Every Woman Every Newborn-
Measurement Improvement for Newborn, Stillbirth & Maternal Indicators

EWEN-MINSMI-PRISM Tools
for Routine Health Information Systems

Scoring Guide for **EWEN-MINSMI-PRISM Tool 6**

Organizational/ Behavioral Assessment EWEN-MINSMI-PRISM Tool 6

This scoring guide provides guidance for standardized marking of:

Part 1 section 1.3, 1.4

Part 2 section 2.3

Part 3 section 3.1

September 2024 Version 1.0

USAID FROM THE AMERICAN PEOPLE
DATA FOR impact
LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE
MARCH MATERNAL ADOLESCENT REPRODUCTIVE & CHILD HEALTH
ISO 9001: 2015 certified
IFAKARA HEALTH INSTITUTE
research | training | services

Every Woman Every Newborn-
Measurement Improvement for Newborn, Stillbirth & Maternal Indicators

EWEN-MINSMI-PRISM Tools
for Routine Health Information Systems

Scoring Guide for **EWEN-MINSMI-PRISM Tool 6**

Organizational/ Behavioral Assessment EWEN-MINSMI-PRISM Tool 6

This scoring guide provides guidance for standardized marking of:

Part 1 section 1.3, 1.4

Part 2 section 2.3

Part 3 section 3.1

Data for Impact
University of North Carolina at Chapel Hill
123 West Franklin Street, Suite 330
Chapel Hill, NC 27516 USA
Phone: 919-445-6945
D4I@unc.edu
http://www.data4impactproject.org

This publication was produced with the support of the United States Agency for International Development (USAID) under the terms of the Data for Impact (D4I) associate award 7200AA18LA00008, which is implemented by the Carolina Population Center at the University of North Carolina at Chapel Hill, in partnership with Palladium International, LLC; ICF Macro, Inc.; John Snow, Inc.; and Tulane University. The views expressed in this publication do not necessarily reflect the views of USAID or the United States government.

TL-24-115

September 2024 Version 1.0

USAID FROM THE AMERICAN PEOPLE | DATA FOR impact | LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE | MARCH MATERNAL ADOLESCENT REPRODUCTIVE & CHILD HEALTH | ISO 9001: 2015 certified IFAKARA HEALTH INSTITUTE research | training | services

Acknowledgements

The Every Woman Every Newborn-Measurement Improvement for Newborn, Stillbirth and Maternal Indicators (EWEN-MINSMI) tools for routine health information systems (RHIS) have been developed as part of an extension to the EN-BIRTH-2 study, funded by the United States Agency for International Development (USAID) through Data for Impact (D4I). They are an adaptation of the Every Newborn - Measurement Improvement for Newborn and Stillbirth Indicators (EN-MINI Tools) The EWEN-MINSMI-PRISM tools in this document and the EN-MINI-PRISM tools are available at https://www.data4impactproject.org/resources/en-mini-tools/en-mini-tools-overview/. Both sets of tools were adapted from the Performance of Routine Information System Management (PRISM) Series, developed by MEASURE Evaluation.

The EN-BIRTH-2 study was conceptualized and implemented in partnership with D4I, the International Centre for Diarrheal Disease Research, Bangladesh (icddr,b), Ifakara Health Institute Tanzania (IHI), and the London School of Hygiene & Tropical Health (LSHTM), United Kingdom. The extension to the EN-BIRTH-2 study that adapted the EN-MINI Tools to include maternal indicators was co-led by IHI and LSHTM with D4I.

We acknowledge the collaborating teams at IHI and LSHTM for leading the adaptation for the EWEN-MINSMI tools and pilot testing efforts in Tanzania and for their technical contributions: Donat Shamba, Josephine Shabani, Jacqueline Minja, and Honorati Masanja. From LSHTM: Louise Tina Day. From D4I: Gaby Escudero, Barbara Knittel, Siân Curtis, and Kavita Singh.

We thank the EWEN-MINSMI Expert Advisory Group for their technical inputs specifically to the EWEN-MINSMI Tools. From Tanzania: Ahmed Makuwani, Georgina Msemo, Felix Bundala, Claud Kumalija, Defa Wane, Miriam Kombe, and Albert Ikonje. Global: Kathleen Hill, Debra Jackson, Lily Kak, Allisyn Moran, Barbara Rawlins, Robin Churchill, Jennifer Requejo, Lara Vaz, Jean Pierre Monet, and William Weiss.

We are very grateful to the health workers, managers, leaders, data managers, policy makers for sharing their time and perspectives during their participation in the pilot testing.

Finally, we thank D4I's Knowledge Management team for editorial, design, and production services.

For any questions about the tools or implementing any part of the assessment, please contact: enapmetrics3@lshtm.ac.uk

Contents

Abbreviations

DHIS 2	District Health Information Software version 2
DQR	Data Quality Review [Tool]
eRHIS	electronic routine health information system
HMIS	health management information system
IDSR	integrated disease surveillance and response (notifiable diseases)
LQAS	lot quality assurance sampling
MAT	Management Assessment Tool
MCH	maternal and child health
MFL	master facility list
MOH	Ministry of Health
OBAT	Organizational and Behavioral Assessment Tool
OPD	outpatient department
PRISM	Performance of Routine Information System Management
RDQA	routine data quality assessment
RHIS	routine health information system
SBA	skilled birth attendance
SOP	standard operating procedure
USAID	United States Agency for International Development

Overview of the EWEN-MINSMI-PRISM Tool 6 Scoring Guide

Purpose of This Scoring Guide

This guide accompanies Organizational and Behavioral Assessment EWEN-MINSMI-PRISM Tool 6. Please see full EWEN-MINSMI-PRISM tool version for further details.

