UNITED REPUBLIC OF TANZANIA

Ministry of Health, Community Development, Gender, Elderly and Children

NATIONAL GUIDELINES FOR HEALTH DATA QUALITY ASSESSMENT

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Acronyms

ANC	Antenatal Clinic
ART	Antiretroviral Therapy
BRN	Big Results Now
CCHP	Comprehensive Council Health Plan
CHMT	Council Health Management Team
CTC	Care and Treatment Centre
DOH	Department of Health
DHIS2	District Health Information System 2
DMO	District Medical Office
DQA	Data Quality Assessment
FP	Family Planning
GoT	Government of Tanzania
HBF	Health Basket Fund
HEI	HIV Exposed Infants
HCW	Health Care Worker
HMIS	Health management Information System
HOD	Head of Department
HOD	Head of Department
HTC	HIV Testing and Counseling
HSSP	Health Sector Strategic Plan
IPD	In-patient Department
IPT	Intermittent preventive treatment
LGA	Local Government Authority
M&E	Monitoring & Evaluation
MFL	Master Facility List
MoHCDGEC	Ministry of Health Community Development, Gender, Elderly and Children
MTUHA`	*Mfumo wa Taarifa za Uendeshaji wa Huduma za Afya* (Kiswahili for Health Management Information System)
NACP	National AIDS Control Programme
NCD	Non-communicable Diseases
NEHCIP-TZ	National Essential Health Care Interventions Package – Tanzania
NGOs	Non-Governmental Organizations
OPD	Out-patient Department
PITC	Provider-initiated Testing and Counseling
PMTCT	Prevention of Mother to Child Transmission
PO-RALG	President's Office of Regional Administration and Local Government
RBF	Results-based Financing
RHMT	Regional Health Management Team
RMO	Regional Medical Office
SDGs	Sustainable Development Goals
SOPs	Standard Operating Procedures
TB	Tuberculosis
WHO	World Health Organization

Foreword

Many national programmes have been implemented for many years with little or no action to validate their reported data. The integration of Routine Health Information System data tools through the District Health Information Software (DHIS2) has created efficient ways of collecting health data. However, new challenges and concerns about data management have emerged. There has been no guide on how to ensure good quality data across the health systems. This protocol aims at giving a robust, reliable and credible roadmap towards data quality assurance at all levels.

The Data Quality Assessment (DQA) guidelines are a valuable monitoring and evaluation tool that should be used to elucidate the national information system strengths, and determine country- specific data quality issues that require to be addressed at each level. Its aim is to encourage and support implementation of the DQA in order to ensure good, robust and reliable quality health data.

This DQA guideline will provide general guidance on assuring data quality for planning and decision-making. For this reason, the health sector has developed these procedures for performing the Data Quality Assessment processes for facility, district, region, project/programme, national managers and planners to determine whether the type, quantity, and quality of health data needed to support sector decisions have been achieved.

The guidelines are intended to be a living document that will be updated and used periodically by all to verify the quality of data and employ interventions to correct existing procedures and practices that would lead to good data quality.

Mpoki

Dr. Mpoki M. Ulisubisya
Permanent Secretary

Acknowledgements

Preparation of the National Data Quality Assessment (DQA) guidelines was a collaborative effort of many stakeholders. The successful completion of these guidelines was made possible by the joint efforts of a number of organizations and individuals. I take this opportunity to express my gratitude to the people who have been instrumental in the process. The health sector initiated Results Based Financing (RBF) and the Health Basket Fund (HBF), as well as Big Results Now (BRN). These initiatives are implemented under the umbrella of the new Health Sector Strategic Plan IV (2015 – 2020) which is in line with the Sustainable Development Goals (SDGs). These initiatives require evidence of quality data. Therefore, the introduction of Data Quality Assessment tools is going to respond to the high demand on evidence-based quality data in the routine system.

Special thanks to the University of California, San Francisco for its technical and financial support provided to facilitate the development of these National Data Quality Assessment guidelines. Also we thank the World Bank and Measure Evaluation Tanzania for participation in planning, data collection, desk review and analysis of data that informed the content of this document, including pre-testing and writing of the final DQA document. I also acknowledge the support of other partners from the government and development partners and other stakeholders who contributed throughout the process.

I acknowledge our partners in health who provided useful information during the situational analysis and the Morogoro Regional Medical Officer (RMO), the Morogoro MC District Medical Officer (DMO), the RHMTs and CHMTs, and the health staff of the facilities where pilot of the guidelines was conducted. I also appreciate efforts made by the Assistant Director for Monitoring and Evaluation, the Assistant Director of Policy and Planning, Head of HMIS Tanzania, the staff from Monitoring and Evaluation section, and other MOHCDGEC staff for coordinating the entire process. Last but not least, I would like to extend my gratitude and appreciation to our stakeholders in the health sector for the significant contribution throughout the development of this document.

All contributions and efforts are highly appreciated.

Edward N. Mbanga
Ag. Director of Policy and Planning

CHAPTER 1: BACKGROUND

1.1. Introduction

The Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC) in Tanzania has been committed to building a comprehensive performance and information management system that supports the achievement of its objectives as defined in the Tanzania Health Sector Strategic Plan IV 2015-2020 (HSSP IV). This commits the entire health sector to collect and process data to enhance accountability and more importantly, to the use of quality data to improve programmes and interventions towards better health for the nation.

An integrated Health Information Management System (HMIS) was thus created to harmonize the sector's programme planning, financing, monitoring and evaluation. The integration was crucial to ensuring consistency and better allocation of resources given the existence of multiple donor-driven monitoring and evaluation systems, numerous sets of indicators required by the sector units and donors, and vertical reporting, all of which led to redundancy and duplication of efforts. The integration has led to technological improvement including deployment of the Master Facility List (MFL) and the District Health Information Software (DHIS2) system. DHIS2 is used as a platform for capturing and reporting data from all health facilities (Hospitals, Health Centres, and Dispensaries) – including public, faith-based and private institutions – and community units across the country.

Quality data from the HMIS are needed to inform the design of interventions, to monitor and evaluate plans, and to quantify progress towards treatment, prevention, and care targets. Attention to data quality ensures that target-setting and results reporting are informed by accurate and reliable information, and that reporting health units (facilities and communities) are collecting and organizing this information in a consistent manner. Attention to data quality leads to improved programme performance and to more efficient resource management.

With increasing demands on the public health system in Tanzania and limited resources, there is an increased need to use evidence for decision making. While data systems have improved in Tanzania in the last 15 years, including the introduction of the district health information system 2 (DHIS2), data quality audits conducted by a variety of programmes and funders have highlighted concerns about the quality of the data collected through the routine systems. Although some individual programmes have initiated data quality assessment activities, there is a need to create a system-wide approach to assess and improve data quality and ensure that the data contained in the HMIS accurately describe progress and improvements in the performance of health services.

1.2. Data quality desk review and situational analysis

Understanding that many programmes and funders had already identified data quality as a priority area and were carrying out data quality activities, it was clear that an assessment to understand and build on those efforts was necessary. A situational analysis was conducted in order to understand the activities already being carried out for data quality and to understand the data needs of health programmes within the MoHCDGEC. A steering committee was organized to develop the situational analysis tools and methods which compromised members of the MoHCDGEC M&E unit and representatives from the University of California, San Francisco (UCSF), World Bank and MEASURE. The activity comprised a desk review of existing data quality and DQA-related documents and tools, as well as a series of interviews with stakeholders at different levels of the health system.

A total of 26 interviews were carried out with departments or programmes within MoHCDGEC, other GoT stakeholders, implementing partners and donors. Stakeholders were asked about data quality assessments currently being carried out, common data quality issues, reasons for poor data quality within their programme, and priority indicators for their programme.

The situational analysis revealed that a number of programmes and implementing partners had already identified data quality as a priority issue and were conducting data quality assessment and improvement activities. Challenges identified by stakeholders included: shortage of data collection and reporting tools at the facility level, lack of clear indicator definitions for routine data collection and reporting tools, human resource constraints (staff turnover, capacity), completeness of data collection tools, timeliness of reports, and inconsistencies between data collection tools and aggregate reports. Some stakeholders identified lack of data use as contributing to poor data quality.

The majority of stakeholders already conducting DQA activities were using either the National HIV/AIDS Data Quality Guidelines and associated tools (for those implementing HIV and AIDS programmes) or tools adapted from the Global Fund Routine Data Quality Assessment tool. Stakeholders reported data verification, spot checks and cross checks as the primary DQA activities being conducted. Stakeholders reported that data quality issues originate at all levels, but recommended that the national DQA guidelines and tools focus on improving data quality at the facility level. Because the national DQA guidelines apply to the whole health system, which includes all health programmes and hundreds of indicators, each programme was asked to identify priority indicators for possible inclusion in the national DQA tools.

Stakeholders mentioned that they use their DQA findings to guide planning and programming, inform guidelines, provide feedback to facilities and districts, inform supportive supervision, and understand and plan for training needs among health care workers. Most stakeholders identified capacity building of health care managers and health care workers in the area of data quality as the best way to address common data quality issues. The results of the situational analysis guided the development of the National Guidelines for Data Quality Assessment.

The draft guidelines were presented to a group of national stakeholders on February 19th, 2016

1.3. Definition of data quality assessment (DQA)

Data quality assessment is the assessment and improvement of the quality of data. It is a process involving the identification of errors, inconsistencies and other data anomalies, and conducting activities aimed at improving the quality of data and eliminating the errors identified. Quality data are data that are reliable, accurate, precise and complete, provided in a timely manner, valid, and that maintain client confidentiality. The dimensions of data quality are defined in Table 1.

Data quality assessment ensures that information collected and reported actually represents the programme or project activities. It ensures that information is accurate and reliable, that it measures what is intended to be measured, and that it has been collected and measured in the same way (consistently) by all data collection units/programmes during all reporting periods.

1.4. Existing HMIS guidelines

National HMIS guidelines have been developed and are accompanied by training materials. The guidelines spell out the objectives of the HMIS system, describe the system in detail, contain all data collection tools (registers, tally sheets and summary forms) for every health programme, and contain instructions on how to use each data collection tool within the HMIS. The paper-based component of the HMIS system is known in Kiswahili as *"Mfumo wa Taarifa za Uendeshaji wa Huduma za Afya"* (MTUHA). The MTUHA comprises fifteen books, of which book number 1 is the guideline and training manual of the HMIS system. The guidelines are utilized as a reference book (after training) for health service providers explaining how to collect, compile and report data. These data quality guidelines are meant to complement the existing HMIS guidelines, which are referenced throughout this document.

Table 1: Operational definitions of data quality dimensions

Data Quality Dimension	Operational Definition
Accuracy	Accuracy refers to the extent to which the data reflect the actual/correct information. It defines validity of the data and is achieved by minimizing errors from recording or interviewer bias and transcription.
Completeness	Completeness means that an information system from which the results are derived is appropriately inclusive: it represents the complete list of records (eligible persons, facilities, units) and the fields in each record are provided appropriately.
Reliability	Data are reliable if they are arguably complete and accurate, measure the intended indicator, are consistent and are not subject to inappropriate alteration over time.

