



**REPUBLIC OF UGANDA
MINISTRY OF HEALTH**

**GUIDELINES FOR THE IMPLEMENTATION OF THE
UGANDA ELECTRONIC COMMUNITY HEALTH
INFORMATION SYSTEM (eCHIS)**

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DOCUMENT REVIEWS AND APPROVALS

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Foreword


This document presents electronic Community Health Information System (eCHIS) implementation guidelines for the health sector. These guidelines are intended to standardize the implementation of the eCHIS across Uganda's health system. These guidelines are aligned with the Health Information and Digital Health Strategic Plan 2020/2021-2024-2025, National Community Health Strategy 2020/2021-2024-2025 and Ministry of Health Strategic Plan 2020/2021-2024-2025.

The Ministry of Health (MoH) is committed to improving the application of digital health technologies to facilitate the attainment of its overall objective of delivering high-quality health services to all citizens. This aligns with the call of Uganda Vision 2040 and the National Development Plan (NDP) III 2020/21 – 2024/25 which require sectors to adopt Information Communication Technologies (ICTs) to optimize service delivery.

The eCHIS therefore, is critical for improving the quality of health service delivery at the community level through the use of embedded decision support tools and passive data capture. These guidelines aim to support all stakeholders in the implementation and scale-up of the eCHIS within the healthcare ecosystem.

These guidelines shall serve as a framework to ensure the proper governance and leadership, rollout and maintenance of the eCHIS while ensuring its sustainability.

All stakeholders are therefore called upon to adopt and use these guidelines while implementing the eCHIS.



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Dr. Henry G. Mwebesa

DIRECTOR GENERAL HEALTH SERVICES

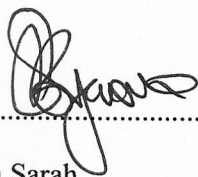
Preface

The electronic Community Health Information System (eCHIS) implementation guidelines are a major milestone in the journey towards quality, responsive, accessible, and cost-effective healthcare service delivery at the community level. A well-developed digital health information system is a fundamental and crucial component of any health system.

The use of the eCHIS is not only a key enabler of direct patient care but also a vital tool in health program monitoring. Therefore, it requires the necessary attention and well-planned investment of resources to realise its function. The electronic Community Health Information System (eCHIS) implementation guidelines generally align with the goals, and strategies stipulated in the Uganda Health Information and Digital Health Strategic Plan 2020/21-2024/25.

In the past decade, health service delivery in Uganda has registered tremendous improvement. This can be partially attributed to increased funding, technology evolution and use in the community health space, a transformation which has been progressively acknowledged by the Ministry of Health (MoH), its partners and other key stakeholders. The eCHIS shall be implemented as a digital job-aid for community health workers with reporting as a passive process hence improving the quality of health service delivery at the community level.

All stakeholders are therefore called upon to examine the eCHIS implementation guidelines, assess their involvement, and thereafter align their present and future Standard Operating Procedures with the guidelines laid out in this document.



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Dr. Byakika Sarah

Commissioner, Health Services

Department of Planning, Financing and Policy

Acknowledgement

The Ministry of Health expresses its profound gratitude to all divisions, departments and programs, members of the Health Information Innovation and Research Technical Working Group and Health Data Collaborative Subcommittee who contributed technical inputs leading to the successful completion of this document. Special appreciation goes to the staff within the Division of Health Information Management (DHIM), Information Communication Technology (ICT) Section and the Community Health Department for the overall guidance to ensure that the guidelines are aligned with the Health Information and Digital Health Strategic Plan 2020/21-2024/25 and the National Community Health Strategy 2020/21-2024/25.

I acknowledge and thank all development and implementing partners that provided financial and technical support for this process, specifically UNICEF, PATH, Living Goods, BRAC, Malaria Consortium, Medic and the University of Warwick. DHIM is grateful for all the support, sacrifice and contribution invested in the successful development of these guidelines.

Finally, the Ministry of Health is grateful to the Local Governments and all those institutions and individuals who have not been specifically mentioned above, but who directly or indirectly contributed to the successful development and finalization of these eCHIS implementation guidelines.

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Mr. Paul Mbaka

Assistant Commissioner Health Services

Health Information Management

Abbreviations and Acronyms

DHIM	Division of Health Information Management
eCHIS	Electronic Community Health Information System
HDC	Health Data Collaborative
HIIRE	Health Information Innovation and Research Technical Working Group
ICT	Information Communication Technology
MoH	Ministry of Health
SDLC	Software Development Life Cycle
SRS	Systems Requirements Specifications
TWG	Technical working group
UAT	User Acceptance Testing

Key Definitions

Community - A Specific group of people, usually living in a defined geographical area, who share common values, norms, culture, and customs, and are arranged in a social structure according to relationships which the community has collectively developed over a period of time.

Community Health Worker (CHW) - Frontline public health workers and aides living and working in the community. They are selected and trained, on a variety of tasks such as home visits, sanitation, first aid, MNCH and family planning activities, TB and HIV/AIDS care etc.

Village Health Team (VHT) - The Village Health Team is a voluntary community-based (village) structure whose members are selected by the people themselves to promote the health and well-being of the people in their areas of residence/jurisdiction. It is the lowest health delivery structure and serves as a Health Centre I.

Digital Health - Digital health is the systematic application of information and communications technologies, computer science, and data to support informed decision-making by individuals, the health workforce, healthcare organizations, and health systems, to strengthen resilience to disease and improve health and wellness.

Community Health Information System (CHIS) - This is an integrated information system that supports health service delivery at the community level. The system comprises both hard copy and electronic health management information systems.

Electronic Community Health Information Systems (eCHIS) - The electronic Community Health Information System (eCHIS) is a digital job aid for community health workers which also digitizes the paper-based health information management system and programme workflows.

Workflows - A sequence of steps or processes from initiation to completion during health service delivery.

Data Element - A basic unit of information that has a unique meaning and subcategories (data items) of distinct value for example gender, race, and geographic location.

Indicator - A quantitative or qualitative metric that provides information to monitor performance, measure achievement and determine accountability.

1.0 Introduction

1.1 Background

The Ministry of Health Strategic Plan 2020/21 - 2024/25 stipulates two service delivery platforms; the Facilities and the Community. The community platform supported by Community Health Workers is responsible for household production and modifying the social determinants of health.

The National Community Health Strategy 2020/21 - 2024/25 and the Uganda Health Information and Digital Health Strategic Plan 2020/21 - 2024/2025 both stipulate strategic direction towards digitizing community health workflows to improve health service delivery and data quality. This is aimed at reducing the burden of reporting stemming from the use of paper-based tools and subsequent data quality issues. Significant improvements in community service delivery have been reported in districts implementing the electronic Community Health Information System (eCHIS). The main achievements registered so far are (1) reduced reporting burden and (2) improved data quality.

However, the processes related to implementation such as service workflow re-engineering, functionalization of health analytics, meaningful information exchange, and governance of eCHIS have been mostly undefined to date. As Uganda continues on her journey to implement eCHIS nationwide, there is a need for implementation guidelines to direct operationalization and support the achievement of intended results.

1.2 Vision for eCHIS

Community programming in Uganda driven by evidence, leveraging digital health solutions to improve health service delivery.

1.3 Purpose

The guidelines seek to establish an effective, transparent and accountable framework for implementing the electronic Community Health Information System.

General Objective

To standardize the processes and implementation of the electronic Community Health Information System in the health sector.

Specific Objectives:

1. Formulate and functionalize an appropriate governance framework for the implementation of eCHIS.
2. Define and standardize the processes for introducing, scaling, transitioning and sustaining the eCHIS.
3. Define and aggregate functionality existing in different program and function-specific digital tools into a single government-owned electronic community health information system.
4. Ensure interoperability of the eCHIS with other Ministry of Health data systems to facilitate efficient referral, commodity tracking, reporting and surveillance.
5. Establish appropriate change management strategies to foster the use of the eCHIS.
6. Establish standard data use strategies and tools.

1.4 Targeted User of eCHIS

The targeted Users of eCHIS include the following:

- ❖ The Ministry of Health Departments and Programs
- ❖ Local Government Leadership
- ❖ District Health Teams
- ❖ Facility Health workers
- ❖ Community Health Workers
- ❖ Technology and Implementing Partners
- ❖ Data Managers and M&E-related staff involved in the management of HMIS data
- ❖ Development Partners and Donors/Funders who provide resources for implementation.
- ❖ Health Policymakers
- ❖ Community Health Program/Project Managers and for
- ❖ Researchers
- ❖ Other relevant Ministries, Departments and Agencies.

1.5 Methodology

A highly consultative approach was used in the development of the eCHIS guidelines. Stakeholders from various entities such as the Ministry of Health (MoH), Local Governments (LGs), Development Partners, Technology and Implementing Partners, Academia and other members of the Health Information Innovation and Research Technical Working Group (HIIRE TWG) supported the generation of a draft which was reviewed and later validated.

The validated guidelines were endorsed by the Ministry of Health's HIIRE TWG and the Senior Management Committee (SMC), and approved by Top Management for implementation within the health sector.

1.6 Guiding Principles Used to Develop this Document

1. Client Centered
2. Equity
3. Privacy and Integrity
4. Efficiency
5. Transparency and Accountability

1.7 Policy, Reference Guidelines and International Standards

These guidelines are premised on the following existing frameworks;

- ❖ The National Health Policy (NHP) III
- ❖ Ministry of Health Strategic Plan 2021/2025
- ❖ National Community Health Strategy 2020/21 - 2024/25
- ❖ Uganda Health Information and Digital Health Strategic Plan 2020/21 - 2024/2025
- ❖ Community Acceleration Roadmap

1.8 Revision and Updates

These guidelines shall be reviewed and any proposed changes documented annually to maintain relevance and/or responsiveness to an evolving healthcare ecosystem and context. Relevant sections that will need to be added to the document shall follow the standard MoH approval processes. A new version number and date of approved updates shall be documented.

2.0 eCHIS User Requirements, Design and Development

This section details the process for the generation of user requirements that inform the system functionality and subsequent iterative system development and/or enhancement. The Division of Health Information Management (DHIM) shall coordinate the user requirements, system design and development process and provide overall guidance during this phase with oversight from the HIIRE TWG. During this phase, the MoH ICT Unit shall be engaged to assess and guide on the system hosting requirements as well as other technical inputs such as security.

2.1 Overall Architecture

The eCHIS is part of the wider Uganda Health Information System architecture ensuring interoperability of the eCHIS with other Ministry of Health data systems to facilitate referrals, commodity tracking, reporting, analytics, and surveillance (including linkage to the HMIS).

The eCHIS fits within the National Digital Health Enterprise Architecture indicated in Figure 1 below. The eCHIS falls under the applications segment within the architecture. For more details, reference can be made to the Uganda Digital Health Enterprise Architecture¹, Standards and Knowledge Products Guidelines.

