



Supporting the Ministry of Health to Integrate Health Information Systems

The Uganda Ministry of Health has historically operated multiple electronic systems to support healthcare delivery, laboratory services, and supply chain management across its health facilities. These systems were often designed to meet specific needs and include the African Laboratory Information System (ALIS), Rx Solutions, LabExpert, and various electronic medical record systems such as eAFYA, UgandaEMR+, and ClinicMaster. Each of these tools has played a vital role in enhancing service delivery within its respective domain. However, the coexistence of numerous standalone systems created significant operational challenges. Healthcare providers faced challenges such as duplicate patient registrations, fragmented medical records, limited inventory visibility, and difficulties in accessing complete patient data. This fragmentation hindered the provision of holistic, patient-centered care, strained administrative resources, and impaired timely decision-making.

To address these gaps, the Ministry of Health, with technical support from partners like the Makerere University School of Public Health's Monitoring and Evaluation Technical Support (METS) Program, launched a nationwide health information systems integration initiative. Conducted between March 24 and April 11, 2025, the initiative targeted 12 of 16 Regional Referral Hospitals (RRHs) across Uganda.

Four multidisciplinary technical teams were deployed, each comprising experts in UgandaEMR, eAFYA, and

ALIS. The teams followed a structured, three-phase approach to ensure a smooth and effective rollout of integrated systems. At the heart of this effort was the implementation of a Shared Health Record (SHR) system—an innovation designed to facilitate seamless data exchange between previously siloed platforms. Technical teams delivered hands-on training for health workers, upgraded facility servers, tested SHR functionalities, and provided continuous mentorship, all while resolving emerging technical challenges on the ground.

The overarching goal of this integration initiative was to create a unified health information ecosystem. With SHR in place, healthcare providers can now access comprehensive patient information—including diagnoses, prescriptions, and visit histories—regardless of which system initially captured the data. This improves continuity of care, reduces duplication, and enhances clinical decision-making.

One of the key achievements has been the digitization and integration of inventory and supply chain management processes. Physical stocktakes, once performed manually, are now digital and automated, increasing accuracy and accountability. Facilities can now process stock requisitions more efficiently between departments, easing the administrative load on clinical staff and boosting overall operational performance.

Moving forward, the integration journey will include:

- Data Warehousing: Establishing a centralized national health data repository to support advanced analytics, planning, and reporting.
- Data Transmission: Ensuring seamless flow of data from health facilities to national databases for real-time monitoring of health system performance.
- Enhanced Data Visibility: Providing stakeholders with insights into national health trends, resource utilization, and patient outcomes to support evidence-based policymaking and resource allocation.

This project marks a major milestone in Uganda's journey toward a fully integrated national health information system. It sets the foundation for scaling integration efforts to district hospitals and lower-level health facilities, ultimately strengthening the country's ability to deliver high-quality, data-driven healthcare services.

Strengthening HIV Care Continuity through Re-initiation on Treatment

The Ministry of Health, in partnership with PEPFAR and CDC and with technical support from the Monitoring and Evaluation Technical Support (METS) Program, have made significant strides in improving HIV treatment retention across Uganda. While Uganda has achieved notable progress in reducing HIV treatment interruptions—with rates declining from 3.1% (FY23Q3) to 2.1% (FY25Q1) between quarters, returning clients to care after treatment breaks is still a challenge. The proportion of clients successfully re-initiated on treatment after interruptions has shown concerning fluctuations, ranging from 52% to 72% across different reporting facilities in CDC-supported regions. Regional performance varies significantly, with some regions demonstrating exceptional results, while others like MoH C2G RRH strategy, West Nile UPMB and AIC Soroti require intensified support to improve client return rates.

From 18-22 November 2024, METS conducted comprehensive onsite mentorships across CDC-supported regions to enhance the Re-initiation on Treatment for Interrupted in Treatment (IIT) clients Quality Improvement (QI) collaborative. The METS-led initiative successfully reached all 50 targeted health facilities across eight CDC-supported regions, working closely with implementing partners including ROM-Kampala, UPMB, UEC, Baylor Fort Portal-Mubende, Baylor Hoima, IDI Masaka Wakiso, IDI West Nile, Uganda Prisons Service, MoH C2G RRH strategy and AIC Soroti.

