

**THE UNITED REPUBLIC OF TANZANIA**



**MINISTRY OF HEALTH**

**NATIONAL AIDS CONTROL PROGRAMME (NACP)**

# **National Data Quality Improvement Plan for HIV & AIDS Programs**

**2023-2026**

## FOREWORD

The global response to the HIV/AIDS epidemic has achieved notable success in reducing the number of new infections and associated health issues, including death. Despite the availability of tools and resources to prevent the further spread of the virus, new infections and deaths continue to occur due to unequal access to care and various human rights and gender inequity-related barriers. In response to this challenge, the Ministry of Health in collaboration with different stakeholders, has developed a **Data Quality Improvement Plan 2023-2026** that aims to improve HIV-related data quality to better inform decision-making to eliminate these disparities and ultimately put an end to the AIDS epidemic.

Tanzania aims to tackle the remaining HIV challenges through its Fifth Health Sector HIV Strategic Plan (HSHSP V 2021 – 2026). The plan prioritizes programs and policies that break inequalities and barriers to care and focuses on sustaining ART coverage, ensuring ART continuity, and integrating Non-Communicable Diseases (NCDs) and mental health care for PLHIV. The HSHSP V aligns with various national and global strategies to end AIDS by 2030, with community engagement at its core. **To complement the implementation of the HSHSP V 2021-2026, MoH through NACP developed this DQIP as an operational and reference document to be used at all levels to improve data quality for sound decision-making.** This plan was developed through a consultative process and leverages better data knowledge, and tools for an effective response.

**Additionally, the DQIP prioritizes prevention data quality, which is needed to improve health service provision to the most marginalized and key populations.** The plan seeks to leverage existing health systems and partnerships to ensure efficient resource utilization and sustained impact in data quality and use for reducing new HIV infections, achieving viral suppression, and improving the health outcomes of PLHIV.

**The DQIP focuses on breaking down barriers and addressing the root causes of suboptimal HIV-related data quality using a Continuous Quality Improvement (CQI) approach from source documents to data repositories.** Additionally, data use by health care, program personnel, and different stakeholders will be a central part of the implementation to provide people-centered HIV prevention and treatment services, ultimately reducing new HIV infections and promoting the health and well-being of all Tanzanians.

All stakeholders are urged to use this document for planning, implementation, monitoring, and evaluation of data quality improvement initiatives. Together, let us put data into action to achieve our goal of ending AIDS and breaking down barriers to health equity and equality for all people living with HIV in Tanzania.

.....  
Prof. Tumaini J. Nagu  
Chief Medical Officer

## ACKNOWLEDGEMENT

The development of the Data Quality Improvement Plan 2023-2026 was successful due to the contributions and active participation of various stakeholders. The plan draws recommendations from evidence-based implementation experiences, stakeholders' consultations, and global and country guidance on the HIV response.

On behalf of the Ministry, I would like to extend my gratitude to all stakeholders including development and implementing partners, PEPFAR agencies, and healthcare workers, who made a significant contribution to the development of this plan.

I would also like to thank the Tanzania National AIDS Control Program (NACP) and the President's Office Regional Administration and Local Government (PORALG) for their meaningful contribution to the development of this plan.

Finally, the success of this plan was due to the tireless efforts of all the staff at the National AIDS Control Programme (NACP) under the leadership of the Head of the Strategic Information Unit Dr. Werner Maokola, and the Programme Manager Dr. Anath Rwebembera. I am deeply grateful for their hard work in making the DQIP a success.

Special thanks to PEPFAR, the United States Agency for International Development (USAID), the Centers for Disease Control and Prevention (CDC), the Department of Defence (DoD), and all Implementing Partners (IPs) for their financial and technical support. To the technical experts and individuals, including the writing team and peer reviewers (All listed in Annex 1) as well as other stakeholders who contributed to the development and review of this data quality improvement plan, your contribution is greatly appreciated.

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Dr. Catherine Joachim  
**Head of Programs**

## EXECUTIVE SUMMARY

Tanzania has made remarkable progress in improving the quality of life of People Living with HIV (PLHIV) and preventing new HIV infections. The Ministry of Health through the National AIDS Control Programme (NACP) and stakeholders provides HIV prevention, care, and treatment services in more than 7,000 healthcare facilities across 26 regions. Altogether these facilities serve an estimated 1,700,000 PLHIV.

