028_2b**$]|$	
	All months	Total of numerators above	3 x number of districts assessed
Clients currently on ART	Month 1	Sum of $|1 - [$**DQ026_3a / DQ026_3b**$]|$	Number of districts assessed
	Month 2	Sum of $|1 - [$**DQ027_3a / DQ027_3b**$]|$	
	Month 3	Sum of $|1 - [$**DQ028_3a / DQ028_3b**$]|$	
	All months	Total of numerators above	3 x number of districts assessed

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)			
Indicator	Period	Numerator	Denominator
TB cases notified (all types)	Month 1	Sum of |1 - [**DQ026_4a / DQ026_4b**]|	Number of districts assessed
	Month 2	Sum of |1 - [**DQ027_4a / DQ027_4b**]|	
	Month 3	Sum of |1 - [**DQ028_4a / DQ028_4b**]|	
	All months	Total of numerators above	3 x number of districts assessed
Confirmed malaria cases treated	Month 1	Sum of |1 - [**DQ026_5a / DQ026_5b**]|	Number of districts assessed
	Month 2	Sum of |1 - [**DQ027_5a / DQ027_5b**]|	
	Month 3	Sum of |1 - [**DQ028_5a / DQ028_5b**]|	
	All months	Total of numerators above	3 x number of districts assessed

Step 2: Calculating the district accuracy score per indicator by subtracting the average district VF deviations (as a percentage) from 100% (target value)

This table presents the method to calculate the district accuracy score by month for the selected indicators.

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level) via Table Above		
Indicator	Period	Variable
ANC1 visits	Month 1	100% – Average VF deviation for month 1 (%)
	Month 2	100% – Average VF deviation for month 2 (%)
	Month 3	100% – Average VF deviation for month 3 (%)
	All months	100% – Average VF deviation for all months (%)
DTP3 (Penta3) in children under one	Month 1	100% – Average VF deviation for month 1 (%)
	Month 2	100% – Average VF deviation for month 2 (%)
	Month 3	100% – Average VF deviation for month 3 (%)
	All months	100% – Average VF deviation for all months (%)
Clients currently on ART	Month 1	100% – Average VF deviation for month 1 (%)
	Month 2	100% – Average VF deviation for month 2 (%)
	Month 3	100% – Average VF deviation for month 3 (%)
	All months	100% – Average VF deviation for all months (%)
TB cases notified (all types)	Month 1	100% – Average VF deviation for month 1 (%)
	Month 2	100% – Average VF deviation for month 2 (%)
	Month 3	100% – Average VF deviation for month 3 (%)
	All months	100% – Average VF deviation for all months (%)
Confirmed	Month 1	100% – Average VF deviation for month 1 (%)

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level) via Table Above		
Indicator	Period	Variable
malaria cases treated	Month 2	100% – Average VF deviation for month 2 (%)
	Month 3	100% – Average VF deviation for month 3 (%)
	All months	100% – Average VF deviation for all months (%)

The same calculations can be performed for different percentage targets:

- **Percentage accuracy between the data entered in the district (or national) database and the facility monthly report for selected indicators (Target range: 95%–105%)**
    - o **Percentage of districts with VFs between 95% and 105% for the selected indicator**
    - o **Percentage of districts that over-reported the selected indicator (<95%)**
    - o **Percentage of districts that under-reported the selected indicator (>105%)**

- **Percentage accuracy between the data entered in the district (or national) database and the facility monthly report for selected indicators (Target range: 90%–110%)**
    - o **Percentage of districts with VFs between 90% and 110% for the selected indicator**
    - o **Percentage of districts that over-reported the selected indicator (<90%)**
    - o **Percentage of districts that under-reported the selected indicator (>110%)**

H.   Accuracy of Reported Data

Indicators:

- **Percentage accuracy between data entered in the facility monthly report or database and the different registers/forms for selected indicators (Target=100%)**

Step 1: Calculating the average health facility verification factor (VF) deviation for the selected indicators and periods, as a percentage

$$\% = 100 \text{ x } \frac{\text{Sum of all health facility VF deviations}}{\text{Total \# of facilities assessed per selected indicator}}$$

The facility VF deviation is similar to the district's in that it is the absolute value of $|1 - A/B|$, with A representing the data as they appear in the source document (i.e., facility registers/forms) and B representing the data from the monthly reports. Essentially, the A/B division (the VF) provides a positive value representing the difference in data reported in the source documents and in the monthly reports. The absolute value of 1 minus this fraction represents a positive number between 0 and 1 and is the health facility VF deviation.

This table presents the method to calculate the average health facility VF deviation by month for the selected indicators.

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)			
Indicator	Period	Numerator	Denominator
ANC1 visits	Month 1	Sum of |1 - [**FQ020_1b / FQ021_1b**]|	Number of facilities assessed
	Month 2	Sum of |1 - [**FQ020_2b / FQ021_2b**]|	
	Month 3	Sum of |1 - [**FQ020_3b / FQ021_3b**]|	
	All months	Total of numerators above	3 x number of facilities assessed
DTP3 (Penta3) in children under one	Month 1	Sum of |1 - [**FQ028_1b / FQ029_1b**]|	Number of facilities assessed
	Month 2	Sum of |1 - [**FQ028_2b / FQ029_2b**]|	
	Month 3	Sum of |1 - [**FQ028_3b / FQ029_3b**]|	
	All months	Total of numerators above	3 x number of facilities assessed
Clients currently on ART	Month 1	Sum of |1 - [**FQ036_1b / FQ037_1b**]|	Number of facilities assessed
	Month 2	Sum of |1 - [**FQ036_2b / FQ037_2b**]|	
	Month 3	Sum of |1 - [**FQ036_3b / FQ037_3b**]|	
	All months	Total of numerators above	3 x number of facilities assessed
TB cases notified (all types)	Quarter	Sum of |1 - [**FQ044_1b / FQ047_1b**]|	Number of facilities assessed

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)			
Indicator	Period	Numerator	Denominator
Confirmed malaria cases treated	Month 1	Sum of |1 - [**FQ056_1b / FQ057_1b**]|	Number of facilities assessed
	Month 2	Sum of |1 - [**FQ056_2b / FQ057_2b**]|	
	Month 3	Sum of |1 - [**FQ056_3b / FQ057_3b**]|	
	All months	Total of numerators above	3 x number of facilities assessed

Step 2: Calculating the health facility accuracy score per indicator by subtracting the average health facility VF deviations (as a percentage) from 100% (target value)

This table presents the method to calculate the health facility accuracy score by month/quarter for the selected indicators.

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level) via Table Above		
Indicator	Period	Variable
ANC1 visits	Month 1	100% – Average VF deviation for month 1 (%)
	Month 2	100% – Average VF deviation for month 2 (%)
	Month 3	100% – Average VF deviation for month 3 (%)
	All months	100% – Average VF deviation for all months (%)
DTP3 (Penta3) in children under one	Month 1	100% – Average VF deviation for month 1 (%)
	Month 2	100% – Average VF deviation for month 2 (%)
	Month 3	100% – Average VF deviation for month 3 (%)
	All months	100% – Average VF deviation for all months (%)
Clients currently on ART	Month 1	100% – Average VF deviation for month 1 (%)
	Month 2	100% – Average VF deviation for month 2 (%)
	Month 3	100% – Average VF deviation for month 3 (%)
	All months	100% – Average VF deviation for all months (%)
TB cases notified (all types)	Quarter	100% – Average VF deviation for quarter (%)
Confirmed malaria cases treated	Month 1	100% – Average VF deviation for month 1 (%)
	Month 2	100% – Average VF deviation for month 2 (%)
	Month 3	100% – Average VF deviation for month 3 (%)
	All months	100% – Average VF deviation for all months (%)

The same calculations can be performed for different percentage targets:

- **Percentage accuracy between data entered in the facility monthly report or database and the different registers/forms for selected indicators (Target range: 95%–105%)**

    o **Percentage of facilities with VFs between 95% and 105% for the selected indicator**

    o **Percentage of facilities that over-reported the selected indicator (<95%)**

    o **Percentage of facilities that under-reported the selected indicator (>105%)**

- **Percentage accuracy between data entered in the facility monthly report or database and the different registers/forms for selected indicators (Target range: 90%–110%)**

    o **Percentage of facilities with VFs between 90% and 110% for the selected indicator**

    o **Percentage of facilities that over-reported the selected indicator (<90%)**

    o **Percentage of facilities that under-reported the selected indicator (>110%)**

I.   Reasons for Observed Discrepancies

Indicator: Top three reasons given during the assessment as explanations for the observed discrepancy

In this next table, **DQ026** corresponds to the first month, **DQ027** to the second month, and **DQ028** to the third month.

See instructions above in Section C.

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)		
Indicator		Variable
Reason for data discrepancy in ANC1 visits (3 months)	Data entry errors	Count of **DQ026_1c**=1 + Count of **DQ027_1c**=1 + Count of **DQ028_1c**=1
	Arithmetic errors	Count of **DQ026_1c**=2 + Count of **DQ027_1c**=2 + Count of **DQ028_1c**=2
	Information from submitted reports not compiled correctly	Count of **DQ026_1c**=3 + Count of **DQ027_1c**=3 + Count of **DQ028_1c**=3
	Monthly reports unavailable	Count of **DQ026_1c**=4 + Count of **DQ027_1c**=4 + Count of **DQ028_1c**=4
	Other reason(s)	Count of **DQ026_1c**=96 + Count of **DQ027_1c**=96 + Count of **DQ028_1c**=96 If the total above is ≥ 1: Sort and then add: Count of **DQ026_1co** + Count of **DQ027_1co** + Count of **DQ028_1co** *(see explanation above)*
Reason for data discrepancy in DTP3 (Penta3) in children under one (3 months)	Data entry errors	Count of **DQ026_2c**=1 + Count of **DQ027_2c**=1 + Count of **DQ028_2c**=1
	Arithmetic errors	Count of **DQ026_2c**=2 + Count of **DQ027_2c**=2 + Count of **DQ028_2c**=2
	Information from submitted reports not compiled correctly	Count of **DQ026_2c**=3 + Count of **DQ027_2c**=3 + Count of **DQ028_2c**=3

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)		
Indicator		Variable
	Monthly reports unavailable	Count of **DQ026_2c**=4 + Count of **DQ027_2c**=4 + Count of **DQ028_2c**=4
	Other reason(s)	Count of **DQ026_2c**=96 + Count of **DQ027_2c**=96 + Count of **DQ028_2c**=96 If the total above is ≥ 1: Sort and then add: Count of **DQ026_2co** + Count of **DQ027_2co** + Count of **DQ028_2co** *(see explanation above)*
Reason for data discrepancy in clients currently on ART (3 months)	Data entry errors	Count of **DQ026_3c**=1 + Count of **DQ027_3c**=1 + Count of **DQ028_3c**=1
	Arithmetic errors	Count of **DQ026_3c**=2 + Count of **DQ027_3c**=2 + Count of **DQ028_3c**=2
	Information from submitted reports not compiled correctly	Count of **DQ026_3c**=3 + Count of **DQ027_3c**=3 + Count of **DQ028_3c**=3
	Monthly reports unavailable	Count of **DQ026_3c**=4 + Count of **DQ027_3c**=4 + Count of **DQ028_3c**=4
	Other reason(s)	Count of **DQ026_3c**=96 + Count of **DQ027_3c**=96 + Count of **DQ028_3c**=96 If the total above is ≥ 1: Sort and then add: Count of **DQ026_3co** + Count of **DQ027_3co** + Count of **DQ028_3co** *(see explanation above)*
Reason for data discrepancy in TB cases notified (all types) (3 months)	Data entry errors	Count of **DQ026_4c**=1 + Count of **DQ027_4c**=1 + Count of **DQ028_4c**=1
	Arithmetic errors	Count of **DQ026_4c**=2 + Count of **DQ027_4c**=2 + Count of **DQ028_4c**=2

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)		
Indicator		Variable
	Information from submitted reports not compiled correctly	Count of **DQ026_4c**=3 + Count of **DQ027_4c**=3 + Count of **DQ028_4c**=3
	Monthly reports unavailable	Count of **DQ026_4c**=4 + Count of **DQ027_4c**=4 + Count of **DQ028_4c**=4
	Other reason(s)	Count of **DQ026_4c**=96 + Count of **DQ027_4c**=96 + Count of **DQ028_4c**=96 If the total above is ≥ 1: Sort and then add: Count of **DQ026_4co** + Count of **DQ027_4co** + Count of **DQ028_4co** *(see explanation above)*
Reason for data discrepancy in confirmed malaria cases treated (3 months)	Data entry errors	Count of **DQ026_5c**=1 + Count of **DQ027_5c**=1 + Count of **DQ028_5c**=1
	Arithmetic errors	Count of **DQ026_5c**=2 + Count of **DQ027_5c**=2 + Count of **DQ028_5c**=2
	Information from submitted reports not compiled correctly	Count of **DQ026_5c**=3 + Count of **DQ027_5c**=3 + Count of **DQ028_5c**=3
	Monthly reports unavailable	Count of **DQ026_5c**=4 + Count of **DQ027_5c**=4 + Count of **DQ028_5c**=4
	Other reason(s)	Count of **DQ026_5c**=96 + Count of **DQ027_5c**=96 + Count of **DQ028_5c**=96 If the total above is ≥ 1: Sort and then add: Count of **DQ026_5co** + Count of **DQ027_5co** + Count of **DQ028_5co** *(see explanation above)*

See instructions above in Section C.

