METS WATCH
M&E Technical Support Program
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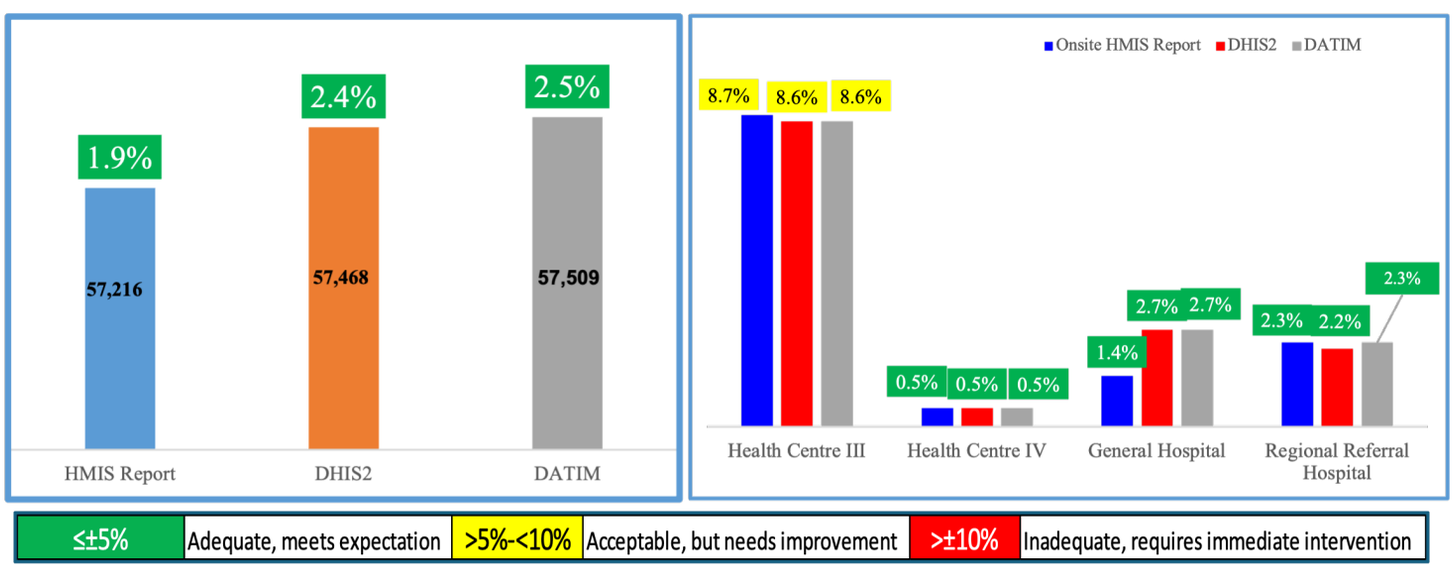
Supporting Ministry of Health strengthen Electronic Data Quality Assurance

As Uganda transitions from paper-based to electronic health records, the Ministry of Health (MoH) partnered with MakSPH-METS Program to conduct the country's first comprehensive Electronic Data Quality Assurance assessment, setting new standards for digital health data management across the nation.

Following the MoH's directive in June 2024 for health facilities to transition from manual systems to Electronic Medical Records (EMR), the need for functional data quality assurance became critical. The MoH-led assessment examined data quality across Uganda's three primary electronic systems: UgandaEMR, eAFYA, and Clinic Master, representing a major milestone in the country's digital health evolution.