Robust monitoring and evaluation systems are an integral part of HIV prevention, care, and treatment programs, generating vast amounts of patient health information. NACP and stakeholders have developed a complex patient monitoring and reporting system that relies on paper-based sources. Paper-based sources are then digitized in electronic patient-level and aggregate reporting systems. However, the vast amount of routine data collected and aggregated creates an opportunity for challenges to data quality.

As the nation heads towards epidemic control, data collection systems and quality data become even more critical to accurately track progress towards milestones and respond to more granular epidemic trends. Data use needs continuous attention to ensure timely clinical response and decision-making to promote patient-centred care. Multiple ongoing initiatives address data quality, yet there exists room for improvement.

In 2022, NACP, in collaboration with the University of California, San Francisco (UCSF), conducted a desk review and consultations with key stakeholders to understand the significant threats to data quality, the main strengths and weaknesses of the current national health information system (HIS), and opportunities for data quality improvement. Findings highlighted the need for increased data use at the facility level and increased communication between the clinical care teams and monitoring and evaluation staff. In addition, multiple reporting streams and rapidly changing indicator definitions contribute to a high reporting burden for facilities with limited staffing capacities and resources.

Based on these findings, NACP proposed a national DQI (Data Quality Improvement) strategy that is based on continuous quality improvement methods and approaches. The following activities will be conducted to implement the DQI Plan (DQIP) and Implementation Strategy from 2023 – 2026, including:

- Selection of a Technical Working Group to lead the implementation.
- Increasing DQI awareness
- Implementation of data quality improvement activities using Plan Do Study Act (PDSA) quality improvement cycles
- Learning Sessions to share results of DQI activities.
- Review of data quality improvement efforts and the DQIP.

Best practices on data quality improvement will be documented and effectively disseminated to all stakeholders from the facility to the national level for uptake. A review of data quality improvement efforts and the DQIP will be done at the end of implementation.

## LIST OF ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
CTC2	HIV Care and Treatment Clinic database
CQI	Continuous Quality Improvement
DHIS2	District Health Information System 2
DQ	Data Quality
DQI	Data Quality Improvement
DQIP	Data Quality Improvement Plan
HCPs	Health Care Providers
HCWs	Health Care Workers
HIS	Health Information System
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HRH	Human Resource for Health
IPs	Implementing Partners
M&E	Monitoring and Evaluation
MoH/MOH	Ministry of Health
NACP	National AIDS Control Program
PDSA	Plan Do Study Act
PEPFAR	(U.S.) President's Emergency Plan for AIDS Relief
PLHIV	People Living with HIV
R/CHMT	Regional/Council Health Management Team
SES	Standard Evaluation System
SOP	Standard Operating Procedures
SWOT	Strengths, Weakness, Opportunities, Threats
TWG	Technical Working Group
UCC	University Computing Centre
UCSF	The University of California, San Francisco
UDSM	University of Dar es Salaam

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# 1. BACKGROUND AND RATIONALE

## 1.1. Quality Data for HIV Interventions

The Ministry of Health, through the National AIDS Control Program (NACP) and in collaboration with stakeholders, depends on high-quality health information to assess HIV programs and make critical decisions around resource allocation, program implementation, and policy-making. This means that quality data must be complete, accurate, timely, reliable, confidential, valid, and precise. To monitor and inform HIV programs, policymakers, and other stakeholders developed a robust M&E system. Standardized paper-based and electronic tools for monitoring and evaluation of HIV and AIDS interventions were developed. The electronic systems collect both client-level (i.e., CTC2 database) and aggregate data (e.g., DHIS-2 and CTC3), resulting in a large amount of prevention, care, and treatment data to monitor and report. However, the simultaneous use of multiple paper-based and electronic data sources creates a complex national data flow with opportunities for threats to data quality.

## 1.2. Current Efforts to Improve Data Quality

Several ongoing efforts and activities address challenges to data quality at different levels of the health system. National activities include increasing interoperability between electronic health information systems, harmonizing the M&E systems, regular training, developing biometrics for unique patient identification, data quality reviews, supportive supervision, on-site mentorship, and data quality assessments. While current protocols rely on paper-based files and registers as source documents, ongoing efforts are in place to digitize all patient records using electronic platforms with built-in validation checks to prevent common data quality errors.

## 1.3. Data Quality Challenges

Nonetheless, significant challenges to data quality persist. Findings from situational analysis desk reviews and stakeholder consultations revealed that:

- Some data collection tools are not user-friendly and are time-consuming for Health Care Providers (HCPs) to complete.
- Duplicate recording and reporting tools increase the workload at the facility level and lead to data entry errors.
- HCPs have inadequate data management skills.
- Multiple electronic health information systems are not integrated.
- Stakeholder and program requirements change frequently creating an opportunity for parallel reporting tools.
- Data ownership across different reporting levels, departments, and units is inadequate.
- Paper-based tools are still used to collect aggregate data for some interventions.