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)		
Indicator		Variable
Reason for data discrepancy in ANC1 visits (3 months)	Data entry errors	Count of **FQ023**=1
	Arithmetic errors	Count of **FQ023**=2
	Information from all source documents not compiled correctly	Count of **FQ023**=3
	Other reason(s)	Count of **FQ023**=96 If ≥1, sort, then count **FQ023o** *(see explanation above)*
Reason for data discrepancy in DTP3 (Penta3) in children under one (3 months)	Data entry errors	Count of **FQ031**=1
	Arithmetic errors	Count of **FQ031**=2
	Information from all source documents not compiled correctly	Count of **FQ031**=3
	Other reason(s)	Count of **FQ031**=96 If ≥1, sort, then count **FQ031o** *(see explanation above)*
Reason for data discrepancy in clients currently on ART (3 months)	Data entry errors	Count of **FQ039**=1
	Arithmetic errors	Count of **FQ039**=2
	Information from all source documents not compiled correctly	Count of **FQ039**=3
	Other reason(s)	Count of **FQ039**=96 If ≥1, sort, then count **FQ039o** *(see explanation above)*
Reason for data discrepancy in TB cases notified (all types) (1 quarter)	Data entry errors	Count of **FQ050**=1
	Arithmetic errors	Count of **FQ050**=2
	Information from all source documents not compiled correctly	Count of **FQ050**=3
	Other reason(s)	Count of **FQ050**=96 If ≥1, sort, then count **FQ050o** *(see explanation above)*
Reason for data discrepancy in confirmed malaria cases treated (3 months)	Data entry errors	Count of **FQ059**=1
	Arithmetic errors	Count of **FQ059**=2
	Information from all source documents not compiled correctly	Count of **FQ059**=3
	Other reason(s)	Count of **FQ059**=96 If ≥1, sort, then count **FQ059o** *(see explanation above)*

II. RHIS PERFORMANCE: USE OF INFORMATION INDICATORS

A.   Use of Data to Produce Narrative Analytical Reports

Indicator: Percentage of districts or facilities producing analytical reports

$$\% = 100 \ x \ \frac{\text{Total \# of districts or facilities producing analytical reports}}{\text{Total \# of districts or facilities assessed}}$$

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)		
Indicator	Numerator	Denominator
District office produces any report or bulletin based on an analysis of RHIS data	Sum of **DU006**=1	Number of districts assessed

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)		
Indicator	Numerator	Denominator
Health facility produces any report or bulletin based on an analysis of RHIS data	Sum of **FU006**=1	Number of facilities assessed

B. Use of Information for Performance Review

Indicators:

- **Average score on the use of routine data for RHIS quality improvement, performance review, and evidence-based decision making**

$$\% = 100 \text{ x } \frac{\text{Sum of each district or facility's score}}{\text{Total \# of districts or facilities assessed x 5}}$$

This indicator is composed of multiple questions.

If the respondent answers anything other than the answer equated with code "1" on any of the questions included in the numerator calculation, the answer is not counted in the numerator.

See the explanations below for calculating response scores for questions DU016d, DU017, FU016d, and FU017.

The maximum score that can be attained (which appears in the denominator) is 5, equivalent to 5 "yes" answers.

We consider the sum of DU016d=1 to be the number of respondents who answered "yes" to any—but at least 1— of the 7 subquestions under DU016d. The same weight is attributed to a respondent who answered "yes" to 1 or 7 of the subquestions.

We consider the sum of DU017=1 to be the number of respondents who answered "yes" to any—but at least 1— of the 11 subquestions under DU017. The same weight is attributed to a respondent who answered "yes" to 1 or 11 of the subquestions.

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)		
Indicator	Numerator	Denominator
Use of routine data for RHIS quality improvement, performance review, and evidence-based decision making	Sum of **DU016a**=1 + Sum of **DU016b**=1 + Sum of **DU016c**=1 + Sum of **DU016d**=1 + Sum of **DU017**=1	5 x number of districts assessed

We consider the sum of FU016d=1 to be the number of respondents who answered "yes" to any – but at least 1 – of the 7 subquestions under FU016d. The same weight is attributed to a respondent who answered "yes" to 1 or 7 of the subquestions.

We consider the sum of FU017=1 to be the number of respondents who answered "yes" to any—but at least 1—of the 9 subquestions under FU017. The same weight is attributed to a respondent who answered "yes" to 1 or 9 of the subquestions.

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)		
Indicator	Numerator	Denominator
Use of routine data for RHIS quality improvement, performance review, and evidence-based decision making	Sum of **FU016a**=1 + Sum of **FU016b**=1 + Sum of **FU016c**=1 + Sum of **FU016d**=1 + Sum of **FU017**=1	5 x number of facilities assessed

- **Average score on the use of routine data for RHIS quality improvement, performance review, and evidence-based decision making (among districts and facilities maintaining performance monitoring/management meeting minutes for the three review months)**

$$\% = 100 \text{ x } \frac{\text{Sum of each district or facility's score}}{\text{Total \# of districts or facilities maintaining performance management meeting minutes x 5}}$$

See instructions above.

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)		
Indicator	Numerator	Denominator
Use of routine data for RHIS quality improvement, performance review, and evidence-based decision making	Sum of **DU016a**=1 + Sum of **DU016b**=1 + Sum of **DU016c**=1 + Sum of **DU016d**=1 + Sum of **DU017**=1	5 x sum of **DU015**=1

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)		
Indicator	Numerator	Denominator
Use of routine data for RHIS quality improvement, performance review, and evidence-based decision making	Sum of **FU016a**=1 + Sum of **FU016b**=1 + Sum of **FU016c**=1 + Sum of **FU016d**=1 + Sum of **FU017**=1	5 x sum of **FU015**=1

- **Individual scores for indicators related to the use of RHIS data for quality improvement, evidence-based decision making, and follow-up actions**

$$\% = 100 \text{ x } \frac{\text{Total \# of districts or facilities using RHIS data in discussions, decisions, and actions}}{\text{Total \# of districts or facilities assessed}}$$

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)		
Indicator	Numerator	Denominator
Discussions were held on RHIS management, such as data quality, completeness, or timeliness of reporting	Sum of **DU016a**=1	Number of districts assessed
Decisions were made based on the discussions of RHIS-related issues (including no interventions required at this time)	Sum of **DU016b**=1	
Follow-up action was taken on the decisions made during the previous meetings on RHIS-related issues (e.g., referring RHIS-related issues/problems for solution to the higher level)	Sum of **DU016c**=1	

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)		
Indicator	Numerator	Denominator
Discussions were held on RHIS management, such as data quality, completeness, or timeliness of reporting	Sum of **FU016a**=1	Number of facilities assessed
Decisions were made based on the discussions of RHIS-related issues (including no interventions required at this time)	Sum of **FU016b**=1	
Follow-up action was taken on the decisions made during the previous meetings on RHIS-related issues (e.g., referring RHIS-related issues/problems for solution to the higher level)	Sum of **FU016c**=1	

- **Individual scores for indicators related to the use of RHIS data for performance review and evidence-based decision making**

$$\% = 100 \text{ x } \frac{\text{Total \# of districts or facilities using RHIS data in performance review discussions and decisions}}{\text{Total \# of districts or facilities assessed}}$$

These indicators can be calculated using two options, depending on the interests of assessors.

Option 1 – District level:

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)		
Indicator	Numerator	Denominator
Discussions were held to review key performance targets (tracking progress against targets) based on **any one of the following**: • Coverage of service like ANC, delivery, EPI, or TB • Hospital/health center performance indicators • Disease data (e.g., top ten diseases) • Identification of emerging issues/epidemics • Medicine stockouts • Human resource (HR) management • Sex-disaggregated data	Sum of **DU016d_1**=1 OR Sum of **DU016d_2**=1 OR Sum of **DU016d_3**=1 OR Sum of **DU016d_4**=1 OR Sum of **DU016d_5**=1 OR Sum of **DU016d_6**=1 OR Sum of **DU016d_7**=1	Number of districts assessed
Decisions were made based on the discussion of the district and/or health facility's performance regarding **any one of the following**: • Formulation of plans • Budget preparation • Budget reallocation • Medicine supply and drug management • HR management (training, reallocation, etc.) • Advocacy for policy, programmatic, or strategic decisions from the higher level • Health services (preventive, promotive, clinical, rehabilitative) planning • Promotion of service quality/improvement • Reducing the gender gap in the provision of health services • Involvement of the community and local government • No action required at this time	Sum of **DU017_1**=1 OR Sum of **DU017_2**=1 OR Sum of **DU017_3**=1 OR Sum of **DU017_4**=1 OR Sum of **DU017_5**=1 OR Sum of **DU017_6**=1 OR Sum of **DU017_7**=1 OR Sum of **DU017_8**=1 OR Sum of **DU017_9**=1 OR Sum of **DU017_10**=1 OR Sum of **DU017_11**=1	

Option 2 – District level:

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)			
Indicator	Topic	Numerator	Denominator
Discussions were held to review key performance targets (tracking progress against targets) based on:	Coverage of service like ANC, delivery, EPI, or TB	Sum of **DU016d_1**=1	Number of districts assessed
	Hospital/health center performance indicators	Sum of **DU016d_2**=1	
	Disease data (e.g., top ten diseases)	Sum of **DU016d_3**=1	
	Identification of emerging issues/epidemics	Sum of **DU016d_4**=1	
	Medicine stockouts	Sum of **DU016d_5**=1	
	Human resource (HR) management	Sum of **DU016d_6**=1	
	Sex-disaggregated data	Sum of **DU016d_7**=1	
Decisions were made based on the discussion of the district and/or health facility's performance regarding:	Formulation of plans	Sum of **DU017_1**=1	
	Budget preparation	Sum of **DU017_2**=1	
	Budget reallocation	Sum of **DU017_3**=1	
	Medicine supply and drug management	Sum of **DU017_4**=1	
	HR management (training, reallocation, etc.)	Sum of **DU017_5**=1	
	Advocacy for policy, programmatic, or strategic decisions from the higher level	Sum of **DU017_6**=1	
	Health services (preventive, promotive, clinical, rehabilitative) planning	Sum of **DU017_7**=1	
	Promotion of service quality/improvement	Sum of **DU017_8**=1	
	Reducing the gender gap in the provision of health services	Sum of **DU017_9**=1	
	Involvement of the community and local government	Sum of **DU017_10**=1	
	No action required at this time	Sum of **DU017_11**=1	

Option 1 – Health facility level:

Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)		
Indicator	Numerator	Denominator
Discussions were held to review key performance targets (tracking progress against targets) based on **any one of the following**: • Coverage of service like ANC, delivery, EPI, or TB • Hospital/health center performance indicators • Disease data (e.g., top ten diseases) • Identification of emerging issues/epidemics • Commodity stockout • HR management • Sex-disaggregated data	Sum of **FU016d_1**=1 OR Sum of **FU016d_2**=1 OR Sum of **FU016d_3**=1 OR Sum of **FU016d_4**=1 OR Sum of **FU016d_5**=1 OR Sum of **FU016d_6**=1 OR Sum of **FU016d_7**=1 OR	Number of facilities assessed
Decisions were made based on the discussion of the health facility's performance **regarding any one of the following**: • Formulation of plans • Budget preparation • Budget reallocation • Medicine supply and drug management • HR management (training, reallocation, etc.) • Advocacy for policy, programmatic, or strategic decisions from the higher level • Promotion of service quality/improvement • Reducing the gender gap in the provision of health services • No action required at this time	Sum of **FU017_1**=1 OR Sum of **FU017_2**=1 OR Sum of **FU017_3**=1 OR Sum of **FU017_4**=1 OR Sum of **FU017_5**=1 OR Sum of **FU017_6**=1 OR Sum of **FU017_7**=1 OR Sum of **FU017_8**=1 OR Sum of **FU017_9**=1 OR	

Option 2 – Health facility level:

Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)			
Indicator	Topic	Numerator	Denominator
Discussions were held to review key performance targets (tracking progress against targets) based	Coverage of service like ANC, delivery, EPI, or TB	Sum of **FU016d_1**=1	Number of facilities assessed
	Hospital/health center performance indicators	Sum of **FU016d_2**=1	
	Disease data (e.g., top ten diseases)	Sum of **FU016d_3**=1	
	Identification of emerging issues/epidemics	Sum of **FU016d_4**=1	
	Commodity stockout	Sum of **FU016d_5**=1	

Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)			
Indicator	Topic	Numerator	Denominator
on:	HR management	Sum of **FU016d_6**=1	
	Sex-disaggregated data	Sum of **FU016d_7**=1	
Decisions were made based on the discussion of the health facility's performance regarding:	Formulation of plans	Sum of **FU017_1**=1	
	Budget preparation	Sum of **FU017_2**=1	
	Budget reallocation	Sum of **FU017_3**=1	
	Medicine supply and drug management	Sum of **FU017_4**=1	
	HR management (training, reallocation, etc.)	Sum of **FU017_5**=1	
	Advocacy for policy, programmatic, or strategic decisions from the higher level	Sum of **FU017_6**=1	
	Promotion of service quality/improvement	Sum of **FU017_7**=1	
	Reducing the gender gap in the provision of health services	Sum of **FU017_8**=1	
	No action required at this time	Sum of **FU017_9**=1	

- **Type of issues covered in annual plans demonstrating RHIS data use**

$$\% = 100 \text{ x} \frac{\text{Activities or targets are contained in the current year annual plan related to improving issues}}{\text{Total \# of districts or facilities that have an annual plan for the current year}}$$

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)			
Indicator		Numerator	Denominator
Annual plan contains activities and/or targets related to improving or addressing:	Service coverage	Sum of **DU022_1**=1	Sum of **DU020**=1
	Health facility performance	Sum of **DU022_2**=1	
	Diseases	Sum of **DU022_3**=1	
	Emerging issues/epidemics	Sum of **DU022_4**=1	
	Medicine stockouts	Sum of **DU022_5**=1	
	HR management	Sum of **DU022_6**=1	
	Gender disparity in health services coverage	Sum of **DU022_7**=1	

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)		
Indicator		Numerator	Denominator
Annual plan contains activities and/or targets related to improving or addressing:	Service coverage	Sum of **FU021_1**=1	Sum of **FU019**=1
	Health facility performance	Sum of **FU021_2**=1	
	Diseases	Sum of **FU021_3**=1	
	Emerging issues/epidemics	Sum of **FU021_4**=1	
	Commodity stockouts	Sum of **FU021_5**=1	
	HR management	Sum of **FU021_6**=1	
	Gender disparity in health services coverage	Sum of **FU021_7**=1	

C. Data Dissemination outside the Health Sector

Indicators:

- **Percentage of districts or facilities disseminating RHIS information to stakeholders outside the health sector**

$$\% = 100 \text{ x } \frac{\text{Total \# of districts or facilities with health indicator performance reports}}{\text{Total \# of districts or facilities assessed}}$$

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)		
Indicator	Numerator	Denominator
District has to submit/present health sector performance reports to a district council/district administration	Sum of **DU023**=1	Number of districts assessed

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)		
Indicator	Numerator	Denominator
Health facility has to submit/present performance reports to a council of public representatives/civil administration	Sum of **FU028**=1	Number of facilities assessed

- **Percentage of districts or facilities with health indicator performance reports sharing RHIS data with the larger public**

$$\% = 100 \text{ x} \frac{\text{Total \# of districts or facilities with data shared or used}}{\text{Total \# of districts or facilities with health indicator performance reports}}$$

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)		
Indicator	Numerator	Denominator
Reports/presentations use data from the RHIS to assess the health sector's progress	Sum of **DU025**=1	Sum of **DU023**=1
Website is updated at least annually for accessing the district's RHIS data by the general public	Sum of **DU026**=1	
District performance data are shared with the general public via bulletin boards, chalkboards, and/or local publications	Sum of **DU027**=1	

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)		
Indicator	Numerator	Denominator
Reports/presentations use data from the RHIS to assess the health sector's progress	Sum of **FU030**=1	Sum of **FU028**=1
Website is updated at least annually for accessing the health facility's RHIS data by the general public	Sum of **FU031**=1	
Health facility performance data are shared with the general public via bulletin boards, chalkboards, and/or local publications	Sum of **FU032**=1	