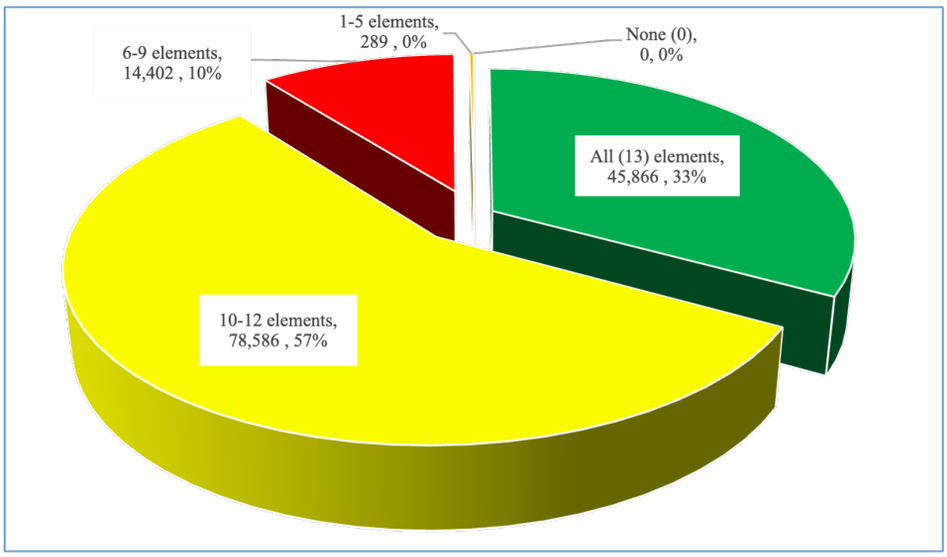
Between April and May 2025, eight teams conducted detailed assessments at 20 strategically selected health facilities, including 5 Regional Referral Hospitals, 7 General Hospitals, 6 Health Centre IVs, and 2 Health Centre IIIs. The teams, comprising Ministry of Health staff, MakSPH-METS strategic information experts, District Health Teams, and Implementing Partners, analysed over 139,000 client records to establish the first national benchmarks for electronic health data quality.

The assessment showed accuracy for HIV treatment data. TX_CURR (clients currently on antiretroviral therapy) data showed excellent accuracy levels below 5% variance at Regional Referral Hospitals, General Hospitals, and Health Centre IVs across all reporting systems including DHIS2 and DATIM. However, Health Centre IIIs showed higher variance rates of 8.7%, indicating targeted improvement needs. See Figure X below.



Percentage (%) deviation from gold standard: Verified Active ART Clients

Data 'completeness' analysis revealed that 33% of all client records in UgandaEMR contained complete information across 13 mandatory data elements, with Regional Referral Hospitals achieving the highest completeness rate of 47%. For outpatient department records in Clinic Master, over 78% demonstrated complete data in December 2024 across all sections of the database, with prescription data showing exceptional 92.8% completeness.



Percentage (%) of ART Client's Records in UgandaEMR by level of data completeness

The study identified key challenges affecting data quality, including human resource gaps in both numbers and technical skills, inadequate ICT infrastructure with insufficient computers and low processing capacity, irregular power supply without adequate backup systems, and lack of standardized file tracking mechanisms. These findings provide a roadmap for targeted interventions to strengthen Uganda's digital health infrastructure.

The assessment established key adjustment factors for national health data reporting, to acquire accurate estimates for program planning and resource allocation. The study demonstrated that electronic systems, when properly implemented and maintained, can provide reliable data for evidence-based healthcare decisions while reducing administrative burden on healthcare workers.

Based on these findings, the MoH and partners are developing standardized operating procedures for data quality assurance, updating EMR systems with enhanced validation rules, and implementing targeted capacity building programs. The initiative paves the way for scaling paperless data management systems nationwide while establishing Uganda as a regional leader in digital health innovation.

This pioneering assessment represents more than technical validation—it demonstrates Uganda's commitment to leveraging technology for improved healthcare delivery and evidence-based decision making, ensuring that the country's digital health transformation delivers maximum benefit to patients and healthcare providers alike.

Improving service quality through emphasis on Client-Centered Care

In May 2025, the Uganda Ministry of Health (MoH), working with MakSPH-METS conducted a nationwide mentorship initiative, focusing on 40 health facilities across the country. The initiative was aimed at strengthening the use of Continuous Quality Improvement audit tools designed to improve individual client care.

A specialized audit tool to revolutionize client-centered care was introduced by MoH. This tool enables facility teams to track individual client care processes through monthly monitoring, ensuring that healthcare workers identify the necessary services for each client and implement quality improvement measures where gaps occur. The tool bridges Electronic Medical Records and client charts, providing complete client-level data snapshots to guide service delivery decisions and support community-based care models.