These challenges impact the country's ability to generate high-quality data that can be used for sound decision-making throughout the HIV prevention, care, and treatment program. They also hamper efforts to accurately estimate progress towards country targets and global benchmarks in HIV case identification, linkage to ART, retention, and viral load suppression. At the individual level, these kinds of challenges reduce access to person-centered care and timely program responses to cater to underserved populations.

## 1.4. Need for a National Data Quality Improvement Plan (DQIP)

Even though the country has data management and data quality guidelines and SOPs, data quality challenges persist. These challenges need to be addressed through a cohesive national strategy and implementation plan that will guide all stakeholders to improve data quality. The DQIP is intended to align activities and best practices and bring together ongoing efforts at the national and sub-national levels to improve data quality and accelerate data use among different stakeholders.

## 2. THE DEVELOPMENT OF THE DATA QUALITY IMPROVEMENT PLAN

The development of this DQIP took place in 6 phases (**Figure 1**). Summary findings from the development of this plan and the output of stakeholder consultations are included in Appendix D.



### 2.1. Overview of the Data Quality Improvement Plan

This DQIP provides a roadmap to improve the quality of data related to HIV prevention, care, and treatment programs using Continuous Quality Improvement (CQI) methods such as the PDSA cycle<sup>(3)</sup>. The DQIP will guide a cultural shift, meaning a change of current practice, from problem identification (i.e., DQA deviations, identifying errors in monthly reporting) to problem-solving via data quality improvement activities. The DQIP also seeks to increase data use as a method to improve data quality. With more attention to the use of data for clinical care and resource allocation, data quality takes on new importance at the site level. The existing CQI Technical Working Group (TWG) under the M&E subcommittee will provide oversight and supervision to ensure the timely and successful implementation of the plan.

### 2.2. Objectives

**Broad objective:** To enhance data quality improvement activities for national HIV prevention and treatment programs by centralizing available Data Quality Improvement (DQI) resources and standardizing tools.

**Specific objectives:**

1. Standardizing DQI resources and tools
2. Mapping and revising existing HIV-related M&E tools to be more user-friendly.
3. Transitioning to electronic HIV-related Health Information Systems.
4. Integrating HIV-related Health Information Systems.
5. Develop strategies to manage stakeholder requirements in a streamlined way.
6. Building capacity in data management and data quality among stakeholders.

### 2.3. Data Quality Improvement Approach

This DQIP will build on strengths and existing practices such as DQAs and data reviews while providing focus and technical assistance to critical improvement activities that are needed to address the underlying root causes that lead to poor data quality. To achieve this, the following approaches will be used.

#### 2.3.1. Data Quality Improvement Technical Working Group (TWG)

The existing CQI TWG under the M&E subcommittee will be responsible for oversight and supervision of the DQI Plan, including providing technical guidance to support national efforts to improve coordination and capacity for HIV/AIDS data quality at all levels. The TWG will convene quarterly to review data and select low-performing indicators to be the focus of data quality improvement efforts. The TWG will review and disseminate effective change ideas to scale up evidence-based practices targeting selected indicators and will be responsible for convening regular check-ins to monitor improvements in indicator performance. The team will consist of members from MoH, RHMTs, CHMTs, and IPs supporting prevention, care, and treatment programs.



### 2.3.2. Continuous Quality Improvement (CQI) Technique

CQI methods facilitate an iterative process of:

- a. Reviewing data,
- b. Identifying issues in data quality,
- c. Conducting root cause analysis to identify the source of the data quality issue,
- d. Creating an improvement objective to address the root cause
- e. Developing, implementing, and tracking data quality improvement innovations (often called “change ideas”) via PDSA cycles.

Data visualization and data review are the foundation of CQI methods, yet the “Improvement” comes from root cause analysis and related PDSA cycles to develop and test small changes to improve data quality moving forward. CQI methods are intended for implementation at the site level by CQI teams.