¹Uganda Digital Health Enterprise Architecture, Standards and Knowledge Product Guidelines

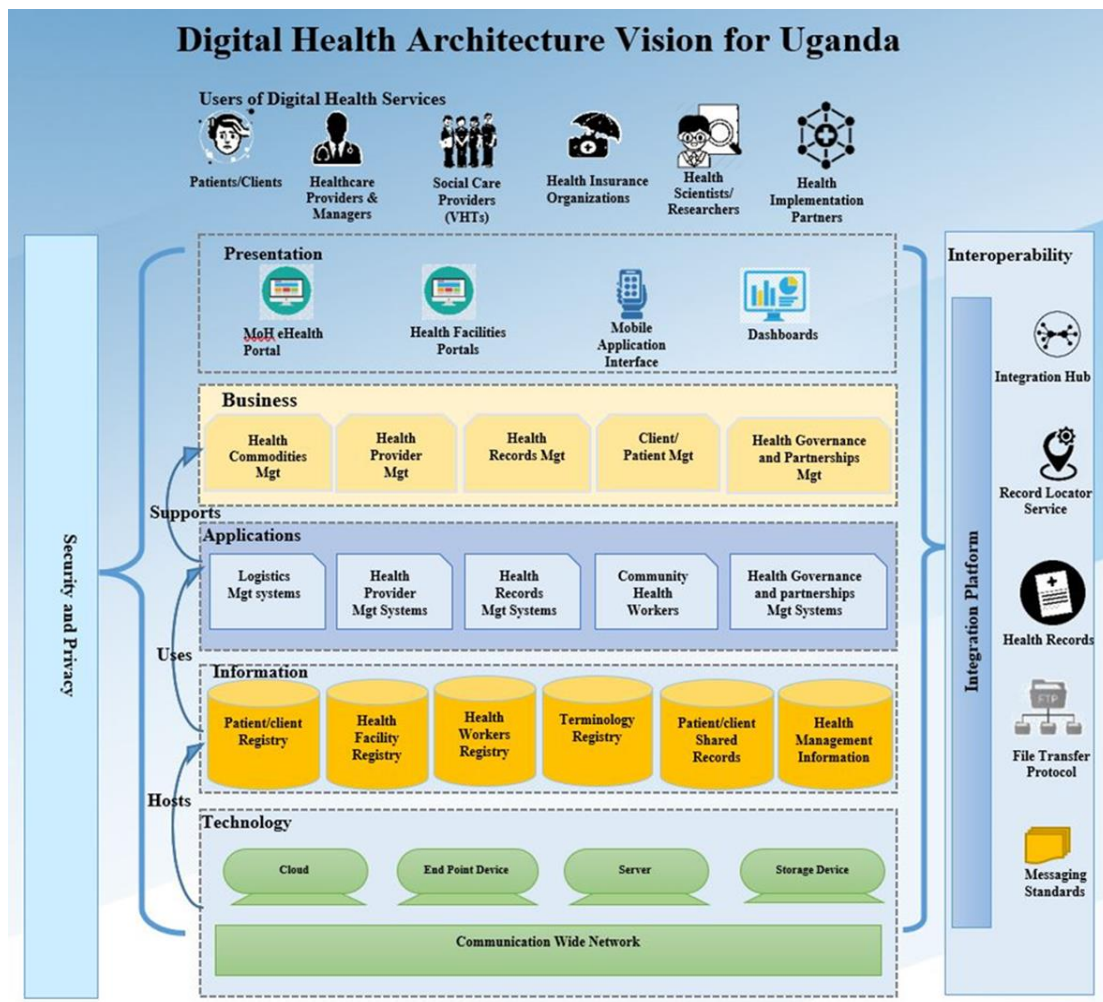


Figure 1: Uganda Digital Health Enterprise Architecture

2.2 Personas of eCHIS

The delivery and management of community health services involves multiple actors as depicted in Figure 2, who play different but complementary roles. The following subsections describe the characteristics and roles of each of the personas of the eCHIS.









eCHIS App Users	App Hierarchy	Details
Ministry of Health	 Live at Admin level	Staff at this level have online access to dashboards where they monitor program indicators
District Health Team	 Live at Admin level	
District Health Team	 Live at Admin level	
Health Assistant	 Live at facility level	In charges and Health Assistants are equipped with the eCHIS Supervisor application. They are able to view dashboards and reports but are not able to access and view patients or households. The application is offline access
HCIII In charge	 Live at facility level	
CHWs Coordinator/CHEWs	 Live at community level	CHWs, their coordinators & CHEWs are equipped with smartphones installed with the eCHIS app. This replaces the physical household register, screening tool and monthly reports. The application has offline access.
CHWs	 Live at community level	
Community/Client	 Live at community level	Primary recipient of community health services. i.e. children, adolescents, mothers, pregnant women etc

Figure 2: eCHIS User Personas

a) Client

The client is a member of the community and a primary recipient of community health services. Community members fall into one or more cohorts defined by sex, age group, pregnancy status, health and nutrition status et cetera. These characteristics should be taken into account when enrolling community members into specific community health services. Clients are normally organized into households, with each household having one member as the household head. Community health services include but are not limited to immunization, health/nutrition assessments and referrals, family planning, health promotion, nutrition, pregnancy mapping, Antenatal care (ANC), and Postnatal care (PNC). Caregivers of clients receiving health services are also included in this group. The clients shall be registered within the eCHIS and services delivered to them tracked longitudinally.

b) Community Health Workers

The Community Health Worker is the primary agent of community health service delivery at the household level. Their main role is to provide community health services while passively collecting key program data. CHWs are normally members of the communities in which they

work, hence, an intimate familiarity with those communities is assumed. CHWs shall utilize the eCHIS to deliver quality health services, capture and use data for operational decisions such as tracking defaulters and referrals to health facilities.

c) CHW Coordinators/Community Health Extension Workers (CHEWs)

CHW Coordinators/CHEWs are responsible for coordinating CHW activities at the parish level. They oversee several CHWs within villages located in their area of jurisdiction (Parish). The CHW Coordinators/CHEWs are CHWs but with a better understanding of the programmatic requirements, reporting needs and overall functionality of the eCHIS. These deliver mentorship and coaching to fellow CHWs and are the first line of support (to CHWs) in terms of troubleshooting issues or overcoming challenges associated with the eCHIS.

d) CHW Supervisors

CHW Supervisors are responsible for supervising and overseeing the delivery of CHW activities. The CHW Supervisors are full-time salaried government employees charged with the management of health service delivery at the community level. CHW supervisors -oversee a larger geographical area than CHWs, usually an entire catchment area of the health facility comprising more than one village. CHW supervisors occasionally visit clients in their households too. However, their visits are typically supervisory and are aimed at assessing and promoting service quality. CHW supervisors link to and mediate between CHWs and health facilities. In particular, they are responsible for distributing commodity supplies to CHWs, as well as verifying and escalating reports of notifiable diseases or events of public health interest. Their other tasks include training, mentoring and coaching CHWs and performing routine community health data quality checks. CHW Supervisors shall access eCHIS dashboards and supervisor views constituting key information necessary to provide insights on how best they can supervise and support the CHWs.

e) District Health Team

The District Health Team (DHT) is responsible for the management of healthcare programs at the district level. The DHT shall access the eCHIS through dashboards and reports for routine performance monitoring, program monitoring and reporting to enable evidence-based decisions.

f) Ministry of Health

The national-level team at the Ministry of Health is charged with the responsibility of system administration, technical programming aspects, supervision, resource mobilization, and planning. Escalation of any issue concerning the eCHIS shall follow the application hierarchy right from the CHW to the national level.

2.3 System Functions

The eCHIS shall provide the following key functionalities as a minimum and can further be customized according to the user requirements.

Household Registration	<ul style="list-style-type: none"> • Registration of households and household members. • Updating household and household member data.
Client Referral	<ul style="list-style-type: none"> • Referring clients from the community level to the health facility level and vice versa.
Reminder Services	<ul style="list-style-type: none"> • Reminder messages should be sent to the clients and notifications to the CHWs and health facilities.
Stock Management	<ul style="list-style-type: none"> • Commodity dispensing, adjustments and stock status monitoring.
Surveillance	<ul style="list-style-type: none"> • Reporting suspected cases of notifiable diseases and events of public health interest.
Analytics and Reporting	<ul style="list-style-type: none"> • Generating case-based and aggregate client reports and analytics to drive evidence-based decision-making.
Data & Process Validation	<ul style="list-style-type: none"> • Validation rules that shall enable the verification of data and processes to ensure adherence to set standards before a user is able to save a record.
Decision Support	<ul style="list-style-type: none"> • Functionality to ensure that the CHW's decision-making capability is improved.

System administration and Security	<ul style="list-style-type: none"> • Configuring the system with organizational hierarchies, users, user roles, commodities and security mechanisms.
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2.4 Design Process

A strong system design is crucial to the development and functionalization of the eCHIS to produce real-time quality information for decision-making. Through the design process, developers and programme teams understand the healthcare processes, persona user stories, unique data use requirements for each persona, the different healthcare workflows and how they are delivered in the community, the way users' interface with the eCHIS technologies, and how to continue to build for interoperability.

The human-centred design approach and analytical development methods shall be used to understand the user requirements while considering the bottlenecks and challenges that users face.

The human-centred design takes a bottom-up approach and focuses on understanding an intervention's users or stakeholders. It seeks to understand how people do their work, how they perceive their health services, and how they experience challenges and may envision solutions.

The analytical approach focuses on breaking down the process into the elements necessary to solve it and takes a top-down approach. An analytical approach shall often require an expert mindset (consultant/technology firm) to collect information about how the intervention works in a linear, causal process. The outcome is information-oriented, resulting in a user requirements document or report.

Therefore a participatory approach that allows users and stakeholders to contribute to the design and development process shall be used in a blended manner, that is to say, utilizing both human-centered design and the analytical approach.

The Division of Health Information Management shall lead the design and development process working with other relevant partners, departments and programs such as the Community Health Department Maternal and Child Health Department, Expanded Programme on Immunization, AIDS Control Program, Tuberculosis and Leprosy Program, Environmental Health Department, Malaria Control Division, and Nutrition Division.

2.4.1 eCHIS Design Principles

The eCHIS design principles shall guide every step throughout the eCHIS design and development processes.

1. **Usability:** Design and develop the eCHIS application in a way that shall minimize the complexity for end users interacting with it.
2. **Scalability:** Should be capable of continuing to perform as the eCHIS scales both vertically and horizontally over time in terms of enrolling end-users, data management and use.
3. **Availability:** Ensure both system and data is available to digital health applications and their end users whenever needed (within the bounds of confidentiality) to guarantee client safety and business continuity.
4. **Interoperability:** Foster interoperability of the eCHIS with other relevant digital health systems as per the digital health enterprise architecture.
5. **Collaboration:** Adopt a governance approach that includes multi-sectoral stakeholders in the decision-making and management of eCHIS design and development.
6. **Open standards:** Use internationally accepted standards that promote interoperability for data, workflows, and technology.
7. **Data quality and integrity:** Follow accepted data standards and create measures to uphold the integrity and reliability of data captured, processed or stored by the eCHIS.
8. **Ethics:** Equity, safe use, data privacy and protection: These principles are vital for ensuring the social inclusion of the eCHIS.
9. **Access control:** Enforce mechanisms to restrict access to both the system and data stored within the system.

2.5 eCHIS Development Process

The development process shall follow a streamlined Software Development Life Cycle (SDLC). A Systems Requirements Specifications (SRS) document detailing both functional and non-functional requirements shall be developed in line with the user requirements gathered.

The SRS document shall then inform the Systems Design Document (SDD). Both documents shall be presented to the CHIS implementation thematic working group for validation through target user departments for validation and sign-off.

The System development process shall, where possible, employ locally available resources to reduce reliance on external sources. It is, however, recognized that some desired technical skills and capacity may not be available in the country and shall be outsourced according to the Government of Uganda procurement guidelines and where possible according to the development partner procurement guidelines.

To ensure a user-centred design approach and quality software, the Agile development model shall be applied during the development process with extensive consultation and interaction with the end users. Key stakeholders shall be engaged during these steps from the Ministry of Health relevant departments and other line state agencies including but not limited to the National Identification and Registration Authority, Parish Development Model Secretariat, and Uganda Bureau of Statistics to ensure interoperability and that other key requirements for the system are addressed.

2.6 System Testing

The eCHIS testing shall comprise both internal system tests that shall focus on technical aspects of the system and User Acceptance Testing (UATs) where feedback on the developed/improved system shall be solicited.

a) Internal system tests

The Internal system tests shall focus on technical aspects that shall ensure system performance such as integration testing, unit testing, and functional and non-functional testing among others. These tests shall be conducted by the technology partners, the MoH ICT Section and DHIM.

b) User Acceptance Testing

User Acceptance Testing (UAT) shall be part of the software development process that focuses on real-world testing by the intended end users.