During the mentorship visits, teams discovered key implementation gaps including suboptimal knowledge in data collection processes for the Re-initiation on Treatment QI collaborative. In response, mentors worked directly with facility teams to review and refine critical data elements, including tracking clients who missed appointments, documenting follow-up outcomes, and monitoring return-to-care timeframes.



Mentorship session at Serere HC IV



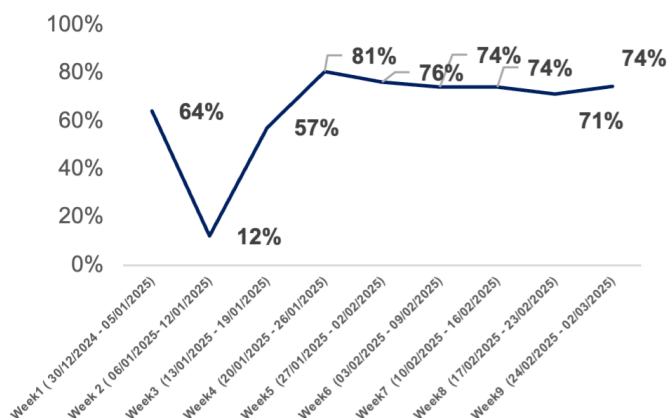
Mentorship at TASO Masaka Clinic

The program focused on practical capacity building sessions, equipping facility teams to generate trial data and gain understanding on each collaborative indicator, data extraction, entry processes, and documentation in QI journals. Teams developed facility-level action plans and used integrated dashboards to share performance data during feedback meetings.

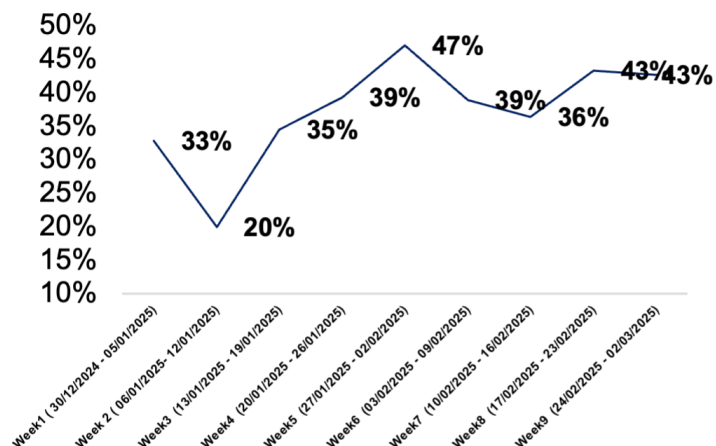
Results from the one of the mentorships conducted

The percentage of clients who missed appointments prior to the reporting week and have a documented follow up outcome (Weekly) improved from 64% as of Week1 (30/12/2024 - 05/01/2025) to 74% by Week 9 (24/02/2025 - 02/03/2025). The percentage of clients who missed appointments returned to care in less than 7-days (Weekly) 33% as of Week 1 (30/12/2024 - 05/01/2025) to 43% by Week 9 (24/02/2025 - 02/03/2025).

Proportion of clients who missed appointments prior to the reporting week and have a documented follow up outcome (Weekly)



Proportion of clients who missed appointments returned to care in less than 7-days (Weekly)



Moving forward, facilities will maintain dedicated QI journals, implement regular coaching visits, and ensure monthly data collection and reviews. The initiative demonstrates Uganda's commitment to evidence-based HIV care improvements, with plans for continued quarterly coaching, cross-learning sessions among implementing partners, and regular performance monitoring to ensure sustained progress in returning clients to life-saving HIV treatment.

Integrating Mpox Screening into Routine Care for People Living with HIV (PLHIV)

In July 2024, Uganda's Ministry of Health confirmed an Mpox outbreak in Kasese, a district in western Uganda bordering the Democratic Republic of Congo. By early August, Uganda had reported 2 confirmed cases and 13 suspected cases. Neighboring Kenya confirmed its first case on July 31, 2024: - a traveler transiting through from Uganda to Rwanda.

This local outbreak came amid ongoing global concerns about Mpox. Since the World Health Organization declared Mpox a public health emergency in July 2022, over 97,700 cases and 203 deaths have been recorded across 116 countries. In 2024 alone, 12 African nations have reported new cases.