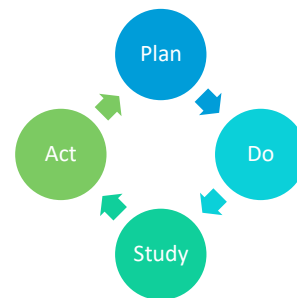
Below is a summary of key CQI methods:

- ❖ **Root cause analysis:** Use methods such as “Five Whys,” “Brainstorming” and “Fish Bone Mapping” (see appendix B) to identify the cause of an existing challenge.
- ❖ **Improvement Objectives:** Create an improvement objective that is **SMART**: Specific, Measurable, Attainable, Realistic, and Time-bound.
- ❖ **PDSA Cycles:** Conduct PDSA cycles to develop, test, and monitor change ideas to address the root causes.
- ❖ **Peer Learning:** Package and disseminate effective change ideas to other healthcare providers.

#### Plan Do Study Act – DQI Cycles

**Plan Do Study Act Cycles** will take place quarterly to improve data quality at the source. Root causes of poor performance for focus indicators may be similar or vary from site to site.

**PLAN:** Using site-specific data and findings from the root cause analysis, site DQI teams will discuss a change idea that can improve the quality of the focus indicator. For that quarter, this developed plan will attempt to intervene and correct the root cause of the DQ issue.



**Figure 2.** Plan Do Study, Act (PDSA) cycle.

**DO:** Sites will implement these change ideas for an agreed-upon period. DQI teams will document a detailed process of the change idea using the Standard Evaluation System (SES) forms<sup>(4)</sup>.

**STUDY:** Sites and DQI teams will review source data to see if the change idea led to the planned improvement outcome. It is important to document what worked (best practices) and what did not work (lessons learned) since there are variations across sites.

**ACT:** Based on the data review, the DQI team will either continue with the successful change idea or modify it to increase the improvement potential, if no improvement was observed.

### 2.3.3. Implementation roadmap

The DQI Plan will take place in 5 phases, from 2023 – 2026 (**Figure 3**).

## Phase 1: DQIP Awareness

Phase 1 will begin in June 2023. The Ministry of Health through NACP will focus on generating awareness of persistent challenges to data quality. A series of in-person and virtual meetings will outline the data quality challenges, share the DQIP with stakeholders, and agree on priorities within resource constraints. The TWG will be formed by adding new members (different stakeholders including donors and implementers) to the existing CQI TWG.

## Phase 2: DQIP Priority Setting

This will take place in September 2023. During this phase, the TWG in collaboration with stakeholders will convene a DQIP priority-setting meeting to discuss data quality challenges and prioritize activities to be conducted using the available resources as well as priority indicators to address. This will also form the baseline parameters for the DQIP.

## Phase 3: DQIP Implementation

From October 2023 to August 2026, the TWG will coordinate the national implementation of DQI-planned activities in all regions and facilities and community programs using the PDSA cycle. The activities will be aimed at solving different data quality challenges raised by stakeholders during the development of this DQIP. This will be done in addition to ongoing activities targeting selected low-performing indicators. Below is a sample list of activities that will be conducted, aimed at addressing Leadership and Governance, Human Resource for Health (HRH), and Health Information System (HIS) challenges that negatively affect data quality.

### I. Leadership and governance

- Organize workshops to review DQIP priorities and monitor the ongoing activities.
- Convene larger group stakeholder dissemination meetings on DQIP including MoH, PORALG, donors, all IPs, and R/CHMTs.
- Convene quarterly progress review meetings.
- Coordinate the review and development of data management guidelines and SOPs.

### II. Human Resource for Health

- Determine gaps and opportunities in training, mentorship, and supportive supervision throughout the implementation period.
- Coordinate peer-to-peer learning.
- Use the Afya SS platform in supportive supervision and monitoring at a national level.
- Coordinate “Learning Sessions” for data clerks and clinical teams via echo, videos, and spotlight.

### III. Health Information System (HIS)

- Ongoing HIS review and development of DQ products.
- Harmonize indicator definitions, especially for community interventions.
- Conduct a pilot and scale up the biometric module to deduplicate clients.
- Conduct ongoing monitoring of interventions using existing platforms.
- Address resource allocation including paper-based tools, computers, and internet connectivity.
- Develop a DQI module within the existing CQI dashboard.
- Facilitate the integration of existing HIV-related Health Information Systems (HIS)
- Resolve overarching HIS challenges on CTC2, CTC3, DHIS2, and UCS.
- Improve facility-level supply chain systems.