UATs shall be conducted for every software developed, revised workflows, new features, integrations, system enhancements or upgrades.

A UAT report shall be compiled and shared with relevant stakeholders through existing governance structures such as the CHIS Implementation thematic working group of the Health Data Collaborative (HDC) Subcommittee and the HIIRE TWG, the report shall incorporate feedback from users and the proposed system improvements.

A meeting with relevant stakeholders shall be held to discuss the report and a road map to address the issues raised shall be agreed upon.

The User Acceptance Testing report shall be signed off once all the raised issues are addressed and validated by the user departments. The Division of Health Information Management shall be responsible for coordinating the sign-off of UATs.

All system changes requested by User Departments and Programmes shall be documented using the Change Review Form (Appendix 9)

3.0 Implementing eCHIS

3.1 Pre-Implementation Requirements.

This subsection guides the key requirements and sub-tasks that need to be done before activity implementation.

1. eCHIS National Rollout Roadmap

A national rollout roadmap shall be developed and updated by the Ministry of Health detailing priority areas, timelines, how the program shall run, and geographical coverage.

2. Implementation approval by MoH

The Ministry of Health is responsible for providing overall coordination of all parties involved in the process, including but not limited to leading inception, reviewing progress, continuing implementation efforts, and monitoring compliance with all electronic community health systems to be implemented. All parties intending to implement eCHIS should seek guidance and approval from MoH before engaging districts. As part of the approval, the implementation plan shall be presented to the Community Data Thematic Working Group of the Health Data Collaborative responsible for coordinating the implementation of the eCHIS.

3. Readiness Assessment

A readiness assessment using the eCHIS deployment checklist (Appendix 1) for the proposed Local Government shall be conducted to check the readiness of the Local Government and the Ministry of Health (MoH) to support the rollout of the eCHIS. This shall check if resources are planned to support the rollout of the eCHIS in the selected Local Government and this includes but is not limited to; finances, human resources, hardware, software, approved CHW lists, and draft device management agreements among others.

The user shall sign the device management agreement (Appendix 2, 3, and 4) upon receipt of the device (Tablet/Smart Mobile Phone).

a) Shadowing of CHWs

The training team and supervisors shall supervise the trained CHWs on their first day of household registration. This shall also serve the purpose of practical knowledge enhancement for the CHW as well as building confidence in the use of the eCHIS. A minimum of five (05)

households shall be registered on the initial day by the newly trained CHW to their administrative units and health facilities.

As part of the preparation by the DHT, a minimum of two CHWs per village shall be selected for the case of VHTs and other CHWs shall be selected as per the national CHW selection criteria and a list made available to the National Team prior to district entry activities.

3.2 eCHIS Deployment Phase

3.2.1 District eCHIS Work Plan

The district shall develop a work plan detailing how it shall roll out and coordinate the program, resource mobilization approaches to partner engagement and support, and how it shall supervise and oversee program implementation including pre- and post-deployment support as well as the sustainability plan.

3.2.2 eCHIS Deployment

In this phase, the eCHIS shall be introduced to both the District Health Team, Health Facility Supervisors and the Community Health Workers. This stage shall include training of supervisors and CHWs, onboarding and activation of CHWs.

The deployment of the eCHIS shall strictly observe 100% digitisation of the CHWs within a health facility catchment area for purposes of ensuring complete electronic reporting for the health facility on the eHMIS (DHIS2).

For fully digitized facility catchment areas, all partners intending to work with the existing CHWs shall support them in the management and use of the eCHIS application.

Deployments shall be fully standardized and follow the cascaded activities below;

b) Entry Engagements

A meeting aimed at District leadership engagement to introduce the program, seek political and support, and discuss resource mobilization shall be held. The district leadership to be targeted for the district engagement shall include but not be limited to the following (DHT, CAO, RDC, LC5, DISO, DPC, DCDO). This shall apply to similar structures for cities and

municipal councils. Where Community level partners exist within the Local Governments, these shall be part of the engagements as well.

c) Device Custody and Management Plan:

Devices distributed in the district if procured by MoH or partners shall be handed over to the Local Governments who shall ensure they are captured within the district or city inventory list for purposes of tracking. Device agreements (Appendix 2, 3, and 4) shall be signed off by the beneficiary while issuing out the devices to CHWs. A copy of the agreement shall be shared with the CHW and another copy maintained by the Local Government for record purposes.

d) On-Boarding Training

1. Pre -Training/Preparation Phase

The training team shall ensure that all requirements in the eCHIS deployment checklist are met ahead of the training (Appendix 5).

2. Training of Trainers and Supervisors

Training shall follow the updated standard training guide. Participants to be trained as ToTs and supervisors shall include the Facility In charges, CHW Supervisors or Health Assistants, Health Inspectors, DHT and Partner Representatives. ToTs and Supervisors shall be trained on the eCHIS for a **minimum of three (3) days** following the **Appendix 6** schedule for TOT training.

3. Training of CHW

The CHW training shall follow the established training guide that shall entail all the service areas in eCHIS. CHWs to be digitized shall be trained in health service areas for a minimum of **two (2) days**, and on the digital aspect for a minimum of **four (04) days** in class not exceeding 65 CHWs each.

CHWs shall be trained on a training instance whose icon shall be different from the production or live system. CHWs shall be availed of generic logins to the training instance once training on the digital aspect commences.

CHWs shall be subjected to a mandatory test on the eCHIS to assess the extent of knowledge transfer. A **minimum of 80%** shall be obtained by a CHW before they complete the training.

Failure by the CHW to obtain the mandatory 80%, the CHW shall be retrained on the service areas and the eCHIS and subjected to a second test.

Failure by a CHW to obtain the mandatory 80% pass mark on a second attempt, the CHW shall be replaced immediately.

e) Onboarding on the eCHIS

1. Configuration and CHW activation in the production instance

Upon completion of the training of CHWs, the CHW devices shall be configured with user profiles for the production instance of the eCHIS after uninstalling the training application as detailed in the trainer's manual.

2. Tooling and Reintegration into the District Structure

The users shall be equipped with the necessary work tools including but not limited to digital job aids, eCHIS user guide, and Sick Child Job Aids (SCJA).

CHWs shall continue to use the manual CHW registers alongside the eCHIS for a period of a maximum of one month before completely using the eCHIS alone.

Manual registers shall only be used as a backup mechanism in the event the eCHIS is non-functional. Once the eCHIS functionality has been restored, all the data captured using the manual registers shall be transferred.

3.3 eCHIS Post-Implementation Support

3.3.1 Continuous Capacity Building and Mentorship

This subsection includes modalities of conducting continuous capacity building and mentorship post-deployment of eCHIS.

a) Bi-Annual National Supportive Supervision

A team from the National Level guided by reports generated from the eCHIS shall make supportive supervision visits to the district on a bi-annual basis. An approved HMIS and CHW Support Supervision tool shall be used to document findings. The findings and remedial action plan entailing clear action points and well-defined timelines shall be discussed with all stakeholders thereafter.

b) Quarterly Performance Review Meetings

The data quality performance review meetings shall be utilized to review community health performance, identify data quality gaps and craft improvement plans.

c) Supportive Supervision:

1. Routine supervision of the CHWs by the District Health Team (DHT) shall be conducted.
2. The supportive supervision by the Health Assistant or CHW Supervisor shall be conducted monthly to support the CHWs close performance and data quality gaps identified.

d) Peer mentorship by CHW Coordinators

The CHW coordinator shall support/mentor the peer CHWs on at least a Bi-monthly basis should the CHWs have any queries or challenges.

e) Refresher Training:

1. One full day of monthly training for a minimum of three months consecutively after the initial deployment of the eCHIS shall be conducted and thereafter a minimum of three quarterly refreshers shall be held. The training shall focus majorly on areas of poor performance as guided by the monthly report, complex workflows and modules as identified by the CHWs or their supervisors, and new modifications in existing workflows.
2. Thereafter yearly refresher training is recommended to address any area of interest as may be identified at the national and subnational levels or aesthetic changes to the system.
3. Training on any new/updated workflow or system enhancement/upgrade shall be

scheduled on a need basis.

3.4 Transitioning from Other Community Health Applications to eCHIS

Transitioning of CHWs already enrolled on an organizational or disease-specific community health application shall follow sections 3.1 to 3.2 with exceptions indicated below;

- 1) Existing CHWs already enrolled on the organizational or disease-specific community health application shall be considered for the transition.
- 2) In villages where more than one CHW is already digitized, efforts shall be made to identify another CHW for equipping and training. In case of resource constraints, the already digitised CHWs shall be transitioned and a plan to equip and digitise the remaining CHWs shall be agreed upon by the MoH, district and implementing partners.
- 3) District engagement meetings shall involve health facility supervisors as part of integrating CHWs from partner structures into Local Government structures.
- 4) An inventory of the already issued devices shall be handed over to the district management for inclusion in the district inventory and tracking.
- 5) Training of CHWs on the service areas and the digital aspect shall be for a minimum of **three (3) days**.

4.0 System and Data Access

System access credentials shall be required for User personas detailed in Figure 2. A unique username and password shall be generated for each user and it shall be the responsibility of the individual to keep their password safe. A request for a password change shall be sent to hmissupport@health.go.ug in case a user forgets her/his password or the need for renewal or the absence of an automated password reset.

Only CHWs shall be permitted to enter and update individual-level records using the eCHIS. Supervisors at the health facility level shall have access to supervisor workflows that shall enable adequate supervision of CHWs. The rest of the management teams shall have access to the interactive analytics dashboards.

The system user roles and permissions shall be automatically enforced by the eCHIS and shall require no manual intervention.

Partner organizations shall send system and data access requests to the Division of Health Information Management Head for approval with hmissupport@health.go.ug in copy. Organizations already having eHMIS (DHIS2) access may be able to access the quarterly (097B) and monthly (097C) reports.

The 097C report shall be pushed from the eCHIS automatically to eHMIS on a monthly basis, specifically, every 7th day of the month. The 097B report shall be pushed to the eHMIS quarterly. The MoH IT Section shall ensure the automated data synchronization process while the DHIM shall ensure data quality mechanisms are in place to maintain high-quality data.

Overall, the data access, sharing and use shall follow the Uganda Health Data Access Sharing and Use Guidelines.

To ensure data protection, the Uganda Health Data Protection, Privacy and Confidentiality Guidelines shall be observed once system and data access has been granted.

5.0 Governance Structure

The Governance of eCHIS shall follow the existing governance and management structures at the national and decentralized levels, as summarized in Figure 3.

Technical oversight is the mandate of the Division of Health Information Management (DHIM) under the Department of Planning, Financing and Policy which guides and coordinates all stakeholders involved in health data collection, processing and storage. This function is similarly decentralized at the Local Government level, as summarized in Figure 3. The main task of the Health Information Innovation and Research Technical Working Group (HIIRE TWG) is reviewing and advising on Health Information System (HIS) and Digital Health policy- and strategic-related issues stemming from the user departments and other stakeholders.