Data Requirements, Collection, and Management and Analysis

Data Entry Platform

EWEN-MINSMI-PRISM Tool 6 data are collected using pen and paper. The EWEN-MINSMI-PRISM tools have been set up for digital data collection using SurveyCTO and a standardized automated analysis. Please see the full EWEN-MINSMI-PRISM tool version for further details.

Some responses to the EWEN-MINSMI-PRISM Tool 6 questions need to be entered from the paper response sheet directly onto the EWEN-MINSMI-PRISM Tool 6 SurveyCTO form. Other responses require scoring by the data collection team using this guide. The score is then entered into the EWEN-MINSMI- PRISM Tool 6 SurveyCTO form. This is detailed in the table below:

EWEN-MINSMI-PRISM Tool 6 Section	Data Collection Method	Is scoring needed?	What to enter in the EWEN-MINSMI-PRISM Tool 6 SurveyCTO form
Part 1, Section 1.1 Respondent Background	Pen & paper	No	Enter response
Part 1, Section 1.2 Promotion of information culture	Pen & paper	No	Enter response
Part 1, Section 1.3 RHIS knowledge	Pen & paper	Score using this guide	Enter score
Part 1, Section 1.4 Case study on data quality	Pen & paper	Score using this guide	Enter score
Part 1, Section 1.5 Self-perception of competency to perform RHIS tasks	Pen & paper	No	Enter response
Part 2, Section 2.1 Competency to perform RHIS tasks	Pen & paper	Score using this guide	Enter score
Part 3, Section 3.1	Pen & paper	Score using this guide	Enter score
Part 4, Section 4.1	Pen & paper	Score using this guide	Enter score
Part 5, Section 5.1	Pen & paper	Score using this guide	Enter score

In this guide, each question to be scored is shown in italics with its scoring algorithm directly below.

Scoring Guide for Organizational and Behavioral Assessment EWEN- MINSMI-PRISM Tool 6

Part 1. For Staff and Management at All Levels: Questions with Scoring Guide

Scoring Guide for Section 1.3

Section 1.3: RHIS Knowledge			
[SurveyCTO] ***Enter the scores for the following questions that were completed and scored on paper based on below answer guide***			
Describe at least three reasons for collecting or using the following types of data a monthly basis:			
U1A	*Maternal and newborn diseases/conditions/diagnoses*		
	1.		
	2.		
	3.		
Answer key U1A		Points	Scoring U1A
To know changes in the magnitude/burden of selected diseases.		1 point	• 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	

U1B	*Maternal and newborn Immunization*		
	1.		
	2.		
	3.		
Answer key U1B		Points	Scoring U1B
To know the coverage of effective interventions (immunization) for improving maternal or child health; to understand whether the eligible population (woman/ newborns) is getting the appropriate vaccination.		1 point	• 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	

U1C	*Maternal Age*		
	1.		
	2.		
	3.		
Answer key U1C		Points	Scoring U1C
To gauge needs: to know which age group is affected by certain diseases or health problems. e.g., adolescent pregnancy		1 point	• 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 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 (e.g., adolescents) with relevant health messages.		1 point	
To ensure equitable service coverage across people of all age groups.		1 point	

U1D	*Sex of newborn*		
	1.		
	2.		
	3.		
Answer key U1D		Points	Scoring U1D
To know which group is affected by a specific disease.		1 point	• 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	

U1E	*Geographical data or residence of families*
	1.
	2.
	3.

Answer key U1E	Points	Scoring U1E
To follow up clients, as needed (to ensure continuity of care), e.g., to conduct household visits.	1 point	• 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	

U1F	*Why are population data needed (e.g., information on the number of people living in the catchment area, disaggregated by relevant characteristics, such as age and sex)?*
	1.
	2.
	3.

Answer key U1F	Points	Scoring U1F
To use as the denominator for calculating the various indicators (coverage, detection, and treatment of health problems).	1 point	• 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	

U2	*Describe at least three aspects of data quality:*
	1.
	2.
	3.

Answer key U2	Points	Scoring U2
Data accuracy or precision	1 point	• 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 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.
Report timeliness	1 point	
Report/data completeness	1 point	
Reliability	1 point	
Consistency	1 point	

U3	*Describe at least three ways of ensuring data quality, as relevant to your job classification/responsibilities:*
	1.
	2.

	3.

Answer key U3	Points	Scoring U3
Observation of the service provider for correct diagnosis and documentation	1 point	• 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	

Scoring Guide for Section 1.4

Section 1.4: Case study on data quality	
[SurveyCTO] ***ENTER THE SCORES FOR THE FOLLOWING QUESTIONS THAT WERE COMPLETED ON PAPER***	
Maternal and newborn adapted case study: *Dr. Ali, District Health Executive Officer, read a recent report prepared by the HIS Officer after a supervision visit made to five out of eight health facilities in the district. The supervisor cross-checked the reported data with the recorded data from the source document. The supervision report showed that the average data accuracy for the indicator—stillbirth rate—was only 40% and Dr. Ali felt very disturbed by it. "I need to take action," he said aloud. He set up a meeting with the entire district health team to identify the reasons for the discrepancy and think about next steps to improve data quality. After some discussion with his team about the potential reasons for the low percentage of data accuracy, the district team started preparing an action plan for all health facilities in the district.*	
PSa	*Describe how Dr. Ali and his team defined the data quality problem in this scenario:* _____

Answer key PSa	Points	Scoring PSa
The average data accuracy for the stillbirth rate indicator is 40%, which is very low (likely below an established target) and is the sign data quality issues	1 point	• Each correct answer gets one point with a maximum score of 2 points (one for each criterion). • 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	

PSb	*List potential reasons for the data quality problem encountered:*
	1.
	2.
	3.
	4.