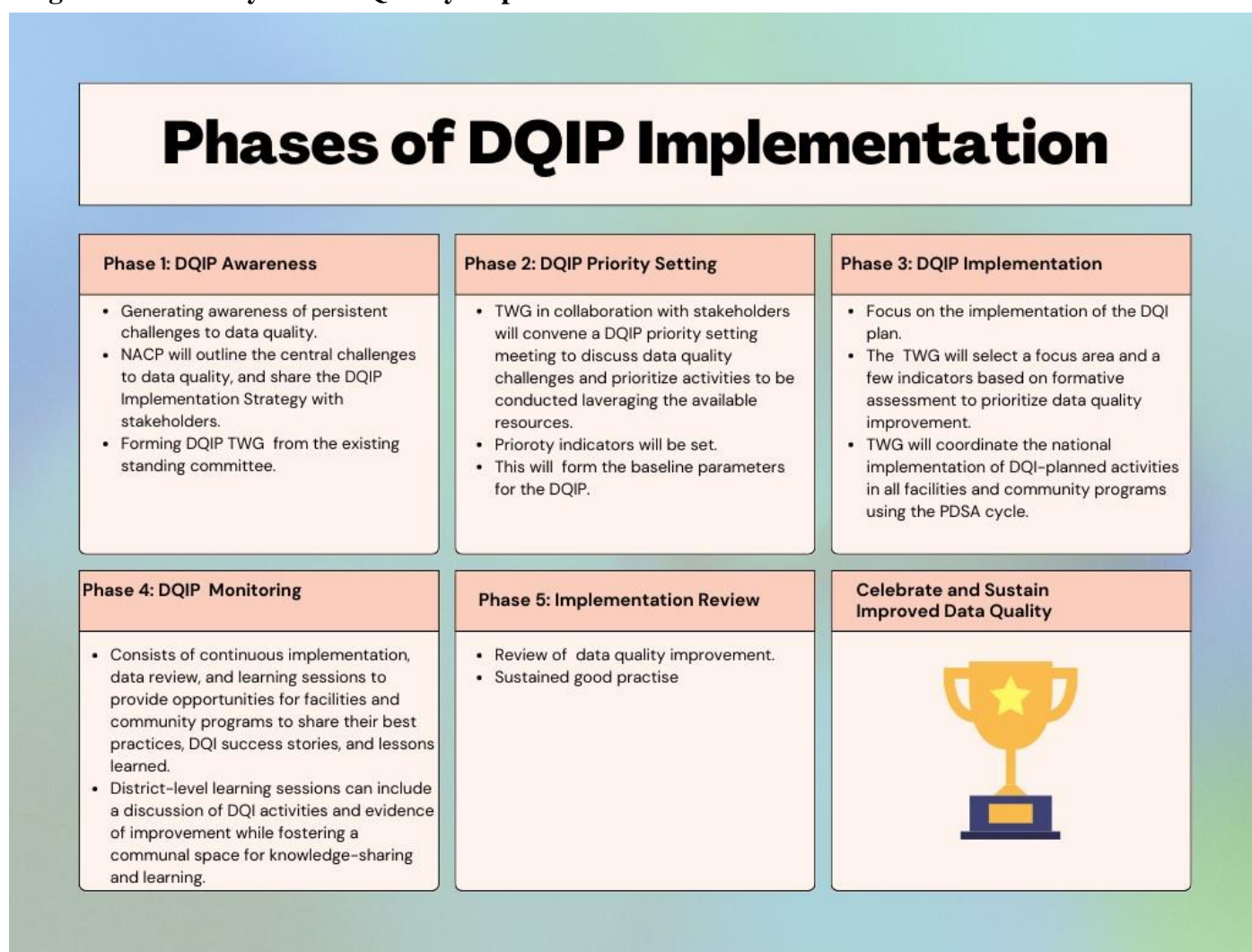
#### Phase 4: DQIP Monitoring

Set from September 2023 to June 2026, this phase will consist of continuous implementation, data review, and learning sessions to provide opportunities for facilities and community programs to share their best practices, DQI success stories, and lessons learned. These learning sessions can include a discussion of DQI activities and evidence of improvement while fostering a communal space for knowledge-sharing and learning.

#### Phase 5: Review of Implementation

Progress monitoring will be integrated throughout the quality improvement process and a final review will be conducted at the end of the implementation period using pre-defined indicators that measure data quality improvement.