Data Quality Dimension	Operational Definition
Precision	This means that the data have sufficient detail. For example, an indicator requires the number of individuals who received HIV counseling & testing and received their test results, by sex of the individual. In this case, an information system lacks precision if it is not designed to record the sex of the individual who received counseling and testing.
Timeliness	Data are timely when they are up-to-date (current), and when the information is available on time. Timeliness is affected by: a) the rate at which the programme's information system is updated, b) the rate of change of actual programme activities; and, c) when the information is actually used or required.
Integrity	Data have integrity when the system used to generate them is protected from deliberate bias or manipulation for political or personal reasons.
Confidentiality	Confidentiality means that clients are assured that their data will be maintained according to national and/or international standards for data. This means that personal data are not disclosed inappropriately, and that data in hard copy and electronic form are treated with appropriate levels of security (e.g. kept in locked cabinets and/or in password protected files). Completed/used data collection and reporting tools should be stored as per existing national guidelines.

1.5. Purpose and focus of DQA guidelines

The purpose of the DQA guidelines is to provide a framework and uniform approach to conducting data quality assessment activities in the country, in which all stakeholders and partners shall be committed to ensuring data quality. This guidance lays out a process to achieve the following objectives:

- to assess the quality of health data through internal and external routine audits and supportive supervision;
- to use data quality assessment findings to identify and implement solutions,
- to implement data quality improvement strategies; and,
- to monitor and evaluate the strategies implemented to improve the quality of health data.

These guidelines focus on providing a structured and uniform approach to be applied during data collection and management processes – verifying the quality of reported data, assessing the

underlying data management and reporting systems and using findings from these assessments to identify and implement solutions for improving quality. The data quality components to be verified in these DQA guideline include reliability, accuracy, precision, completeness, timeliness, integrity and confidentiality on standard programme-level output indicators. While these guidelines focus on the DQA, the overall purpose is to streamline its implementation and provide a platform for conducting data quality assessments routinely at all levels.

These DQA guidelines will therefore support the availability of reliable quality data for evidence- based decision-making, resource allocation, policy development, and ultimately improve the quality of health services in the country by policy makers, programme managers and health service providers.

1.6. Guiding principles

These DQA guidelines were developed based on the following six guiding principles.

I. The three ones:
   - One agreed national coordinating authority to steer the multi-sectoral response
   - One agreed national strategic framework
   - One agreed national M&E framework

II. Integration/mainstreaming of data quality assessment into routine data capture and reporting activities such as supportive supervision, data quality review meetings and protocols

III. Demand responsive approaches – the DQA guidelines envisaged to act as a response to the increased demand for quality data

IV. Capacity building – build the capacity for continuous data quality issue identification and development and implementation of quality improvement strategies and actions

V. Decentralization by devolution – the need for local government authorities (e.g., CHMTs) to address issues of data quality within new systems (e.g., DHIS2) that have placed the onus of health care delivery and documentation at the council level

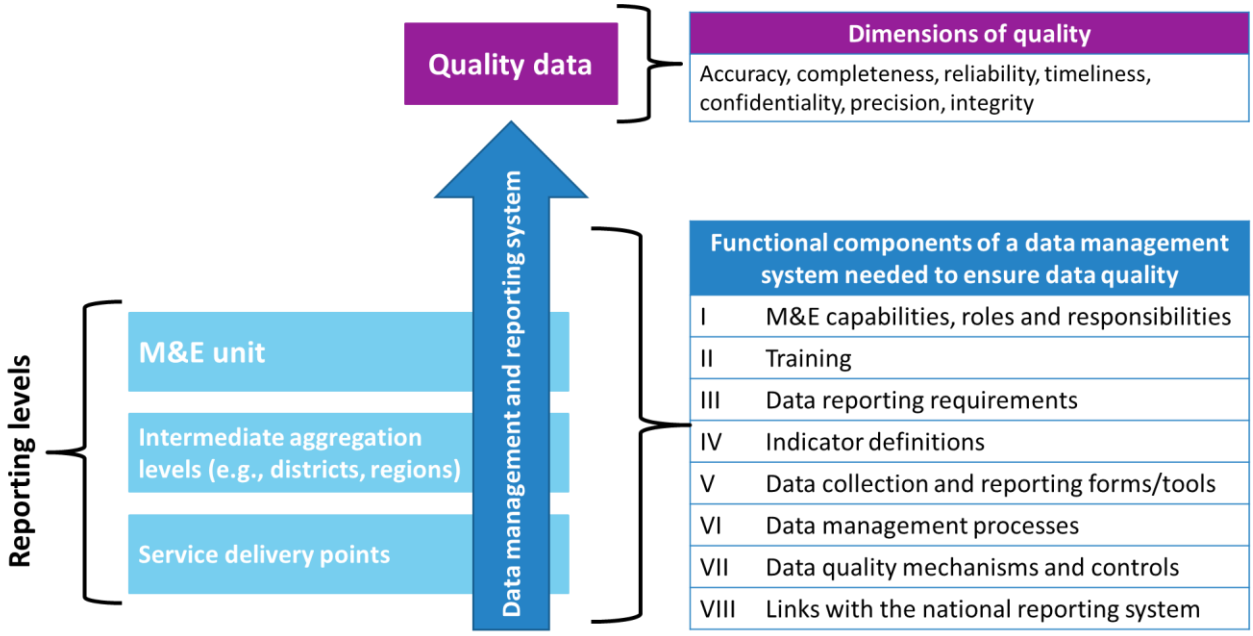
VI. Evidence-based approaches – implementation of the DQA protocol and documentation of data quality improvements will provide the evidence for reliability of data and data capture systems

1.7. Conceptual framework

The quality of reported data and use of information is dependent on the underlying data management and reporting structures[1]. Key functional components of the HMIS are required at all levels of the system[2] to ensure good quality data. The conceptual framework of DQA used the following components as its pillars and is illustrated in Figure 1 below:

- The focus on the dimensions of data quality in data quality assessment
- The application of good quality measures throughout the data management and reporting systems
- The availability of functional components needed to ensure data quality at all levels

Figure 1: Data management and reporting systems, levels and data quality



[1] Monitoring the building blocks of health systems: a handbook of indicators and their measurement strategies, WHO, Geneva, Switzerland, 2010

[2] World Health Organization guideline on DQS and LQS, 2008, 2009

CHAPTER 2: ROLES AND RESPONSIBILITIES OF STAKEHOLDERS

Accurate and reliable information are of value to decision makers. When decision makers have access to high quality data, they are more likely to invest in information systems and hence data quality improvement as a part of such a system. Within the health care sector the national, regional and council authorities each have their own mandates and jurisdiction.

The Council Health Management Teams (CHMTs), as part of the Local Government Authorities (LGAs), manage health care and social welfare services at the council level. Council health services include primary referral hospitals and primary health care facilities (health centre and dispensaries), which are staffed by personnel employed by the LGAs. All CHMTs produce an annual Comprehensive Council Health Plan (CCHP) which shows the activities and budgets for health services for the coming year. In addition to what is included in the CCHP, a number of off-plan and off-budget activities initiated through NGOs or disease control programmes are also conducted.

The Regional Health Management Teams (RHMTs) work under the Regional Administration, which is overseen by the President's Office of Regional Administration and Local Governments (PO-RALG). They have a role to oversee the work of the Regional Referral Hospitals and the CHMTs and to provide them with technical and administrative support. The Department of Health (DOH) in PO-RALG oversees the council and regional health services administratively. PO-RALG supervises planning, reporting and financial accounting in accordance with local government procedures, which includes specific management systems and software, e.g., EpiCor and PlanRep.

The MoHCDGEC has the overall responsibility for health and social welfare services and defines priorities for services in that sector, e.g. the National Essential Health Care Interventions Package – Tanzania (NEHCIP-Tz). The MoHCDGEC provides technical guidance to organizations involved in service delivery and defines controls and promotes maintenance of quality standards, and sets the policy for social welfare. The MoHCDGEC resources and has the lead in policy and international relations in the area of health and social welfare. The MoHCDGEC delegates some stewardship functions to PO-RALG and other statutory health agencies.

Table 2 below describes the responsibility of all relevant stakeholders and how the responsibilities relate to data quality assurance.

Table 2: Roles in identifying and addressing data quality issues – national, sub-national and service delivery levels

2.1 National Level				
Stakeholder	**Functions**	**Functions**	**Role in identifying quality issues**	**Role in addressing data quality issues**
National-level policy makers	National policy making, planning and resource mobilization	Demand high quality data for use in planning and decision making	Provide feedback on the quality of data available for policy planning	• Support implementation of DQA guidelines • Advocate for quality health information • Finance activities to implement data quality assessment activities • Develop policies that are friendly to and support health information e.g., pegging financial support on outputs based on health information (results-based financing) • Develop and enforce policies and guidelines around data collection, use and quality
M&E Unit – MoHCDGEC (Entity coordinating HMIS functions)	Coordinate HMIS activities, ensure standardization for national reporting	Demand high quality data to feed into national health indicators	Monitor the quality of data collected through DHIS2	• Operationalize the implementation of DQA guidelines • Provide national guidelines such as standard operating procedures, data management plans, M&E framework • Develop and disseminate health information products (reports, bulletins, web portal) and provide data quality feedback to all levels • Coordinate HMIS activities including a unified and standardized DQA implementation
Programmes	Coordinate national implementation of policies and programmes	Demand high quality data to monitor performance	Provide feedback on the quality of data available	• Ensure different programmes contribute data • Ensure correct tools and indicators are in place
Implementing Partners	Support national programmes	Ensure high quality data from programmes	Monitor the quality of data from supported facilities	• Conduct data quality assessments using the national tools • Advocate for high quality data • Support CHMTs in improving data quality

2.2 Sub-national level		Interest in high quality data	Role in identifying quality issues	Role in addressing data quality issues
Stakeholder	**Functions**			
Regional Health Management Team (RHMT)	Coordinate health affairs in the region	Demand quality health information for decision making	Monitor and analyze data received from health facility and provide feedback on data quality	• Support implementation of DQA guidelines and supportive supervision with health facilities • Oversee the development of data improvement strategies and action plans for the region • Coordinate and supervise implementation of action plan to improve data quality
Council Health Management Team (CHMT)	Coordinate health affairs in the council	Demand quality health information for decision making	Monitor and analyze data received from health facility and provide feedback on data quality	• Support implementation of DQA guidelines through the allocation of funds and inclusion of DQA activities in CCHPs • Conduct DQAs and supportive supervision with health facilities • Oversee the development of data improvement strategies and action plans for the council • Coordinate and supervise implementation of action plans to improve data quality

2.3 Service delivery level		Interest in high quality data	Role in identifying quality issues	Role in addressing data quality issues
Stakeholder	**Functions**			
Facility Management Teams *[Hospital / Health Centre / Dispensary / Facility Management Team]*	Coordinate service provision within the facility	Demand quality data to be used in decision making	Monitor data collected and provide feedback on the quality of data available for planning and programme monitoring Validate data with facility staff	• Include issues of data quality and use in regular facility management meetings • Conduct spot checks and cross checks on 10% of records weekly • Verify monthly reports prior to submission to the council level • Provide routine support and mentorship to facility staff • Convene regular data review meetings to ensure facility data are of high quality

CHAPTER 3: DATA FLOW AND PROCESSES

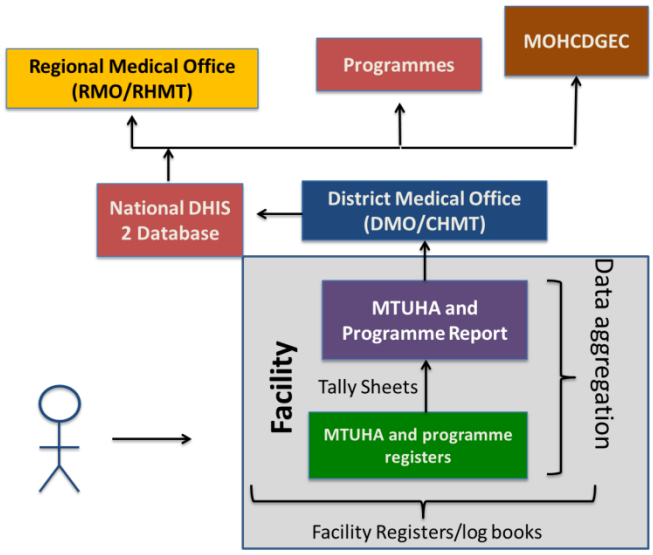
3.1. *Overview*

Data are collected at the point of service delivery, where they are aggregated into a summary report and sent to the council for entry into the DHIS2 database according to the national HMIS guidelines (Figure 2).