III. RHIS PERFORMANCE: DATA MANAGEMENT INDICATORS

A.   Data Quality Assurance System in Place

Indicators:

- **Average score on data quality control**

> This indicator is composed of multiple questions.
>
> If the respondent answers anything other than the answer equated with code "1" on any of the questions included in the numerator calculation, their answer is not counted in the numerator.
>
> The maximum score that can be attained (which appears in the denominator) is 8 (equivalent to 8 "yes" answers) at the district level, and 7 (equivalent to 7 "yes" answers) at the health facility level.

$$\% = 100 \text{ x } \frac{\text{Sum of the district's data quality control score}}{\text{Total \# of districts assessed x 8}}$$

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)		
Indicator	Numerator	Denominator
District data quality score	Sum of **DQ011**=1 + Sum of **DQ12b**=1 + Sum of **DQ013b**=1 + Sum of **DQ029**=1 + Sum of **DQ030**=1 + Sum of **DQ031**=1 + Sum of **DQ032**=1 + Sum of **DQ033**=1	8 x number of districts assessed

$$\% = 100 \text{ x } \frac{\text{Sum of the facility's data quality control score}}{\text{Total \# of facilities assessed x 7}}$$

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)		
Indicator	Numerator	Denominator
Facility data quality score	Sum of **FQ012**=1 + Sum of **FQ013b**=1 + Sum of **FQ063**=1 + Sum of **FQ064**=1 + Sum of **FQ065**=1 + Sum of **FQ066**=1 + Sum of **FQ067**=1	7 x number of facilities assessed

- **Individual scores for indicators related to high quality control standards in place**

$$\% = 100 \text{ x } \frac{\text{Total \# of districts or facilities with high data quality control standards}}{\text{Total \# of districts or facilities assessed}}$$

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)		
Indicator	Numerator	Denominator
District has a designated person to review the quality of compiled data prior to submission to the next level	Sum of **DQ011**=1	Number of districts assessed
District has written guidelines for data review and quality control	Sum of **DQ12b**=1	
Designated staff are trained on data review and quality control	Sum of **DQ013b**=1	
District has written guidelines on routine health data quality assessment/assurance	Sum of **DQ029**=1	
District conducts data quality assessments at health facilities	Sum of **DQ030**=1	
District uses data quality assessment tools (e.g., lot quality assurance sampling [LQAS], routine data quality assessment [RDQA], in-built electronic data quality validation rules/system)?	Sum of **DQ031**=1	
District maintains a record of health facility data quality assessments conducted in the past 12 months	Sum of **DQ032**=1	
District maintains a record of feedback to health facilities on data quality assessment findings	Sum of **DQ033**=1	

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)		
Indicator	Numerator	Denominator
Facility has designated person to review the quality of compiled data prior to submission to the next level	Sum of **FQ012**=1	Number of facilities assessed
Staff trained in data quality review or data quality check	Sum of **FQ013b**=1	
Facility has written instructions/guidelines on how to perform a data quality review or data quality check	Sum of **FQ063**=1	
Facility conducts regular data accuracy checks (data quality self-assessment)	Sum of **FQ064**=1	
Facility has access to data quality self-assessment tools (paper or electronic)	Sum of **FQ065**=1	
Facility maintains a record of health facility data accuracy self-assessments conducted in the past three months	Sum of **FQ066**=1	
Facility maintains records of feedback to staff on data quality self-assessment findings	Sum of **FQ067**=1	

B.   Evidence of Data Analysis Taking Place

Indicators:

- **Average score for level of data analysis practice**

$$\% = 100 \text{ x } \frac{\text{Sum of district's score for carrying out data analysis}}{\text{Total \# of districts assessed x 8}}$$

> This indicator is composed of multiple questions.
>
> If the respondent answers anything other than the answer equated with code "1" on any of the questions included in the numerator calculation, their answer is not counted in the numerator.
>
> The maximum score that can be attained (which appears in the denominator) for the district-level assessment is 8, equivalent to 8 "yes" answers.
>
> Likewise, the maximum score that can be attained for the health facility-level assessment is 7, equivalent to 7 "yes" answers.

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)		
Indicator	Numerator	Denominator
District data analysis score	Sum of **DQ036a** =1 + Sum of **DQ036b**=1 + Sum of **DQ036c** =1 + Sum of **DQ036d** =1 + Sum of **DQ036e** =1 + Sum of **DQ036f** =1 + Sum of **DQ036g** =1 + Sum of **DQ036h** =1	8 x number of districts assessed

$$\% = 100 \text{ x } \frac{\text{Sum of facility's score for carrying out data analysis}}{\text{Total \# of facilities assessed x 7}}$$

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)		
Indicator	Numerator	Denominator
Facility data analysis score	Sum of **FQ070a** =1 + Sum of **FQ070b**=1 + Sum of **FQ070c** =1 + Sum of **FQ070d** =1 + Sum of **FQ070e**=1 + Sum of **FQ070f** =1 + Sum of **FQ070g** =1	7 x number of facilities assessed

- **Individual scores for indicators related to data analysis practice**

$$\% = 100 \text{ x } \frac{\text{Total \# of districts or facilities with up-to-date data (written or displayed)}}{\text{Total \# of districts or facilities assessed}}$$

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)		Numerator	Denominator
Indicator		Numerator	Denominator
Relevant staff in the district office show up-to-date (i.e., not more than one year old) reports, documents, and/or displays that contain the following information:	Aggregated/summary RHIS report within the past three months	Sum of **DQ036a** =1	Number of districts assessed
	Demographic data on the catchment population of the district for calculating coverages	Sum of **DQ036b** =1	
	Indicators calculated for each facility catchment area in the district within the past three months	Sum of **DQ036c** =1	
	Comparisons among facilities in the district	Sum of **DQ036d** =1	
	Comparisons with district/national targets	Sum of **DQ036e** =1	
	Comparisons of data over time (monitoring trends)	Sum of **DQ036f** =1	
	Comparisons of sex-disaggregated data	Sum of **DQ036g** =1	
	Comparisons of service coverage	Sum of **DQ036h** =1	

Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)		Numerator	Denominator
Indicator		Numerator	Denominator
Relevant staff in the health facility office show up-to-date (i.e., not more than one year old) reports, documents, and/or displays that contain the following information:	Aggregated/summary RHIS report within the past three months	Sum of **FQ070a** =1	Number of facilities assessed
	Demographic data on the catchment population of the health facility for calculating coverages	Sum of **FQ070b** =1	
	Indicators calculated for the facility catchment area within the past three months	Sum of **FQ070c** =1	
	Comparisons between health facility and district/national targets	Sum of **FQ070d** =1	
	Comparisons of data over time (monitoring trends)	Sum of **FQ070e** =1	
	Comparisons of sex-disaggregated data	Sum of **FQ070f** =1	
	Comparisons of service coverage	Sum of **FQ070g** =1	

C.   Data Visualization

Indicator: Percentage of districts or facilities that are using raw RHIS data to produce data visuals

$$\% = 100 \text{ x } \frac{\text{Total \# of districts or facilities that are using raw RHIS data to produce data visuals}}{\text{Total \# of districts or facilities assessed}}$$

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)		
Indicator	Numerator	Denominator
District office prepares data visuals showing achievements toward targets	Sum of **DU003**=1	Number of districts assessed

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)		
Indicator	Numerator	Denominator
Health facility prepares data visuals showing achievements toward targets	Sum of **FU003**=1	Number of facilities assessed

D.   Feedback Mechanism in Place

Indicators:

- **Percentage of districts providing written feedback to the lower level based on reported RHIS data**

$$\% = 100 \text{ x } \frac{\text{Total \# of districts providing written feedback to the lower level based on reported RHIS data}}{\text{Total \# of districts assessed}}$$

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)		
Indicator	Numerator	Denominator
District sent feedback reports using RHIS information to health facilities in the past three months	Sum of **DU009**=1	Number of districts assessed

- **Percentage of facilities confirming receipt of feedback on the reported RHIS data from the district or higher level**

$$\% = 100 \text{ x } \frac{\text{Total \# of facilities confirming receipt of feedback on the reported data from the district or higher level}}{\text{Total \# of facilities assessed}}$$

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)		
Indicator	Numerator	Denominator
Health facility received feedback reports from the district office/Ministry of Health (MOH) based on RHIS information in the past three months	Sum of **FU009**=1	Number of facilities assessed

IV. RHIS PERFORMANCE DETERMINANTS: TECHNICAL FACTORS

A.   Existing Information System Overlaps and Distinctions

Indicator: Linkage or overlap of existing RHIS

Data Source: Module 1. Overview Tool	
Indicator	Variable
Number of different names of reports generated by the community/health facility/district	Count of **S401**
Number of different recipients of reports generated by the community/health facility/district	Count of **S404**

B.   Standardization of RHIS Tools

Indicators:

- **Number and type of parallel reports that are produced at each level of the health system**

Data Source: Module 1. Overview Tool		
Indicator		Variable
Number of different names of reports generated by the community/health facility/district		Count of **S301**
Type of data reported	General outpatient department (OPD) services	Count of **S304_1**
	Inpatient services	Count of **S304_2**
	Immunization services	Count of **S304_3**
	Family planning (FP) services	Count of **S304_4**
	Maternal health services	Count of **S304_5**
	Child health services	Count of **S304_6**
	TB	Count of **S304_7**
	HIV/AIDS	Count of **S304_8**
	Malaria	Count of **S304_9**
	Other specific disease(s)	Count of **S304_10**
	Nutrition services	Count of **S304_11**
	Notifiable diseases/ integrated disease surveillance and response (IDSR)	Count of **S304_12**
	Financial information	Count of **S304_13**
	Medicine, vaccines, contraceptive stock/supply	Count of **S304_14**
	HR	Count of **S304_15**
	Equipment	Count of **S304_16**
	Capital assets	Count of **S304_17**
	Vital events	Count of **S304_18**
	Other (specify)	Count of **S304_96**

- **Number and type of report recipient**

Data Source: Module 1. Overview Tool		
Indicator		Variable
Primary organization that introduced the report (generated by the community/health facility/district)	MOH (standardized national health information system [HIS] tool)	Count of **S305_1**
	MOH (program specific – name)	Count of **S305_2**
	United Nations (UN) agency (name)	Count of **S305_3**
	Regional/state government	Count of **S305_4**
	Other partner/donor (name)	Count of **S305_5**
	Locally customized/developed	Count of **S305_6**
	Other (specify)	Count of **S305_96**
Primary organization that introduced the register/form (for paper-based data recording tools)	MOH (standardized national HIS tool)	Count of **S103_1**
	MOH (program specific – name)	Count of **S103_2**
	UN agency (name)	Count of **S103_3**
	Regional/state government	Count of **S103_4**
	Other partner/donor (name)	Count of **S103_5**
	Locally customized/developed	Count of **S103_6**
	Other (specify)	Count of **S103_96**
Primary organization that introduced the register/form (for electronic data recording tools)	MOH (standardized national HIS tool)	Count of **S203_1**
	MOH (program specific – name)	Count of **S203_2**
	UN agency (name)	Count of **S203_3**
	Regional/state government	Count of **S203_4**
	Other partner/donor (name)	Count of **S203_5**
	Locally customized/developed	Count of **S203_6**
	Other (specify)	Count of **S203_96**

C.   eRHIS Reporting Capability

Indicators:

- **eRHIS allows for tracking of reporting completeness and timeliness**

Data Source: Module 3. eRHIS Assessment Tool	
Indicator	Variable
RHIS software allows users to determine the number and percentage of monthly reports received out of the total number of expected reports	Count of **ESF010**=1
System allows users to analyze the trend in reporting completeness for a year by facility (System enables users to identify which health facility has recurring reporting problems)	Count of **ESF011**=1
System allows users to determine the number and percentage of reports that were received on time	Count of **ESF012**=1

- **eRHIS generates a summary report by administrative level**

Data Source – Module 3: eRHIS Assessment Tool			
Indicator			Variable
RHIS software generates summary reports	Monthly	National	Count of **ESF013_1a**=1
		Regional	Count of **ESF013_2a**=1
		District	Count of **ESF013_3a**=1
		Health facility	Count of **ESF013_4a**=1
		Community-level service delivery point (SDP)	Count of **ESF013_5a**=1
	Quarterly	National	Count of **ESF013_1b**=1
		Regional	Count of **ESF013_2b**=1
		District	Count of **ESF013_3b**=1
		Health facility	Count of **ESF013_4b**=1
		Community-level SDP	Count of **ESF013_5b**=1
	Annually	National	Count of **ESF013_1c**=1
		Regional	Count of **ESF013_2c**=1
		District	Count of **ESF013_3c**=1
		Health facility	Count of **ESF013_4c**=1
		Community-level SDP	Count of **ESF013_5c**=1
	Customized reporting period	National	Count of **ESF013_1d**=1
		Regional	Count of **ESF013_2d**=1
		District	Count of **ESF013_3d**=1

Data Source – Module 3: eRHIS Assessment Tool		
Indicator		Variable
	Health facility	Count of **ESF013_4d**=1
	Community-level SDP	Count of **ESF013_5d**=1

D.　Population Estimates and Coverage

Indicator: eRHIS enables the calculation of service coverage by administrative level

Data Source: Module 3. eRHIS Assessment Tool		
Indicator		Variable
Level at which the RHIS software has population estimates to calculate coverage	Region	Count of **ESF016_1**=1
	District	Count of **ESF016_2**=1
	Health facility	Count of **ESF016_3**=1
	Community-level SDP	Count of **ESF016_4**=1

E.　System Captures Age and Sex-Disaggregated Data

Indicators:

- **eRHIS captures data disaggregated by age**

Data Source: Module 3. eRHIS Assessment Tool	
Indicator	Variable
RHIS software captures data disaggregated by age	Count of **ESF024**=1

- **eRHIS captures data disaggregated by sex**

Data Source: Module 3. eRHIS Assessment Tool	
Indicator	Variable
RHIS software captures data disaggregated by sex	Count of **ESF025**=1

F.   Data Integration and Interoperability

Indicators:

- **Interoperability of eRHIS with other disease or program-specific parallel systems**

Data Source: Module 3. eRHIS Assessment Tool	
Indicator	Variable
RHIS software interoperates with all parallel disease or program-specific software applications in use	Count of **ESF019**=1

- **Integration or interoperability of eRHIS with other program-specific/parallel electronic information systems**

Data Source: Module 3. eRHIS Assessment Tool	
Indicator	Variable
RHIS software has HR information or integrates with a human resources information system (HRIS)	Count of **ESF020**=1
RHIS software has or integrates with logistics information	Count of **ESF021**=1
RHIS software has financial information	Count of **ESF022**=1
RHIS software has or integrates with the integrated disease surveillance and response (IDSR)/notifiable diseases	Count of **ESF023**=1