Answer key PSb	Points	Scoring PSb
Gaps in the understanding of data definitions and/or data collection methods	1 point	• 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	

PSc	*Describe what major activities/actions Dr. Ali and his team may have included in the district action plan to improve data quality:*
	1.
	2.
	3.
	4.
	5.

Answer key PSc	Points	Scoring PSc
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	• 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	

Part 2. For Staff and Management at District and Higher Levels: Questions with Scoring Guide

Scoring Guide for Section 2.1

Section 2.1: Competency to perform RHIS tasks	
[SurveyCTO] ***ENTER THE SCORES FOR THE FOLLOWING QUESTIONS THAT WERE COMPLETED ON PAPER***	
CD1	*The estimated number of pregnant women in the district catchment area for the current period is 760. The health facilities in your district have registered 456 pregnant mothers for antenatal care—first visit (ANC1). Calculate the percentage of pregnant mothers in the district attending ANC in the current period.* _____
Answer key CD1	Scoring CD1
100 x (456/760) = 60% of pregnant mothers in the district are attending ANC in the current period	• A correct answer gets one point. • Wrong answers (or no answers) get a score of zero.

CD2_n

Maternal, newborn and stillbirth adapted case study:
The table below shows the monthly birthweight results for Coast District. In this district, government facilities provide maternal and newborn health services. During a recent review of the data, it was discovered that a significant number of adolescents were having low birthweight babies. In response to these data, clinics in Coast District regularly review birthweight data to inform decisions related to increasing the uptake of maternal and newborn services.

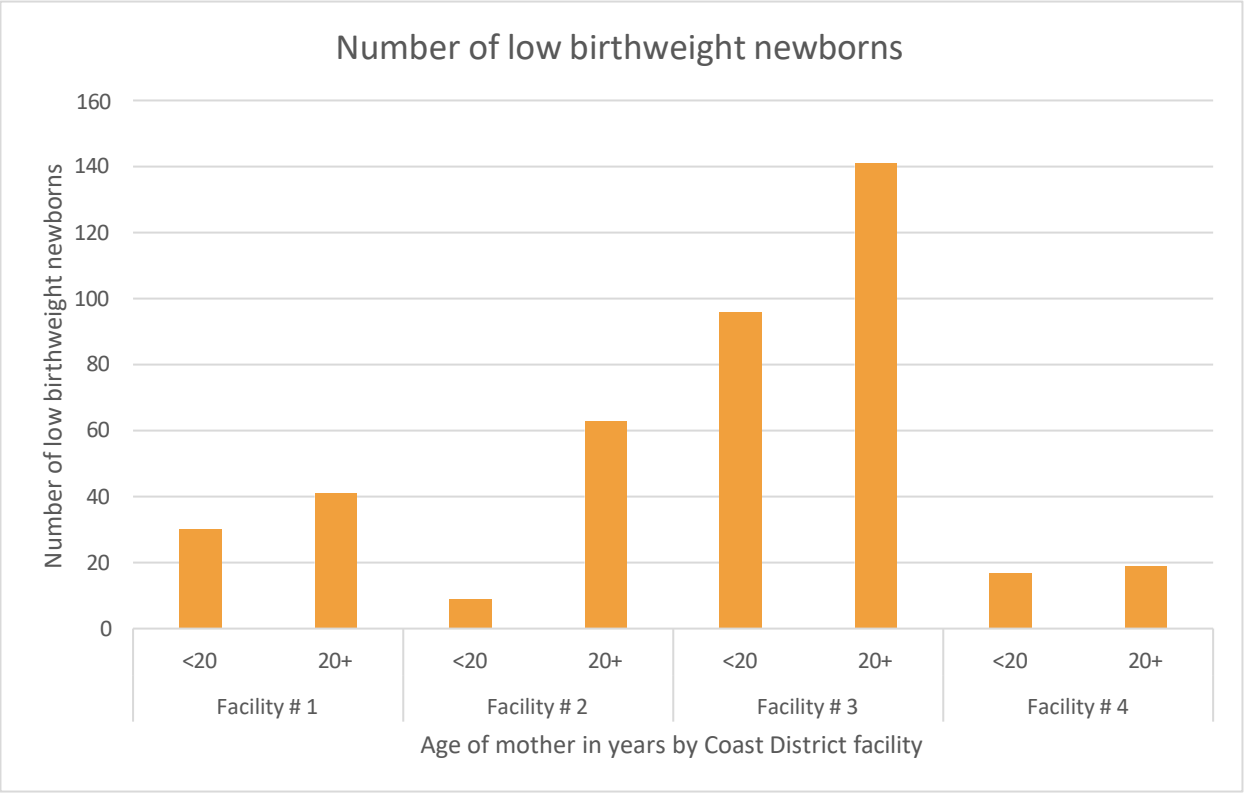
Table 1. Birthweight monthly summary, December 2009