It is important that the dimensions of quality data are maintained at each stage of the data recording and compilation process and in both paper-based and electronic records. It is the responsibility of the data management staff and in-charge at each level to ensure that the appropriate procedures are in place to obtain quality data.

Because DHIS2 is the national HMIS system and is the repository for all health data, it is important that the quality of the data in this system is high and can be used for programme planning, forecasting and resource allocation. Ensuring the quality of the data at all levels and working to improve the quality of the data at all levels is of utmost importance for a well-functioning health system.

Figure 2: Data flow schematic



3.2. *Data recording*

Data recording and reporting systems include:

- Paper-based systems (patient cards, log books, registers, summary forms, etc.)
- Electronic databases (DHIS2, CTC2, etc.)

Health information is recorded by health care workers (HCWs) on patient cards, registers or other national data collection tools upon provision of care. Individual level patient data are aggregated using tally sheets and reported through monthly summary forms. Each month, facilities submit summary forms to the council level, where all data are entered in the DHIS2 system (with the exception of referral hospitals, which enter data directly into DHIS2). From there, data are accessible to regional, programme and national-level health personnel. The

standard operating procedure below for data capture outlines the objectives and responsibilities of individuals who are tasked with data capture at the facility level.

Standard Operating Procedures for Data Collection

Objective: To ensure use of standardized data collection tools, and complete and timely data collection.

Context: Standard data collection tools (registers and tally sheets) are used to ensure consistency of the data collected.

Partner/donor data collection tools should not be used given the integration of information gathering process into a unified HMIS. There are guidelines provided on the cover page of the registers and they form part of the checklist provided in this SOP for staff involved in data collection. One of the guidelines includes timely addition of the data into the register, i.e., as patients are being seen and not after service delivery.

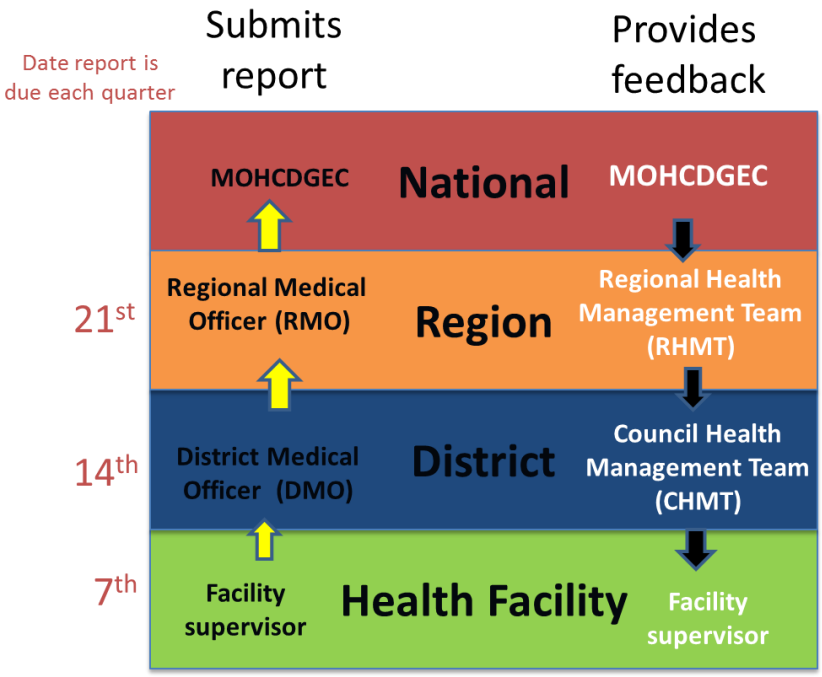
Checklist for data collection

- Use standard, MoHCDGEC coded, data collection tools
- All data collection tools must be vetted and authorized by the MoHCDGEC
- Parallel partner/donor data collection tools should not be used but should instead be included in the legal regulatory framework
- Refer to the guidelines provided in the data collection tools (cover page of registers)
- Fill in the data collection tool (register or tally sheet) as the patients are being seen – do not fill the tools later or after service delivery
- Fill all rows and appropriate columns completely and appropriately

3.3. *Data collation and validation*

An important step in the data flow process is data collation or aggregation and validation. Data collation is done at the facility by the focal person for each programme and should be counter checked by the facility in-charge before being sent to the council for entry into the DHIS2 system. Timely submission of these reports is essential for the system to function properly and for data to be available at each level in a timely manner. Below are the standard operating procedures for the persons in each programme and at each facility responsible for aggregating and collating data. Figure 3 depicts the data aggregation process and timelines for reporting.

Figure 3: Timeline for submission of monthly routine monitoring and reporting data



Standard Operating Procedures for Data Validation and Collation

Objective: To ensure accurate, complete and timely collation and validation of data

Context: Data validation and collation is done at the facility level for all facility and community data collected on paper registers. Collation is done by the HOD for the programme, who is expected to verify the data collected and aggregate it in order to complete the monthly summary form. All summary tools/reports MUST have the supervisor's name, facility name, and facility stamp.

Checklist for data validation and collation by focal person

- On a daily basis, randomly select 10% of patient records (e.g., register line entries, patient files) from your department to check for data completeness, accuracy and, if possible, compare against other available documents
- At the end of the month, total all variables based on what is contained in the relevant tally sheets and/or registers
- Recount the variables and verify the data and totals
- Document inaccurate data and outliers rectified in the data quality audit trail
- Provide feedback to the responsible person for correction
- Using the confirmed totals, fill in the relevant summary reports

Checklist for data validation by supervisor

- The summarized form/report MUST be counter checked by a second party and signed by the supervisor (facility-in-charge)
- A minimum (10%) of the weekly registers should be counter checked and accuracy of data and totals confirmed
- In case inconsistencies are found in this sample increase the sampled days and notify the data collector to make corrections
- All summary tools must have the supervisor's signature, facility name, date and stamp
- Vetted data summary reports should be duly signed, dated and stamped by the facility-in-charge or HOD
- Ensure reports are submitted to the council by the specified due date

3.4. *Electronic data capture – Entry into DHIS2*

At the center of the national HMIS system is the DHIS2 system, which is an electronic data capture platform for aggregate data. Monthly summary forms from facilities are sent to the council where they are entered into the system in accordance with national HMIS guidelines, under the supervision of the DHIS2 focal person. Once data are entered into the DHIS2 system they are available to council, regional, and national authorities. Below are the standard operating procedures for the DHIS2 focal people and data entry clerks.

Standard Operating Procedures for Electronic Data Capture/Data Transcription

Objective: To ensure accurate, complete and timely collection and reporting of data

Context: Data entry into DHIS2 is done at council level for all facility data based on monthly summary forms. The HMIS focal person is expected to coordinate the careful entry of data into the DHIS2 system by the data clerks. They should ensure transcription errors do not occur by running validation checks after and during entry. Any issues raised should be discussed and the errors identified should be corrected by the relevant person within a week. They are expected to enter the data before the specified deadline.

Checklist for data entry/electronic data capture

- The submitted data should be reviewed by the responsible service coordinator at the council level before it is entered into DHIS2
- Enter ALL data into the relevant data set in DHIS2
- Run validation rules to identify any errors that could have been missed during the paper data collation and validation stage
- For all errors detected recheck the summary tool or refer to the relevant facility for correction and resending
- All corrections made should be documented in the data quality audit trail
- Use a standard checklist to confirm the facilities whose reports have been entered into DHIS2
- The checklist used to confirm facilities' data entry should have the date that the report was received at the council/district office
- Ensure completeness by confirming that all facilities have submitted the relevant reports through running the completeness report
- Communicate to facilities that have not submitted reports
- The CHMT should give feedback to facilities, i.e., discuss any issues raised and any data entry errors identified
- The HMIS focal person should enter the scores of DQAs into DHIS2 and pull previous score before follow up DQA visits

CHAPTER 4: ROUTINE DATA QUALITY ACTIVITIES

Inherent within a well-functioning HMIS are routine data quality activities that take place at all levels of the health care system. Routine data quality activities are defined as activities that should be carried out on a regular basis and are part of the terms of reference of persons responsible for collecting, collating, capturing and reporting data. The responsible persons will be assessed on these activities during supportive supervision visits.

At the facility level, routine data quality activities include data cross-checks and spot-checks. Cross-checks are the verification of reported totals against other data-sources (e.g., inventory records, laboratory reports, registers, etc.), and spot checks are the verification of the actual delivery of services and/or commodities to the target populations.

Heads of Department at the facility should, on a daily basis, randomly select 10% of the patient records (e.g., register line entries, patient files) from their department to check for data completeness, accuracy, and, if possible, compare the data against other available documents. Facility in-charges should do the same activity on a weekly basis, covering all service outlet points within the facility. Feedback should be provided immediately to HCWs involved in data collection and service delivery.

In addition to the manual methods used at the facility, the DHIS2 focal person as well as national-level MoHCDGEC personnel should make use of data validation rules and data quality applications built into the DHIS2 system to review routinely reported data on a regular basis.

Routine data quality will not replace data quality assessments, which are periodic external assessments of priority indicators at the facility level.

CHAPTER 5: DATA QUALITY ASSESSMENT

5.1. *Introduction*

Data Quality Assessment (DQA) is a procedure for determining whether or not a data set is suitable for its intended purpose. This assessment is an evaluation of data to determine if it is of the type, quantity, and quality needed.