Uganda activated its emergency response systems, established an Incident Management Team, and developed a comprehensive response plan. The Ministry of Health activated District Task Forces in high-risk areas and the regional Emergency Operations Centers in the regions of West Nile, Kabale, Fort-Portal, and Kampala.

Key surveillance activities included:

- Risk assessment for high-risk districts and health facilities
- Strengthened detection and reporting systems
- Contact tracing for 21 days post-exposure
- Engagement with AIDS Control Program and PEPFAR to monitor Mpox in HIV clinics

People with immune suppression, particularly those with HIV, face higher risks of severe illness and death from Mpox infection. The most vulnerable are individuals with advanced HIV infection and those with unsuppressed viral loads. According to the MoH STREP report as of 28th May 2025, A total of 44 deaths have occurred among confirmed cases, over half (52.3%) of whom were co-infected with HIV, underscoring vulnerabilities in this population. Persons co-infected with HIV had four times higher odds of severe Mpox disease. Based on these concerns, the Ministry of Health recommended intensified Mpox surveillance among people living with HIV (PLHIV).

MakSPH-METS, leveraged the existing HIV case based surveillance infrastructure to cater to the outbreak in the following steps:

August-September 2024: Development Phase

- Created an Mpox screening tool in collaboration with WHO and Ministry of Health units
- Digitized the screening tool and integrated it into Uganda's Electronic Medical Records system
- Ensured capability for real-time data transmission from facilities to MOH

October 2024: Implementation Phase

- Deployed the screening tool at 15 facilities in the Kasese region
- Conducted orientation sessions for district officials, facility staff, and implementation partners
- Established data transmission to the MOH central data repository
- Developed indicators and a dashboard for data visualization

Results and Impact

These efforts showed that the pilot screening with Electronic Medical Records was feasible in HIV clinic settings. The dashboard created was then adopted as a national tool, allowing health officials to monitor the situation in real time.

The intervention did not come without challenges, these included data entry disruptions due to health facility staffing constraints, limited availability of point-of-care electronic medical records and inconsistent reporting, with only nine facilities regularly transmitting data as of March 2025.



Practical session on how to fill Mpox screening tool using Uganda EMR at Rukoki HC IV

Screening Tool

MPOX Screening Tool for Healthcare Facilities Version1 (09.08.2024)



PRIMARY SCREENING

(At the entrance to health facility, by trained Health worker)

PART A: DEMOGRAPHICS INFORMATION

Facility Name: _____
Age: _____
Sex: ☐ Male ☐ Female
Address: Village _____
Parish: _____ District: _____

Occupation: _____
Patient's Phone number: _____
Next of kin phone number: _____

PART B: ASK EVERYONE AT EACH POINT THE FOLLOWING QUESTIONS.

CRITERIA A: PATIENTS WITH RASH

- Unexplained Acute skin rash within the past 7 days and any one of the following:
- ☐ Acute onset of fever (Temp >38.5°C)
 - ☐ Headache
 - ☐ muscle pain/body aches
 - ☐ Back pain
 - ☐ Profound weakness, or fatigue
 - ☐ Swollen lymph nodes
 - ☐ Mucosal lesions (mouth, vaginal, penile, anorectal lesions/ulcers)
 - ☐ Conjunctivitis (eye symptoms)
 - ☐ Chills or sweats
 - ☐ History of exposure to a probable or confirmed case of MPOX in the 21 days before symptom onset.
 - ☐ Has had multiple and/or casual sexual partners in the 21 days before symptom onset
 - ☐ History of international travel/cross-border movement within the last 21 days before the onset of symptoms

CRITERIA B: PATIENTS WITH NO RASH

- ☐ History of exposure to a probable or confirmed case of MPOX in the 21 days before symptom onset.
- OR
- ☐ Has had multiple and/or casual sexual partners in the 21 days before symptom onset.
- OR
- ☐ History of international travel/cross-border movement within the last 21 days before onset of symptoms.
- With any of these symptoms:
- ☐ Acute onset of fever (Temp >38.5°C)
- ☐ Headache
- ☐ muscle pain/body aches
- ☐ Back pain
- ☐ Profound weakness, or fatigue
- ☐ Swollen lymph nodes
- ☐ Mucosal lesions (mouth, vagina, penis, anus, rectum)
- ☐ Conjunctivitis (eye symptoms)
- ☐ Chills or sweats