G.   Unique Identifiers and Master Facility List

Indicators:

- **Availability of unique facility and district identifiers**

Data Source: Module 3. eRHIS Assessment Tool	
Indicator	Variable
RHIS software uses unique identifiers for districts and regions	Count of **ESF029**=1

- **eRHIS uses a master facility list (MFL) with geographic coordinates**

Data Source: Module 3. eRHIS Assessment Tool		
Indicator		Variable
Health facilities that have geographic coordinates attached to them	None	Count of **ESF028**=1
	1%–25% of facilities	Count of **ESF028**=2
	26%–50% of facilities	Count of **ESF028**=3
	51%–75% of facilities	Count of **ESF028**=4
	76%–100% of facilities	Count of **ESF028**=5

- **Use of unique facility and district identifiers by other programs**

Data Source: Module 3. eRHIS Assessment Tool	
Indicator	Variable
Framework or agreement in place such that those unique identifier lists are available for general use by other programs	Count of **ESF030**=1

H.   Data Analysis

Indicator: Capability of the eRHIS to generate the top causes of morbidity and mortality by administrative levels

Data Source: Module 3. eRHIS Assessment Tool	
Indicator	Variable
RHIS software generates the major causes of institution-based (inpatient, emergency) mortality	Count of **ESF036**=1
RHIS software generates the major morbidity diagnoses for inpatient and outpatient services	Count of **ESF037**=1

I.   Data Visualization

Indicators:

- **eRHIS software allows users to present data in graphs, charts, and tables**

Data Source: Module 3. eRHIS Assessment Tool		
Indicator		Variable
RHIS software generates tabular data arranged in listing format	Indicator 1	Count of **ESF032_1**=1
	Indicator 2	Count of **ESF032_2**=1
	Indicator 3	Count of **ESF032_3**=1
RHIS software allows users to present data in time trend graphs	Indicator 1	Count of **ESF033_1**=1
	Indicator 2	Count of **ESF033_2**=1
	Indicator 3	Count of **ESF033_3**=1
RHIS software allows users to visualize data using graphs for comparing facilities/districts/regions	Indicator 1	Count of **ESF034_1**=1
	Indicator 2	Count of **ESF034_2**=1
	Indicator 3	Count of **ESF034_3**=1

- **eRHIS software allows users to visualize data using thematic maps**

Data Source: Module 3. eRHIS Assessment Tool		
Indicator		Variable
RHIS software allows users to visualize data using thematic maps	By region	Count of **ESF035_1**=1
	By district	Count of **ESF035_2**=1
	By facility	Count of **ESF035_3**=1
	By community-level SDP	Count of **ESF035_4**=1

J. RHIS Reporting Capability

Indicators:

- **Percentage of staff able to track report completeness using the eRHIS**

$$\% = 100 \text{ x } \frac{\text{Total \# of staff able to track report completeness using the RHIS}}{\text{Total \# of districts or facilities assessed}}$$

Data Source: Module 3. eRHIS Assessment Tool		
Indicator	Numerator	Denominator
User can carry out the following function: RHIS software produces a report on the number and percentage of reports received out of the total number of expected reports	Sum of **ESU010**=1	Number of districts or facilities assessed

- **Percentage of staff demonstrating capacity to generate summary reports using the eRHIS**

$$\% = 100 \text{ x } \frac{\text{Total \# of staff demonstrating capacity to generate summary reports using the eRHIS}}{\text{Total \# of districts or facilities assessed}}$$

Data Source: Module 3. eRHIS Assessment Tool				
Indicator			Numerator	Denominator
User can carry out the following function: RHIS software generates summary reports for the aggregate levels and time periods	National/regional summary	For a month	Sum of **ESU011a_1**=1	Number of districts or facilities assessed
		For a quarter	Sum of **ESU011a_2**=1	
		For the year	Sum of **ESU011a_3**=1	
	District summary	For a month	Sum of **ESU011b_1**=1	
		For a quarter	Sum of **ESU011b_2**=1	
		For the year	Sum of **ESU011b_3**=1	
	Health facility summary	For a month	Sum of **ESU011c_1**=1	
		For a quarter	Sum of **ESU011c_2**=1	
		For the year	Sum of **ESU011c_3**=1	
	Community-level SDP summary	For a month	Sum of **ESU011d_1**=1	
		For a quarter	Sum of **ESU011d_2**=1	
		For the year	Sum of **ESU011d_3**=1	

K.   Ability to Calculate Coverage Indicators

Indicator: Percentage of staff able to calculate coverage indicators using the eRHIS

$$\% = 100 \text{ x } \frac{\text{Total \# of staff able to calculate coverage indicators using the eRHIS}}{\text{Total \# of districts or facilities assessed}}$$

Data Source: Module 3. eRHIS Assessment Tool				
Indicator			Numerator	Denominator
User can calculate coverage for	Indicator 1	National	Sum of **ESU012_1a**=1	Number of districts or facilities assessed
		Region	Sum of **ESU012_1b**=1	
		District	Sum of **ESU012_1c**=1	
		Health facility	Sum of **ESU012_1d**=1	
		Community-level SDP	Sum of **ESU012_1e**=1	
	Indicator 2	National	Sum of **ESU012_2a**=1	
		Region	Sum of **ESU012_2b**=1	
		District	Sum of **ESU012_2c**=1	
		Health facility	Sum of **ESU012_2d**=1	
		Community-level SDP	Sum of **ESU012_2e**=1	
	Indicator 3	National	Sum of **ESU012_3a**=1	
		Region	Sum of **ESU012_3b**=1	
		District	Sum of **ESU012_3c**=1	
		Health facility	Sum of **ESU012_3d**=1	
		Community-level SDP	Sum of **ESU012_3e**=1	

L.   Data Analysis

Indicator: Percentage of staff demonstrating the use of data analysis features of the eRHIS

$$\% = 100 \text{ x } \frac{\text{Total \# of staff demonstrating the use of data analysis features of the eRHIS}}{\text{Total \# of districts or facilities assessed}}$$

Data Source: Module 3. eRHIS Assessment Tool		
Indicator	Numerator	Denominator
User can generate major causes of institution-based (inpatient, emergency) mortality	Sum of **ESU015**=1	Number of districts or facilities assessed
User can generate major morbidity diagnoses for inpatient and outpatient services	Sum of **ESU016**=1	

M.   Data Visualization

Indicator: Percentage of staff able to use the data visualization features of the eRHIS to analyze and present data in graphs and maps

$$\% = 100 \text{ x } \frac{\text{Total \# of staff able to use the data visualization features to analyze and present data}}{\text{Total \# of districts or facilities assessed}}$$

Data Source: Module 3. eRHIS Assessment Tool				
Indicator			Numerator	Denominator
User can generate	Indicator 1	Time trend graphs	Sum of **ESU014_1a**=1	Number of districts or facilities assessed
		Bar graphs for comparing facilities, districts, or regions	Sum of **ESU014_1b**=1	
		Thematic maps, by region, district, or health facility	Sum of **ESU014_1c**=1	
	Indicator 2	Time trend graphs	Sum of **ESU014_2a**=1	
		Bar graphs for comparing facilities, districts, or regions	Sum of **ESU014_2b**=1	
		Thematic maps, by region, district, or health facility	Sum of **ESU014_2c**=1	

V. RHIS PERFORMANCE DETERMINANTS: ORGANIZATIONAL FACTORS

A. RHIS Governance

Indicators:

- **Percentage of regions or districts with good RHIS governance structures in place**

$$\% = 100 \text{ x } \frac{\text{Total \# of regions or districts with good RHIS governance structures in place}}{\text{Total \# of regions or districts assessed}}$$

Data Source: Module 4. Management Assessment Tool (MAT)		
Indicator	Numerator	Denominator
Office has written document describing the RHIS mission, roles, and responsibilities that are related to strategic and policy decisions at the district and higher levels	Sum of **MAT005**=1	Number of regions or districts assessed
Office has current health service organizational and staff chart showing positions related to health information	Sum of **MAT006**=1	
Office has an overall framework and plan for information and communication technology (ICT), for example describing the required equipment and plans for training in the use of ICT for RHIS	Sum of **MAT008**=1	
Office maintains a list/documentation of the dissemination of the RHIS monthly/quarterly reports to the various health program staff in the district, the community, local administration, nongovernmental organizations (NGOs), etc.	Sum of **MAT009**=1	

- **Percentage of regions, districts, or facilities with RHIS data management guidelines**

$$\% = 100 \text{ x } \frac{\text{Total \# of regions or districts with RHIS data management guidelines}}{\text{Total \# of regions or districts assessed}}$$

Data Source: Module 4. MAT			
Indicator		Numerator	Denominator
Office has written standard operating procedures (SOPs) and procedural guidelines for the RHIS that include data definitions; data collection and reporting; data aggregation, processing, and transmission; data analysis, dissemination, and use; data quality assurance; MFL; International Classification of Disease (ICD) codes; data security; data storage; and performance improvement processes	Fully	Sum of **MAT007a**=1	Number of regions or districts assessed
	Partially	Sum of **MAT007a**=2	

B. RHIS Planning

Indicator: Percentage of regions, districts, or facilities with copies of national HIS documents

$$\% = 100 \text{ x } \frac{\text{Total \# of regions or districts with copies of national HIS documents}}{\text{Total \# of regions or districts assessed}}$$

Data Source: Module 4. MAT		
Indicator	Numerator	Denominator
Office has a copy of the national HIS situation analysis/assessment report that is less than three years old	Sum of **MAT010**=1	Number of regions or districts assessed
Office has a copy of the national three- or five-year HIS strategic plan	Sum of **MAT011**=1	

C. Use of Quality Improvement Standards

Indicator: Percentage of regions or districts that have RHIS quality improvement standards

$$\% = 100 \text{ x } \frac{\text{Total \# of regions or districts that have RHIS quality improvement standards}}{\text{Total \# of regions or districts assessed}}$$

Data Source: Module 4. MAT		
Indicator	Numerator	Denominator
Office has set RHIS performance targets (data accuracy, completeness, timeliness) for their respective administrative area	Sum of **MAT012**=1	Number of regions or districts assessed

D.   Supervision Quality

Indicators:

- **Frequency of districts' supervision visits at facilities**

$$\% = 100 \text{ x } \frac{\text{Total \# of facilities receiving varying frequencies of supervision visits from the district}}{\text{Total \# of facilities assessed}}$$

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)			
Indicator		Numerator	Denominator
Frequency of the district supervisor's visit(s) to the health facility over the past three months, among the facilities that received supervision visit(s)	More than four times	Count of **FU022**=1	Number of facilities assessed
	Four times	Count of **FU022**=2	
	Three times	Count of **FU022**=3	
	Two times	Count of **FU022**=4	
	One time	Count of **FU022**=5	
Facility did not receive a supervision visit		Count of **FU022**=6	

- **Average score for quality of supervision**

$$\% = 100 \text{ x } \frac{\text{Sum of the facility's points}}{\text{Total \# of facilities supervised x 5}}$$

The method to calculate a facility's score is to add the number of points based on the respondent's answers. These points are your numerator. Numerator scores can range from 1 to 5 for each site.

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)		
Indicator	Points to add to numerator	Denominator
Overall quality of supervision	1 point if sum of **FU023**=1 + 1 point if sum of **FU024**=1 + 1 point if sum of **FU025**=1 + 1 point if sum of **FU026**=1 + 1 point if sum of **FU027**=1	5 x [Count of **FU022**=1 + Count of **FU022**=2 + Count of **FU022**=3 + Count of **FU022**=4 + Count of **FU022**=5]

- **Individual scores for indicators related to quality of supervision**

$$\% = 100 \text{ x } \frac{\text{Total \# of facilities adhering to supervision guidelines and processes}}{\text{Total \# of facilities supervised}}$$

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)		
Indicator	Numerator	Denominator
Supervisor checked the data quality	Count of **FU023**=1	Count of **FU022**=1 + Count of **FU022**=2 + Count of **FU022**=3 + Count of **FU022**=4 + Count of **FU022**=5
Supervisor used a checklist to assess the data quality	Count of **FU024**=1	
During the visit, the district supervisor discussed the health facility's performance based on the RHIS information	Count of **FU025**=1	
Supervisor helped the respondent to make a decision or to take corrective action based on the discussion	Count of **FU026**=1	
Supervisor sent a report/written feedback on the last supervisory visit(s)	Count of **FU027**=1	

- **Percentage of regions or districts with proper supervision documentation available**

$$\% = 100 \text{ x } \frac{\text{Total \# of regions or districts with documents related to supervision}}{\text{Total \# of regions or districts assessed}}$$

Data Source: Module 4. MAT		
Indicator	Numerator	Denominator
Office has copies of RHIS supervisory guidelines and checklists	Sum of **MAT018**=1	Number of regions or districts assessed
Office maintains a schedule for RHIS supervisory visits	Sum of **MAT019**=1	
Office has copies of the reports from RHIS supervisory visits conducted during the current fiscal year	Sum of **MAT020**=1	
Health facilities that received a supervisory visit have copies of the report from the latest supervisory visit in which commonly agreed action points are listed	Sum of **MAT021**=1	

E.   Financial Resources to Support RHIS Activities

Indicator: Percentage of regions or districts that allocated financial resources for RHIS activities

$$\% = 100 \text{ x } \frac{\text{Total \# of regions or districts that allocated financial resources for RHIS activities}}{\text{Total \# of regions or districts assessed}}$$

Data Source: Module 4. MAT		
Indicator	Numerator	Denominator
Office has a copy of the long-term financial plan for supporting RHIS activities	Sum of **MAT024**=1	Number of regions or districts assessed

F.   Infrastructure for RHIS Data Management

Indicator: Percentage of facilities with Internet connectivity

$$\% = 100 \text{ x } \frac{\text{Total \# of facilities or offices with Internet connectivity}}{\text{Total \# of facilities or offices assessed}}$$

Data Source: Module 5. Facility/Office Checklist		
Indicator	Numerator	Denominator
Access to an Internet network	Sum of **FOC025**=1	Number of facilities or offices assessed

G.   RHIS Supplies for Data Collection and Aggregation

Indicators:

- **Percentage of facilities or offices with an adequate supply of RHIS recording and reporting forms**

For any recording or reporting tool listed by the respondents (which should be recorded or entered as answers to **FOC031**), there will be a corresponding yes/no answer for:

- **FOC032**; if **FOC032**=1, then the tool listed under **FOC031** in the same row is available.

- **FOC033**; if **FOC033**=1, then the tool listed under **FOC031** in the same row is a standard RHIS tool available.