For the purpose of good practice in data collection, assessments shall be used to evaluate how effectively data are collected and if data entry complies with the minimum quality control requirements. It is important that the person conducting the assessment be independent of the front-line data collectors as much as possible so as to be able to provide an objective assessment.

5.2. *Purpose*

Data quality assessments shall be performed periodically to serve the following purposes:

- Verification of reported data
- To provide clear indication of strengths and/or gaps in the system and to assist in planning to improve data quality
    - Build M&E capacity to address M&E challenges found at each level
    - Improve the overall quality of the data used at all levels to report to stakeholders

5.3. *Frequency and type of DQA activities*

The frequency of conducting DQA activities shall differ depending on the level of the health care system. The rate of carrying out DQA activities and the type of DQA activities to be carried out at each level are described below in Table 3.

Table 3: Frequency and type of DQA activities to be carried out at the council, regional and national levels.

Level responsible	Frequency and level being assessed	DQA activities	Site selection process	Tools needed
Council (CHMT)	Minimum of **one** DQA at each health facility within the council each year and at each district hospital once per quarter	• Assess all priority indicators from the National Facility Data Quality Verification Form as well as indicators flagged by the data quality applications within DHIS2 • Complete National Data Quality Assessment Tool	• Prioritize facilities based on information from DHIS2 Data Quality applications but ensure all facilities receive at least one DQA visit each year	• Results of DHIS2 min-max outlier analysis • Results of DHIS2 validation rule analysis • National Facility Data Quality Verification Form • National Data Quality Assessment Tool • Reports from previously conducted DQA activities, including facility scores

Level responsible	Frequency and level being assessed	DQA activities	Site selection process	Tools needed
Regional (RHMT)	**Facility level:** • Minimum of **one** DQA at each regional referral hospital (RRH) within the region each quarter • DQAs at other facilities in the region as needed **Council level:** • One DQAs per year with each CHMT • Biannual data quality review meetings	**Facility level:** • Assess all priority indicators from the National Facility Data Quality Verification Form as well as indicators flagged by the data quality applications within DHIS2 • Complete National Data Quality Assessment Tool (Facility level) **Council level:** • Complete National Data Quality Assessment Tool (Council level) • Conduct data quality review meetings with CHMTs biannually	• All RRHs should be assessed once per year • Prioritize RRHs based on information from DHIS2 Data Quality application • Other facilities should be assessed as data quality issues are brought to the attention of the RHMT • All CHMTs should be assessed twice per year	• Results of DHIS2 min-max outlier analysis • Results of DHIS2 validation rule analysis • National Facility Data Quality Verification Form • National Data Quality Assessment Tool • Reports from previously conducted DQA activities, including facility and CHMT scores • Draft data review meeting agenda (Appendix 3)

Level responsible	Frequency and level being assessed	DQA activities	Site selection process	Tools needed
National	• One DQA per year in each region • One data quality review meeting per year in each region	• Assess all priority indicators from the National Facility Data Quality Verification Form as well as indicators flagged by the data quality applications within DHIS2 • Complete National Data Quality Assessment Tool • Conduct annual data quality review meetings with RHMTs and CHMTs • Findings from regional DQA visits will be presented during quarterly M&E TWG meetings	• Schedule regional visits based on information from DHIS2 Data Quality applications (i.e., regions with more data quality issues should be visited first) • DQA should be conducted in a minimum of 2 councils in each region • In each council, DQA should be conducted at a minimum of 1 dispensary, 1 health centre and 1 hospital	• Results of DHIS2 min-max outlier analysis • Results of DHIS2 validation rule analysis • National Facility Data Quality Verification Form • National Data Quality Assessment Tool • Reports from previously conducted DQA activities, including facility, CHMT and RHMT scores • Draft data review meeting agenda (Appendix 3)

5.4. *Selection of priority indicators*

The MoHCDGEC covers the entire health system and, as such, thousands of indicators are included in the national HMIS. Because it is not possible to conduct data quality assessments on all indicators within the health sector, a small subset of priority indicators were selected to be included in these guidelines for data quality assessment. In order to cover a large swath of programme areas and limit the length of time required to carry out the DQA to one day or less per facility, a minimum number of indicators – in most cases just a single indicator – from each programme were selected for inclusion in the national DQA tools. In order to identify which priority indicators to include, the indicators in the HSSP IV, the Basket Fund Health-based Financing Performance Scorecard (Appendix 8), and priority indicators identified by key stakeholders during the situational analysis conducted in preparation for the development of the national DQA guidelines, were reviewed. The majority of the priority indicators were selected from Table 4 (Selection of Health Sector Performance Indicators from HMIS) in the HSSP IV after being cross-checked for consistency with the other indicator sources mentioned above. These priority indicators represent priority indicators for all major health programmes within the health system and are listed in Table 4.

In addition to priority indicators, CHMTs should have a report for each facility in their council of indicators violating validation rules or which fail to meet the criteria for consistency in the DHIS2 data quality application. These indicators that have been flagged as problematic by the DHIS2 system should be included in the data quality assessments. While these guidelines identify priority indicators which cover the majority of the data collection systems within a facility there are many more very important indicators that should continue to be assessed for data quality by individual programmes. These national guidelines should be used to supplement, not replace, data quality activities currently being carried out by programmes. Programmes are encouraged to use the national tools in order to support the data quality work CHMTs are doing.

Table 4: Priority indicators selected for inclusion in national DQA tools

Programme/ Service	Indicator
Labour & Delivery	# of women who delivered in a health facility
PMTCT	# of pregnant women who tested positive for HIV (1st test)
ANC	# of pregnant women with at least 4 ANC visits
ANC	# of ANC attendees receiving adequate iron and folic acid tablets until next ANC visit
ANC/Malaria	# of pregnant women who received two doses of IPT
Immunization	# of children immunized with 3rd dose of PENTA
Under 5	# of children who received Vit A between 12 months and 5 years of age
Family Planning	# of clients who chose injection for their first FP method
HEI	# of infants born to HIV-infected women
IPD	# of IPD attendees
TB/OPD	# of TB cases diagnosed (OPD)
Malaria/OPD	# of mRDT +ve
NCD/OPD	# of hypertension diagnoses
PITC	# of new clients (PITC)
HIV/AIDS	# of new clients initiated on ART (last full quarter)

5.5. *Methodology and tools*

The methodology used for DQA will depend on the level of the health care system being assessed. There are two primary tools that will be used for DQA. These are the National Facility Data Quality Verification Form and the National Data Quality Assessment Tool.

5.5.1. DHIS2 data quality functions

The DHIS2 has a built-in data quality application containing two analysis functions that will be used to prioritize sites for DQA activities, as well as to identify additional indicators with poor data quality beyond what is included in the National Facility Data Quality Verification Form to be assessed.

Validation Rule Analysis

The DHIS2 system has been programmed to flag data values that are invalid, e.g., you cannot have more positive test results than the number of tests conducted. Data that violate a validation rule will prompt the system to display an error message; however, the system does not require the data entrant to correct the value before proceeding.

The assessor should run or request the DHIS2 focal person or the person responsible for DHIS2 data entry to run the validation rule analysis for all facilities in the council or region for the time period being assessed. The report that is generated will help guide the prioritization of facilities for DQA activities.

Once a facility is selected for DQA, indicators flagged as violating the validation rules can be added to the National Facility Data Quality Verification Form (written in manually) to be assessed during the DQA. It is important to note that not all indicators can be traced back to facility registers for a given month, as some monthly indicators are summarized directly on the MTUHA tally sheets. The team conducting the DQA should trace any indicators that are added above and beyond the priority indicators already contained within the National Facility Data Quality Verification Form back to whatever data collection tool is used by the facility to capture that information (i.e., the relevant register or tally sheet).

Min-Max Outlier Analysis

The DHIS2 system contains an outlier analysis function called the Min-Max Outlier Analysis that can be applied to any indicator or data set, at any level of the health care system, and over any time frame. The application analyses historical data to assess trends and identify outliers, or inconsistent results. A report can be generated that highlights specific facilities and/or districts with inconsistencies in their data.

The assessor should request the DHIS2 focal person or the person responsible for DHIS2 data entry to run this analysis for all facilities in the council or region for the priority indicators contained within the National Facility Data Quality Verification Form. The report generated from this application will help guide the prioritization of facilities for DQA activities by highlighting those facilities (or councils) with inconsistencies in the priority indicators over the last twelve months.

5.5.2. National Facility Data Quality Verification Form

The goal of the National Facility Data Quality Verification Form (Appendix 1) is to assist with data verification at the health facility level. The purpose of data verification is to assess, on a limited scale, if facilities are collecting and reporting data to measure the assessed indicator(s) accurately and on time and to cross-check the reported results with other data sources.

The National Facility Data Quality Verification Form is generated by the Tanzania DHIS2 system to capture a selection of priority indicators (see Table 4) that cut across the entire health sector. Each time a DQA is being conducted, the person responsible for the DQA will print or request the DHIS2 focal person or the person responsible for DHIS2 data entry to print the National Facility Data Quality Verification Form for the specific health facility and time period of interest from DHIS2. The report will be populated by DHIS2 with the relevant data for the facility and time period indicated and will be carried to the facility undergoing the DQA to be used for data verification. The report contains blank columns for data to be entered from the corresponding register, tally sheet and facility-level monthly summary forms. Appendix 4 indicates where each indicator can be found in the registers, tally sheets, and summary forms.

The assessor will review the data collection and reporting tools for all priority indicators included in the National Facility Data Quality Verification Form that are reported on by the facility being assessed for the time period of interest, and write the value for each indicator in the appropriate column. This will allow for easy comparison of the values abstracted from the facility-level data collection and reporting tools and the value obtained from DHIS2. This verification will be done for the corresponding registers, tally sheets and facility-level monthly summary forms for all of the priority indicators included in the National Facility Data Quality Verification Form that are reported on by that facility.

5.5.3. National Data Quality Assessment Tool

The National Data Quality Assessment tool is a checklist to contextualize the M&E system at the facility, council and regional levels. The tool is adapted from the Global Fund's Data Quality Audit tool and will assess the data management and reporting systems at the facilities, councils and regions as defined by the WHO guidelines. The following aspects are assessed in the National Data Quality Assessment tool.

<u>Facility level DQA</u>

The tool to assess the data quality and data systems at the health facility level comprises the following four sections:

Part1. Documentation/Tools Review

- Are standard data collection and reporting tools available, and are they completely filled?
- Are monthly reports submitted to the council level on time?

Part2. Systems Assessment

- Are key M&E and data-management staff identified with clearly assigned responsibilities?
- Have the majority of key M&E and data-management staff received the required training?

- Are there standard data collection and reporting forms that are systematically used?
- Are data used at facility meetings for planning and decision making?

Part3. Results of Data Verification Exercise

- Was the data verification exercise completed for all priority indicators in the National Facility Data Quality Verification form?
- Were inconsistencies found across data sources and, if so, what were the causes?
- Was a debrief meeting held with facility staff?

Part4. Recommendations for the Facility

- This section of the tool allows for the assessment team to document identified gaps as well as action points, person responsible and timelines for completion.