		Facility # 1		Facility # 2		Facility # 3		Facility # 4	
		Age of client (in years)							
Birthweight Indicators		<20	20+	<20	20+	<20	20+	<20	20+
HCT 1	Number of facility births	341	401	61	226	501	623	108	151
HCT 2	Number of newborns weighed	339	399	53	220	494	600	108	151
HCT 4	Number of newborns with recorded birthweight	338	399	40	214	431	487	107	151
HCT 5	Number of low birthweight newborns	30	41	9	63	96	141	17	19
HCT 7	Number of clients referred for follow up	30	41	4	41	84	98	4	8

CD2a_n

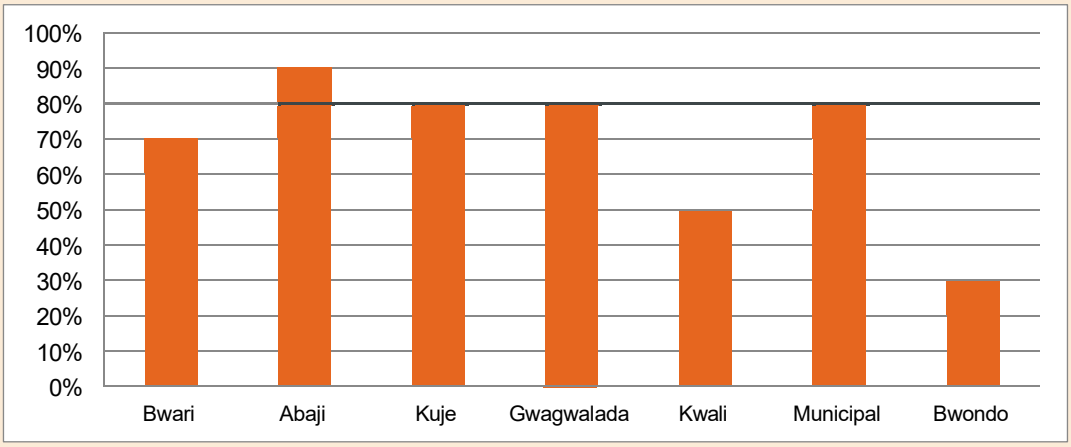
Develop a bar chart depicting the distribution across the maternal ages, of newborns with a low birthweight at the four facilities in Coast District.

Scoring CS2n
Correct presentation of the bar graph to look like the graph below. Alternatively, all <20 year olds and >20 year olds could be grouped together. Incorrect answers (or no answers) get a score of zero.



CD2b_n	***Maternal, newborn and stillbirth adapted case***

Figure 1. Facility based early initiation of breastfeeding in the period of January to December 2023 by a local government agency, as compared to the national target



	Interpret the graph above: _____

Answer key CD2b_n	Points	Scoring CD2b
Abaji, Kuje, and Municipal Districts have attained the target coverage rate (80%) by the end of 2023.	1 point	• 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 breastfeeding initiation coverage rate in 2023.	1 point	
The Abaji District surpassed the target breastfeeding initiation coverage rate by at least 10%.	1 point	

CD2c_n	*The proportion of infants exclusively breastfeeding at 6 months is estimated at 5 percent. The government's National Childhood Nutrition Plan (2018-2023) set revised targets to improve breastfeeding coverage. To meet this goal, the National Childhood Nutrition Program began focusing on early initiation of breastfeeding. The target was set at 80% for the end of 2023.*
CD2c1_n	*Among the districts shown in the above graph, which attained the target coverage rate (80%) by the end of 2023?* _____
D2c2_n	*What guidance could you provide to districts and programs based on these data?* _____

Answer key CD2c1 and CD2c2	Points	Scoring CD2c1 and CD2c2
Abaji, Kuje, and Municipal Districts have attained the target coverage rate (80%) by the end of 2023.	1 point	• 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.
Bwari, Kwali, Bwondo, and Gwagwalada Districts have to develop strategies to improve breastfeeding coverage	1 point	

CD2d_n	***Provide at least one use of the above chart (****CD2b_n****) findings at the:***
CD2d1_n	*Facility level*
	1.
	2.
	3.

Answer key CD2d1	Points	Scoring CD2d1
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 breastfeeding.	1 point	

CD2d2_n	*Community level*
	1.
	2.
	3.

Answer key CD2d2	Points	Scoring CD2d2
To raise awareness about the need for and proper use of breastfeeding.	1 point	• 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 breastfeeding.	1 point	

CD2d3_n	*District level*
	1.
	2.
	3.

Answer key CD2d3	Points	Scoring CD2d3
To assess progress toward goals	1 point	• 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 breastfeeding coverage	1 point	
To mobilize resources for breastfeeding; to advocate with partners for increased support	1 point	
To advocate for changes to policies (such as the transition from targeting vulnerable populations to achieving universal coverage)	1 point	

CD3_n	***Maternal, newborn and stillbirth adapted case study:*** *A survey in the facility catchment area found 80 newborns had died in the first 28 days of life. The total number of live births was 2,000. What is the neonatal mortality rate?* _____

Answer key CD3	Scoring CD3
1,000x (80/2,000) = 40 per 1,000 live births	• A correct answer gets one point. • Wrong answers (or no answers) get a score of zero. • The range will vary between 0 and 1.

CD4_n	***Maternal, newborn and stillbirth adapted question:*** *If the neonatal mortality rate was 2 percent and the total number of live births was 10,000, calculate the number of newborns who died.* _____

Answer key CD4	Scoring CD4
0.02 x 10,000 = 200 newborns who died	• A correct answer gets one point. • Wrong answers (or no answers) get a score of zero. • The range will vary between 0 and 1.