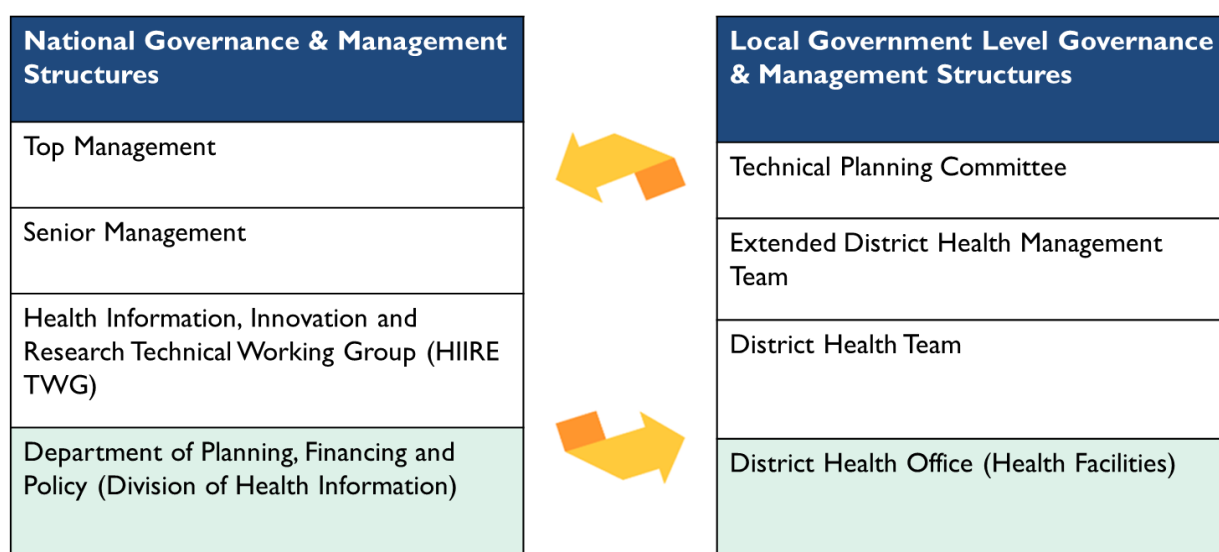


Figure 3: Governance Structure

The Division of Health Information Management (DHIM) together with other user departments shall be responsible for monitoring the application of these Guidelines to ensure compliance.

The Health Data Collaborative (HDC) Subcommittee of the HIIRE TWG specifically its CHIS Implementation thematic working group shall be charged with the coordination of the eCHIS implementation nationwide. Other HIIRE TWG subcommittees like the Digital Health, Data

Management, and Analytics Subcommittees shall provide technical input towards the implementation of the eCHIS through the Health Data Collaborative Subcommittee.

5.1 Implementation Arrangements

SN	Entity	Level	Key Responsibilities
1	Top Management	National	<ul style="list-style-type: none"> • Strategic leadership, guidance and oversight. • Approval of systems for use in Uganda as official tools and for scale. • Monitoring and Supervision of systems.
2	Senior Management Committee (SMC)	National	<ul style="list-style-type: none"> • Strategic leadership, guidance and oversight. • Endorsement of systems for use in Uganda as official tools. • Monitoring and Supervision of systems.
3	Health Information, Innovation and Research (HIIRE) Technical Working Group	National	<ul style="list-style-type: none"> • Approve systems for piloting. • Recommend systems to SMC for full scaleup. • Monitoring and Supervision of systems. • Provide technical guidance and quality assurance. • Ensure adherence of systems to standards and guidelines. • Review and recommend developed standards, and guidelines for approval by the SMC.
4	Health Data Collaborative (HDC)		<ul style="list-style-type: none"> • Promote and facilitate greater alignment of investments (both domestic and external resources) • Identify challenges and obstacles that impede performance and opportunities to improve data systems for increased effectiveness and value for money. • Report back to the HIIRE TWG on findings and recommendations.
5	Community Data Thematic Working Group.	National	<ul style="list-style-type: none"> • Guide on eCHIS implementation modalities. • Coordinate stakeholders. • Participant in the joint planning, monitoring and evaluation of the CHIS. • Recommend best-practice to aid improved development and implementation of the CHIS.

6	MoH/Planning, Finance, Policy Department	National	<ul style="list-style-type: none"> ● Coordinate implementation of eCHIS. ● Recommend systems for pilot and use following a technical evaluation. ● Recommend system hosting strategies. ● Prioritize areas of implementation in line with the Health Information and Digital Health Strategic Plan. ● Coordinate and Manage access to systems. ● Coordinate and ensure data and system management with the support of stakeholders. ● Quality assurance of eCHIS. ● Coordinate integration of community health information systems with other systems. ● Authorize changes and modifications to the system. ● Supervise implementation teams. ● Develop Health Information System standards and guidelines and monitor use or compliance. ● Coordinate capacity building programmes with stakeholders. ● Coordinate the development and implementation of a sustainability plan for CHIS with stakeholders.
7	MoH/IT	National	<ul style="list-style-type: none"> ● Provide and manage hosting infrastructure for systems. ● Ensure security of systems and respective hosting environments. ● Ensure data and system backup. ● Coordinate with external entities in case of outsourced hosting. ● Coordinate and Manage access to system hosting environments/backend.
8	MoH/User Departments	National	<ul style="list-style-type: none"> ● Participate in the requirement gathering and design workshops and validation of system requirements specifications. ● Provide programmatic subject matter and guidance on functionality of the tool including its design. ● Participate in eCHIS user acceptance tests and sign off requirements, workflows and data points
9	Partners	National/ District	<ul style="list-style-type: none"> ● Provide technical and financial assistance for implementation of community health information systems. ● Support resource mobilisation for the implementation of a community health information system. ● Support capacity-building efforts of MoH and Local governments on management and use of the CHIS.

			<ul style="list-style-type: none"> ● Participate in the development of standards and guidelines. ● Support monitoring and evaluation of the community health information system. ● Participate in the roadmap development and implementation of CHIS with MoH. ● Support optimisation, implementation and adaptation of the CHIS.
8	Local Governments	District/Cities/ Municipality/ Subcounty	<ul style="list-style-type: none"> ● Lead the implementation of the eCHIS at the local government level. ● Coordinate implementation of eCHIS at local government level (districts and cities) with partners. ● Supervise implementation teams. ● Participate in user acceptance tests and sign off requirements, workflows, and data points ● Implement the CHIS sustainability plan with the support of MoH and stakeholders. ● Support resource mapping and mobilization efforts towards scaling and sustaining eCHIS at district level. ● Conduct eCHIS deployment monitoring, assess performance and address key issues within the district's capacity or sphere of influence, else, share feedback upwards for timely resolution by the responsible MoH entity.
10	Health facilities	District/Cities/ Municipality/ Subcounty	<ul style="list-style-type: none"> ● Ensure data quality assessment and assurance . ● Support community health workers on the management and use of eCHIS. ● Conduct capacity building of the community health workers on management and use of eCHIS and devices. ● Generate list of users of CHIS for approval by the MoH Department of Planning, Finance and Policy. ● Support eCHIS implementation at community level. ● Supervise community health workers within their catchment area.

6.0 Monitoring and Evaluating the Guidelines

This section outlines how eCHIS deployments and the use of eCHIS implementation guidelines shall be monitored and evaluated.

6.1 eCHIS Implementation Guideline Use Monitoring

Monitoring the use of the Guidelines for Implementing the Uganda electronic Community Health Information System shall be based on a specific framework designed to track compliance and effectiveness. Important to note is that dissemination and training on the use of the guidelines are key requirements before monitoring its use can become a practical reality. Therefore, the guidelines shall be monitored using three major parameters, namely, dissemination, training, and compliance. They are described further below and shall be tracked and assessed to measure guideline use. The guideline-use monitoring framework consists of the parameters or components, key monitoring questions, result statements, indicators, and means of verification.

- **Dissemination:** Refers to broadcasting the guidelines to a target audience through printed or electronic media such as print, electronic documents, or other forms of media as appropriate. Copies of the guidelines shall be printed and distributed at national and sub-national levels. The electronic copy of the guideline shall be uploaded on the Ministry of Health online Knowledge Management Portal for public access and consumption.
- **Training:** Refers to orienting and/or sensitizing key stakeholders on the key components of the guideline document including its value and their roles and responsibilities to ensure awareness and accelerate compliance.
- **Compliance:** Refers to the state of implementing the eCHIS in accordance with established guidelines or specifications, or the process of becoming so (compliant).

Refer to **Appendix 11** for a detailed Guideline-Use Monitoring Framework.

6.2 eCHIS Deployment Monitoring

The eCHIS implementation is anchored within the overall Uganda Health Information and Digital Health Monitoring and Evaluation Framework. Notably, it is critical to continue monitoring eCHIS deployment nationwide to ensure that the software is working as it should, that every activity is implemented as planned, and that external factors are not affecting the potential effectiveness of the eCHIS intervention.

Findings from deployment monitoring activities shall be synthesized, socialized, and remedial action taken to address identified challenges. This shall ensure the optimization of eCHIS implementation across the board and foster successful evaluation efforts. Consequently, four (4) key parameters of eCHIS deployment monitoring shall be considered, namely, functionality, stability, fidelity, and quality. They are described further below and shall be tracked and assessed to ensure that the intervention is “doing things right”.

Similar to guideline-use monitoring, the eCHIS deployment monitoring framework shall consist of parameters or components, key monitoring questions, result statements, indicators, and means of verification.

- **Functionality:** *Refers to the degree to which eCHIS provides functions that meet stated and implied needs when used under specified conditions, or the ability of eCHIS to support the desired intervention.* For instance, the desired functionality of the eCHIS application based on agreed upon user requirements. Monitoring functionality shall be done pre- and post-deployment to ensure adequate system functionality at all times. Pre-deployment monitoring shall entail testing and providing feedback on various aspects including but not limited to skip patterns, validation checks, form schedules, form content, user interface design, data export/import functionality, data accuracy, and dashboard calculations. Post-deployment and/or at a later maturity stage (i.e., where the eCHIS applications have been fully designed and only enhancements are required to meet evolving policy changes and information needs), basic system functionality monitoring shall be conducted before introducing the eCHIS to new users (e.g., a different cadre of health workers) and new geographic areas that might pose different levels of connectivity or when using new technologies.
- **Stability:** *Refers to the likelihood that eCHIS functions shall not change or fail during use or the ability of eCHIS to remain functional under both normal and anticipated peak conditions for data loads.* Monitoring stability shall be done concurrently with functionality monitoring both pre- and post-deployment. Initial (pre-deployment) system stability monitoring shall be conducted during quality assurance testing sessions before eCHIS app is declared ready for deployment (field-ready). Post-deployment, stability shall be monitored to mitigate any events that may result in improper delivery of the eCHIS intervention such as unexpected crash or stop, slow response times especially during peak times or when overloaded, and any erratic performance hindering management and use of eCHIS. Considering that the eCHIS heavily relies on physical (non-cloud-based) servers for operation, server outage shall be monitored. Considering stability is a critical aspect to ensure successful implementation of eCHIS intervention, continued stability monitoring processes shall be automated and systems configured accordingly to enable proactive and timely reactive response.
- **Fidelity:** *Refers to a measure of whether or not an intervention is delivered as intended in terms of technical and user perspectives.* For instance, the technical fidelity of eCHIS (i.e., functionality and stability) and the enabling environment such as any external barriers that might cause it not to function as intended, and compliance of eCHIS end-users to stipulated data use and system administration standard operating procedures. Monitoring fidelity of eCHIS intervention shall occur throughout implementation with the required level of effort

gradually decreasing depending on the time it takes to identify and resolve issues. Standard monitoring procedures and reporting mechanisms shall be established and automated to aid timely decision-making.

- **Quality:** *Refers to the measure of excellence, value, conformance to specifications, conformance to requirements, fitness for purpose and ability to meet or exceed expectations.* For instance, the standards related to the capabilities of eCHIS end-users and content of the inputs used for the programmatic interventions that eCHIS is designed to deliver such as algorithms for decision support, data collection forms, and SMSs (FamilyConnect). This content should be of the highest quality possible informed by existing practice, literature and formative research in the local context to increase the effectiveness of the eCHIS intervention. eCHIS quality monitoring shall focus on ensuring (a) data quality and regularity by checking for outliers of non-compliant users; and (b) the quality of content to be delivered is as expected and in line with existing standards and appropriate for participating communities.

Refer to **Appendix 13** for a detailed eCHIS Deployment Monitoring Framework.