CHMT and RHMT level DQA

There are separate tools to assess the CHMTs and RHMTs with regard to data quality and data quality activities. However, these tools are very similar and so are being described together. The tools are made up of the following three sections:

Part1. Reporting Performance

- Are reports submitted by all facilities, and are reports entered into DHIS2 by the specified deadlines?
- Are monthly and quarterly reports that have been entered into DHIS2 complete?
- Are data entered into DHIS2 violating validation rules?

Part2. Systems Assessment

- Are key M&E and data-management staff identified with clearly assigned responsibilities?
- Does the HMIS focal person run validation rules in DHIS2 and provide feedback to facilities/councils on the quality of their reported data?
- Are DQA activities, including data review meetings, being conducted as per the national guidelines? Is there follow up on identified data quality issues?
- Are HMIS recording and reporting tools budgeted for at the council/regional level, and are they available at all facilities in the council/region?
- Does the CHMT/RHMT use their data for planning and budgeting?

Part3. Recommendations for the Facility

- This section of the tool allows for the assessment team to document identified gaps as well as action points, person responsible and timelines for completion. In addition, based on the score from this assessment a goal will be set for the next assessment in order to promote improvement over time.

5.5.4. Data quality scoring system and scorecard

Each facility, CHMT and RHMT will receive a Systems Assessment Score based on the findings from the National Facility DQA tool. Parts one and two of the facility-level, CHMT and RHMT tools will be scored, with each component receiving a score of one or zero based on the findings. The Systems Assessment Score will be entered into DHIS2 upon completion of the DQA and can be used to track the performance and improvement of a facility, council or region over time.

In addition, each facility will be scored on the data verification portion of the DQA. Each priority indicator will be given a score of one or zero based on whether the data in DHIS2 match what is in the corresponding monthly summary form, tally sheet and patient register. In the case of indicators for which register verification is not possible (these indicators are marked on the tool), the data in DHIS2 will be compared to data from the facility summary form and the corresponding tally sheet. A total Facility Data Quality Verification Score will be calculated as a percentage by adding the scores for all indicators assessed at the facility and dividing by the total number of indicators assessed. It is important to note that the denominator for this score will vary from facility to facility, depending on which programmes and services are provided at a given facility as this determines which indicators that facility reports. Indicators that a facility does not report on should be excluded from the data validation exercise and should not be included in the calculation of the Facility Data Quality Verification Score. The Facility Data Quality Verification Score will be entered into DHIS2 upon completion of the DQA and can be used to track the performance and improvement of a facility, council or region over time.

The scorecard for both the data verification and the systems assessment (Appendix 5) will be left with the facility, CHMT or RHMT and should be displayed on a wall as a reminder to strive for improvement. Figure 4 shows the color scheme which will be used to visually display the data quality scores of that facility, CHMT, or RHMT.

Figure 4: Data quality score card

Score >79%	**Meets basic data quality expectations**
Score 50-79%	**Needs improvement**
Score < 50%	**Needs urgent remediation**

5.5.5. Summary of processes for assessing data quality elements at the facility and council levels

The processes for verifying data accuracy, completeness and timeliness at the facility and council levels are described in Table 5.

Table 5: Processes for verifying data quality elements

Data quality element	Level	Verification of data quality elements
Timeliness	Facility	• The facility-in-charge will be responsible for ensuring that all reports are submitted to the council by the 7th of the month. • S/he will monitor the timeliness of report submission by recording the dates of report submission against the set dates (from facility to council by the 7th of the month).
	Council	• The CHMT will be responsible for ensuring that all facilities within their councils submit reports by the 7th of the month. • The timeliness report should be generated from DHIS2 each month and the CHMT should follow up on any late submission. Timeliness will contribute to a council's Data System Score in DQAs conducted by the RHMT at the council level. That score can be used to monitor timeliness in the council.
Accuracy	Facility	• The HODs and facility-in-charge will do cross checks and spot checks on a routine basis to ensure data quality. • This verification will inform the facility management of the accuracy of recording and reporting at each service point. • If a DQA was carried out at a facility the results should be available and the facility-in-charge should make efforts to address any gaps identified. The Facility Data Quality Verification Score from the DQA will indicate the accuracy of the facility's data and allow the facility to track improvements in data accuracy over time.
	Council	• The CHMT will conduct a minimum of one DQA at each facility each year and at each district hospital once per quarter. The Facility Data Quality Verification Score from the DQAs will indicate the accuracy of facility data and allow CHMTs to track improvements in data accuracy in their councils over time. The reports should be available both to the facilities and to the CHMT to help improve and monitor changes in the accuracy of council data. • During an RHMT's assessment of a CHMT, validation rules will be run in DHIS2 for the council's data and any data violating a validation rule will be documented. Steps to address invalid data will be included in the DQA recommendations for the council.

Data quality element	Level	Verification of data quality elements
Completeness	Facility	• The HODs and facility-in-charge will check the availability of data from all service areas and cross check if all variables have been entered on a routine basis.
	Council	• The CHMT will review monthly and quarterly reports submitted by all facilities in the council to check for completeness of the data. • The CHMT and DHIS2 focal person will routinely cross check if all variables from facility reports have been entered into DHIS2 by the 14th of the month. • During an RHMT's assessment of a CHMT, they will verify the completeness of facility reports entered into DHSI2, which will contribute to a council's Systems Assessment Score. Steps to address incomplete reports will be included in the DQA recommendations for the council and the score can be used to monitor data completeness in the council.

5.6. *Steps to conducting a DQA*

The tools and methods described above detail the practical steps to conducting a DQA while at the facility or during the assessment of a CHMT or RHMT. Standard protocols for visiting a facility, council or region should be followed, including notifying the relevant individuals of the upcoming visit and of what will be required from them during the assessment.

Facility-level DQA activities require more preparation and time than those conducted with CHMTs and RHMTs. Below are the steps for conducting a facility-level DQA.

5.6.1. Preparation

- The CHMT/RHMT should plan to spend up to half a day doing DQA at a dispensary or health centre, and a whole day doing DQA at a district or regional referral hospital.
- Before the day of the facility visit, the CHMT should print or request the DHIS2 focal person or person responsible for DHIS2 data entry to print out the results of the Validation Rule Analysis and the Min-Max Outlier Analysis for the previous months for the facilities in the council. Although all facilities must be visited at least once per year, prioritization of which facilities should be visited first will be based on the results of these two built-in data quality functions.
- The CHMT should assess whether any indicators in addition to the priority indicators should be assessed for the selected facility and complete the blank rows for additional indicators in the National Facility Data Quality Verification Form.
- The facility to be assessed in any given month should be selected in the first week of that month based on the selection criteria and the time period assessed should be the most recent month with complete data in DHIS2. For those indicators reported on a quarterly basis, the time period assessed should be the most recent quarter with complete data in DHIS2. Note that in some cases, the month being assessed will not fall within the quarter being assessed. For example, if the most recent month with complete data in DHIS2 is January, then January should be assessed for the indicators reported on a monthly basis. For the indicator reported on a quarterly basis, quarter four (Oct-Dec) of the previous year should be assessed.
- The selected facility should be informed prior to the visit and requested to prepare the source documents that will be needed for the DQA.
- The CHMT should pull any previous data quality assessments and scores for that facility and should bring them to visit. Any issues flagged in previous visits should be followed up.

5.6.2. Facility assessment

- Upon arrival at the facility the team should locate the facility-in-charge, explain their purpose, and request access to the records needed to conduct the DQA.
- The team should fill out Part 2 of the National Data Quality Assessment Tool with the facility-in-charge.
- Before beginning the data verification exercise, the team should request guidance from the facility-in-charge as to which programmes to assess first as well as the best way to collect all of the relevant facility registers, tally sheets and summary forms for assessment. This will depend on the size and layout of the facility, and what will cause the least amount of disruption to service provision.

    - For example, the team might move from one unit to another, checking in with the corresponding heads of department and reviewing the relevant source documents needed to complete the National Facility Data Quality Verification Form.
    - Alternatively, the team might sit in a designated office or meeting room while facility staff collect and bring the source documents needed to complete the National Facility Data Quality Verification Form to the team.
    - Appendix 4 indicates where each indicator can be found in the register, tally sheet, and summary form.
- The team should complete the National Facility Data Quality Verification Form and Part 1 of the National Data Quality Assessment Tool at the same time.
- After completing the data verification exercise with the National Facility Data Quality Verification Form, the team should complete Part 3 of the National Data Quality Assessment Tool.
- After completing the entire data quality assessment, the team should debrief with the facility-in-charge and HODs to discuss findings and to complete Part 4 of the National Data Quality Assessment Tool. Any identified gaps and action points, as well as the person responsible and timeline for each action point must be documented for future follow-up.
- The assessor should leave one copy of the assessment with the facility in-charge and leave the scorecard with them.
- Following the return to the CHMT, the findings documented in Part 4 of the National Data Quality Assessment Tool for that assessment should be entered into DHIS2 and **ANY** discrepancies noted between facility summary forms and DHIS2 results should be corrected immediately.

5.6.3. CHMT and RHMT assessments

- CHMTs will be assessed by the RHMT and the RHMT will be assessed by personnel from the national level. For these assessments the visiting party should inform the party being assessed (CHMT or RHMT) one week in advance through an official letter to ensure that the relevant members are present and available. In addition, they should pull any previous scorecards for visits to that CHMT or RHMT.
- Upon arrival at the CHMT or RHMT offices the assessor should meet with the presiding authorities (RMO or DMO) to explain the purpose of the visit and should request access to the HMIS focal person.
- The assessor should sit with the HMIS focal person as well as members of the CHMT or RHMT and complete Part I of the council or regional Data Quality Assessment tool. This will entail running the timeliness and validation rules for each data set within DHIS2 for the specified time. The results for timeliness and validation should be entered into the appropriate data set cell in the Data Quality Assessment Tool.
- In order to assess the completeness of the data and to verify the results in DHIS2, the HMIS focal person should pull a summary report form for a randomly selected facility for the specified time period for each data set and the assessor should compare the results in DHIS2 with the results on the corresponding facility summary form. Any discrepancies should be corrected immediately and the assessor should circle Y for yes if the results agree or N for no if the results do not agree. Note that not all summary

reports need to come from the same facility multiple facilities can be selected for this exercise so as to ensure that all data sets included in the National DQA tool are assessed. This will only be done when assessing the CHMT because the RHMT does not enter data into DHIS2.

- Following the data completeness/verification process, Part 2 of the systems assessment should be administered to the CHMT or RHMT.
- Any gaps identified should be discussed and actions to correct those gaps should be identified along with the person(s) responsible and a timeline. This should be documented in Part 3 of the tool.
- The CHMT or RHMT should be left with a copy of the assessment as well as a scorecard.