Part 3. For Health Facility In-Charge: Questions with Scoring Guide

Scoring Guide for Section 3.1

Section 3.1: Competency to perform RHIS tasks	
[SurveyCTO] ***ENTER THE SCORES FOR THE FOLLOWING QUESTIONS THAT WERE COMPLETED ON PAPER***	
CF1_n	*The estimated number of newborns with birthweight <2500g in the catchment area for the current period is 120. The kangaroo mother care (KMC) ward in your facility has 40 admitted mother baby pairs. Calculate the percentage of eligible newborns in the facility catchment area receiving KMC.*
Answer key CF1	Scong CF1
100 x (40/120) = 33.3% of eligible newborns in the facility catchment area are receiving KMC	• A correct answer gets one point. • Wrong answers (or no answers) get a score of zero. • The range will vary between 0 and 1.

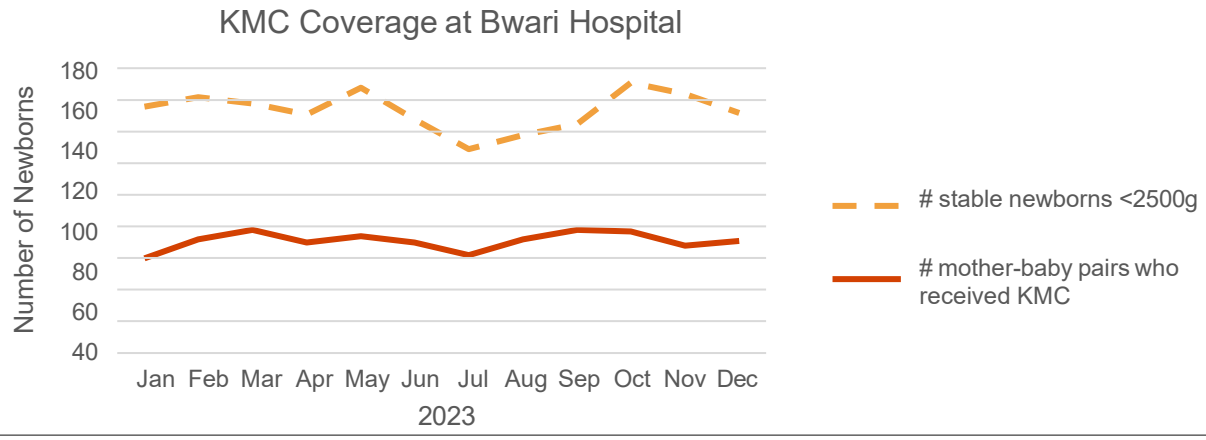
CF2_n	***Maternal, newborn and stillbirth adapted case study:*** *The table below shows the number of newborns with birthweight <2500g born in Bwari Health Centre during 2023, as well as the number of mother-baby pairs receiving KMC.* ***Table 1. Newborns with birthweight <2500g at Bwari Health Centre and who received KMC***

Indicator	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
# Stable newborns <2500g	156	162	158	151	168	148	129	138	145	171	164	152
# Mother-baby pairs who received KMC	60	72	78	70	74	70	62	72	78	77	68	71

CF2a_n	Develop a line graph depicting the trend over one year of KMC coverage among eligible babies born at Bwari Health Center.

Scoring CF2a

Correct presentation of the line graph gets one point. Incorrect answers (or no answers) get a score of zero.



CF2b_n

Maternal, newborn and stillbirth adapted case study:

Kateria City Hospital, January–March, 2023

Figure: Neonatal mortality rates per 1,000 livebirths, by birthweight categories, Kateria City Hospital, January–March, 2023

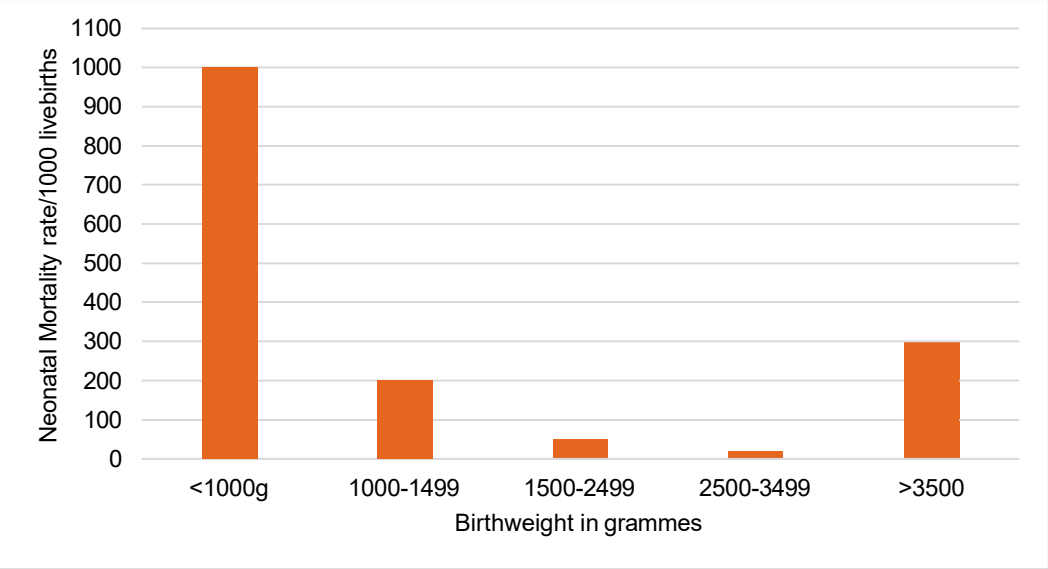


Table: Number of neonatal livebirths and neonatal deaths by birthweight categories, Kateria City Hospital, January–March 2023

Birthweight	Live births	Deaths
<1000g	1	1
1000-1499	5	1
1500-2499	140	7
2500-3499	200	4
>3500	10	3
Totals	356	16

What do the data above tell you about the birthweight mix for neonatal deaths at the Kateria City hospital?