**Figure 3. Summary of Data Quality Improvement Plan**



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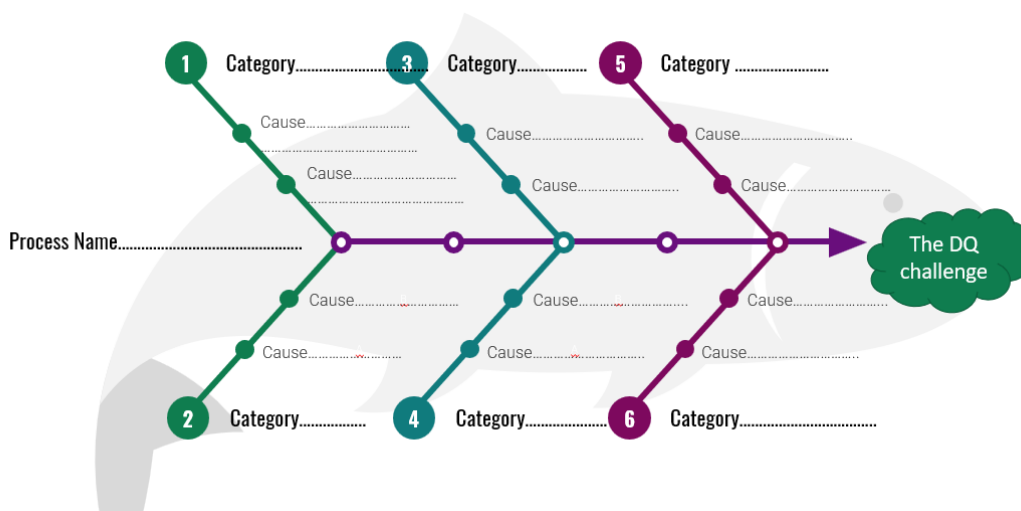
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## 4. APPENDICES

### Appendix A: The DQIP Writing Team.

SN	NAME	POSITION	WORKPLACE	STATION
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7.	Agness Florent	M&E Officer	NACP	Dodoma
8.	Veryeh Sambu	Data Manager	NACP	Dodoma
9.	Jeremiah Mushi	Surveillance Officer	NACP	Dodoma
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11.	Joel Ndayongeje	Technical Director	UCSF	Dar-es-Salaam
12.	Prof. Sophia Zamudio Haas	Assistant Professor of Medicine	UCSF	California-San Francisco
13.	Lynhea M. Anicete	Project Coordinator, Institute of Global Health Sciences	UCSF	California-San Francisco
14.	Dr Immaculata Kessy	HIV/TB Technical Lead	UCSF	Dar-es-Salaam
15.	Abdallah Ally	Data Quality Technical Lead	UCSF	Dar-es-Salaam

### Appendix B: Fishbone Diagram



## Appendix C: Supplementary Table 1. Specific Data Quality Improvement Plan Activities

**Appendix C** lists specific data quality improvement activities derived through stakeholder consultations, along with the responsible party and timeline. However, additional impactful activities will be determined through data review meetings, peer learning sessions, mentorship, and supportive supervision.

SN	Timeline	Activity	Responsible Party
<b>2023</b>			
1.	Apr-23	Dissemination of biometric module	NACP, UCC
2.	Jun-23	DQIP Stakeholder Involvement Meeting	NACP, UCSF
3.	Sep-23	Disseminate DQIP to key stakeholders	NACP
4.	Sep-23	Conduct data quality improvement stakeholders' meetings and set DQI priorities	NACP
5.	Sep-23	Review TOR for CQI TWG to accommodate the DQIP agenda	NACP
6.	Sep-23	Conduct TWG meeting to review CQI dashboards, CTC 2&3, and CTC-A to accommodate user requirements	DQIP TWG, UCC, UDSM, UCSF
7.	Sep-23	Print M&E recording and reporting tools	NACP, R/CHMTs, IPs
8.	From Sept-23	Conduct regular mentorship and supportive supervision	MoH, R/CHMTs, IPs
9.	From Sept-23	Conduct virtual monthly TWG meetings to monitor DQIP indicators	NACP & DQIP TWG
10.	Oct-23	TWG and MoH organize R/CHMT and IPs to share DQI training needs	NACP, R/CHMT, IPs
11.	Nov-23	TWG & MoH prepare DQIP training package	NACP & DQIP TWG
12.	Nov-23	Review indicator matrix and include community interventions	NACP, PEPFAR, R/CHMT, IPs, UCC, UDSM, UCSF
13.	From Nov -23	Conduct quarterly data review meetings where TWG presents the DQI implementation status to other stakeholders including IPs & R/CHMT who will in turn present DQI intervention progress	DQIP TWG
14.	Nov-23	Conduct national annual DQA on selected indicators of interest	NACP, DQIP TWG, R/CHMTs, IPs
15.	Sep-23-Nov-23	Collect user requirements to incorporate DQI tools and checklists into the Afya SS platform and disseminate	NACP, DQIP TWG, UCC, UDSM, UCSF
16.	Oct-23	HIS technical team resolved overarching HIS challenges on CTC2&3, DHIS2, UCS, CTC-Analytics (appendix D)	NACP, DQIP TWG, UCC, UDSM, UCSF
17.	From Nov-23	Work with different stakeholders to procure computers, tablets and routers to fill the gaps in the facilities	NACP, R/CHMTs, IPs
18.	From Nov-23	Convene 4 workshops to update data management guidelines	NACP, PEPFAR, DQIP TWG, UCSF, UCC
19.	Oct-Dec 2023	Develop and disseminate the DQI process documentation portal	NACP, PEPFAR, DQIP TWG, UCSF, UCC, IPs
<b>2024</b>			
1	Jan-24	Disseminate data management guidelines to stakeholders	NACP, DQIP TWG
2.	Jan-24	TWG and MoH organize R/CHMT and IPs to conduct DQI training	NACP, R/CHMT, IPs