5.7. *Data quality review meetings*

In order to improve the quality of the data it is important for there to be a strong feedback mechanism and an action oriented approach to resolving identified gaps as well as opportunities to share best practices within and across councils. In order to maintain data quality as a priority, data quality review meetings will be routinely conducted (biannually by each RHMT and once per year in each region by the national level) to review ongoing DQA activities and to determine immediate corrective actions and strategies to prevent future errors in data. The meetings will be called by the RHMT for the CHMTs within their region, and by the national level for each RHMT. The meetings will focus on ensuring that data quality is a priority at all levels of the system through the following:

- Information sharing, including sharing of best practices
- Review of data quality assessment reports and provision of feedback
- Discussions on appropriate actions to address data quality issues

A sample invitation letter and agenda to be used in the review meetings are included in Appendix 5. RHMTs and CHMTs shall be informed in advance of the meetings and given a list of documents to bring to the meetings including any data quality assessments done. These requirements will be spelled out in the invitation letter.

Structure of data quality review meetings

Twice a year, each RHMT will call for a data quality review meeting with representatives from each of the CHMTs in their region. The meeting objective will be to discuss data quality challenges and best practices encountered during facility data quality assessments, to share experiences, and to discuss data quality in the council and the implications for the larger health system within the council.

Each CHMT will be expected to present on all of the DQA activities conducted in previous six months. Presentations should describe which facilities have been assessed and why those were selected for DQA, the main findings on data accuracy, completeness and timeliness, corrective actions identified and progress on those actions, as well as any best practices identified.

Following the CHMT presentations, there will be a plenary discussion on trends around data quality in the region, where discrepancies between data sources are most often found, whether and how the DHIS2 focal persons are tracking the quality of data being reported by the facilities, and whether improvements have been noted since the last meeting. The discussion will also cover how data quality in the region is affecting decision making, planning and service delivery.

5.8. *Ethical considerations during DQA*

- The data quality assessments must be conducted with the utmost adherence to the ethical standards of the MoHCDGEC and the country.
- While the assessment teams may require access to personal information (e.g., medical records) for the purposes of recounting and cross-checking reported results, under no circumstances will any personal information be disclosed in relation to the conduct of the assessment or the reporting of findings and recommendations.
- The assessment team should neither photocopy nor remove documents from facilities without permission.
- The assessor should not accept or solicit directly or indirectly anything of economic value as a gift, gratuity, favor, entertainment or loan that is or may appear to be designed to in any manner influence official conduct, particularly from one who has interests that might be substantially affected by the performance or nonperformance of the assessor's duty. This provision does not prohibit the acceptance of food and refreshments of insignificant value on infrequent occasions in the ordinary course of a meeting, conference, or other occasion where the assessor is properly in attendance, nor the acceptance of unsolicited promotional material such as pens, calendars, and/or other items of nominal intrinsic value.

5.9. *Training to conduct the DQA*

Training should be conducted using a national curriculum for the different categories of employees within the health sector upon the introduction of the data quality assessment guidelines. The training should cover the basic concepts of data quality assurance, standards, and specific roles and responsibilities of all the cadres involved in health information activities within the health sector. The training should also include practical exercises in performing data verifications with the national data collection and reporting tools (registers, tally sheets, and summary forms). Continuous trainings and mentoring should be conducted periodically to respond to changing needs.

In addition to training the staff that will conduct the data quality audits the DHIS2 focal people in each council should be trained on producing the necessary reports for site selection as well as generating the National Facility Data Quality Verification Form.

CHAPTER 6: DQA REPORTS AND USE OF DQA FINDINGS

The assessment team should complete the National Facility Data Quality Verification Form and the National Data Quality Assessment tool while at the facility. The results should be reviewed with the facility-in-charge and all HODs before leaving the site. Together with the facility in-charge and HODs, recommendations for rectifying any gaps identified should be developed and documented, including action items, persons responsible and timeline. A copy of the report and the scorecard should be left with the facility-in-charge and a copy shall be submitted to the CHMT. These reports and scorecards will be reviewed at the biannual and annual data quality review meetings. In addition, the information collected during the data quality assessment should be entered into DHIS2 including which facilities were audited and the dates of the DQAs, as well as each facility's Facility Data Quality Verification Score and Systems Assessment Score. This information will help CHMTs track which facilities and which indicators have been audited and track performance over time. Similarly when RHMTs assess CHMTs and the national level assesses RHMTs they should leave a copy of the report and scorecard with the DMO or RMO and the results should be entered into DHIS2 to track progress at the council and regional level.

The data quality review meetings will also be an important time to use the findings of the DQA and should allow for feedback, sharing of best practices, and open discussion surrounding challenges encountered during the DQA process.

In addition to longer term solutions to data quality issues, the CHMT should ensure that any errors found while conducting the data quality assessment that can be corrected in the DHIS2 system are rectified in order to improve the quality of the data in the system immediately.

Appendix 1: National Facility Data Quality Verification Form

#	Programme/ Service	Indicator	DHIS2 Result	Facility Summary Form	Tally Sheet	MTUHA Register	Do results agree?	Score (0 or 1)	Comments or reasons for non-agreement
MONTH AND YEAR:									
1	Labour and Delivery	# of women who delivered in a health facility					Y N		
2	PMTCT	# of pregnant women who tested HIV+ (1st test)					Y N		
3	ANC	# of pregnant women with at least 4 ANC visits					Y N		
4	ANC	# of ANC attendees receiving adequate iron and folic acid tablets until next ANC visit					Y N		
5	ANC/Malaria	# of pregnant women who received two doses of IPT					Y N		
6	Immunization	# of children immunized with 3rd dose of PENTA					Y N		
7	Under 5	# of children who received Vit A between 12 months and 5 years of age					Y N		
8	Family Planning	# of clients who chose injection for their first FP method					Y N		
9	HEI	# of infants born to HIV-infected women					Y N		
10	IPD	# of IPD attendees					Y N		
11	TB/OPD	# of TB cases diagnosed					Y N		
12	Malaria/OPD	# of mRDT +ve					Y N		
13	NCD/OPD	# of hypertension diagnoses					Y N		
14	PITC	# of new clients (PITC register)					Y N		
QUARTER AND YEAR:									
15	HIV/AIDS	# of new clients initiated on ART (last full quarter)					Y N		
ADDITIONAL INDICATORS TO BE ASSESSED									
							Y N		
							Y N		

Name of facility:
Council:
Date of verification:
Team names and signatures:

Please attach this form to the National Facility DQA tool

Facility Data Quality Verification Score

Total score based on indicators assessed [A] = ☐ Percent score = [A]/[B]

Total number of indicators assessed [B] = ☐ **Percent score =** ☐

Appendix 2: National Data Quality Assessment Tool - Facility

National Data Quality Assessment Tool - Facility

Date of assessment:			
Month/quarter and year being assessed:			
Facility name:			
Facility type:		**Council name:**	
Assessment team:	**Name**	**Title**	**Email/phone**

Part 1: Documentation/Tools Review

	Review availability and completeness of all indicator source documents for the selected reporting period.	*Please fill in the numbers of the MTUHA books/programme registers assessed in the below cells*										***Score (0 or 1)***
1	Are all ***registers available***?	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	
	Are all ***tally sheets available***?	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	
	Are all ***monthly reports available***?	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	
	Please use this space to provide comments regarding the availability of data collection and reporting tools.											
2	Are all available ***registers complete for the indicator being assessed*** (e.g., are rows/ columns for selected indicators filled in)?	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	
	Are all available ***tally sheets complete*** for indicators being assessed?	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	
	Are all available ***monthly reports complete*** for indicators being assessed?	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	
	Please use this space to provide comments regarding the completeness of data collection and reporting tools.											
3	Check the date of submission at the bottom of each available monthly report. Were the ***reports submitted on time***, as defined by national guidelines?	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	

Part 2: Systems Assessment

		Please circle the number of the answer that applies	***Score (0 or 1)***	***Comments***
4	The responsibility for recording the delivery of services on monthly summary forms is clearly assigned to the relevant staff.	1 Yes - there is designated staff 2 No - there is no designated staff		
5	There are designated staff at the facility level (e.g., facility in-charge) responsible for reviewing aggregated numbers prior to submission to the council level.	1 Yes - there is designated staff 2 No - there is no designated staff		
6	All relevant facility staff have received training on the data recording and reporting tools (this can be either formal training from MoHCDGEC or IP, OR on-the-job training).	1 Yes - completely 2 No - not completely		
7	The HMIS unit has provided written guidelines (MUONGOZO#1) to the service delivery point on reporting requirements and deadlines. If yes, request to see them.	1 Yes 2 No		
8	The national data collection and reporting tools (i.e., MTUHA registers, tally sheets and monthly summary forms) are consistently used by the facility.	1 Yes - completely 2 No - not completely		
9	Are data used at facility meetings for planning and decision making? If yes, ask them to describe what data they use and how, and document their answer in the comments box.	1 Yes - completely 2 No - not completely		
10	Are completed data collection and reporting tools stored as per MUONGOZO#1?	1 Yes - completely 2 No - not completely		

Part 3: Results of Data Verification Exercise			
		Please circle the number of the answer that applies	***Comments***
11	Was the data verification exercise completed for all indicators included in the National Facility Data Quality Verification form? If yes or partly, please attach completed report.	1 Yes - completely 2 Partly 3 No - not at all	
12	Were any indicators added to the data verification exercise after being flagged by the DHIS2 validation rules and/or data quality application?	1 Yes 2 No	
13	Indicate (by circling the relevant indicator numbers) which indicators were NOT found to be consistent across all data sources (e.g., registers, tally sheets, monthly summary forms and DHIS2).	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	
14	If inconsistencies were found, was the cause(s) of the discrepancies identified?	1 Yes - completely 2 Partly 3 No - not at all	
15	Was a debrief meeting held with facility staff to provide feedback after the completion of this data quality assessment?	1 Yes 2 No	
16	How do the scores from the previous DQA for this facility compare to the score from this assessment? Has there been improvement?	Previous Systems Score: _____ Systems Score for this assessment: _____ Improvement: Y N	Previous Data Verification Score: _____ Data Verification Score for this assessment: _____ Improvement: Y N

Part 4: Recommendations for the Facility				
Based on the findings of the system review and data verification at the facility, please describe any challenges to data quality identified and recommended strengthening measures, with an estimate of the length of time the improvement measure could take. In addition, set targets for improving both the Systems Assessment Score and the Facility Data Quality Verification Score by the time the next DQA takes place.				
	Identified Gaps/Weaknesses	**Description of Action Point**	**Person(s) Responsible**	**Timeline**
1				
2				
3				
4				
	TARGETS FOR SCORES ON NEXT DQA	Current Systems Assessment Score: _____ Target for next Systems Assessment Score: _____	Current Data Verification Score: _____ Target for next Data Verification Score: _____	Expected date of next DQA: _____

Appendix 3: National Data Quality Assessment Tool - CHMT

Council Health Management Team - Data Quality Assessment

Region and Council:				
Assessment team:	**Name**	**Title**	**Email**	**Phone**
Period of Assessment (Month/Quarter):				
Date of Review:				

Part 1. Reporting Performance

	Review availability, completeness, and timeliness of reports from all health facilities.	*HMIS_ Kliniki ya Wajawazito (ANC)*	*HMIS_ Kutoka Wodi ya Wazazi (L&D)*	*HMIS_ Ufuatiliaji wa Watoto (Child Health)*	*HMIS_ Uzazi wa Mpango (FP)*	*HMIS_ Wagonjwa wa Kulazwa (IPD)*	*HMIS_ Wagonjwa wa Nje (OPD)*	*NACP_HIV Testing and Counselling (HTC)*	*NACP_HIV Care and Treatment Reporting Form*	TOTAL SCORE
1	From DHIS2 what was the reporting rate for the last month/quarter?									
2	From DHIS2 what percent of reports were submitted on time in the last month/quarter?									
3	Verify the accuracy of one facility report from each programme by comparing the summary form and the corresponding report in DHIS2. Do the summary reports match what is in the system?	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	
4	Run all validation rules for the council for the last month/quarter. How many values were found? If validation was passed succesfully write 0.									