- **FOC034**; if **FOC034**=1, then the facility/office ran out, in the past six months, of the tool listed under **FOC031** in the same row.

Before starting a PRISM assessment, evaluators should identify and list the different source documents (registers, tally sheets, etc.) and reports (e.g., standard RHIS reporting forms) related to the selected indicators being assessed in the context of data accuracy, and which are expected to be encountered at the facility or office level. This list should be informed by the central level assessment, HMIS guidelines, tool pretest phase, etc. Evaluators should attribute each tool a code or "suffix" when programming them into SurveyCTO/Open Data Kit (ODK). For example, the family planning register could be attributed the suffix "a", and the ANC register the suffix "b" (and so on…), so that each indicator providing information related to that tool is using the same code (i.e., FOC032_a relates to the FP register, FOC033_b to the ANC register, etc.).

$$\% = 100 \text{ x } \frac{\text{Total \# of facilities or offices with specific tools available}}{\text{Total \# of facilities or offices assessed}}$$

Data Source: Module 5. Facility/Office Checklist		
Indicator	Numerator	Denominator
Availability of the listed type of record, tally sheet, or report	Count of **FOC032**=1*	Number of facilities or offices assessed
Stock-out of at least one of the records, tally sheets, or reports	Count of **FOC034**=1*	
* There will be a specific suffix associated with each listed tool. Repeat this procedure for every subsequent tool listed in **FOC031**, one tool at a time, for the row corresponding to that entry under **FOC032** and **FOC034**. Each tool will have its own suffix.		

$$\% = 100 \text{ x} \frac{\text{Total \# of standard RHIS tools available at the facility or office}}{\text{Total \# of tools available at the facility or office}}$$

Data Source: Module 5. Facility/Office Checklist		
Indicator	Numerator	Denominator
Availability of different standard RHIS tools	Count of **FOC033**=1*	Count of **FOC032**=1*
* There will be a specific suffix associated with each listed tool. Repeat this procedure for every subsequent tool listed in **FOC031**, one tool at a time, for the row corresponding to that entry under **FOC033**. Each tool will have its own suffix.		

- **Percentage of facilities or offices that experienced stock-outs of recording and reporting tools by stock-out duration within the past six months**

> Before starting a PRISM assessment, evaluators should define three categories of length/duration of stockout for FOC035. Three codes are available (**FOC035**=1, **FOC035**=2, and **FOC035**=3) which are customizable according to the country context and expected lengths of stockouts. These codes can be associated with any three time periods appropriate to the assessment (e.g., 1–9 days, 10–19 days, 20+ days; or 1–20 days, 20–40 days, 40+ days, etc.). For the purposes of the example below, we are using the default duration as it is set in the PRISM Analysis Tool (PAT).

$$\% = 100 \text{ x} \frac{\text{Total \# of facilities or offices that experienced different lengths of stock-out durations}}{\text{Total \# of facilities or offices assessed that experienced a stock-out in the past six months}}$$

Data Source: Module 5. Facility/Office Checklist			
Indicator		Numerator	Denominator
Duration of stock-out of the records, tally sheets, or reports in the past six months	1–9 days*	Count of **FOC035**=1	Sum of **FOC034**=1
	10–19 days*	Count of **FOC035**=2	
	>20 days*	Count of **FOC035**=3	

H.   Availability of Staff to Compile and Analyze Data

Indicators:

- **Percentage of districts or facilities that have designated staff responsible for entering data/compiling reports**

$$\% = 100 \text{ x } \frac{\text{Total \# of districts or facilities with designated staff responsible for entering data/compiling reports}}{\text{Total \# of districts or facilities assessed}}$$

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)		
Indicator	Numerator	Denominator
District has a designated person responsible for entering data/compiling reports from health facilities	Sum of **DQ010**=1	Number of districts assessed

Data Source – Module 2b: RHIS Performance Diagnostic Tool (Health Facility Level)		
Indicator	Numerator	Denominator
A designated person enters data/compiles reports from the different units in the health facility	Sum of **FQ011**=1	Number of facilities assessed

- **Percentage of districts or facilities that have designated staff for internal data quality review**

$$\% = 100 \text{ x } \frac{\text{Total \# of districts or facilities that have designated staff for internal data quality review}}{\text{Total \# of districts or facilities assessed}}$$

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)			
Indicator		Numerator	Denominator
District has a designated person to review the quality of compiled data prior to submission to the next level	Yes	Count of **DQ011**=1	Number of districts assessed
	Partly	Count of **DQ011**=2	
	Not at all	Count of **DQ011**=3	

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)			
Indicator		Numerator	Denominator
A designated person reviews the quality of compiled data prior to submission to the next level	Yes	Count of **FQ012**=1	Number of facilities assessed
	Partly	Count of **FQ012**=2	
	Not at all	Count of **FQ012**=3	

- **Percentage of facilities or offices that have designated staff for data analysis and dissemination**

> The job titles corresponding to questions **FOC037**, **FOC038**, **FOC043**, **FOC044**, and **FOC045** presented below are subject to the in-country adaptation/customization of the job titles presented in questions **FOC036** (for the health facility level) and **FOC040** (for the district level) according to the country context. The number of possible options may also increase or decrease accordingly. The tables below present the 16 facility-level roles and 5 district-level roles as they appear in the standard PRISM Tools under **FOC036** and **FOC040**, respectively.

$$\% = 100 \text{ x } \frac{\text{Total \# of facilities or offices that have designated staff for data analysis and dissemination}}{\text{Total \# of facilities or offices assessed}}$$

Data Source: Module 5. Facility/Office Checklist			
Indicator		Numerator	Denominator
(**FOC037**) Who is responsible for filling out the registers at the facility? AND (**FOC038**) Who is responsible for preparing/completing the monthly health management information system (HMIS) reports?	Medical officer	Count of **FOC037**=1	Number of facilities or offices assessed
		Count of **FOC038**=1	
	Comprehensive nurse registered	Count of **FOC037**=2	
		Count of **FOC038**=2	
	Comprehensive nurse enrolled	Count of **FOC037**=3	
		Count of **FOC038**=3	
	Nursing assistant	Count of **FOC037**=4	
		Count of **FOC038**=4	
	Clinical officer	Count of **FOC037**=5	
		Count of **FOC038**=5	
	Laboratory assistant	Count of **FOC037**=6	
		Count of **FOC038**=6	
	Health assistant	Count of **FOC037**=7	
		Count of **FOC038**=7	

Data Source: Module 5. Facility/Office Checklist		
Indicator	Numerator	Denominator
Dispenser	Count of **FOC037**=8	
	Count of **FOC038**=8	
Health information assistant	Count of **FOC037**=9	
	Count of **FOC038**=9	
Health educator	Count of **FOC037**=10	
	Count of **FOC038**=10	
Health inspector	Count of **FOC037**=11	
	Count of **FOC038**=11	
Laboratory technician	Count of **FOC037**=12	
	Count of **FOC038**=12	
Public health dental assistant	Count of **FOC037**=13	
	Count of **FOC038**=13	
Anesthetic officer	Count of **FOC037**=14	
	Count of **FOC038**=14	
Midwife	Count of **FOC037**=15	
	Count of **FOC038**=15	
Support staff	Count of **FOC037**=16	
	Count of **FOC038**=16	
Other (specify)	Count of **FOC037**=96	
	Count of **FOC038**=96	

Data Source: Module 5. Facility/Office Checklist			
Indicator		Numerator	Denominator
Is someone responsible for filling out the registers at the facility?	Any designated staff	Count of **FOC037**=1 + Count of **FOC037**=2 + Count of **FOC037**=3 + Count of **FOC037**=4 + Count of **FOC037**=5 + Count of **FOC037**=6 + Count of **FOC037**=7 + Count of **FOC037**=8 + Count of **FOC037**=9 + Count of **FOC037**=10 + Count of **FOC037**=11 + Count of **FOC037**=12 + Count of **FOC037**=13 + Count of **FOC037**=14 + Count of **FOC037**=15 + Count of **FOC037**=16 + Count of **FOC037**=96	17 x number of facilities or offices assessed

Data Source: Module 5. Facility/Office Checklist		
Indicator	Numerator	Denominator
Is someone responsible for preparing/ completing the monthly HMIS reports?	Any designated staff	Count of **FOC038**=1 + Count of **FOC038**=2 + Count of **FOC038**=3 + Count of **FOC038**=4 + Count of **FOC038**=5 + Count of **FOC038**=6 + Count of **FOC038**=7 + Count of **FOC038**=8 + Count of **FOC038**=9 + Count of **FOC038**=10 + Count of **FOC038**=11 + Count of **FOC038**=12 + Count of **FOC038**=13 + Count of **FOC038**=14 + Count of **FOC038**=15 + Count of **FOC038**=16 + Count of **FOC038**=96	

Data Source: Module 5. Facility/Office Checklist			
Indicator		Numerator	Denominator
(**FOC043**) Who is responsible for data compilation of reports submitted that are coming from the lower levels? AND (**FOC044**) Who is responsible for checking the quality of reports submitted from the lower levels? AND (**FOC045**) Who is responsible for data analysis (producing comparison tables, graphs, dashboards)?	Head of district health office	Count of **FOC043**=1	Number of facilities or offices assessed
		Count of **FOC044**=1	
		Count of **FOC045**=1	
	Program officer	Count of **FOC043**=2	
		Count of **FOC044**=2	
		Count of **FOC045**=2	
	Disease surveillance officer	Count of **FOC043**=3	
		Count of **FOC044**=3	
		Count of **FOC045**=3	
	Monitoring and evaluation(M&E)/ HMIS officer	Count of **FOC043**=4	
		Count of **FOC044**=4	
		Count of **FOC045**=4	
	Data clerk	Count of **FOC043**=5	
		Count of **FOC044**=5	
		Count of **FOC045**=5	
	Other (specify)	Count of **FOC043**=96	
		Count of **FOC044**=96	
		Count of **FOC045**=96	

Data Source: Module 5. Facility/Office Checklist		
Indicator	Numerator	Denominator
Is someone responsible for data compilation of reports submitted that are coming from the lower levels?	Any designated staff	Count of **FOC043**=1 + Count of **FOC043**=2 + Count of **FOC043**=3 + Count of **FOC043**=4 + Count of **FOC043**=5 + Count of **FOC043**=96	6 x number of facilities or offices assessed
Is someone responsible for checking the quality of reports submitted from the lower levels?	Any designated staff	Count of **FOC044**=1 + Count of **FOC044**=2 + Count of **FOC044**=3 + Count of **FOC044**=4 + Count of **FOC044**=5 + Count of **FOC044**=96	
Is someone responsible for data analysis (producing comparison tables, graphs, dashboards)?	Any designated staff	Count of **FOC045**=1 + Count of **FOC045**=2 + Count of **FOC045**=3 + Count of **FOC045**=4 + Count of **FOC045**=5 + Count of **FOC045**=96	

Note: In the table above, the Numerator and Denominator columns appear visually swapped in the image; the "Any designated staff" cells sit between the Indicator and the count expressions, with the denominator "6 x number of facilities or offices assessed" at the right.

I.   RHIS Capacity Development

Indicators:

- **Percentage of regions, districts, or facilities with staff capacity development plan**

$$\% = 100 \text{ x } \frac{\text{Total \# of regions or districts with staff capacity development plan}}{\text{Total \# of regions or districts assessed}}$$

Data Source: Module 4. MAT		
Indicator	Numerator	Denominator
Office has a costed training and capacity development plan that has benchmarks, timelines, and mechanisms for on-the-job RHIS training, RHIS workshops, and orientation for new staff	Sum of **MAT016**=1	Number of regions or districts assessed

- **Percentage of facility staff who have received RHIS training (of those who are responsible for performing various RHIS tasks)**

$$\% = 100 \text{ x } \frac{\text{Total \# of facility staff who have received RHIS training}}{\text{Total \# of facility staff who are responsible for RHIS tasks } \textit{(one of two denominators possible)}}$$

Data Source: Module 5. Facility/Office Checklist			
Indicator		Numerator	Denominator
Job title of staff members who received any training in collecting, analyzing, displaying, reporting, and using health information during the last three years	Medical officer	Count of **FOC039_1**=1	Number of responses to **FOC037** *to calculate the percentage among those responsible for filling out the registers at the facility* OR Number of responses to **FOC038** **to calculate the percentage among those responsible for preparing/completing the monthly HMIS reports*
	Comprehensive nurse registered	Count of **FOC039_1**=2	
	Comprehensive nurse enrolled	Count of **FOC039_1**=3	
	Nursing assistant	Count of **FOC039_1**=4	
	Clinical officer	Count of **FOC039_1**=5	
	Laboratory assistant	Count of **FOC039_1**=6	
	Health assistant	Count of **FOC039_1**=7	
	Dispenser	Count of **FOC039_1**=8	
	Health information assistant	Count of **FOC039_1**=9	
	Health educator	Count of **FOC039_1**=10	
	Health inspector	Count of **FOC039_1**=11	
	Laboratory technician	Count of **FOC039_1**=12	
	Public health dental assistant	Count of **FOC039_1**=13	

Data Source: Module 5. Facility/Office Checklist		
Indicator	Numerator	Denominator
Anesthetic officer	Count of **FOC039_1**=14	
Midwife	Count of **FOC039 _1**=15	
Support staff	Count of **FOC039_1**=16	
Other (specify)	Count of **FOC039_1**=96	

- **Percentage of district staff who have received RHIS training (of those who are responsible for performing various RHIS tasks)**

$$\% = 100 \times \frac{\text{Total \# of district staff who have received RHIS training}}{\text{Total \# of district staff who are responsible for RHIS tasks } \textit{(one of three denominators possible)}}$$

Data Source: Module 5. Facility/Office Checklist			
Indicator		Numerator	Denominator
Job title of staff members who received any training in data entry, data quality checks, generating aggregate reports, data analysis and interpretation, and data use for decision-making during the last three years	Head of district health office	Count of **FOC047_1**=1	Number of responses to **FOC043** ** to calculate the percentage among those responsible for data compilation of reports from the lower levels*
	Program officer	Count of **FOC047_1**=2	
	Disease surveillance officer	Count of **FOC047_1**=3	OR Number of responses to **FOC044** ** to calculate the percentage among those responsible for checking the quality of reports from the lower levels*
	M&E/HMIS officer	Count of **FOC047_1**=4	
	Data clerk	Count of **FOC047_1**=5	OR Number of responses to **FOC045** ** to calculate the percentage among those responsible for data analysis*
	Other (specify)	Count of **FOC047_1**=96	

- **Percentage of facility staff who have received training by type of training**

$$\% = 100 \text{ x } \frac{\text{Total \# of facility staff receiving training by type of training}}{\text{Total \# of facility staff who are responsible for RHIS tasks } \textit{(one of two denominators possible)}}$$

Data Source: Module 5. Facility/Office Checklist			
Indicator		Numerator	Denominator
Subject of last training	Data collection	Count of **FOC039_4**=1	Number of responses to **FOC037** *to calculate the percentage among those responsible for filling out the registers at the facility* OR Number of responses to **FOC038** *to calculate the percentage among those responsible for preparing/ completing the monthly HMIS reports*
	Data analysis	Count of **FOC039_4**=2	
	Data display	Count of **FOC039_4**=3	
	Data reporting	Count of **FOC039_4**=4	
	Using data for decision making	Count of **FOC039_4**=5	

- **Percentage of district staff who have received training by type of training**

$$\% = 100 \text{ x } \frac{\text{Total \# of district staff receiving training by type of training}}{\text{Total \# of district staff who are responsible for RHIS tasks } \textit{(one of three denominators possible)}}$$

Data Source: Module 5. Facility/Office Checklist			
Indicator		Numerator	Denominator
Subject of last training	Data entry	Count of **FOC047_4**=1	Number of responses to **FOC043** *to calculate the percentage among those responsible for data compilation of reports from the lower levels* OR Number of responses to **FOC044** *to calculate the percentage among those responsible for checking the quality of reports from the lower levels* OR Number of responses to **FOC045** *to calculate the percentage among those responsible for data analysis*
	Check and verify the quality of data	Count of **FOC047_4**=2	
	Generating aggregate reports	Count of **FOC047_4**=3	
	Data analysis and interpretation	Count of **FOC047_4**=4	
	Using data for decision making	Count of **FOC047_4**=5	

J. Commitment to and Support for High-Quality Data

<div style="border: 1px solid red;">

Instructions on calculations for indicators in **Part V, Sections J, K, L, M, N, O, P, Q and W**:

These instructions apply to questions for which respondents choose one of five options on a weighted Likert scale to express their opinion. In some cases, answers to multiple questions are combined to create a score for a specific indicator. Scores range from 1 ("strongly disagree") to 5 ("strongly agree"). Here is how to calculate the percentages associated with indicators in Sections J, K, L, M, N, O, P, Q, and W.