Answer key CF2b	Points	Scoring CF2b
The graph shows that the neonatal mortality rate is highest for babies in birthweight categories <1000g, then >3500g, then 1000–1499g, then 1500g–2499g then 2500–3499g	1 point	• 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 the neonatal mortality rate is lowest for babies weighing 2500–3499g, and then 1500–2499g.	1 point	

CF2c1_n	*Calculate the neonatal mortality rate in Kateria city hospital during January to March 2021.*	
Answer key	Points	Scoring CF2c1
1,000x (16/356) = 44.9 There neonatal mortality rate was 45 per 1,000 livebirths for babies of all birthweights between Jan–Mar 2023 = 1000x (16/356) = 44.9	1 point	• The correct answer gets one point with a maximum score of one point. • Wrong answers (or no answers) get a score of zero. • The range will vary between 0 and 1.

CF2c2_n	*For Kateria City hospital to lower their neonatal mortality rate, which birthweight category should they focus on?*	*1. <1000g* *2. 1000–1499g* *3. 1500–2499g* *4. 2500–3499g* *5. >3500g*
Answer key CF2c2	Points	Scoring CF2c2
1500–2400g is the birthweight group with the largest number of deaths (n=7). Most of the deaths occur in the higher birth weight categories (2500–2499g n = 4 and >2500g n=3). To bring the rate down the focus needs to be on these birthweight categories rather than the <1000g category which has the highest rate but the smallest number of births and deaths.	1 point	• The correct answer gets one point with a maximum score of one point • Wrong answers (or no answers) get a score of zero • The range will vary between 0 and 1

CF2d_n	***Provide at least <u>one</u> use of the above graph (****CF2b_n****) findings at the:***
CF2d1_n	*Facility level*
	1.
	2.
	3.

Answer key CF2d1	Points	Scoring CF2d1
This graph helps the facility monitor the number of neonatal deaths by birthweight. By observing the trend, the manager should be able to plan the workforce, commodities, and the physical resources the facility needs to improve care for newborns.	1 point	• 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 specific birthweight category babies, e.g., low birth weight, very low birth weight, high birth weight.	1 point	

CF2d2_n	*Community level*
	1.
	2.
	3.

Answer key CF2d2	Points	Scoring CF2d2
The findings in the graph highlight the high prevalence of low birthweight babies in this community.	1 point	• 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 need for community mobilization to create more awareness on the benefits of ANC, and routine care for LBW babies (KMC etc.). LBW is multifactorial, so many risk factors need to be considered with the community.	1 point	

CF3_n	***Maternal, newborn and stillbirth adapted case study:*** *A survey in the facility catchment area found 70 newborns had died in the first 28 days of life among whom 40 were female. The total number of live births in the catchment area was 1,000, and at birth 50% were female.*
CF3a_n	*What is the neonatal morality rate among boys?* _____

Answer key CF3a	Scoring CF3a
1,000 x [30/ (0.5 x 1,000)] = 60 per 1,000 live births The neonatal mortality rate for boys in this facility was 60 per 1,000 live births	• A correct answer gets one point. • Wrong answers (or no answers) get a score of zero. • The range will vary between 0 and 1.

CF3b_n	*What is the neonatal morality rate among girls?* _____

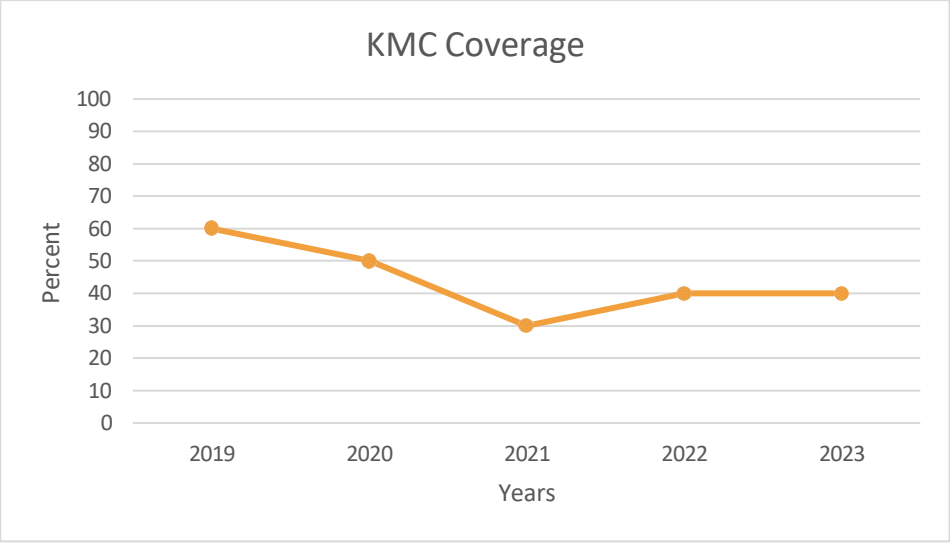
Answer key CF3b	Scoring CF3b
1,000 x [40/(0.5 x 1,000] =80 per 100 live births The neonatal mortality rate for girls in this facility was 80 per 1,000 live births	• A correct answer gets one point. • Wrong answers (or no answers) get a score of zero. • The range will vary between 0 and 1.