6.3 Evaluating the electronic Community Health Information System

The evaluation shall entail any measures that shall be taken and analysis performed to assess;

- a) The interaction of users and/or the health system with eCHIS intervention and strategies
- b) Changes attributable to the implementation of eCHIS.

Any commissioned evaluations focused on eCHIS shall be designed to ensure assessment and evidence generation on its usability, effectiveness, value for money and affordability at the very least, depending on the degree of maturity i.e., early or middle or late stage. The following evaluation components shall constitute the eCHIS evaluation framework in addition to the evaluation types:

- **Feasibility:** Assess whether eCHIS works as intended in various contexts across Uganda.
- **Usability:** Assess whether eCHIS is used as intended.
- **Effectiveness:** Assess whether eCHIS achieves the intended results in an uncontrolled (non-research) setting.
- **Implementation research:** Assess the uptake, institutionalization, and sustainability of eCHIS in Uganda, including policies and practices.

Depending on the eCHIS degree of maturity and evidence needs, several evaluation types categorized as formative or summative may be commissioned and/or conducted.

- **Formative evaluations:** Studies aimed at informing the design and development of effective intervention strategies conducted before or during implementation of an intervention.
- **Summative evaluations:** Studies conducted at the end or a certain phase of the intervention to determine the extent to which expected outcomes have been achieved.

Refer to **Appendix 13** for a high-level eCHIS Evaluation Framework.

6.4 Reporting, Dissemination and Adoption of the Guidelines

The framework shall guide the collection of information regarding the implementation of the eCHIS to facilitate reporting, feedback, and dissemination.

a) Dissemination and adoption of the guidelines

The eCHIS implementation Guidelines shall be disseminated for adoption through:

1. Presentation of the guidelines to stakeholders.
2. Posting of the guidelines on the MoH websites and the electronic Library for access by the stakeholders.
3. Organising quarterly workshops to train stakeholders and innovators.
4. Leveraging eCHIS activities like refresher training etc to disseminate the guidelines

b) Reporting

The reporting requirements shall be based on the approved 097B HMIS report. The reports shall be for purposes of synthesis, monitoring of usage and functionality. The data shall be pushed from the eCHIS to the electronic Health Management Information System (eHMIS/DHIS2) every month following the schedule below;

1. All data captured in the eCHIS mobile application shall be synchronised or pushed by the CHWs to the eCHIS servers by the 5th of every month.
2. All the data received on the eCHIS servers tagged to fully saturated health facilities (health facilities whose catchment areas are fully digitised or CHWs are fully equipped with the eCHIS) shall be pushed to eHMIS/DHIS2 every 7th of every month following the 097B reporting format.
3. District and health facility level health managers shall review and validate the pushed eCHIS datasets in eHMIS/DHIS2 from the 8th - 15th of every month for purposes of ensuring completeness and accuracy.

4. The system shall be locked for entry or validations of data past the 15th of every month to allow for analysis of consistent data for the reporting period.

All the synchronised data shall be accessed through the eHMIS/DHIS2. For real-time data from the eCHIS, dashboards (<https://echis-dashboards.health.go.ug/>) shall be utilised to access indicator performance for various administrative at various levels.

Monthly performance reports indicating various indicators as per the 097B reporting format shall be produced and shared with stakeholders.

References

1. (MoH), M.o.H., *Ministry of Health Strategic Plan 2020/21 - 2024/25*. 2020, Ministry of Health (MoH): Kampala.
2. MoH, M.o.H., *Health Information and Digital Health Strategic Plan (2020/21-2024/25)*. 2023.
3. MoH, M.o.H., *Uganda Digital Health Enterprise Architecture Framework 2020/21 - 2024/25*.
4. (MoH), M.o.H., *National Community Health Strategic Plan 2020/21 - 2024/25*. 2020, Ministry of Health (MoH): Kampala.

Appendix 1: eCHIS Readiness Assessment Checklist

	Item	Response	
		Yes	No
1	Approved Budget Available		
2	ICT Equipment (Phones & Tablets) Quantified and Procured		
3	Approved Device Agreement Available		
4	Updated eCHIS Application Tested and ready for installation		
5	eCHIS Application Installation Guide Available		
6	eCHIS Training Guide Available		
7	CHW Training Schedule Approved		
8	Field Deployment Team Approved		
9	Official Invitation letter Signed to Support Deployment		

Appendix 2: Device Management Agreement Template for CHW Supervisor

**DISTRICT LOCAL GOVERNMENT SUPERVISOR
TABLET AGREEMENT**



MM/YY

SIGNATURE PAGE

This agreement has been approved by the Ministry of Health and passed for use by the district local governments to guide ownership and management of tablets given to Community Health Worker (CHW) supervisors.

Approved by:

Name:

Title: (Approving Authority)

Signature:..... Date: dd/mm/yy

Reviewed by:

1. Name:

Title: The Chief Administrative Officer, xxx District Local Government

Signature: Date:

2. Name:.....

Title: The District Health Officer, xxx District Local Government

Date:

The **Tablet** Agreement is between the CHW supervisor noted below and the District Local Government (DLG) Health Office.

--

Name: _____ Sub-county: _____ Parish.....
Tablet Serial #: _____
Mobile#: _____

The Tablet is for use by supervisors to assist in the assessing CHW performance and other DLG Health office operations.

1. Ownership

This **Tablet (Device Name)**, remains the property of DLG Health Office. The purchase price of the Tablet is xxxx Uganda Shillings.

2. Supervisor Responsibility

The CHW supervisor shall assume responsibility for the Tablet and agree to handle the asset as follows:

- a. Ensure proper use and safety of the asset at all times. Anything that happens to the asset shall be attributed to the remuneration of the supervisor.
- b. The Tablet shall be used in its provided protective cover at all times, and the team member shall not eat or drink while handling the asset or any of its accessories
- c. Declare any defects/ damages observed on the asset before commencement of service and while in the field to your supervisor
- d. Use the keypad lock and use a PIN code to lock the Tablet, so that if the Tablet is subsequently stolen or lost, a PIN code must be used to unlock it
- e. Return the asset in good working condition as qualified by DLG Health Office at the end of the contract. Failure to return the asset in good working condition shall result in reduced or in extreme cases no remuneration to the supervisor.

The Tablet is registered with the above noted serial number.

3. Loss or Damage of Tablet

In case of theft or loss, supervisor must:

- a. Contact the Police within 24 hours of discovery of the occurrence and report the incident. Ensure that you receive an incident reference number from the police.
- b. Report the theft/loss to DLG Health Office within 24 hours of discovery of the occurrence, with the date of the theft or when the Tablet was lost, the Police station to which it was reported and the incident number.
- c. A block shall be placed on the Tablet to ensure that it cannot be used.

4. Replacement Procedure and Penalty

All staff qualify for one replacement of the Tablet as stated in procedures below:

- a) All claims for replacements and repairs are supposed to be submitted in writing to Line managers accompanied with a Police letter (To whom it may concern Letter).
- b) All claims are subject to an Internal investigation led by the IT department and the Victim/subject should provide supporting evidence (when they are in position to) for example a Police report (with case number and findings).
- c) Staff can have only 1 replacement provided they have not miss handled or neglected the Asset. This conclusion is based on the internal investigation led by line the manager.
- d) Staff shall bear the cost of any further replacement as follows provided damage/loss is established to have risen from staff negligence.
 - 2nd replacement—staff pays 50% of asset cost
 - Further replacements—Staff pays 100% of asset cost

5. Repair

- a. Staff can have only repair provided they have not miss handled or neglected the Asset. This conclusion is based on the internal investigation led by line the manager
- b. Staff shall bear the cost of repairs provided damage is established to have risen from staff negligence. The cost of repair shall be determined by the DLG Health Office based on the extent of damage.
- c. Tablets in need of repair should be returned to headquarters for repair or replacement. Tablets come with a one-year warranty, and DLG shall work with the manufacturer to get the Tablet repaired. Please note that manufacturers' warranties do not cover damage caused by misuse or neglect.

6. Data and Airtime

The xxxx (organization) with funding from xxxx (development partner) shall provide the supervisors with sufficient data and airtime from mm/yy to mm/yy. Thereafter, the DLG

will send sufficient airtime and internet data bundles each month to the line registered which must be used exclusively to transmit and review data for the DLG health applications.

7. Loss of Tablet Privileges

DLG reserves the right to get the Tablet or pass the costs on to the employee if:

- A specific event in a policy is contravened with financial cost to DLG (e.g. knowing a Tablet has been stolen and failing to report it, using data bundle for personal calls or gaming) or
- if a repeat event occurs (e.g. loss or damage a second time to Tablet).

8. Support with the tablet

Should there be any queries on the use of the Tablet or mobile application, please contact IT support at **0800100066**

9. End of Relationship

The supervisor agrees that upon termination of the relationship with DLG, should she/ he not return the Tablet, or should the Tablet be returned in an unsatisfactory condition, the cost of replacement shall be deducted from any final monies owing, or the supervisor shall otherwise reimburse DLG.

10. Legal avenue

This Agreement shall be governed by the laws of the Republic of Uganda.

I confirm that I have read this Agreement and agree to the terms.

CHW supervisor:

For District Local Government:

Name:

Name:

Signature _____

Signature: _____

Appendix 3: Device Management Agreement Template for CHWs

DISTRICT LOCAL GOVERNMENT CHW MOBILE PHONE AGREEMENT



MM/YY

SIGNATURE PAGE

This agreement has been approved by the Ministry of Health and passed for use by the district local governments to guide ownership and management of mobile phones given to Community Health Workers (CHWs).

Approved by:

Name:

Title: (Approving Authority)

Signature:..... Date: dd/mm/yy

Reviewed by:

1. Name:.....

Title: The Chief Administrative Officer, District Local Government

Signature: Date:

2. Name:

Title: The District Health Officer, District Local Government

Date:

This Mobile Phone Agreement is between the CHW noted below and District Local Government (DLG)

CHW Name: _____	Village: _____
Parish: _____	Sub County: _____
Supervisor: _____	
Phone Serial #: _____	
Mobile #: _____	

The Ministry of Health shall purchase Android mobile telephones (a “Mobile”) for use by CHWs to assist in the execution of their day to day community health activities and improve communications. The mobile phone shall then become the property of the DLG. The CHW shall purchase and register a sim card to be used in the phone

1. Ownership

This phone remains the property of DLG for the first 3 years from the date of issuance to the CHW.

Before the 3 years, the phone shall be subject to the damage/loss policy spelled out in section 4 of this agreement.

After 3 years of consistent service and outstanding performance, ownership of the phone shall transfer to the CHW.

The ownership of the phone shall not be transferred to any other user other than the intended user without prior notice and information of the supervisors.

2. CHW Responsibility

The CHW shall be responsible for the safekeeping, proper use, and eventual signing off of the phone from DLG after 3 Years from the issue date. The CHW shall take good care of the mobile phone to ensure that the device is not damaged, lost or stolen. The CHW is required to keep the mobile telephone clean and in serviceable condition at all times, and report all irregularities immediately to the supervisor within 24 hours. The CHW is required to keep the phone charged and turned on at all times.

For security of the phone device, the CHW shall use the keypad lock and use a PIN code of their choice to lock the mobile phone.

3. Refundable Deposit

Prior to receiving the new Phone, a CHW must have paid a refundable deposit of UGX 30,000 to the xxxxx (Sponsoring entity) which is supposed to be as a security deposit. The deposit is to be used for repair of the phone in case it is damaged/mishandled within the 3 Years period from the date of issuance of the phone.

The deposit shall be reimbursed to the CHW when they choose to exit or exit anyway from the DLG CHW Voluntary assignment before the lapse of 3 Years, only if the device is returned in full working condition.