Let's take the indicator in Section P as an example:

For the numerator, add the ratings according to their number for each question.

Let's imagine that for P10, **2** people answered "strongly agree" (value: 5), **2** people answered "agree" (value: 4), **4** people answered "neutral" (value: 3), **1** person answered "disagree" (value: 2), and **6** people answered "strongly disagree" (value: 1). That's a total of 15 people (if you add the bold numbers: 2 + 2 + 4 + 1 + 6 = 15).

The sum of the scores for P10 is therefore: **2** x 5 + **2** x 4 + **4** x 3 + **1** x 2 + **6** x 1 = 38

Let's imagine that for P11, **15** people answered "strongly agree" (value: 5). The sum of the scores for P11 is therefore: **15** x 5 = 75

The **numerator** is therefore 38 + 75 = 113

The **denominator** is 10 x 15 = 150 (15 people with 2 responses each with a maximum response value of 5).

Now you calculate the fraction: **113/150 = 0.75**

Interpretation: **75 percent of respondents perceive that the organization empowers learning and improvement.**

Here we assume that the same number of respondents answered question P10 and question P11.

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Indicator: Percentage of respondents who perceive that the organization gives due emphasis to data quality

$$\% = 100 \text{ x } \frac{\text{Sum of 3 respondent scores on perceived organizational emphasis on data quality}}{\text{Total \# of respondents x 5 x 3}}$$

5 being the highest possible score on every answer, and 3 being the number of questions asked to calculate this specific indicator.

We assume that the same number of people answered questions S2, S6, and S8.

Data Source: Module 6. Organizational and Behavioral Assessment Tool (OBAT)		
Indicator	Numerator	Denominator
Respondent perceives that the organization gives due emphasis to data quality	Sum of self-ratings from 0–5 on **S2** + Sum of self-ratings from 0–5 on **S6** + Sum of self-ratings from 0–5 on **S8**	15 x number of respondents

K.   Commitment to and Support for Information Use

Indicator: Percentage of respondents who perceive that the organization supports information use

$$\% = 100 \text{ x } \frac{\text{Sum of 4 respondent scores on perceived organizational support for information use}}{\text{Total \# of respondents x 5 x 4}}$$

5 being the highest possible score on every answer, and 4 being the number of questions asked to calculate this specific indicator.

We assume that the same number of people answered questions S4, S7, P5, and P8.

See additional instructions above in Section J.

Data Source: Module 6. OBAT		
Indicator	Numerator	Denominator
Respondent perceives that the organization supports information use	Sum of self-ratings from 0–5 on **S4** + Sum of self-ratings from 0–5 on **S7** + Sum of self-ratings from 0–5 on **P5** + Sum of self-ratings from 0–5 on **P8**	20 x number of respondents

L.   Evidence-Based Decision Making

Indicator: Percentage of respondents who perceive that the organization promotes a culture of evidence-based decision making

$$\% = 100 \text{ x } \frac{\text{Sum of 10 respondent scores on perceived organizational culture of evidence-based decision making}}{\text{Total \# of respondents x 5 x 10}}$$

5 being the highest possible score on every answer, and 10 being the number of questions asked to calculate this specific indicator.

We assume that the same number of people answered questions D1 through D10.

Additional instructions on the calculation of indicators in **Part V, sections L and W**:

First, read the instructions above in section J that also apply to sections L and W.

For this indicator, some statements point toward a culture of evidence-based decision making (such as statements for questions D3, D7, D8, D9, and D10). Other statements point away from a culture of evidence-based decision making (such as statements for questions D1, D2, D4, D5, and D6). Therefore, to calculate an accurate score portraying the respondent's perception of the organizational culture, the "negative statements" need to have their scores "inversed." The instructions on how to identify the "inverse scores" follow.

Identify inverse scoring for "negative statement" questions D1, D2, D4, D5, and D6 by taking the respondent's "mirror score" in relation to the neutral score, which is the value "3." This means that:

- If a respondent answers "strongly agree" (score of 5) on questions D1, D2, D4, D5, or D6, attribute instead the "inverse self-rating" of 1.
- If a respondent answers "agree" (score of 4) on questions D1, D2, D4, D5, or D6, attribute instead the "inverse self-rating" of 2.
- If a respondent answers neutrally with "neither disagree nor agree" (score of 3) on questions D1, D2, D4, D5, or D6, keep the score of 3.
- If a respondent answers "disagree" (score of 2) on questions D1, D2, D4, D5, or D6, attribute instead the "inverse self-rating" of 4.
- If a respondent answers "strongly disagree" (score of 1) on questions D1, D2, D4, D5, or D6, attribute instead the "inverse self-rating" of 5.

Scores for questions D3, D7, D8, D9, and D10 stay as they appear in the respondent's answers.

Data Source: Module 6. OBAT		
Indicator	Numerator	Denominator
Respondent perceives that the organization promotes a culture of evidence-based decision making	Sum of *inverse* self-ratings from 0–5 on **D1** + Sum of *inverse* self-ratings from 0–5 on **D2** + Sum of self-ratings from 0–5 on **D3** + Sum of *inverse* self-ratings from 0–5 on **D4** + Sum of *inverse* self-ratings from 0–5 on **D5** + Sum of *inverse* self-ratings from 0–5 on **D6** + Sum of self-ratings from 0–5 on **D7** + Sum of self-ratings from 0–5 on **D8** + Sum of self-ratings from 0–5 on **D9** + Sum of self-ratings from 0–5 on **D10**	50 x number of respondents

M. Promotion of Problem Solving

Indicator: Percentage of respondents who perceive that the organization promotes a culture of problem solving

$$\% = 100 \text{ x} \frac{\text{Sum of 4 respondent scores on perceived organizational promotion of a problem-solving culture}}{\text{Total \# of respondents x 5 x 4}}$$

5 being the highest possible score on every answer, and 4 being the number of questions asked to calculate this specific indicator.

We assume that the same number of people answered questions S5, P6, P7, and P9.

See additional instructions above in Section J.

Data Source: Module 6. OBAT		
Indicator	Numerator	Denominator
Respondent perceives that the organization promotes a culture of problem solving	Sum of self-ratings from 0–5 on **S5** + Sum of self-ratings from 0–5 on **P6** + Sum of self-ratings from 0–5 on **P7** + Sum of self-ratings from 0–5 on **P9**	20 x number of respondents

N. Sharing Information between Levels

Indicator: Percentage of respondents who perceive that the organization promotes a bidirectional flow of feedback

$$\% = 100 \text{ x} \frac{\text{Sum of 2 respondent scores on perceived organizational promotion of a bidirectional flow of feedback}}{\text{Total \# of respondents x 5 x 2}}$$

5 being the highest possible score on every answer, and 2 being the number of questions asked to calculate this specific indicator.

We assume that the same number of people answered questions S1 and S3.

See additional instructions above in Section J.

Data Source: Module 6. OBAT		
Indicator	Numerator	Denominator
Respondent perceives that the organization promotes a bidirectional flow of feedback	Sum of self-ratings from 0–5 on **S1** + Sum of self-ratings from 0–5 on **S3**	10 x number of respondents

O.   Sense of Responsibility

Indicator: Percentage of respondents who perceive that the organization has a culture that instills a sense of responsibility

$$\% = 100 \text{ x } \frac{\text{Sum of 5 respondent scores on perceived organizational culture of instilling a sense of responsibility}}{\text{Total \# of respondents x 5 x 5}}$$

5 being the highest possible score on every answer, and 5 being the number of questions asked to calculate this specific indicator.

We assume that the same number of people answered questions P1, P2, P3, P4, and P12.

See additional instructions above in Section J.

Data Source: Module 6. OBAT		
Indicator	Numerator	Denominator
Respondent perceives that the organization has a culture that instills a sense of responsibility	Sum of self-ratings from 0–5 on **P1** + Sum of self-ratings from 0–5 on **P2** + Sum of self-ratings from 0–5 on **P3** + Sum of self-ratings from 0–5 on **P4** + Sum of self-ratings from 0–5 on **P12**	25 x number of respondents

P.   Empowerment and Accountability

Indicator: Percentage of respondents who perceive that the organization empowers people to ask questions, seek improvement, learn, and improve quality through useful information

$$\% = 100 \times \frac{\text{Sum of 2 respondent scores on perceived organizational empowering for learning and improvement}}{\text{Total \# of respondents x 5 x 2}}$$

5 being the highest possible score on every answer, and 2 being the number of questions asked to calculate this specific indicator.

We assume that the same number of people answered questions P10 and P11.

See additional instructions above in Section J.

Data Source: Module 6. OBAT		
Indicator	Numerator	Denominator
Respondent perceives that the organization empowers people to ask questions, seek improvement, learn, and improve quality through useful information	Sum of self-ratings from 0–5 on **P10** + Sum of self-ratings from 0–5 on **P11**	10 x number of respondents

Q.   Rewarding Good Performance

Indicator: Percentage of respondents who perceive that the organization recognizes and rewards good performance

$$\% = 100 \times \frac{\text{Sum of respondent scores on perceived organizational recognition and reward of good performance}}{\text{Total \# of respondents} \times 5}$$

5 being the highest possible score on every answer.

See additional instructions above in Section J.

Data Source: Module 6. OBAT		
Indicator	Numerator	Denominator
Respondent perceives that the organization recognizes and rewards good performance	Sum of self-ratings from 0–5 on **S9**	5 x number of respondents

R.   Data Quality Assurance

Indicator: Level of perceived ability to perform data quality checks

$$\% = 100 \times \frac{\text{Sum of all self-ratings from 0–10 on ability to perform data quality checks}}{\text{Total \# of respondents} \times 10}$$

Data Source: Module 6. OBAT		
Indicator	Numerator	Denominator
Respondent believes that he or she can check data accuracy	Sum of self-ratings from 0-10 on **SE1**	10 x number of respondents

S.   Calculating Indicators

Indicator: Level of perceived ability to calculate indicators

$$\% = 100 \text{ x } \frac{\text{Sum of all self-ratings from 0-10 on ability to calculate indicators}}{\text{Total \# of respondents x 10}}$$

Data Source: Module 6. OBAT		
Indicator	Numerator	Denominator
Respondent believes that he or she can calculate percentages/rates correctly	Sum of self-ratings from 0–10 on **SE2**	10 x number of respondents

T.   Data Presentation

Indicator: Level of perceived ability to prepare data visuals

$$\% = 100 \text{ x } \frac{\text{Sum of all self-ratings from 0-10 on ability to prepare data visuals}}{\text{Total \# of respondents x 10}}$$

Data Source: Module 6. OBAT		
Indicator	Numerator	Denominator
Respondent believes that he or she can plot a trend on a chart	Sum of self-ratings from 0–10 on **SE3**	10 x number of respondents

U.   Data Interpretation

Indicator: Level of perceived ability to interpret data

$$\% = 100 \text{ x } \frac{\text{Sum of all self-ratings from 0-10 on ability to interpret data}}{\text{Total \# of respondents x 10}}$$

Data Source: Module 6. OBAT		
Indicator	Numerator	Denominator
Respondent believes that he or she can explain the implication of the results of data analysis	Sum of self-ratings from 0–10 on **SE4**	10 x number of respondents

V.   Use of Information

Indicator: Level of perceived ability to use information for problem solving or making decisions

$$\% = 100 \text{ x } \frac{\text{Sum of all self-ratings from 0-10 on ability to use information for problem solving or decision making}}{\text{Total \# of respondents x 10}}$$

Data Source: Module 6. OBAT		
Indicator	Numerator	Denominator
Respondent believes that he or she can use data for identifying service performance gaps and setting performance targets	Sum of all self-ratings from 0–10 on **SE5**	10 x number of respondents
Respondent believes that he or she can use data for making operational/management decisions	Sum of all self-ratings from 0–10 on **SE6**	
Combined score	½ x total of numerators above	

W.   Motivation Level among Staff

Indicator: Staff motivation level to perform RHIS tasks

$$\% = 100 \text{ x } \frac{\text{Sum of 5 respondent scores on perceived staff motivation to perform RHIS tasks}}{\text{Total \# of respondents x 5 x 7}}$$

5 being the highest possible score on every answer, and 7 being the number of questions asked to calculate this specific indicator.

We assume that the same number of people answered questions BC1 through BC7.

See additional instructions above in Sections J and L.