Part 2. Systems Assessment

	I - M&E Structure, Functions and Capabilities	*Circle Yes or No*	*Score (0 or 1)*	*Provide detailed comments for each component.*
5	Is there an appointed HMIS person for the council whose primary work is HMIS?	Y N		Comments:
6	Does the HMIS focal person run validation rules in DHIS2 every month after completing data entry?	Y N		Comments:
7	Does the HMIS focal person provide feedback to facilities regarding the data quality of their reports (e.g.. timeliness, completeness, accuracy)? How does s/he provide feedback?	Y N		Comments:
8	Do the programme coordinators (DRCH Co, DACC, DHTC Co, DTLC, etc.) in this council work with the HMIS focal person on their programme's data quality?	Y N		Comments:
9	How many facilities have been assessed using the national data quality tools in the last quarter? Ask to see the reports from those assessments and record how many reports were available in the comments box. For each available report, record the facility scores in the comments box.			Comments:
10	Are routine monthly data review meetings held by the CHMT? If yes, ask to see the notes from the last meeting and record the date of the last meeting in the comment box.	Y N		Comments:
11	Has the CHMT followed up on data quality issues identified during DQA activities at the facilities within the last month/quarter? If yes, ask for an explanation of what follow up was done and what the result was. Record this in the comments box.	Y N		Comments:
	II - Data Collection and Reporting Forms / Tools	***Circle Yes or No***	***Score (0 or 1)***	***Provide detailed comments for each component.***
12	Are all HMIS recording and reporting tools available in all facilities in the council?	Y N		Comments:
13	Is there a line item in the annual CCHP for printing HMIS tools? If yes, ask to see the budget and verify that there are funds designated for printing HMIS tools. Document this in the comments box.	Y N		Comments:
14	Is there a buffer stock of HMIS tools at the council level? If yes, verify the stock is there and record this in the comments box.	Y N		Comments:
	III - Data Use	***Circle Yes or No***	***Score (0 or 1)***	***Provide detailed comments for each component.***
15	Does the CHMT use data from DHIS2 for the development of their annual CCHP? If yes, ask them to describe what data they use and document their answer in the comments box.	Y N		Comments:
16	Are recent data (i.e., from within the last quarter) displayed on the notice board in or around the DMO's office?	Y N		Comments:

Part 3: Recommendations for the Council

Based on the findings of the system review and the review of the data quality assessment activities, please describe any compliance requirements or recommended strengthening measures, with an estimate of the length of time the improvement measure could take.

	Identified Gaps/Weaknesses	**Description of Action Point**	**Person(s) Responsible**	**Timeline**
1				
2				
3				
4				
	TARGETS FOR SCORES ON NEXT DQA	Current Systems Assessment Score: _____ Target for next Systems Assessment Score: _____		Expected date of next DQA: _____

Appendix 4: National Data Quality Assessment Tool - RHMT

Regional Health Management Team - Data Quality Assessment

Region:				
Assessment team:	**Name**	**Title**	**Email**	**Phone**
Period of Assessment (Month/Quarter):				
Date of Review:				

Part 1. Reporting Performance

	Review availability, completeness, and timeliness of reports from all health facilities.	***HMIS_ Kliniki ya Wajawazito (ANC)***	***HMIS_ Kutoka Wodi ya Wazazi (L&D)***	***HMIS_ Ufuatiliaji wa Watoto (Child Health)***	***HMIS_ Uzazi wa Mpango (FP)***	***HMIS_ Wagonjwa wa Kulazwa (IPD)***	***HMIS_ Wagonjwa wa Nje (OPD)***	***NACP_ HIV Testing and Counselling (HTC)***	***NACP_ HIV Care and Treatment Reporting Form***	**TOTAL SCORE**
1	From DHIS2 what was the reporting rate for region for the last month/quarter?									
2	From DHIS2 what percent of reports were submitted on time in the last month/quarter for the region?									
3	Run all validation rules for the region for the last month/quarter. How many values were found? If validation was passed succesfully write 0.									

Part 2. Systems Assessment

	I - M&E Structure, Functions and Capabilities	***Circle Yes or No***	***Score (0 or 1)***	***Provide detailed comments for each component.***
4	Is there an appointed HMIS person for the council whose primary work is HMIS?	Y N		Comments:
5	Does the HMIS focal person run validation rules in DHIS2 every month after completing data entry?	Y N		Comments:
6	Does the HMIS focal person provide feedback to facilities regarding the data quality of their reports (e.g., timeliness, completeness, accuracy)? How does s/he provide feedback?	Y N		Comments:
7	Do the programme coordinators (RCH Co, RACC, HTC Co, TLC, etc.) in this council work with the HMIS focal person on their programme's data quality?	Y N		Comments:
8	How many CHMTs have been assessed using the national data quality tools in the last quarter? Ask to see the reports from those assessments and record how many reports were available in the comments box. For each available report, record the CHMT scores in the comments box.			Comments:
9	Are biannual data quality review meetings held by the RHMT as per the national DQA guidelines? If yes, ask to see the notes from the last meeting and record the date of the last meeting in the comment box.	Y N		Comments:
10	Has the RHMT followed up on data quality issues identified during DQA activities at the councils within the last month/quarter? If yes, ask for an explanation of what follow up was done and what the result was. Record this in the comments box.	Y N		Comments:
	II - Data Collection and Reporting Forms / Tools	***Circle Yes or No***	***Score (0 or 1)***	***Provide detailed comments for each component.***
11	Do all councils currently have a buffer stock of HMIS tools? If no, ask for explanation and document in the comments box.	Y N		Comments:
12	Is there a line item in the all annual CCHFs for printing HMIS tools? If yes, ask to see the budget and verify that there are funds designated for printing HMIS tools. Document this in the comments box.	Y N		Comments:
	III - Data Use	***Circle Yes or No***	***Score (0 or 1)***	***Provide detailed comments for each component.***
13	Does the RHMT use data from DHIS2 for the development of their annual RHP? If yes, ask them to describe what data they use and document their answer in the comments box.	Y N		Comments:
14	Are recent data (i.e., from within the last quarter) displayed on the notice board in or around the RMO's office?	Y N		Comments:

Part 3: Recommendations for the Region

Based on the findings of the system review and the review of the data quality assessment activities, please describe any compliance requirements or recommended strengthening measures, with an estimate of the length of time the improvement measure could take.

	Identified Gaps/Weaknesses	**Description of Action Point**	**Person(s) Responsible**	**Timeline**
1				
2				
3				
4				
	TARGETS FOR SCORES ON NEXT DQA	Current Systems Assessment Score: _____ Target for next Systems Assessment Score: _____	Expected date of next DQA: _____	

Appendix 5: Data Quality Review Agenda

Meeting objectives:
To discuss data quality challenges and best practices encountered during facility data quality assessments, to share experiences, and to discuss data quality in the council and the implications for the larger health system within the council.

Structure:

1) Data quality presentations from CHMTs/RHMTs (30 minutes per CHMT/RHMT)
Each CHMT/RHMT should present on each of the data quality assessments they conducted in the last [*specify time frame*]. Presentations on recent DQAs should include:

- Which facilities were chosen for DQA and why
- The main DQA findings on accuracy, completeness and timeliness
- Corrective actions identified (Part 4 from the Data Quality Assessment Tool)
- Progress on the implementation of action items identified during previous DQAs
- Best practices identified (if any)

Presentations should also include any follow-up activities from previous data review meetings that are pertinent to the group (e.g., indicators which were clarified or facilities that were able to improve data quality).

Each CHMT/RHMT will have a maximum of 30 minutes for their presentation so they will need to come prepared and move through their presentation efficiently. Following the CHMT/RHMT presentations, the group will have an open discussion following the guide below.

2) Discussion (60 minutes)

PART A: Discussion of Data Quality Assessments: *accuracy, completeness, timelines, consistency, reliability*

Use the below points to discuss as a group, timeliness, accuracy, and completeness of routine data collection and reporting tools for the region as a whole, based on the CHMT presentations.

- Were the completed summary forms received at the council by the 7th of the month? Were they entered into DHIS2 by the 14th of the month?
    - If there were late submissions within the council, what were the reasons given for late submission of reports? Were the reasons valid? What can be done to facilitate timely submission?

- Did the data sources (DHIS2, summary form, register and tally sheet) agree at the facilities visited? If not, what was the source of the discrepancies (e.g., where did the errors occur)? Were there reasons given or identified for the discrepancies? What can be done to reduce these discrepancies?

- Are the DHIS2 focal people running the timeliness reports, data validation reports and data quality application reports? If not, why not? Are those reports helping the CHMT? If so, how?

- Have improvements in data quality been noted since the last meeting? If not, why not?

- Are councils providing feedback to the facilities on their action plans for data quality improvement and to rectify their errors? If yes, is it provided in a timely manner? If not, why not?

PART B: Assess data quality impact

- What are the implications of poor data quality in decision making?
- What are the implications of poor data quality in planning?
- What are the implications of poor data quality in interventions?

PART C: Data quality improvement – next steps and action plan

Instruction: CHMTs have already presented next steps from Section 4 in the National Facility DQA tool; however, this can serve as an opportunity for participants to discuss best practices and common causes of poor data quality. Participants may wish to borrow best practices from other CHMTs to implement in their own councils and the group as a whole can discuss ways to address systemic issues that lead to poor quality data. The CHMT should follow up on action plans from previous meetings to see if they have been completed.

Data Review Meetings

CHMTs and RHMTS are invited to a data review meeting to present the results of the required data quality assessments within their councils.

The purpose of the meeting is to discuss data quality challenges and best practices encountered during facility data quality assessments, to share experiences, and to discuss data quality in the council and the implications for the larger health system within the council.

Participants should come with completed reports from data quality assessments done and any other relevant documentation. They should come on time and come prepared to discuss data quality challenges and best practices.