3	Jan-24	Conduct dissemination workshop for revised CQI dashboard on CTC2&3 and CTC-A	NACP, DQIP TWG, UCC, UDSM, UCSF
4	From Feb-24	Conduct quarterly data review meetings	NACP, PEPFAR, DQIP TWG, IPs, UCC, UDSM, Soft-Med, UCSF
5	From Feb-24	Conduct data quality training	NACP, DQIP TWG, R/CHMTs, IPs
6	From Feb-24	Conduct supportive supervision targeted on data quality	NACP, DQIP TWG, R/CHMTs, IPs
7	From Feb-24	Conduct targeted mentorship on data quality	NACP, DQIP TWG, R/CHMTs, IPs
8	From Feb-24	Conduct Peer-Peer learning	NACP, DQIP TWG, R/CHMTs, IPs
9	Mar-24	Development and roll-out of additional Unified Community System (UCS)	NACP, Soft-Med
10	Apr-24	Improve facility and community-based commodities consumption tracking system	NACP, DQIP TWG, UCC, UCSF, Soft-Med
11	Apr-24	Dissemination of SOPs and guidance on conducting a well-documented archive of all HIV-related paper-based tools	NACP, DQIP TWG, R/CHMTs, IPs
12	May-24	Development of an electronic DQA system (Requirements gathering, validation, development, UAT, and scale-up)	NACP, DQIP TWG, UCC, UCSF, Soft-Med, IPs
13	Jul-24	Customization of CTC2 card to EMR	NACP, DQIP TWG, UCC, UDSM, Soft-Med, UCSF
14	Sep-24	Integrate CTC3 with DHIS2 through HIM for routine HIV-related reports	NACP, DQIP TWG, UCC, UDSM, Soft-Med, UCSF
<b>2025</b>			
1	Jan 25	Strengthen data management component in ART training	NACP, DQIP TWG
2.	May-25	Recognition of data officer and M&E in national healthcare	MoH
3.	From Jun-25	Employing regional or district HMIS personnel with M&E or statistics background	MoH
4.	Aug-25	Conduct annual DQA	NACP, DQIP TWG, R/CHMTs, IPs
5.	Sept-Dec 25	Ongoing DQIP implementation with mentorship and supportive supervision	NACP, DQIP TWG, R/CHMTs, IPs
<b>2026</b>			
1.	Jan- Dec 26	Conduct supportive supervision targeted on data quality	NACP, DQIP TWG, R/CHMTs, IPs
2.	Jan- Dec 26	Conduct targeted mentorship on data quality	NACP, DQIP TWG, R/CHMTs, IPs
3.	Jan- Dec 26	Conduct Peer-Peer learning	R/CHMTs, IPs
4.	Jan- Dec 26	Conduct Annual DQA	NACP, DQIP TWG, R/CHMTs, IPs
5.	Sep-26	Conduct post-implementation evaluation	NACP, TWG, UCSF