Data Source: Module 6. OBAT		
Indicator	Numerator	Denominator
Respondent's motivation to perform RHIS tasks	Sum of **inverse** self-ratings from 0–5 on **BC1** + Sum of **inverse** self-ratings from 0–5 on **BC2** + Sum of **inverse** self-ratings from 0–5 on **BC3** + Sum of self-ratings from 0–5 on **BC4** + Sum of self-ratings from 0–5 on **BC5** + Sum of self-ratings from 0–5 on **BC6** + Sum of **inverse** self-ratings from 0–5 on **BC7**	35 x number of respondents

X.   Knowledge

Indicators:

- **Knowledge of the rationale for RHIS data**

Data Source: Module 6. OBAT			
Question	Answer key	Points	Scoring
Describe at least three reasons for collecting or using data on a monthly basis for: **diseases**	To know changes in the magnitude/burden of selected diseases.	1 point	Scoring for **U1A**: Each correct answer gets one point with a maximum score of 3 points (if a respondent gives any 3 of these 4 response options, he or she is awarded the maximum score of 3). Wrong answers (or no answers) get a score of zero. The range will vary between 0 and 3.
	To take action for providing/replenishing medicines and other supplies (reduce stockouts of essential supplies)/ resource allocation.	1 point	
	To plan preventive and promotive activities.	1 point	
	To identify disease outbreaks and take action to address epidemics.	1 point	
Describe at least three reasons for collecting or using data on a monthly basis for: **immunization**	To know the coverage of effective interventions (immunization) for improving maternal or child health; to understand whether the eligible population is getting the appropriate vaccination.	1 point	Scoring for **U1B**: Each correct answer gets one point with a maximum score of 3 points (if a respondent gives any 3 of these 4 response options, he or she is awarded the maximum score of 3). Wrong answers (or no answers) get a score of zero. The range will vary between 0 and 3.
	To monitor the performance of the health system or the program. To track changes in program performance over time (to understand how well a program is performing with respect to meeting local, national, and global standards).	1 point	
	To determine whether immunization-related activities need adjustment during the intervention to improve desired outcomes; to plan for immunization activities, such as developing targets for immunization.	1 point	
	To take action for providing necessary resources (e.g., staffing, equipment, vaccines).	1 point	
Describe at least three reasons for collecting or using data on a monthly basis for: **age of clients**	To gauge needs: to know which age group is affected by certain diseases or health problems.	1 point	Scoring for **U1C**: Each correct answer gets one point with a maximum score of 3 points (if a respondent gives any 3 of these 4 response options, he or she is awarded the maximum score of 3). Wrong answers (or no answers) get a score of zero. The range will vary between
	To know whether the appropriate age group is getting the relevant services.	1 point	
	For planning purposes: to prioritize and develop interventions/responses for the relevant age group, e.g., to reach targeted age groups with relevant health messages.	1 point	

Data Source: Module 6. OBAT			
Question	Answer key	Points	Scoring
	To ensure equitable service coverage across people of all age groups.	1 point	0 and 3.
Describe at least three reasons for collecting or using data on a monthly basis for: **sex of clients**	To know which group is affected by a specific disease.	1 point	Scoring for **U1D**: Each correct answer gets one point with a maximum score of 3 points (if a respondent gives any 3 of these 4 response options, he or she is awarded the maximum score of 3). Wrong answers (or no answers) get a score of zero. The range will vary between 0 and 3.
	To ensure equitable service coverage across sexes.	1 point	
	To provide a standard package of services to various groups of the population; to focus activities on those people who need them most.	1 point	
	For planning and resource allocation purposes: to prioritize and develop interventions/responses for relevant groups.	1 point	
Describe at least three reasons for collecting or using data on a monthly basis for: **geographical data or residence of clients**	To follow up clients, as needed (to ensure continuity of care), e.g., to conduct household visits.	1 point	Scoring for **U1E**: Each correct answer gets one point with a maximum score of 3 points (if a respondent gives any 3 of these 4 response options, he or she is awarded the maximum score of 3). Wrong answers (or no answers) get a score of zero. The range will vary between 0 and 3.
	For disease surveillance (to control epidemics/disease outbreaks).	1 point	
	To plan preventive and promotive activities targeted to certain geographic areas.	1 point	
	To improve access to and use of health services.	1 point	
Why are population data needed?	To use as the denominator for calculating the various indicators (coverage, detection, and treatment of health problems).	1 point	Scoring for **U1F**: Each correct answer gets one point with a maximum score of 3 points. Wrong answers (or no answers) get a score of zero. The range will vary between 0 and 3.
	To plan the delivery of various health services.	1 point	
	To calculate the workload of health staff.	1 point	

- **Knowledge of data quality checking methods**

Data Source: Module 6. OBAT			
Question	Answer key	Points	Scoring
Describe at least three aspects of data quality	Data accuracy or precision	1 point	Scoring for **U2**: Each correct answer gets one point with a maximum score of 3 points (if a respondent gives any 3 of these 5 response options, he
	Report timeliness	1 point	

Data Source: Module 6. OBAT			
Question	Answer key	Points	Scoring
	Report/data completeness	1 point	or she is awarded the maximum score of 3). Wrong answers (or no answers) get a score of zero. The range will vary between 0 and 3.
	Reliability	1 point	
	Consistency	1 point	
Describe at least three ways of ensuring the data quality relevant to your job classification/responsibilities	Observation of the service provider for correct diagnosis and documentation	1 point	Scoring for **U3**: Each correct answer gets one point with a maximum score of 3 points (if a respondent gives any 3 of these 7 response options, he or she is awarded the maximum score of 3). Wrong answers (or no answers) get a score of zero. The range will vary between 0 and 3.
	Cross check recorded data against reported data (recount data from the source document and compare them with the reported data)	1 point	
	Review records or reports and identify data entry problems or errors	1 point	
	Use built-in electronic data validation rules to review data quality	1 point	
	Internal consistency: e.g., comparison of the number of patients and the amount of drugs dispensed	1 point	
	External consistency: comparison of the indicator calculated from routine data with the same indicator calculated using data from other sources	1 point	
	Historical comparison	1 point	

Y.   Actual Skills to Perform RHIS Tasks

The skills assessment sections in the OBAT (Parts 2–4) are tailored to staff at the following three levels:

- Part 2 - Staff and Management at the District and Higher Levels (questions starting with "**CD**")

- Part 3 - Health Facility In-Charge (questions starting with "**CF**")

- Part 4 - Data Management Staff in the Health Facility (questions starting with "**CS**")

If, during the process of customizing the PRISM Tools, questions are changed or additional questions are created (for the staff at the levels listed above, or for staff at other levels of the health system – e.g., central level staff), an answer key and scoring rubric will have to be developed according to the format presented below.

- **Competence level in calculating indicators**

Data Source: Module 6. OBAT		
Question	Answer key	Scoring
Calculate the percentage of pregnant mothers in the district attending ANC in the current period	100 x (456/760)= 60% of pregnant mothers in the district are attending ANC in the current period	Scoring for **CD1**: A correct answer gets one point. Wrong answers (or no answers) get a score of zero.
What is the malnutrition rate (among the children younger than five years)?	100 x (500/5,000)= 10% of under-five children in the catchment area are malnourished	Scoring for **CD3**: A correct answer gets one point. Wrong answers (or no answers) get a score of zero.
Calculate the number of children who are malnourished	0.2 x 10,000=2,000 children less than two years old are malnourished	Scoring for **CD4**: A correct answer gets one point. Wrong answers (or no answers) get a score of zero.
Calculate the percentage of pregnant mothers in the facility catchment area attending ANC	100 x (170/340) = 50% of pregnant mothers in the catchment area are attending ANC	Scoring for **CF1**: A correct answer gets one point. Wrong answers (or no answers) get a score of zero.
What is the malnutrition rate among boys?	100 x [225/(0.45 x 5000)] =10% The facility has 2,250 boys under five years old in its catchment areas, of which 10 percent are malnourished	Scoring for **CF3a**: A correct answer gets one point. Wrong answers (or no answers) get a score of zero.

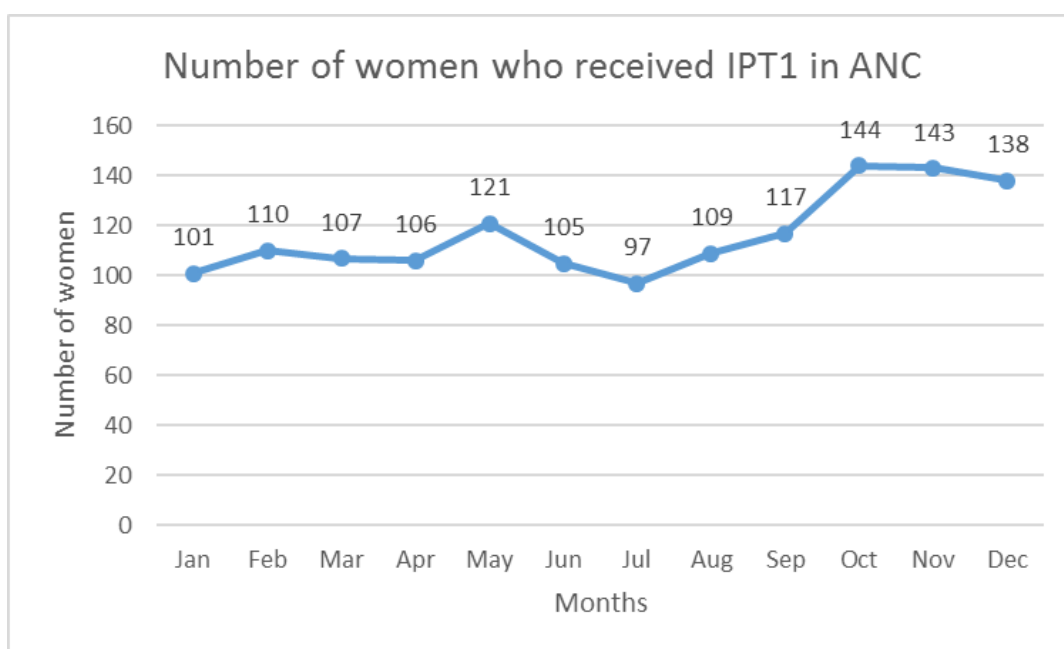| Data Source: Module 6. OBAT		
Question	Answer key	Scoring
What is the malnutrition rate of among girls?	100 x [275/(0.55 x 5000] =10% The facility has 2,750 girls under five years old in its catchment areas, of which 10 percent are malnourished	Scoring for **CF3b**: A correct answer gets one point. Wrong answers (or no answers) get a score of zero.
What is the malnutrition rate (among the children younger than five years)?	100 x (100/1,000)=10% of under-five children in the catchment area are malnourished	Scoring for **CS3**: A correct answer gets one point. Wrong answers (or no answers) get a score of zero.
Calculate the number of children who were malnourished	0.2 x 500 =100 children less than two years old are malnourished	Scoring for **CS4**: A correct answer gets one point. Wrong answers (or no answers) get a score of zero.

- **Competence level in plotting data/preparing charts**

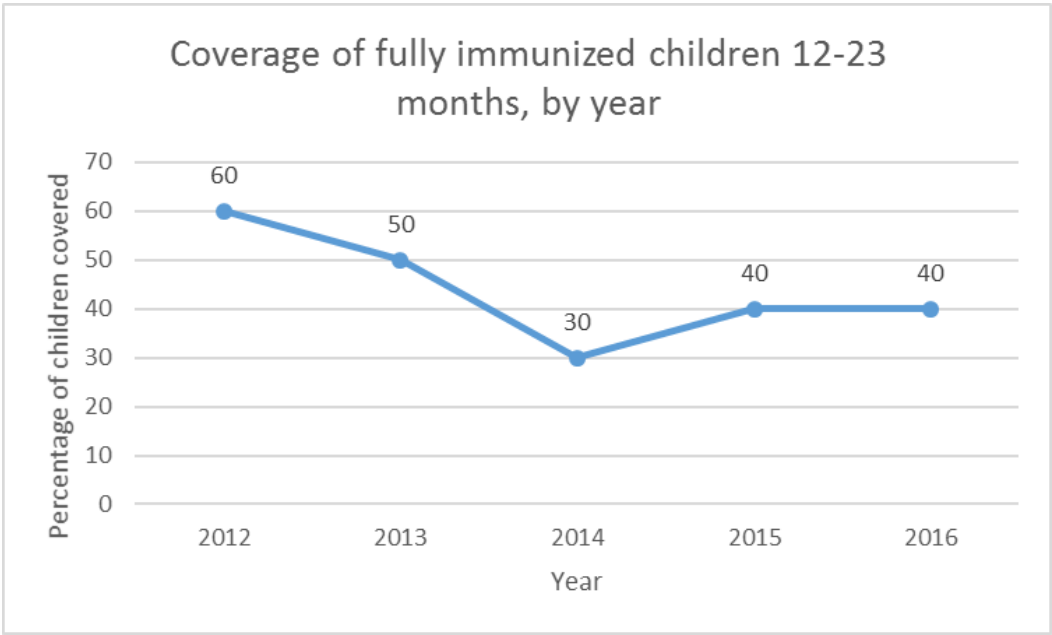| Data Source: Module 6. OBAT	
Question	Scoring
Develop a bar chart depicting the distribution across the ages of clients tested for HIV at the four facilities in Coast District	Scoring for **CD2a**: Correct presentation of the bar graph gets one point. Wrong answers (or no answers) get a score of zero.

Answer key

Age distribution of clients tested for HIV

Data Source: Module 6. OBAT	
Question	Scoring
Develop a line graph depicting the trend over one year in the first dose of intermittent preventive treatment (IPT1) for malaria coverage among women attending ANC1 at Bwari Health Center	Scoring for **CF2a**: Correct presentation of the line graph gets one point. Wrong answers (or no answers) get a score of zero.

Answer key

Number of women who received IPT1 in ANC

Data Source: Module 6. OBAT	
Question	Scoring
Develop a trend graph (a line graph) depicting the coverage of fully immunized children 12–23 months, by year	Scoring for **CS2a**: Correct presentation of the line graph gets one point. Wrong answers (or no answers) get a score of zero.