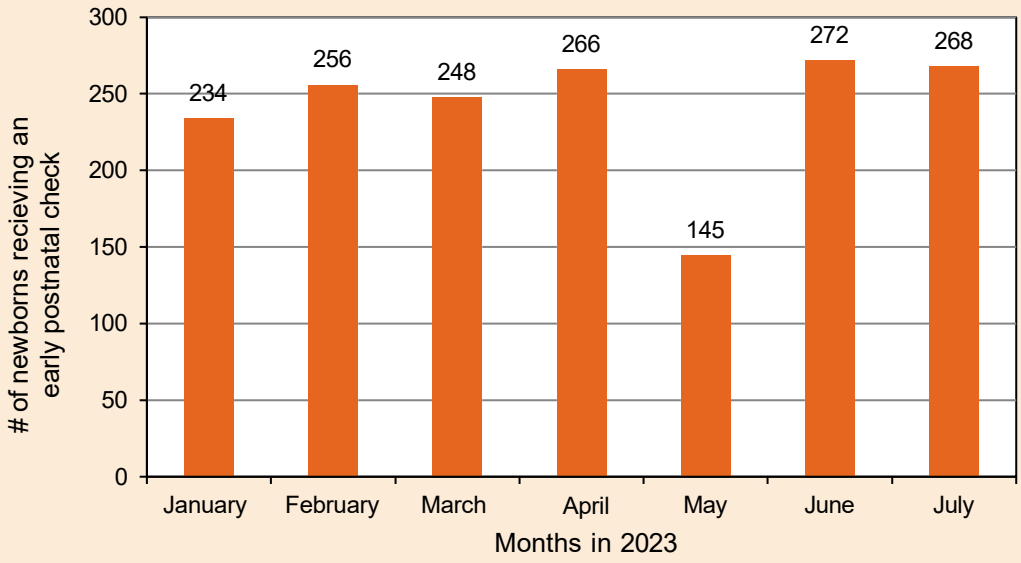
CF3c_n	*What information do you get by disaggregating the data by sex? How does this information help you to plan and improve your service delivery?* _____

Answer key CF3c	Points	Scoring CF3c
Sex-disaggregated data help to identify the most affected group among neonatal deaths	1 point	• 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 services to the appropriate group.	1 point	
In the example provided, both girls are more affected and further data are needed to understand if this is due to chance.	1 point	

Part 4. For Data Management Staff in the Health Facility: Questions with Scoring Guide

Scoring Guide for Section 4.1

Section 4.1: Competency to perform RHIS tasks	
[SurveyCTO] ***ENTER THE SCORES FOR THE FOLLOWING QUESTIONS THAT WERE COMPLETED ON PAPER***	
CS2_n	***Maternal, newborn and stillbirth adapted case study:*** *The coverage of kangaroo mother care was found to be 60 percent, 50 percent, 30 percent, 40 percent, and 40 percent for the years 2019, 2020 2021, 2022, and 2023, respectively.*
CS2a_n	*Develop a trend graph (a line graph) depicting the coverage of KMC, by year*
Scoring CS2a	
Correct presentation of the line graph gets one point. Wrong answers (or no answers) get a score of zero. An example of the graph is shown:  	

CS2b_n	***Maternal, newborn and stillbirth adapted case study*** ***Figure 1. Number of newborns who received an early postnatal check in Edo Health District, January–July 2023***  *Interpret the graph above:* _____

Answer key CS2b	Points	Scoring CS2b
Over the course of the first seven months of 2023, the number of early postnatal checks fluctuated.	1 point	• 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 early postnatal checks the health district generally followed an upward trend from January to April (with a slightly lower rate in March).	1 point	
The number of early postnatal checks showed a drastic fall in May.	1 point	
Given that there was no problem with data collection, the data showed that number of early postnatal checks have fallen in May and then plateaued in the following two months.	1 point	

CS2c_n	*What aspects of the graph stand out? Is there a trend, or an irregularity? If yes or no, explain the reasons for your answer.*

Answer key CS2c	Points	Scoring CS2c
Yes, the graph showed a slight variation over the seven months, dominated by an upward increase in the number of early postnatal checks. The drastic fall in the number of early postnatal checks in May stands out. It would be helpful to see how many early postnatal checks were provided compared with the number of live births in the catchment area.	1 point	• A correct answer gets one point. • A wrong answer (or no answer) gets a score of zero.

CS2d_n	***Provide at least one use of the above graph findings at the:***
CS2d1_n	*Facility level*
	1.
	2.
	3.

Answer key CS2d1	Points	Scoring CS2d1
To monitor facility performance as compared to its target; to determine whether service provision is on track	1 point	• 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 number of early postnatal checks and avoid stockouts of related equipment, medicines, and supplies	1 point	
To mobilize appropriate resources (vaccines, human resources, logistics, etc.)	1 point	

CS2d2_n	*Community level*
	1.
	2.
	3.

Answer key CS2d2	Points	Scoring CS2d2
To mobilize the community to seek early postnatal checks	1 point	• 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	

CS3_n	*A survey in the facility catchment area found 80 newborns had died in the first 28 days of life. The total number of live births was 2,000. What is the neonatal mortality rate?* _____

Answer key CS3	Scoring CS3
1,000 x (80/2,000) = 40 per 1,000 live births The neonatal mortality rate is 40 per 1,000 live births	• A correct answer gets one point. • Wrong answers (or no answers) get a score of zero.