Appendix 6: Selected Indicators and Data Sources for Tracing

S/No	Programme	Priority indicators	DATA SOURCE
1	Labour and Delivery	# of women who delivered in a health facility	**Source = MTUHA 12 (L&D register)** **Register**: Count number of times "HF" recorded in column 13 *(Alipojifungulia)* **Tally sheet**: Row 2a, sum of <20 yrs and 20+ yrs **Summary report**: Row 2a, column titled "*Jumla"*
2	PMTCT	# of pregnant women tested HIV+ (1st test) *Matokeo ya kipimo cha 1 cha VVU - P*	**Source = MTUHA 6 (ANC/PMTCT register)** **Register**: Count number of positive "P" test results in section 15, section titled *"Matokeo ya kipimo cha 1 cha VVU"*, column labeled *"Ke"*) that fall in time period being assessed based on column "*Tarehe ya kipimo"* **Tally sheet:** Row 5d, sum of <20 yrs and 20+ yrs **Summary report**: Row 5d, column titled "*Jumla"*
3	ANC	# of pregnant women with at least 4 ANC visits	**Source = MTUHA 6 (ANC/PMTCT register)** **Tally sheet**: Row 2d, sum of <20 yrs and 20+ yrs **Summary report**: Row 2d, column titled "*Jumla"*
4	ANC	# of ANC attendees receiving adequate iron and folic acid tablets until next ANC visit	**Source = MTUHA 6 (ANC/PMTCT register)** **Tally sheet:** Row 7, sum of <20 yrs and 20+ yrs **Summary report:** Row 7, column titled "*Jumla"*
5	ANC/Malaria	# of pregnant women who received 2 doses of IPT *IPT-2*	**Source = MTUHA 6 (ANC/PMTCT register)** **Register:** Count number of dates that fall within period of assessment in section 16, column labeled *"Andika tarehe ya IPT-2"* **Tally sheet:** Row 6d, sum of <20 yrs and 20+ yrs **Summary report:** Row 6d, column titled "*Jumla"*
6	Immunization	# of children immunized with 3rd dose of PENTA *PENTA dozi 3*	**Source = MTUHA 7 (Child Follow-up Register)** **Tally sheet**: Sections 2o, 2p, 2q, and 2r, sum *ME* & *KE* columns from rows labeled *"dozi 3"* **Summary report**: Sections 2o, 2p, 2q, and 2r, sum *"Jumla"* column from rows labeled *"dozi 3"*
7	Under 5	# of children who received Vitamin A between 12 months and 5 years of age	**Source = MTUHA 7 (Child Follow-up Register)** **Tally sheet**: Row 6c, sum *ME* & *KE* columns **Summary report**: Row 6c, column titled "*Jumla"*

S/No	Programme	Priority indicators	DATA SOURCE
8	Family Planning	# of clients who chose injection for their first FP method *Njia za uzazi wa mpango alizochagua katika hudhurio la kwanza - sindano*	**Source = MTUHA 8 (Family planning register)** **Register**: Count number of entries in Section 11a, column labeled *"Sindano"*, that <u>also</u> have a tick in the *"Mpya"* column of section 6 *("Aina ya Mteja")* **Tally sheet**: Row 1a, sum all columns within "*Wateja wapya"* **Summary report**: Row 1a, sum all columns within "*Wateja wapya"*
9	HEI	# of infants born to HIV-infected women	**Source = MTUHA 7 (Child follow-up register)** **Register**: Count number of lines with "1" in section 9 *"Taarifa za Mama"*, column labeled *"Hali ya VVU"* **Tally sheet**: Row 9a, sum *ME* and *KE* columns **Summary report**: Row 9a, column titled "*Jumla"*
10	IPD	# of IPD attendees *Waliolazwa wodini*	**Source = MTUHA 14 (IPD register)** **Register**: Count number of lines containing data (note: do not rely on serial numbers entered into register as these can contain mistakes) **Tally sheet**: Row 1, sum all columns **Summary report**: Row 1, last column labeled *"Jumla kuu"*
11	TB/OPD	# of TB cases diagnosed	**Source = MTUHA 5 (OPD register)** **Register**: Count number of TB diagnoses in column 12 **Tally sheet:** Row 28, sum all columns **Summary report:** Row 28, last column labeled *"Jumla kuu - Jumla"*
12	Malaria/OPD	# of mRDT +ve	**Source = MTUHA 5 (OPD register)** **Register**: Count number of lines with mRDT in column 10 "*Vipimo vilivyo agizwa"* **AND** an indication of a positive test result in column 11 *"Matokeo ya vipimo"* **Tally sheet:** Malaria section, sum all columns in row labeled "Malaria mRDT positive" **Summary report:** Row 23, row labeled "Malaria mRDT positive", last column labeled *"Jumla kuu - Jumla"*
13	NCD/OPD	# of hypertension diagnoses	**Source = MTUHA 5 (OPD register)** **Register**: Count number of hypertension diagnoses in column 12 **Tally sheet:** Row 78, sum all columns **Summary report:** Row 78, last column labeled *"Jumla kuu - Jumla"*

S/No	Programme	Priority indicators	DATA SOURCE
14	PITC	# of new PITC clients *Idadi ya wateja wapya (MP)*	**Source = NACP HIV Testing and Counseling reporting tools** **PITC testing register**: Count number of times "MP" recorded in 5th column labeled *"Aina ya mahudhurio"* **HTC monthly facility report**: Row 1, first column labeled *"Z+Q - Jumla"*
15	HIV/AIDS	# new clients initiated on ART (last full quarter**)	**Source = ART register / CTC2 database** **Electronic only sites** (i.e., sites without registers): Query CTC2 database **Sites with registers** **ART register:** Count number of individuals entered into ART register for each month falling within the reporting quarter **Quarterly facility-based HIV care / ART reporting form:** Row 2.2, first column labeled "Total"

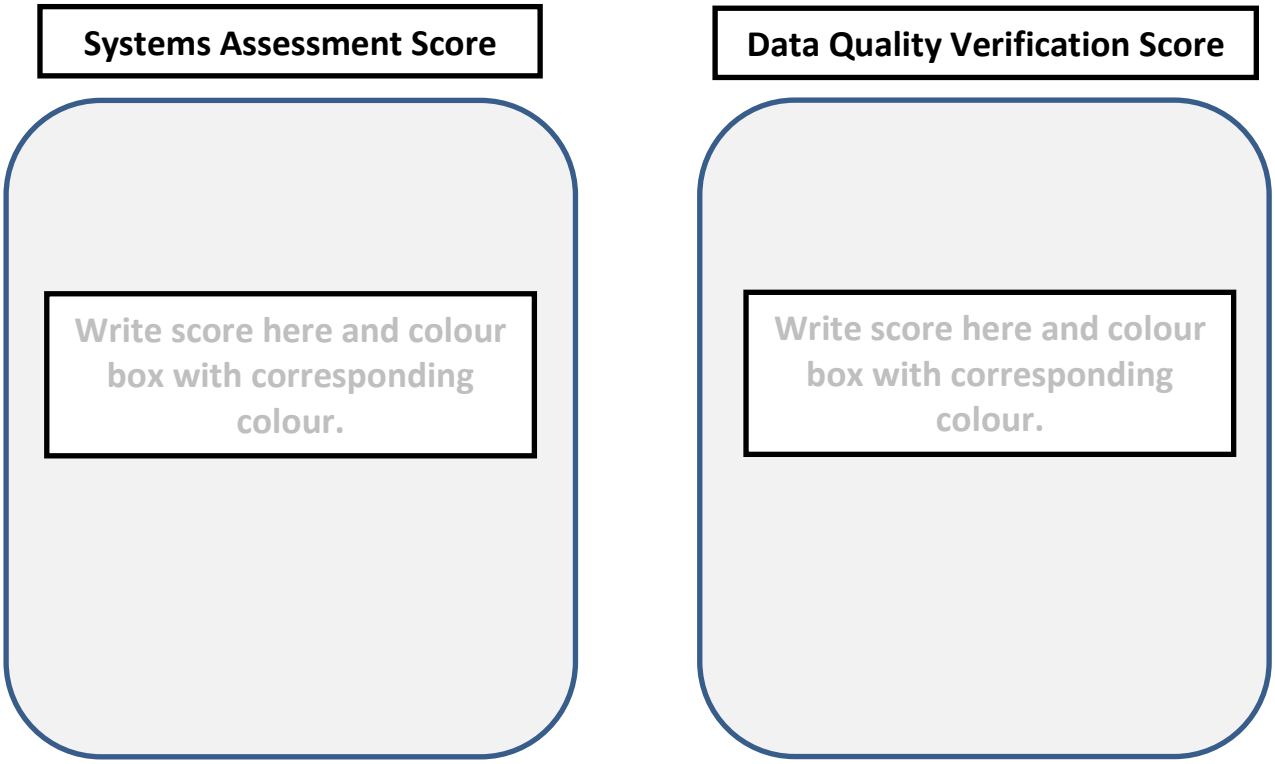
** This indicator is reported on a quarterly basis and must be assessed on a quarterly basis

Appendix 7: Facility, Council and Regional DQA Scorecard

Facility/Council/Region name: _____

Date of assessment: _____

Systems Assessment Score		
Facility/Council/Region Score	Total Points Possible	Percent Score and Colour
Facility Data Quality Verification Score		
Facility Score	Total Points Possible	Percent Score and Colour



Score >79% (green)	**Meets basic data quality expectations**
Score 50-79% (yellow)	**Needs improvement**
Score < 50% (red)	**Needs urgent remediation**

Appendix 8: Health Basket Fund Indicators for reference

Health Basket Fund Indicators
The Health Basket is a funding mechanism initiated in1999 as part of the Government of Tanzania's decision to pursue a sector wide approach (SWAp) in the health sector. The basket is funded by a number of Development Agencies that pool un-earmarked resources to support the implementation of the Health Sector Strategic Plan IV.
Base Indicators
Percentage of council whose annual comprehensive council Health Plan (CCHP) passes the first round of assessment
Percentage of "Star rating assessment of PHC facilities (assessment/re-assessment)
Percentage of annual employment permits for PHC given to the 9 critical regions
Action Plans of Audits of PMORALG and MoHSW
Percentage of PHC facilities with bank accounts opened according to guidelines from Ministry of Finance (MoF)/CAG
Performance Indicators
Percentage of pregnant women attending four or more antenatal care visits (ANC4)
Proportion of mothers who received 2 doses of intermittent preventive treatment (IPT2) for malaria during last pregnancy
Percentage of institutional deliveries
Percentage of women of reproductive age (15-49 years) using modern family planning methods
% of pregnant women who receive adequate quantity of iron and folate tablets during their current ANC visit (enough supplies for next visit)
Proportion of children 12-59 months receiving at least one dose of Vitamin A supplementation during the past year
Percent of PHC facilities with "3 stars" rating or higher
Number and percentage of Public primary health facility with at least one skilled staff
Percentage of PHC facilities with continuous availability of 10 tracer medicines (medicines, vaccines, medical devices) in the past year
Percentage of LGAs with functional Council Health Service Boards (meeting quarterly)
Percentage of completeness of quarterly DHIS 2 entry by LGA (MTUHA phase one forms by Day 30 after the end of each quarter)
Percentage of LGAs with unqualified opinion in the external audit report
RHMT's required biannual data quality audits (DQA) for LGAs that meets national DQA standards
Percentage of LGAs submitting requests for matching funds
RHMT's required annual supportive supervision visits for LGAs that meets national supervision standards
Average and variance of LGA performance scores
Average of regional performance scores
Percentage of unsupported expenditures in MoHSW/PMO-RALG in their annual audits
Percentage of LGA's receiving CHF matching funds