Full working condition shall be defined as;

- The phone screen is not damaged and the sensor is functional
- The phone can charge

4. Loss or Damage of Phone

In case of theft or loss, CHW must:

- a. Contact the Police within 24 hours, report the incident and obtain an incident number for referral.
- b. Report the theft/loss to the Health Assistant or CHW Supervisor, within 24 hours of discovery of the occurrence. The CHW Supervisor or health assistant shall investigate, asking the CHW to produce a police report before replacement. This shall then be communicated to the Technical officer who shall channel communication to the tech team.
- c. The phone then shall be blocked to ensure that it cannot be used.
- d. A replacement shall be issued, when the DLG team has all the required information pertaining to the police report and the follow up procedures.

5. Management of Repairs

Mobile phones in need of repair shall be returned to the CHW Supervisor, the CHW Supervisor shall send them to DLG Health Offices for repair or replacement. Phones come with a one-year warranty, and DLG shall work with the manufacturer to get the phone repaired. Please note that manufacturers' warranties do not cover damage caused by misuse or neglect.

Should your phone freeze/Not work due to technical error, DLG shall provide a replacement phone under this Agreement. In cases of personal misuse or mishandling as CHW you shall pay for the cost of repair, up to a maximum of UGX 30,000.

6. CHW phone Replacement

- a. A CHW is entitled to a one-time phone replacement for a reported damage/loss occurring within the first 3 Years, provided it is not arising from personal negligence
- b. In the event that the device damage/loss is out of personal negligence, the CHW shall bear the cost of second replacement as follows
 - 2nd time loss-50% of the device cost
 - 3rd time loss – 100% of the device cost
- c. In the event that following an initial replacement, loss or damage occurs again and another replacement is required for the handset, the CHW shall be required to pay for the full cost of the phone as stated in clause 1 of this agreement.

The violation of the above could also lead to potential termination of the CHW by DLG

3. Data and Airtime

CHWs shall be provided with sufficient internet data for a duration of 3 Years to support for monthly synchronization of the data collected by the CHWs

4. Support with the phone

All queries on the use of the mobile device or mobile application, should be directed to IT support at **0800100066** or your Health Assistant or CHW Supervisor.

5. End of Relationship

In the event of any termination initiated by the CHW or DLG within the stated period (first 3 Years), the CHW agrees to return the phone with all its accessories and shall be refunded the initial deposit of UGX 30.000. In case the returned mobile phone is in an unsatisfactory condition, the CHW automatically forfeits the initial 30,000shs deposit as a recoup to the DLG. After the lapse of 3 Years, the CHW shall retain the phone and all its accessories and shall not be getting the refund of UGX 30,000.

6. Legal Provisions

This Agreement shall be governed by the laws of the Republic of Uganda.

I confirm that I have read this Agreement and agree to the terms.

CHW Name: _____

Signature _____

Date _____

In presence of:

Name: _____

Name: _____

Title: District Health Officer

Title: Supervisor

Signature: _____

Signature: _____

Date: _____

Date: _____

Guaranteed by (LC 1):

Name _____

Mobile#: _____

Signature _____

Appendix 4: CHW Solar System Agreement Template

DISTRICT LOCAL GOVERNMENT eCHW SOLAR SYSTEM AGREEMENT



This solar system agreement is between the Community Health Worker (CHW)
noted below and District Local Government (DLG)

CHW Name: _____	Village: _____
Parish: _____	Sub County: _____
Supervisor: _____	
Solar system Serial #: _____	
Mobile #: _____	

xxxxxx (Name of entity supporting) has purchased solar chargers and lighting systems for use by CHWs to assist in charging of mobile devices and lighting at night while delivering services to the community. The solar system, which is an accessory to the mobile phones shall then become the property of the DLG.

1. Solar system Ownership

This xxxxx (specific name of the solar system) solar charging and lighting system, with a x year battery life and cost value of xxxxxx Uganda Shillings, **remains the property of DLG for the first 3 years from the date of issuance to the CHW.**

Before the 3 years, the solar charger and lighting system shall be subject to the damage/loss policy spelled out in sections 3, 4 and 5 of this agreement.

After 3 years of consistent service and outstanding performance, ownership of the solar system shall transfer to the CHW.

The ownership of the solar system shall not be transferred to any other user other than the intended user without prior notice and information of the supervisors.

2. CHW Responsibility

The CHW shall be responsible for the safekeeping, proper use, and eventual signing off of the solar system from DLG after 3 years from the issue date. The CHW shall take good care of the solar system to ensure that the device is not damaged, lost or stolen. The CHW is required to keep the solar charger in serviceable condition at all times, and report all irregularities immediately to the supervisor within 24 hours. The CHW shall be required to avail the solar charger for inspection during supervision home visits. The CHW is required to keep the solar system charged at all times when reasonable. Below are good practices to ensure that the solar is charged most of the time.

- 1) Ensure that the solar panel is installed on the roof away from trees for easy access to the sun
- 2) Phone charging should be done during the day when the sun is out and the solar system battery is charging
- 3) Avoid charging and lighting at the same time in the night as this shall quickly drain the solar system battery
- 4) While lighting at night, try to use the light of lowest intensity and high intensity when you must. Lighting at high intensity quickly drains the solar charger battery
- 5) Ensure that the battery is installed inside the house to avoid damage by rain or sun light

3. Loss or Damage of solar system

In case of damage, theft or loss, CHW must:

- a. Contact the Police within 24 hours, report the incident and obtain an incident number for referral.
- b. Report the theft/loss to the Health Assistant, within 24 hours of discovery of the occurrence. The health assistant shall investigate, asking the CHW to produce a police report before replacement. This shall then be communicated to the Technical officer who shall channel communication to the technical team.
- c. A replacement shall be issued, when the DLG team has all the required information pertaining to the police report and the follow up procedures.
- d. A replacement shall only be possible if there are spare solar chargers to facilitate replacement and if the loss was not out of negligence.

4. Management of Repairs

Solar systems in need of repair shall be returned to the health Assistant, the HA shall send them to DLG Health Offices for repair. Solar systems come with a 2-year warranty, and DLG shall work with the manufacturer to get the solar system repaired. Please note that manufacturers'

warranties do not cover damage caused by misuse or neglect. For solar chargers that can not be repaired, these shall be replaced depending on the available spare solar chargers.

In cases of personal misuse or mishandling as a CHW you shall pay for the cost of repair, up to a maximum of UGX 30,000.

5. CHW solar system replacement

- a. A CHW is entitled to a one-time solar system replacement for a reported damage/loss occurring within the first 2 years of warranty, provided it is not arising from personal negligence. Should the solar system not work due to technical error, DLG shall provide a replacement solar system under this Agreement while leveraging on the warranty provided by the manufacturer if this occurs within 2yrs from date of purchase. This replacement within the warranty period shall be achieved through xxxx (supporting development partner) with support from the xxxx (implementing partner).
- b. In the event that the device damage/loss is out of personal negligence, the CHW shall bear the cost of replacement as follows
 - 1st time loss - 50% of the solar system cost
 - 2nd time loss-100% of the solar system cost

The violation of the above could also lead to potential termination of the CHW by DLG

3. Support with the solar system

All queries on the use of the mobile device or mobile application, should be directed to IT support at **0800100066** or your Health Assistant or CHW Supervisor.

4. End of Relationship

In the event of any termination initiated by the CHW or DLG within the stated period (first 3 years), the CHW agrees to return the solar system with all its accessories. In case the returned solar system is in an unsatisfactory condition, the CHW pays up to a maximum of UGX 30,000 towards repair of the system.

5. Legal Provisions

This Agreement shall be governed by the laws of the Republic of Uganda.

I confirm that I have read this Agreement and agree to the terms.

CHW Name: _____

Signature _____

Date _____

Guaranteed by (LC or Current CHW):

Name	_____
Mobile#:	_____
Signature	_____

Appendix 5: eCHIS Deployment Checklist

	Item	Responsible person	Status	Notes
1	Phones/tablets labeled		Done/ In Progress/Not Done	
2	SIM cards activated with enough credit for training		Done/ In Progress/Not Done	
3	The presentation for the training prepared		Done/ In Progress/Not Done	
4	Agenda of training (printed)		Done/ In Progress/Not Done	
5	Training guides (printed)		Done/ In Progress/Not Done	
6	Device agreements (printed)		Done/ In Progress/Not Done	
7	Pre-printed test (only for user training)		Done/ In Progress/Not Done	
8	Practice Exercises (printed)		Done/ In Progress/Not Done	
9	Banners/ tear drops/posters for partners		Done/ In Progress/Not Done	
10	MOUs (printed)		Done/ In Progress/Not Done	
11	Signing sheets (Printed)		Done/ In Progress/Not Done	
12	Camera/phone for taking pictures		Done/ In Progress/Not Done	
13	Invitation letter signed by MOH		Done/ In Progress/Not Done	
14	Printed invitation letter		Done/ In Progress/Not Done	
	Preparation of the training room			
1	The trainers arrive an hour before the training. Assure that it is possible to have access to the room one hour before the training.		Done/ In Progress/Not Done	
2	Plug in the extension cords (at least two)		Done/ In Progress/Not Done	
3	Prepare two projectors, one to present the presentation and one to show the application screen.		Done/ In Progress/Not Done	
4	Prepare the tables and chairs.		Done/ In Progress/Not Done	
5	Prepare source of internet		Done/ In Progress/Not Done	
6	Alternate power source		Done/ In Progress/Not Done	

7	Ensure devices are charged		Done/ In Progress/Not Done	
	Important points for the day of training!			
1	Count phones and make sure you have enough for each user. Distribute mobile users.		Done/ In Progress/Not Done	
2	During Digital App Training CHWs to Come with their working Registers (HMIS (Day 2 of DAT)		Done/ In Progress/Not Done	
3	Make sure you lock the door during each break to ensure the security of the devices.		Done/ In Progress/Not Done	
4	At the beginning and end of each day of training and before participants take their lunch, ask participants about the battery status of their devices. Charge those who do not have much load.		Done/ In Progress/Not Done	
5	Charge the devices at the end of each day of training.		Done/ In Progress/Not Done	
6	Provide Group photo for the record		Done/ In Progress/Not Done	
7	All Training Teams converge and meet at the end of each day to update days progress		Done/ In Progress/Not Done	
	Other Logistics			
1	Training Refreshments and Meals		Done/ In Progress/Not Done	
2	Stationary		Done/ In Progress/Not Done	
3	Participants Transport Refund		Done/ In Progress/Not Done	
4	Training Teams Transport		Done/ In Progress/Not Done	
5	PPEs (Masks and Sanitizers)		Done/ In Progress/Not Done	

Appendix 6: Sample TOT Training Schedule

Day 1	Time	Day 2	Time	Day 3	Time	Day 4	Time
Arrival and Registration	8:30 AM	Arrival and Registration	8:30 AM	Arrival and Registration	8:30 AM		8:30 AM
Opening Prayer	9:00 AM	Opening Prayer	9:00 AM	Opening Prayer	9:00 AM	Opening Prayer	9:00 AM
Introductions		Recap of Day 1	9 :10am - 9:30am	Recap of Day 2	9 :10am - 9:30am	Recap of all	9 :10am - 9:30am
Opening Remarks			9:30am - 10:00am		9:30am - 10:00am		9:30am - 10:00am
Climate Setting		iCCM Assessments and treatments Tasks		Stock monitoring - ICCM trainers			
TEA BREAK	10:00 am - 10:30 am	TEA BREAK	10:00am - 10:15am	TEA BREAK	10:00am - 10:15am	TEA BREAK	10:00am - 10:15am
Session 1		iCCM	10:15am - 11:30am		10:15am - 11:30am		10:15am - 11:30am
Navigating the SmartPhone	10:30 am - 11:30am	<i>RMNCAH Family planning Pregnancy Registration ANC</i>	11:30am - 1:00pm	Stock monitoring	11:30am - 1:00pm	Troubleshooting	11:30am - 1:00pm
Accessing the Play store							
Navigating the CHW app.	11:30am - 11:45am						
Registering a new HH & WASH	11:45am - 1:00pm						
Lunch Break	1:00pm - 2:00pm	Lunch Break		Lunch Break		Lunch Break	
Session 2: Service Delivery Areas		<i>Delivery, PNC, Death</i>	2pm - 3pm	Supervisor Views	2pm - 3pm	closing remarks and planning	2pm - 3pm
Registering a new	2:00pm -4:00pm	RMNCAH -	3pm -4pm	DashBoards	3pm -4pm	Evening	4:00 PM