## Appendix D: Summary of DQI consultations (n=34) using SWOT Analysis and Health System Building Block Frameworks

	HEALTH INFORMATION SYSTEM	HUMAN RESOURCES	SUPPLY CHAIN	SERVICE DELIVERY	HEALTH FINANCING	LEADERSHIP & GOVERNANCE	
STRENGTHS	Engaged efforts towards system <b>integration and unification</b> . Data management systems have <b>built-in validations that reduce data errors</b> and provide <b>data analysis and reporting features</b> e.g., CTC2, 3 – CTCA and DHIS2.	Staff rotate through different facilities to support facilities in need. <b>Data entry officers use clinical logic check to determine errors, monitor KPIs support</b> . Thus, showcasing their skill set, knowledge, and importance of training. <b>Facility based DQI team with Working Improvement Team (WIT)</b> .	Sufficient supply from county's medical store department to facility levels.	At the facility level, data is <b>utilized to improve quality of care</b> . For example, directing health care efforts towards patients with higher viral loads following data review and use.	Ongoing financial support from <b>PEPFAR agencies</b> . Health Financing for IPs. Different stakeholders at different levels are <b>in favor of DQI activities</b> .	<b>MoH/NACP supported push for system and processes modernization</b> including eGA governing <b>data security, system integration, biometric module for unique identification and presence of DQ technical partner</b> , data review meetings and supportive supervision.	INTERNAL
WEAKNESSES	Parallel HMIS systems create <b>duplication of documentation</b> when translating from analog to electronic reporting tools. This causes <b>mismatched aggregated data</b> compared to data source and <b>duplication of clients</b> . Data quality initiatives are <b>episodic rather than routine</b> . DQA action plans and remediation are <b>not followed up on</b> . <b>Prevention data</b> has poor quality than <b>care and treatment data</b>	Health care providers (HCPs) are overworked. <b>Limited resources and knowledge on DQ prevents HCPs from taking ownership of the data</b> .  <b>Low or infrequent staff support</b> (e.g., mentorship, supervision, and DQ training) and staff retention challenges creating understaffed facilities. <b>Parallel tools and HRH challenges</b> reinforce a cyclic pattern of <b>strained and overworked HCPs</b> .	Difficulty to track <b>consumption</b> of pharmaceutical supplies. <b>Insufficient resources</b> (i.e., computers, internet, etc.) perpetuate paper-based collection tools which causes duplication and mismatched data leading to low data quality.	Patients' concerns related to <b>stigma and social desirability bias cause falsification</b> of their own health information during consultations with HCPs.  <b>HCPs have fewer skills in data management and data use</b> inhibiting optimum data-backed clinical care. These cause low quality data.	IPs financial incentives cause data fabrication (i.e., <b>ghost clients</b> ). Urgent PEPFAR data requests fall outside of national reporting tools and timelines causing parallel systems. <b>Causing overworked facility staff due to duplicated M&amp;E tools</b> . RHMTCs are underfunded compared to IPs.	Between facilities and community IPs a <b>lack of cohesive coordination and effective communication</b> lead to a misaligned healthcare system.  Data management updates are <b>inadequately disseminated amongst HCPs</b> which causes <b>low adherence and use of data management guidelines</b> . Lastly, M&E cadres are not recognized within the government.	
OPPORTUNITIES	<b>Presence of CTC2&amp;3 CQI dashboards for data visualization and use</b> . CTC Analytics system currently owned by the government and available to many facilities, can <b>facilitate improved data analysis and increase data use</b> . Unified community solution holds promising prospects for system integration and interoperability. CQI dashboard could monitor the implementation of DQ initiatives the <b>use of the DQI toolkit</b> created for CDC IPs can offer tools for DQI	Data quality training that <b>cultivates a culture shift towards shared data ownership, mentorship, and support</b> . <u>Ongoing quarterly data review meetings could be used for:</u> 1. Monitoring and accountability 2. Effective dissemination of knowledge 3. sharing best practices in data quality initiatives (i.e., <b>knowledge-sharing</b> between facilities)	Strengthen the connection between care and treatment data with pharmacy data. Consult stakeholders within the health care delivery continuum to understand pain points found within the processes or systems. This can improve the health care system by understanding how other end users/stakeholders utilize the data systems. Unified community solution system holds promising prospects.	<u>Adequate data use can inform:</u> 1. Quality <b>person-centered care</b> that is empathetic and compassionate towards their needs and concerns (e.g., stigma) 2. Data-backed reports can <b>better inform policy and decision making</b> .	Funding agencies, like PEPFAR, are in favor of <b>streamlined approach</b> to solve data quality challenges. In other words, stakeholder buy-in is present.	Stakeholders at all levels (i.e., MOH, NACP, etc.) are aware of the current system and processes' faults and are <b>ready for improvement, change, and modernization</b> . DQ partners, like UCSF, are available and accountable for the system. NACP are ready for the development of unique client identification such as biometric system features.	
THREATS		Staffing limitations.	Resource limitations.		Donor/IP financial accountability hinders DQ transparency.	Ongoing urgent PEPFAR demands will require unconventional reporting tools.	EXTERNAL