CS4_n	*If the neonatal mortality rate was 2 percent and the total number of live births was 10,000, calculate the number of newborns who died.* _____

Answer key CS4	Scoring CS4
0.02 x 10,000 = 200 newborns who died	• A correct answer gets one point. Wrong answers (or no answers) get a score of zero.

Part 5. For All Health Facility Staff: Questions with Scoring Guide

Scoring Guide for Section 5.1

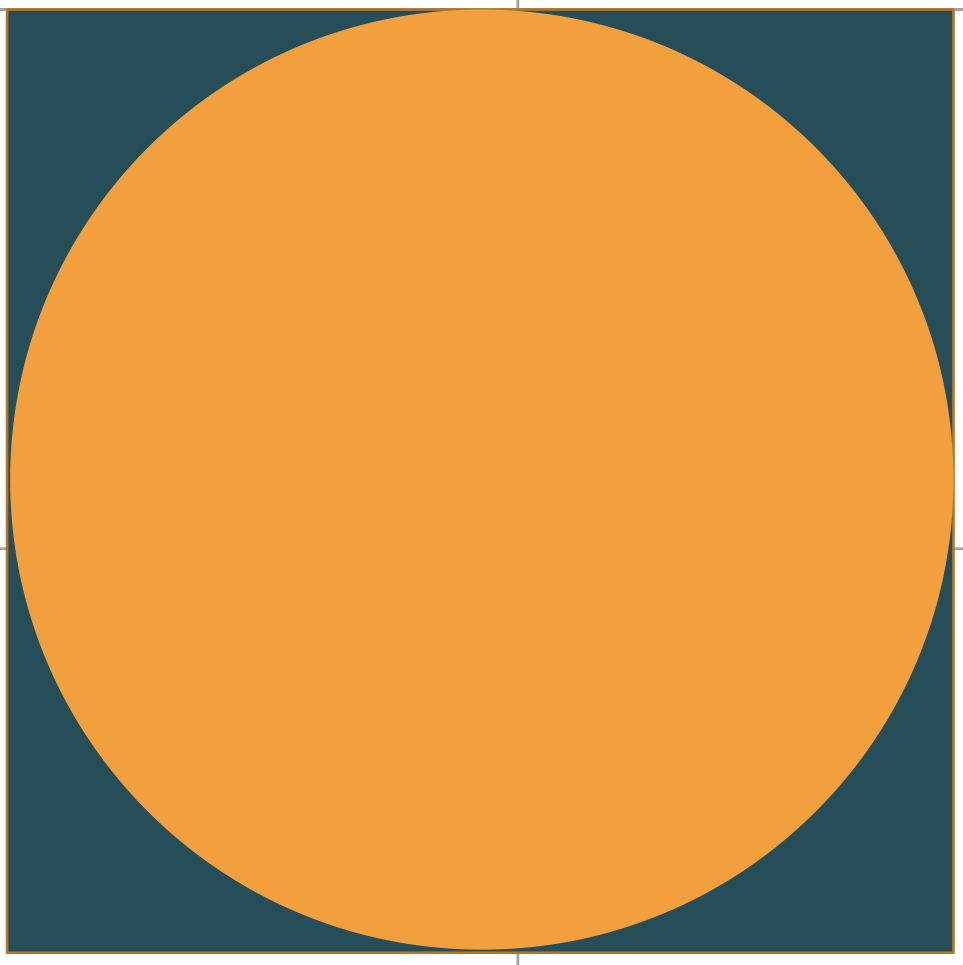
Section 5.1: Extra data quality group case study			
[SurveyCTO] ***ENTER THE SCORES FOR THE FOLLOWING QUESTIONS THAT WERE COMPLETED ON PAPER***			
Dr. Ali, District Health Executive Officer, read a recent report prepared by the HIS Officer after a supervision visit made to five out of eight health facilities in the district. The supervisor cross-checked the reported data with the recorded data from the source document. The supervision report showed that the average data accuracy for the indicator—stillbirth rate—was only 40% and Dr. Ali felt very disturbed by it. "I need to take action," he said aloud. *He set up a meeting with the entire district health team to identify the reasons for the discrepancy and think about next steps to improve data quality.* *He asked each health facility to meet to discuss the potential reasons for stillbirth rate low data accuracy, and an action plan to improve data quality.* *Please have that discussion now as a health facility team—what would you do?*			
PSb – X1	*List potential reasons for poor data quality in health facilities:*		
	1.		
	2.		
	3.		
	4.		
Answer key PSb- X1		Points	Scoring PSb- X1
Gaps in the understanding of data definitions and/or data collection methods		1 point	• 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	

PSc – X2	*Describe what major activities/actions your team in the health facility may do to improve data quality:*
	1.
	2.
	3.
	4.
	5.

Answer key PSc-X2	Points	Scoring PSc-X2
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	• 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	

Data for Impact
University of North Carolina at Chapel Hill
123 West Franklin Street, Suite 330
Chapel Hill, NC 27516 USA
Phone: 919-445-6945

D4I@unc.edu
http://www.data4impactproject.org



This publication was produced with the support of the United States Agency for International Development (USAID) under the terms of the Data for Impact (D4I) associate award 7200AA18LA00008, which is implemented by the Carolina Population Center at the University of North Carolina at Chapel Hill, in partnership with Palladium International, LLC; ICF Macro, Inc.; John Snow, Inc.; and Tulane University. The views expressed in this publication do not necessarily reflect the views of USAID or the United States government.

TL-24-115