HH_Cont		Practice -				Tea and Departure	
Evening Tea and Departure	4:00 PM						

Appendix 7: Sample CHW Training Schedule

	Morning	Mid-Morning	Early Afternoon	Late Afternoon	Lead Entity
Sun 16th	Travel Day: District				
Mon 17th	District Engagements		Introducing eCHIS/Project		
Tue 18th	CHW App Walk through for District Leaders		Feedback Session with District Leaders		
Wed 19th	TOT - Health Service Areas for District Trainers, Digital Trainers and Health Assistants				
Thu 20th					
Fri 21st	TOT - eCHIS for District Trainers, Health Service Trainers and CHW Supervisors/Health Assistants				
Sat 22nd					
Sun 23rd	REST DAY				
Mon 24th	Health Service Refresher Training for CHWs - Sub County Based, led by MoH Trainers, CHW Supervisors/Health Assistants and Project Staff				
Tue 25th					
Wed 26th	eCHIS Digital App Trainings for CHWs - Subcounty-based, led by Project staff, CHW Supervisors/Health Assistants				
Thu 27th					
Fri 28th					
Sat 29th					
Sun 30th	REST DAY				
Mon 31st	Project Core Team Supporting District Kick-off and Going Live				
Tue 1st					
Wed 2nd	Project Core Team departs districts				

Appendix 8: eCHIS Deployment Budget Template

SN	Items	People	Days	Frequency	Rate	Amount (Ugx)	Notes
Training of district trainers (TOT) on e-CHIS							
1	Transport Refund of district team	45	5	1	30,000	6,750,000	
2	SDA district team	45	5	1	20,000	4,500,000	
3	DSA National facilitators (Travel day)	8	1	1	175,000	1,400,000	To Facilitate the Training , extra day is Travel Date
3	DSA National facilitators	8	5	1	135,000	5,400,000	Standard SDA minus Meals
4	Fuel for national facilitators	71	5	4	5,660	8,037,200	Calculated at 7 Kms per litre
5	Refreshments & Meals	45	5	1	45,000	10,125,000	As per standard rates for Meals and Refreshments
6	Stationary	45	1	1	5,000	225,000	
7	Airtime for coordination	1	1	1	50,000	50,000	
8	Hall Hire	1	5	1	200,000	1,000,000	
9	Airtime for Participants	53	1	1	30,000	1,590,000	
	Sub Total					37,487,200	
Training of CHWs							
10	Transport Refund - CHWs	570	6	1	20,000	68,400,000	
11	DSA national facilitators	5	7	1	175,000	6,125,000	To Facilitate the Training , extra day is Travel Date
12	District SDAs	24	6	1	20,000	2,880,000	3 Trainers per 65 CHWs
13	Fuel for district facilitators	20	6	8	5,660	5,433,600	
14	Fuel for national facilitator	71	3	2	5,660	2,411,160	
15	Meals and Refreshments	646	6	1	45,000	174,420,000	To allow for connection in the training for the eCHIS
16	Stationary	570	1	1	3,000	1,710,000	
17	Hall Hire	8	6	1	100,000	4,800,000	Training shall be spread closer to the sub counties , 64 CHWs per training location
18	Airtime for Participants	599	1	1	30,000	17,970,000	
	Subtotal					266,179,760	
	Total						0

Appendix 9: Change Review Form



THE REPUBLIC OF UGANDA
MINISTRY OF HEALTH

Change Review Form

Section A

System	eCHIS -
Workflow/Workflow changes	•
Change Type	New Pending Improvement
Changes in Release	•
Items Being Changed	List ALL items being changed i.e. user interface, workflow, health indicators

Installation Instructions:

Section B

Attachments

Documentation Updates:

Signoff - MoH departments	Name	Signature	Date

Appendix 10: Monitoring and Evaluation Checklist - Community Level

General Details

District Name

Name of CHW

Duration using eCHIS? (months)

Highest Level of education

☐

PLE

☐

O'level

☐

A level

☐

None

Details

Do you meet with the Facility in the Last Quarter?

☐

Yes

☐

No

When was your last training on eCHIS? (Months)

When was your last Service Area Training? (Months)

Are you using paper-based Tools Alongside eCHIS?

☐

Yes

☐

No

Did you receive Data Bundles or Airtime last month?

☐ Yes

☐ No

If yes, how much?

Did you experience any technical issues while using the eCHIS?

☐ Yes

☐ No

Describe the Technical issues faced with eCHIS

Other Details

List other challenges faced with the eCHIS

List the suggested Solutions to some of these challenges

Appendix 11: eCHIS Deployment Monitoring Framework

eCHIS Deployment Monitoring Framework
Result Statement: <i>By 2025, the health sector has institutionalized the use of patient-level digital systems at the point of care.</i>
Parameter 1: Functionality
Key Monitoring Questions: 1.1 Does the technology or system work? 1.2 Does the technology or system operate as intended? 1.3 Does the technology or system perform its intended functions effectively? 1.4 Is the technology effectively adapted to the local context in terms of language, literacy, modifications for network coverage, etc?
Indicator List: <ol style="list-style-type: none"> 1. % CHWs with mobile phone/tablet signal at the time of deployment (i.e., training) 2. % CHWs with current access to a power source for recharging a mobile phone/tablet 3. % end-users with access to local technical support for troubleshooting 4. % devices that are not currently operational (misplaced/broken/not working) 5. % mobile devices that are operational in the language of end-users 6. % end-users who are literate in the language used by the digital health intervention 7. % data fields or elements from original paper-based system that are captured by the technology 8. # hours of initial training on the use/deployment of the eCHIS attended by end-users 9. # hours of refresher training on the use/deployment of the eCHIS attended by end-users
Means of Verification: <i>Reports (e.g., data/performance reviews, supportive supervision, regional/national telecommunication reports, surveys)</i>
Parameter 2: Stability
Key Monitoring Questions: 2.1 Does the system consistently operate as intended?
Indicator List: <ol style="list-style-type: none"> 1. # hours of system/server downtime over reference period (i.e., last 1 month or 3 months) 2. % end-users reporting synchronization with server over reference period (i.e., last 1 month or 3 months) 3. % end-users reporting late synchronization with server over reference period (i.e., last 1 month or 3 months)
Means of Verification: <i>Reports (e.g., system-generated/audit trail)</i>
Parameter 3: Fidelity
Key Monitoring Questions: 3.1 How do people interact with technology or system? 3.2 Do the realities of the field implementation alter the functionality and stability of the system, changing the eCHIS intervention from that which was intended? 3.3 Has the digital health system or technology been widely adopted? 3.4 Do the users find the technology easy to use? 3.5 Do the end-users find the health data/information received from the eCHIS intervention useful? 3.6 Are the end-users able to communicate with the eCHIS as intended? 3.7 Are the end-users responsive to the information received through the system?

Indicator:

1. *% end-users that pass the assessment test during the training phase.*
2. *% end-users who demonstrate proficiency in use of the eCHIS*
3. *% intended end-users observed using the eCHIS*
4. *# transmissions sent by intended end-users over reference period (i.e., last 1 month or 3 months)*
5. *% end-users who rate the eCHIS as “easy to use”*
6. *% end users who rate the eCHIS as “transmits information as intended”*
7. *% end-users who report satisfaction with the content of health data/information received via the eCHIS*
8. *% end-users motivated/intending to use the eCHIS*
9. *# forms/amount of data transmitted by end-users via eCHIS within a reference period (i.e., last 1 month or 3 months)*
10. *% data fields or elements/forms that are left incomplete over reference period (i.e., last 1 month or 3 months)*

Means of Verification:

Reports (e.g., system-generated/audit trail, design workshop, training, data/performance reviews, supportive supervision)

Parameter 4: Quality**Key Monitoring Questions:**

- 4.1 *Is the content and the delivery of the eCHIS intervention of high enough quality to yield intended outcomes?*
- 4.2 *How does eCHIS improve service delivery?*
- 4.3 *How do improvements in service delivery affect health outcomes?*

Indicators:**Client-Level;**

1. # minutes (reported or observed) between eCHIS prompt received about programmatic intervention and seeking care from provider (e.g., CHW, midwife, nurse, clinician)
2. # days duration of illness episode: disaggregated by illness/condition
3. # minutes spent with CHW in relation to health intervention at the last visit
4. % target individuals who report receiving health information about a programmatic intervention via their mobile phone within reference period
5. % target individuals or caregivers who report contact with a qualified health-care provider using eCHIS in relation to a programmatic intervention over reference period
6. % target individuals or caregivers who report adequate knowledge about signs and symptoms
7. % target individuals or caregivers who report adequate knowledge about the health issues relevant to a programmatic intervention
8. % changes in reported individual level out-of-pocket payments for illness management over reference period (through managing the illness by phone-based consultation instead of visiting a health care facility, e.g., travel cost)

Provider-Level;

1. # minutes (reported or observed) for last client counseling about a health intervention using eCHIS
2. # minutes or hours (reported or observed) spent on health record-keeping about a health intervention over reference period
3. # minutes (reported or observed) used per individual CHW over reference period to transmit data relating to a health intervention from community-based logs to health-care facility-based information systems
4. # minutes (reported or observed) used per individual CHW to report important adverse events (e.g., stock-outs)
5. # of CHWs who report adequate knowledge of the health issue relevant to a health intervention
6. % care standards relating to a health intervention observed to be met using eCHIS during client-provider consultation
7. % CHWs observed to be using eCHIS during their patient consultations
8. % target CHWs who use eCHIS in relation to relevant health interventions through their mobile phones over reference period
9. Amount of cost savings (estimated) due to improvement in service delivery/efficiency/other factors.
10. # clients (average or total) attended by a CHW using eCHIS over reference period

Health System-Level;

1. # minutes (cumulative) over reference period for all CHWs using eCHIS to enter data related to a health intervention
2. # days over reference period for which a CHW reports stock-out of a commodity essential for provision of a health programmatic intervention
3. % change in reported stock-out events of a commodity essential for service delivery over reference period, disaggregated by relevant health interventions
4. % change in data entry errors over reference period
5. % target end-users who receive training on management and use of eCHIS to deliver quality service delivery, disaggregated by initial and refresher training
6. # individuals seeking health care over reference period, disaggregated by relevant health interventions
7. % individuals in a specific geographical area who receive health care through eCHIS over reference period, disaggregated by relevant health interventions
8. % change in costs of transporting HMIS paper forms and manual data entry over reference period
9. % change in costs of human resources for data entry
10. % change in costs associated with timely and appropriate management of illness
11. % changes in reported individual out-of-pocket payments for management of illness
12. Total population-level savings in out-of-pocket payments attributed to timely and appropriate care seeking

Means of Verification:

Reports (e.g., system-generated/audit trail, design workshop, training, data/performance reviews, supportive supervision)

Appendix 12: eCHIS Guidelines Use Monitoring Framework

Guideline-Use Monitoring Framework
Parameter 1: Dissemination
Key Monitoring Questions: 1.1 What is the version of the current guideline document? 1.2 Has the current guideline document been disseminated? 1.3 If yes under [1.2] above, through which channels? 1.4 What is the proportion of target entities possessing at least one copy of the guideline document? – disaggregated by the Ministry of Health, District, Health Facility, Partners.
Indicator: % of target entities who received at least one copy of the guideline document, disaggregated by: (a) Ministry of Health; (b) District; (c) Health Facility; (d) Partners
Means of Verification: Reports (e.g., dispatch, supportive supervision)
Result Statement: Existing version of the Guidelines for Implementing the Uganda electronic Community Health Information System disseminated to key stakeholders nationwide.
Parameter 2: Training
Key Monitoring Questions: 2.1 Has training on the current version of the guidelines been conducted? 2.2 If yes under [2.1], what was the proportion of individuals trained on the various components of the guideline document? – disaggregated by (a) Ministry of Health; (b) District; (c) Health Facility; (d) Partners
Indicator: % of target entities who received at least one copy of the guideline document, disaggregated by: (a) Ministry of Health; (b) District; (c) Health Facility; (d) Partners
Means of Verification: Reports (e.g., training, supportive supervision)
Result Statement: Key stakeholders nationwide oriented on the existing version of the Guidelines for Implementing the Uganda electronic Community Health Information System.
Parameter 3: Compliance
Key Monitoring Questions: 3.1 Are the various target groups implementing eCHIS in accordance with established guidelines? Please provide comment by target group and key area as appropriate <ul style="list-style-type: none"> • Target Group: (a) Ministry of Health; (b) District; (c) Health Facility; (d) Community Health Workers; (e) Partners • Key Component: (a) eCHIS User Requirements, Design and Development; (b) Implementing eCHIS; (c) System and Data Access; (d) Governance Structure (e) Monitoring and Evaluation
Indicator: Target entities are compliant with existing version of the guidelines – disaggregated by (a) Ministry of Health; (b) District; (c) Health Facility; (d) Community Health Workers; (e) Partners. *Use Likert scale: 1-5, where 1 = strongly agree, 2 = agree, 3 = neutral, 4
Means of Verification: Reports (e.g., design workshop, training, supportive supervision)
Result Statement:

Key stakeholders nationwide are compliant with existing Guidelines for Implementing the Uganda electronic Community Health Information System.