Answer key

Coverage of fully immunized children 12-23 months, by year

- **Competence level in interpreting data**

Data Source: Module 6. OBAT			
Question	Answer key	Points	Scoring
Interpret the graph presented in **CD2b**	Abaji, Kuje, and Municipal Districts have attained the target coverage rate (80 percent) by the end of 2017.	1 point	Scoring for **CD2b**: Each correct answer gets one point with a maximum score of two points (if a respondent gives any 2 of these 3 response options, he or she is awarded the maximum score of 2). Wrong answers (or no answers) get a score of zero. The range will vary between 0 and 2.
	Bwari, Kwali, Bwondo, and Gwagwalada Districts did not meet the target insecticide-treated bed net (ITN) coverage rate in 2017.	1 point	
	The Abaji District surpassed the target ITN coverage rate by at least 10 percent.	1 point	
Which districts have attained the target coverage rate (80%) by the end of 2017?	Abaji, Kuje, and Municipal Districts have attained the target coverage rate (80 percent) by the end of 2017.	1 point	Scoring for **CD2c1** and **CD2c2**: Each correct answer gets one point with a maximum score of 2 points. Wrong answers (or no answers) get a score of zero. The range will vary between 0 and 2.
What guidance could you provide to districts and programs based on these data?	Bwari, Kwali, Bwondo, and Gwagwalada Districts have to develop strategies to improve ITN distribution.	1 point	
What does the graph tell you about the FP method mix for new users at the Kateria City Clinic?	The graph shows that the most popular methods for new family planning users are injectable contraceptives, condoms, and pills, in order of popularity.	1 point	Scoring for **CF2b**: Each correct answer gets one point with a maximum score of 2 points. Wrong answers (or no answers) get a score of zero. The range will vary between 0 and 2.
	The graph shows low demand for more permanent FP methods among new users (IUCD, implants, and sterilization).	1 point	
How many new clients would the facility need to have each month if new clients were evenly distributed by month?	1,200 / 12 = 100 new clients	1 point	Scoring for **CF2c1** and **CF2c2**: Each correct answer gets one point with a maximum score of two points. Wrong answers (or no answers) get a score of zero. The range will vary between 0 and 2.
If Kateria City Clinic maintains this number of new FP client enrollments for the next three quarters, will they reach their target by the end of the year?	"Yes". Explanation: graphically, Kateria City Clinic seems to have had about 500 new clients in their first quarter. If they maintain this number, they will have surpassed their target of 1,200 new clients (they would have approximately 500 x 3 = 1,500 new clients).	1 point	

	Data Source: Module 6. OBAT		
Question	Answer key	Points	Scoring
Interpret the graph presented in **CS2b**	Over the course of the first seven months of 2014, the number of children vaccinated with DPT1 in the health district fluctuated.	1 point	Scoring for **CS2b**: Each correct answer gets one point with a maximum score of 2 points (if a respondent gives any 2 of these 4 response options, he or she is awarded the maximum score of 2). Wrong answers (or no answers) get a score of zero. The range will vary between 0 and 2.
	The number of children vaccinated with DPT1 in the health district generally followed an upward trend from January to April (with a slightly lower rate in March).	1 point	
	The immunization rate showed a drastic fall (by 50 children) in May.	1 point	
	Given that there was no problem with data collection, the data showed that DPT1 immunization rates have fallen in May and then plateaued in the following two months.	1 point	
What aspects of the graph stand out? Is there a trend or an irregularity? If yes or no, explain the reasons for your answer.	Yes, the graph showed a slight variation over the seven months, dominated by an upward increase in the number of children vaccinated with DPT1. The drastic fall in the number of children vaccinated with DPT1 in May stands out. It would be helpful to see how many children received the DPT1 vaccine compared with the number of children who were expected to get immunized.	1 point	Scoring for **CS2c**: A correct answer gets one point. A wrong answer (or no answer) gets a score of zero.

- **Competence level in problem solving**

Data Source – Module 6: OBAT			
Question	Answer key	Points	Scoring
Description of the data quality problem in the scenario	The average data accuracy for the ANC1 indicator is 40%, which is very low (likely below an established target) and is the sign data quality issues	1 point	Scoring for **PSa**: Each correct answer gets one point with a maximum score of 2 points (one for each criteria). If incorrect, the score is zero. The range will vary between 0 and 2.
	Respondent defines the data quality problem as a performance gap and decides to take action	1 point	
Potential reasons for the data quality problem	Gaps in the understanding of data definitions and/or data collection methods	1 point	Scoring for **PSb**: Each correct answer gets one point with a maximum score of 3 points (if a respondent gives any 3 of these 4 response options, he or she is awarded the maximum score of 3). Wrong answers (or no answers) get a score of zero. The range will vary between 0 and 3.
	Data recording and data entry errors (e.g., typing error, data entered in the wrong box, calculation error)	1 point	
	Systemic errors: logical errors embedded in the system that cause these errors to remain unnoticed unless underlying systemic issues are corrected (e.g., errors due to multiple registers or poorly designed registers, lack of written guidelines)	1 point	
	Misreporting	1 point	
Major activities to improve the data quality	Institutionalize data quality control mechanisms: once data entry is complete and a report is ready, it should be checked for missing values, calculation mistakes, abnormal figures, etc.	1 point	Scoring for **PSc**: Each correct answer gets one point with a maximum score of 5 points (if a respondent gives any 5 of these 7 response options, he or she is awarded the maximum score of 5). Wrong answers (or no answers) get a score of zero. The range will vary between 0 and 5.
	Built-in data quality validation rule to facilitate a routine data quality check	1 point	
	Monthly data reviews and feedback	1 point	
	Make written RHIS guidelines and procedures available at all levels	1 point	
	Streamline data recording and reporting systems: reduce multiple recording and reporting forms for the same indicator (limiting the risk for double-counting, for example)	1 point	
	Training for staff on data recording and reporting; also make sure that staff understand the definition of the data element being collected	1 point	
	Training for staff on the public health importance of the reported data	1 point	

- **Competence level in the use of information**

Data Source: Module 6. OBAT			
Question	Answer key	Points	Scoring
Provide at least one use of the chart findings at the **facility level**	This chart can help the facility manager compare the performance of his/her facility with the district performance, and to adjust activities/plan	1 point	Scoring for **CD2d1**: Any 1 of these 2 correct answer options gets 1 point. Wrong answers (or no answers) get a score of zero. The range will vary between 0 and 1.
	To raise awareness about the need for and proper use of ITNs	1 point	
Provide at least one use of the chart findings at the **community level**	To raise awareness about the need for and proper use of ITNs	1 point	Scoring for **CD2d2**: Any 1 of these 2 correct answer options gets 1 point. Wrong answers (or no answers) get a score of zero. The range will vary between 0 and 1.
	To mobilize community members as agents for passing messages and talking to their community to encourage them to use ITNs	1 point	
Provide at least one use of the chart findings at the **district level**	To assess progress toward goals	1 point	Scoring for **CD2d3**: Any 1 of these 4 correct answer options gets 1 point. Wrong answers (or no answers) get a score of zero. The range will vary between 0 and 1.
	To identify gaps in ITN coverage	1 point	
	To mobilize resources for additional ITN distribution; to advocate with partners for increased net supplies	1 point	
	To advocate for changes to policies (such as the transition from targeting vulnerable populations to achieving universal coverage)	1 point	
Provide at least one use of the graph findings at the **facility level**	This graph helps the facility monitor the number of FP commodities dispensed by method in each quarter. By observing the trend, the manager should be able to forecast the number of commodities the facility needs and therefore avoid stockouts.	1 point	Scoring for **CF2d1**: Any 1 of these 2 correct answer options gets 1 point. Wrong answers (or no answers) get a score of zero. The range will vary between 0 and 1.
	The graph shows the importance for the facility manager to plan for interventions focused on creating demand for other more permanent FP methods or putting in place skilled service providers	1 point	
Provide at least one use of the graph findings at the **community level**	The findings in the graph highlight the limited demand for more permanent FP methods	1 point	Scoring for **CF2d2**: Any 1 of these 2 correct answer options gets 1

Data Source: Module 6. OBAT			
Question	Answer key	Points	Scoring
	The graph shows the need for community mobilization to create more awareness on the benefits of long-term FP methods or to put community health workers in place for the purpose of community mobilization	1 point	point. Wrong answers (or no answers) get a score of zero. The range will vary between 0 and 1.
Provide at least one use of the chart findings at the **facility level**	To monitor facility performance as compared to its target; to determine whether service provision is on track	1 point	Scoring for **CS2d1**: Any 1 of these 3 correct answer options gets 1 point. Wrong answers (or no answers) get a score of zero. The range would vary between 0 and 1.
	To monitor vaccines dispensed each month and avoid stockouts	1 point	
	To mobilize appropriate resources (vaccines, human resources, logistics, etc.)	1 point	
Provide at least one use of the chart findings at the **community level**	To mobilize the community to seek immunization services	1 point	Scoring for **CS2d2**: Any 1 of these 2 correct answer options gets 1 point. Wrong answers (or no answers) get a score of zero. The range will vary between 0 and 1.
	To design better information, education, and communication activities	1 point	

VI. GENDER INDICATORS

A.   System Captures Sex-Disaggregated Data

Indicator: eRHIS captures data disaggregated by sex

Data Source: Module 3. eRHIS Assessment Tool	
Indicator	Variable
RHIS software captures data disaggregated by sex	Count of **ESF025**=1

B.   Analysis of Data by Sex

Indicators:

- **Percentage of districts or facilities carrying out sex-disaggregated data analysis**

$$\% = 100 \text{ x } \frac{\text{Total \# of districts or facilities carrying out sex-disaggregated data analysis}}{\text{Total \# of districts or facilities assessed}}$$

Data Source – Module 2a: RHIS Performance Diagnostic Tool (District Level)		
Indicator	Numerator	Denominator
Up-to-date documents containing comparisons of sex-disaggregated data were shown	Sum of **DQ036g**=1	Number of districts assessed

Data Source – Module 2b: RHIS Performance Diagnostic Tool (Health Facility Level)		
Indicator	Numerator	Denominator
Up-to-date documents containing comparisons of sex-disaggregated data were shown	Sum of **FQ070f**=1	Number of facilities assessed

C. Use of Sex-Disaggregated Data for Decision Making and Planning

Indicators:

- **Percentage of districts or facilities using sex-disaggregated data for decision making**

$$\% = 100 \times \frac{\text{Total \# of districts or facilities using sex-disaggregated data for decision making}}{\text{Total \# of districts or facilities assessed}}$$

Data Source: Module 2a. RHIS Performance Diagnostic Tool (District Level)		
Indicator	Numerator	Denominator
Reports and/or bulletins contain discussions and decisions/recommendations based on key performance targets and based on RHIS sex-disaggregated data	Sum of **DU008_7**=1	Number of districts assessed
Discussions were held to review key performance targets based on RHIS sex-disaggregated data	Sum of **DU016d_7**=1	
Decisions were made based on the discussion of the district and/or health facility's performance regarding reducing the gender gap in the provision of health services	Sum of **DU017_9**=1	
Annual plan exists and contains activities and/or targets related to improving or addressing gender disparity in health services coverage	Sum of **DU022_7**=1	

Data Source: Module 2b. RHIS Performance Diagnostic Tool (Health Facility Level)		
Indicator	Numerator	Denominator
Reports and/or bulletins contain discussions and decisions/recommendations based on key performance targets and based on RHIS sex-disaggregated data	Sum of **FU008_7**=1	Number of facilities assessed
Discussions were held to review key performance targets based on RHIS sex-disaggregated data	Sum of **FU016d_7**=1	
Decisions were made based on the discussion of the health facility's performance regarding reducing the gender gap in the provision of health services	Sum of **FU017_8**=1	
Annual plan exists and contains activities and/or targets related to improving or addressing gender disparity in health services coverage	Sum of **FU021_7**=1	

- **Percentage of respondents who perceive that the organization emphasizes the need to use RHIS to identify and address gender disparities in service delivery**

$$\% = 100 \text{ x } \frac{\text{Sum of respondent score on perceived emphasis on the use of data to address gender inequity}}{\text{Total \# of respondents x 5}}$$

5 being the highest possible score on every answer

Data Source: Module 6. OBAT		
Indicator	Numerator	Denominator
Respondent perceives that superiors in the health department emphasize the need to use RHIS data to identify potential gender-related disparities in service delivery or use	Sum of self-ratings from 0–5 on **S5**	5 x number of respondents
Respondent perceives that staff in the health department use sex-disaggregated or gender-sensitive RHIS data to identify and/or solve gender-related problems in service delivery	Sum of self-ratings from 0–5 on **P7**	

D.   Knowledge

Indicators:

- **Percentage of respondents able to show age and sex disaggregation for an indicator**

$$\% = 100 \text{ x } \frac{\text{Total \# of respondents able to show age and sex-disaggregation for an indicator}}{\text{Total \# of districts or facilities assessed}}$$

Data Source: Module 3. eRHIS Assessment Tool		
Indicator	Numerator	Denominator
Respondent can show age and sex disaggregation for the selected indicator	Sum of **ESU013_2**=1	Number of districts or facilities assessed

- **Health workers knowledge of the rationale for disaggregating data by sex**

Data Source: Module 6. OBAT			
Question	Answer key	Points	Scoring
What information do you get by disaggregating the data by sex? How does this information help you to plan and improve your service delivery?	Sex-disaggregated data help to identify the most affected group among under-five children.	1 point	Scoring for **CF3c**: Each correct answer gets one point with a maximum score of 2 points (if a respondent gives any 2 of these 3 response options, he or she is awarded the maximum score of 2). Wrong answers (or no answers) get a score of zero. The range will vary between 0 and 2.
	They help the facility plan and reallocate resources to provide more targeted nutrition services to the appropriate group.	1 point	
	In the example provided, both girls and boys are equally affected and need equal effort to improve their nutritional status.	1 point	
Describe at least three reasons for collecting or using data on a monthly basis for: **sex of clients**	To know which group is affected by a specific disease.	1 point	Scoring for **U1D**: Each correct answer gets one point with a maximum score of 3 points (if a respondent gives any 3 of these 4 response options, he or she is awarded the maximum score of 3). Wrong answers (or no answers) get a score of zero. The range will vary between 0 and 3.
	To ensure equitable service coverage across sexes.	1 point	
	To provide a standard package of services to various groups of the population; to focus activities on those people who need them most.	1 point	
	For planning and resource allocation purposes: to prioritize and develop interventions/responses for relevant groups.	1 point	

- **Percentage of respondents who received formal RHIS training on gender**

$$\% = 100 \text{ x } \frac{\text{Total \# of respondents who received formal RHIS training on gender}}{\text{Total \# of OBAT respondents}}$$

Data Source: Module 6. OBAT		
Indicator	Numerator	Denominator
Respondent received formal RHIS training on gender or gender M&E	Count of **DD5b**=4	Count of **DD5a**=1 + Count of **DD5a**=2

DATA ANALYSIS PRESENTATION AND ASSESSMENT REPORT

Here are three examples of how to present your data analysis and structure your assessment report. The first two examples are reports in English; the third example is a report written in French.

Example 1:

Title: PRISM Case Studies: Strengthening and Evaluating RHIS

Countries: Mexico, South Africa, Uganda, and Pakistan

Year: 2008

Link: https://www.measureevaluation.org/resources/publications/sr-08-43

Example 2:

Title: Assessment of Health Management Information System (HMIS) Performance in SNNPR, Ethiopia

Country: Ethiopia

Year: 2014

Link: https://www.measureevaluation.org/resources/publications/sr-14-87

Example 3:

Title: Rapport d'Evaluation du Système d'Information Sanitaire de Routine par l'Approche et les Outils PRISM

Country: Burundi

Year: 2015

Link: https://www.measureevaluation.org/resources/publications/sr-15-120-fr