The mentorship program was rolled out to health facilities nationwide, through hybrid meetings and facility visits.

The field teams provided comprehensive training on accessing and using the audit tool, teaching healthcare workers to identify client-centered needs before clinic sessions and as a result, develop quality improvement projects. This integrates the audit tool into routine pre-clinic planning, delivering more personalized, comprehensive care across Uganda's healthcare system.

The program identified key barriers including poor internet connectivity, staff transfers, and limited understandingof tool utilization.

Healthcare workers learned how to generate audit reports before and after clinic sessions to determine client eligibility for services.

The mentorships resulted in recommendations for the use of the audit tool, documented effective processes, and encouraged continuous mentorship from implementing partners and district health teams.

Exploring Global Innovations at the DHIS2 Annual Conference 2025

In June 2025, Ausse Kalega had the privilege of traveling to Oslo, Norway, to attend the DHIS2 Annual Conference, held from 10th to 13th June at the University of Oslo. The conference brought together a global community of DHIS2 implementers, developers, ministry representatives, technical partners, donors, and digital health experts to share experiences, explore innovations, and foster new collaborations.

The event was hosted in a hybrid format, enabling both in-person and remote participation, and served as a hub for interactive discussions, product updates, and real-world use cases of DHIS2 implementations across various sectors.

During the conference, Ausse had the honor of presenting his team's work on "The Impact of HIV Prevention Strategies in Uganda." This study leverages the HIV Prevention Tracker, a DHIS2-powered system, to assess HIV prevention efforts from 2017 to 2024, yielding insights to accelerate progress toward zero new infections by 2030. The analysis examines PrEP uptake, HIV/TB screening outcomes, and client retention using descriptive statistics, trend analysis, and predictive modeling, all while ensuring strict ethical data protection.

Ausse Kalega (center) during his presentation to participants at the DHIS2 Conference

Following the main conference, Ausse participated in the DHIS2 Data Use and Triangulation Academy, held from 16th to 18th June 2025. This training, organized by the HISP Centre – University of Oslo, equipped participants with skills in data quality assessment, triangulation techniques, and DHIS2 analytics.

Through a series of interactive sessions and practical exercises, he explored how to combine data across health programs, create impactful visualizations, and use data-driven insights for more effective decision-making. The training was highly relevant to improving data use capacity in HIV prevention programming.

This experience provided Ausse Kalega with a unique opportunity to connect with peers from around the world, learn from diverse use cases, and return home with actionable strategies to share and strengthen data-driven health systems in Uganda.

Participants of the DHIS2 Academy held at the University of Oslo, Norway

Scale-up of the DREAMS Mobile Application for improved service delivery

The Centers for Disease Control (CDC) - Uganda office has continued to support the Ministry of Health to roll out electronic medical records. In May 2025, Reach Out Mbuya (ROM) in Kampala Region, partnered with the MakSPH-METS program to facilitate improved tracking of the services offered to Adolescent Girls/Boys and Young Women/Men (AGYW & ABYM) using the DREAMS Tracker mobile application. This is the second Implementing Partner (IP) to onboard pilot implementation of electronic medical records using the Uganda DREAMS tracker mobile application. ROM Kampala started the pilot with Kawempe Division, Nakawa Division and Lubaga Division. METS supported ROM to train DREAMS peers, field teams, data officers and the M&E staff.

The focus for the pilot, while using the DREAMS Capture App on the computer tablets is to;

- Conduct community screening of the AGYWs, this includes enrolment of AGYWs on the DREAMS program.
- Conduct HTS screening and eligibility
- Conduct STI screening
- Support PrEP refills

About the DREAMS Capture Application

The application is built for Android devices and is designed to function seamlessly with the Uganda DREAMS Tracker instance. It supports individual data capture for Tracker and Event programs and includes instant analysis of data collected on the mobile device. The application can be used both offline and online, after which data is synchronized to the DREAMS Tracker Program.

Pictorial

Data collection teams assessing all (24) data elements for accuracy during the Electronic Data Quality Assurance activity conducted in 20 digitized health facilities across the country. The main objective of the activity was to check upload and storage of quality (accurate and complete) data in the DHIS2 and the MOH Central Repository