Appendix 13: eCHIS Evaluation Framework

eCHIS Evaluation Framework		
Formative	Evaluation Type: Process Evaluation Objective: Measure outputs attributed to eCHIS intervention activities and inputs; done either as a one-time assessment and/or continuously. Key Question(s): <ul style="list-style-type: none"> Is the eCHIS intervention operating as intended? 	Timeline:TBD
	Evaluation Type: Implementation Evaluation Objective: Monitor the fidelity of the eCHIS intervention holistically or technology system. Key Question(s): <ul style="list-style-type: none"> Is eCHIS implementation occurring in accordance with the original and existing standard operating procedures and/or protocols? 	Timeline:TBD
Summative	Evaluation Type: Performance or Outcome Evaluation Objective: Measure the effectiveness of eCHIS intervention activities on immediate and intermediate changes in key outcomes, including knowledge, service provision, utilization and coverage. Key Question(s): <ul style="list-style-type: none"> Are the health services available? What is eCHIS intervention's effect on changes in service delivery? Are the health services being utilized? Did eCHIS increase coverage of the relevant health interventions? Is the target population being reached? 	Timeline:TBD
	Evaluation Type: Impact Evaluation Objective: Measure the long-term net effects or impact of the intervention on key health outcomes, including mortality, morbidity, and disease risk, at community level or higher. Key Question(s): <ul style="list-style-type: none"> Were there improvements in disease or mortality patterns, or health-related behaviors? 	Timeline:TBD
	Evaluation Type: Economic Evaluation Objective: Determine a probable value for money from investment made in eCHIS roll-out. Key Question(s): <ul style="list-style-type: none"> What is the incremental cost-effectiveness of the eCHIS intervention as compared to existing services? 	Timeline:TBD

Appendix 13: Standard Operating Procedure for eCHIS Downtime



Electronic Community Health Information System (eCHIS) Downtime Standard Operating Procedure (SOP)

1. Purpose

This SOP outlines the procedures to follow when the eCHIS system is unavailable, ensuring continuity of patient care and data integrity for community health workers (CHWs) in Uganda.

2. Scope

This SOP applies to all CHWs, including Village Health Teams (VHTs) and Community Health Extension Workers (CHEWs), using the eCHIS system for health service provision at the community level.

3. Problem Statement

In Uganda, many eCHIS system users (CHWs) face challenges in synchronising their field activities, including various assessments, due to server unavailability and network traffic which may last for more than a week or more. As a result, CHWs often resort to using paper-based HMIS paper forms as an alternative which poses a high risk of data inconsistencies. They then transfer the data to the eCHIS system once it is restored or available. Currently, Over 60% of the CHWs have reported this issue across the districts implementing eCHIS.

4. Definitions

Synchronisation Issue: A situation where CHWs cannot synchronise (send) offline eCHIS data with the central server due to network unavailability, Network traffic or technical problems.

Downtime: A period when a system is unavailable for use, whether due to a planned outage, unexpected failure, or maintenance.

Data Integrity: The accuracy, consistency, and reliability of data throughout its lifecycle, ensuring it remains intact during downtime and subsequent synchronisation.

ODK Form: A digital form used as an alternative data capture tool when the eCHIS system is unavailable. It is designed to be easily integrated with the eCHIS server once the system is restored.

Health Facility Supervisors: Individuals responsible for overseeing the work of CHWs, ensuring data is captured accurately, and resolving or escalating system issues promptly.

DHT: A group of Digital health officials at the district level responsible for monitoring and managing the performance of health systems, including eCHIS, and coordinating with higher authorities and technical teams for issue resolution.

MOH: The technical team responsible for maintaining and troubleshooting the eCHIS system, providing solutions, and implementing workarounds during downtime.

5. Responsibilities

CHWs: Responsible for capturing patient data using alternative methods during downtime and ensuring data is transferred to the eCHIS system once available.

Health Facility Supervisors: Must replicate and document reported issues within a day and either resolve the problem or escalate it to the DHT through the toll free/ helpline 0800 203 033 as soon as they register 5 and more cases.

DHT: Required to provide a solution within two days of escalation from the supervisor or communicate the need to use alternative systems.

Implementing Partners and Biostatisticians: Support data management and ensure data integrity during downtime and recovery periods.

MOH: Expected to resolve the issue within a week or provide a workaround. If the issue requires more time for investigation, they must communicate this to the DHT.

6. Downtime Procedures

6.1 Identification and Reporting

Immediate Reporting: CHWs should immediately report synchronisation or downtime issues to their supervisors.

Replication and Escalation: Health Facility Supervisors must replicate the reported issue within one day. If the issue is unresolved, it must be escalated to the DHT.

6.2 Data Capture during Downtime

Alternative Data Capture: CHWs shall use the ODK form, developed as a temporary measure when the eCHIS system is down, instead of paper-based HMIS forms.

Data Integrity: The ODK form ensures data is captured accurately and can be easily integrated into the eCHIS system once it is restored.

6.3 Data Synchronisation Post-Downtime

Prompt Synchronisation: Upon restoration of the eCHIS system, CHWs should promptly transfer data from the ODK forms to the eCHIS system.

Verification: Supervisors should verify that all data has been successfully synchronised.

6.4 Communication Protocol

Level 1: CHWs to Health Facility Supervisors: CHWs report issues immediately. Supervisors have one day to replicate and resolve or escalate the issue.

Level 2: Health Facility Supervisors to DHT: If escalated, the DHT must provide a solution within two days or communicate the use of alternative systems.

Level 3: DHT to MOH: Medic is responsible for resolving the issue within a week. If the issue requires further investigation, Medic must inform the DHT, providing an estimated timeline and potential workarounds.

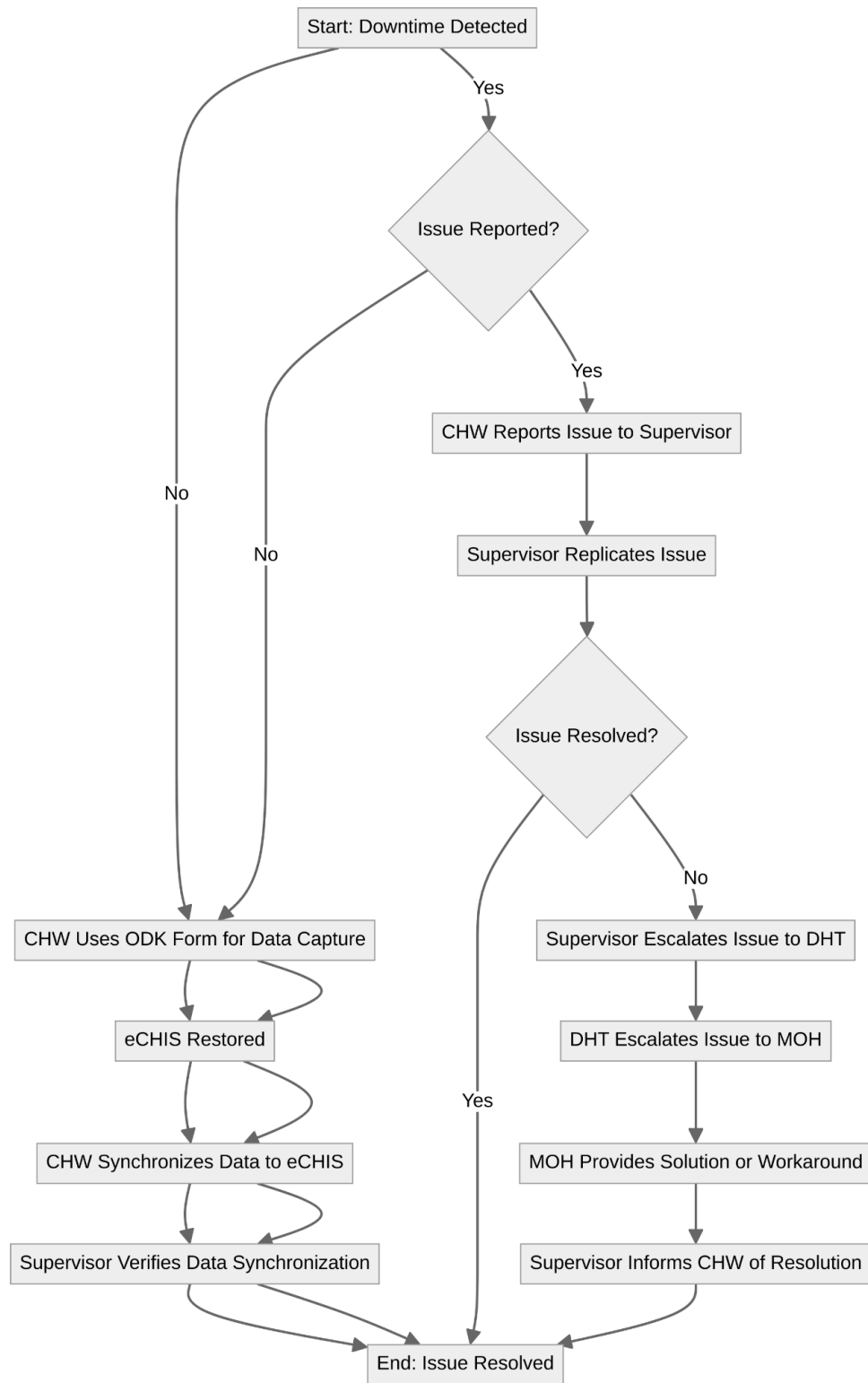


Fig 1 : Communication and Resolution Process flow

7. Training

Initial Training: CHWs shall receive comprehensive training on eCHIS data synchronisation procedures, the use of HMIS paper forms, and the ODK form.

Refresher Training: Monthly refresher training sessions shall be conducted to ensure CHWs remain proficient in these procedures.

8. Monitoring and Review

Monitoring Tools: The DHT will utilise tools like Watchdog, Kibana, and Grafana to monitor eCHIS performance, identify potential issues proactively, and prevent downtime.

Review and Improvement: This SOP will be reviewed periodically to incorporate feedback from CHWs, Health Facility supervisors, and other stakeholders, ensuring it remains effective and responsive to the needs of the health system.