OUTCOME OF THE PRIMARY SCREENING

- A. Patient responds No to all criteria – proceed to healthcare facility for routine care as needed.
- B. Patient fulfils either suspect criteria A or B above; Immediately move patient to a designated holding area.
- Immediately notify a trained clinician to perform a SECONDARY SCREENING. If no trained clinician is available at the PHC, then immediately notify the local authorities such as Health Facility Surveillance Focal Person, DHO, Head Community Health Department or Emergency Operations Center (EOC) if available.
 - While the patient is waiting to be seen by the clinician, the patient should be maintained in an area away from other patients in the screening area.
- Patient should be kept at a 1-2 meter distance and offered a medical mask.

MPOX Screening Tool for Healthcare Facilities Version1 (09.08.2024)



SECONDARY SCREENING

(At a Designated patient holding area or isolation area by Clinician with PPE)

For the suspect patients, do further assessment as follows.

Cardinal MPOX signs: any one of the following

- ☐ Lymphadenopathy
- ☐ Characteristic rash (any two of the below)
 - Lesions in one stage of development
 - Lesions more dense on face
 - present on palms and soles

Outcome:
If Patient Has NO Cardinal signs – proceed to healthcare facility.
If patient has cardinal signs, proceed with further assessment for comorbidities & STIs.

Co-morbid conditions

- Does client know their HIV status? ☐ Yes ☐ No
If "No", Offer Test
- If HIV positive; Is client on ART? ☐ Yes ☐ No
If on ART; virally suppressed? ☐ Yes ☐ No
Most recent viral load _____
Does clients have other co-morbidities (tick): ☐ DM ☐ HTN ☐ TB ☐ Cancer
Other (Name): _____

STI symptoms:

- Genital Discharge: ☐ Yes ☐ No Anogenital blisters/sores: ☐ Yes ☐ No
Genital ulcers/rash/blisters: ☐ Yes ☐ No Anogenital Bleeding: ☐ Yes ☐ No
Anogenital pain: ☐ Yes ☐ No

Outcome of Comorbidity assessment

- A. Patient with Cardinal signs but NO comorbidities
- enter the MPX clinical care pathway.
 - Be given a well-fitting medical mask and ask to sanitize their hands.
 - **Be isolated** in a well-ventilated single room
 - If a well-ventilated room is not available, group patients with similar clinical diagnosis and based on epidemiological risk factors, with a spatial separation (at least 1 m between patients).
 - Have tests done (Mpx sample drawn)
- B. Patient with Cardinal signs PLUS comorbidities and STI symptom.
- Refer to isolation Unit with capacity for HDU or ICU care and test for syphilis and any other indicated STI.

FINAL PATIENT DISPOSITION:

- ☐ Transferred to Isolation Unit in the same Facility.
☐ Referred to Isolation Unit in another Facility.

Name of facility: _____ Was Ambulance used? ☐ Yes ☐ No

Recommendations:

Recommendations include a scale up to additional sites and districts, ensuring close supervision from districts and implementation partners, sharing data with all stakeholders to promote informed decision-making, dedicating personnel specifically for screening using electronic records, reorganizing facility layouts to position computers at entry points, and using paper-based tools when electronic entry isn't immediately possible.

The METS pilot demonstrated how existing health systems can be rapidly adapted to address emerging infectious disease threats and how protecting the most vulnerable populations, strengthens public health security.

Pictorial



Prof. Rhoda Wanyenze, Dean MakSPH (C) and Principal Investigators for the National Evaluations take a photo with Ag. Director General-MoH, Dr. Charles Olaro (4th Left) at the dissemination meeting held on 30th April 2025



Mentorship team interacting with Kyenjojo Hospital during the Onsite Mentorships for the CDC Re-initiation on Treatment for IIT clients QI collaboratives conducted in CDC regions



Moments from the launch of the 3rd National Uganda Population-Based HIV Impact Assessment (UPHIA) survey which aims to assess the effectiveness of HIV prevention, care and treatment services across Uganda. MakSPH provided technical assistance and highlights of the School's legacy in shaping the country's public health landscape through research and policy support was presented at the event. The survey was funded by PEPFAR and officiated by the Minister of Health, Hon. Dr. Jane Ruth Aceng and graced by representatives from MoH, CDC, UVRI UBOS.

METS WATCH

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