

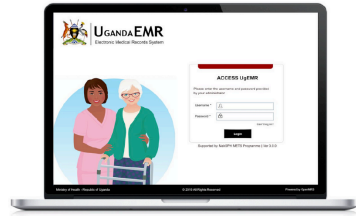
UgandaEMR Overview

Data Use Community Call

February 9, 2021



UGANDAEMR
Electronic Medical Records System



MAKERERE UNIVERSITY



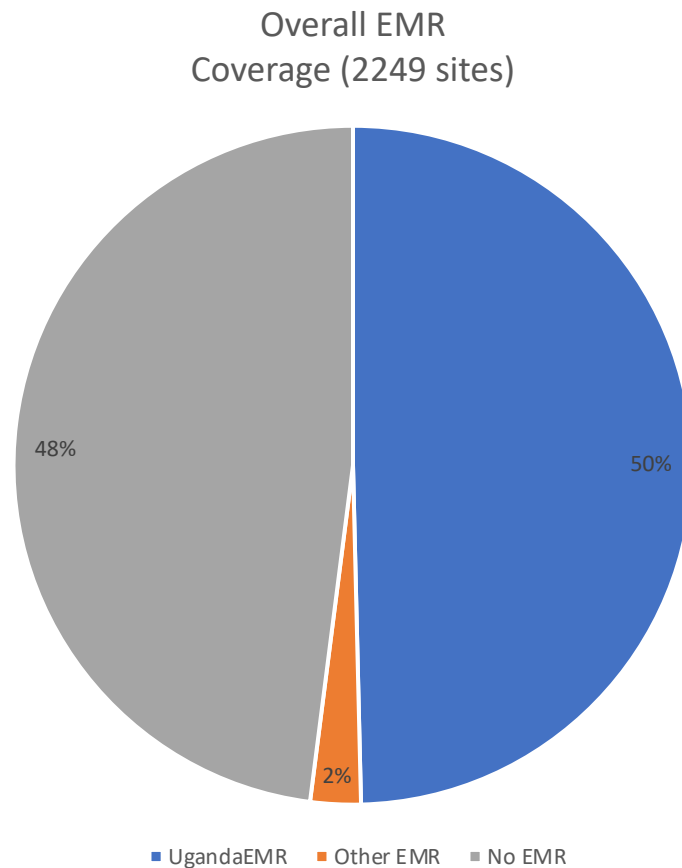
University of California
San Francisco



UgandaEMR Overview

- Facility-level Electronic Medical Record (EMR) based on OpenMRS
 - Successor to Ministry of Health (MoH) OpenMRS Express rollout in 2011
 - Follows national HMIS guidelines for patient data management
- Branding and initial announcement by MoH in July 2016
- Customisation and development led by METS in collaboration with Division of Health Information (DHI) at Ministry of Health (MoH)
 - METS is CDC funded collaboration between Makerere University School of Public Health and University of California San Francisco
 - METS started in 2015 to September 2020, and has been renewed until September 2025
- Rollout, upgrade and operation at public health facilities led by MoH through comprehensive implementing partners
- Running on OpenMRS Platform 2.3.1, Reference Application 2.10.0 compatible

Rollout Status – December 2020



| | |
|--------------------------|------|
| Total National ART Sites | 2249 |
| Has EMR August 2015 | ~350 |
| Has EMR December 2020 | 1170 |
| UgandaEMR & OpenMRS | 1120 |
| UgandaEMR Only | 1116 |
| Other EMR | 54 |
| No EMR | 1079 |



Features – 1: Patient data collection

- Patient Registration
 - Demographics
 - Identification - National ID, Fingerprint biometrics
 - Service Point specific Identifiers
- Retrospective Data Collection Tools – match national HMIS tools starting with HIV/TB related services

Active Visit - 12.Sep.2020, 11:36:14 Outpatient

HMIS HIV 003:HIV Care/ART Card - Clinical Assessment Save

Appointment/ Vitals/ Nutrition Assessment [Pregnancy/ Family Planning](#) [TB Treatment/ Clinical Assessment](#) [Medication](#) [Tests/Investigations and DSDM](#)

Appointment

Visit Date: Return date: Reasons for next appointment: Other Reason for next appointment:

☐ Visit on Schedule *Attending Clinician:

Vital Signs

Temperature (c): Respiratory Rate (/min): Heart Rate (/min): Blood Pressure: Systolic: Diastolic:

Nutrition Assessment

Weight (kg): Ht/ Length (cm): BMI (Calculated):

MUAC Score (cm): MUAC Color Code: Nutrition Status: Nutrition Support:



Features – 2: Point Care

- Based on user access permissions
- Complimentary to retrospective data entry allowing for hybrid implementations
- Service point based specific tools
- Patient queues to track flow of patients between service points
- Provider specific views of HMIS data collection tools

Clinical Encounter

Investigation Reports

Diagnosis

Medication

Programming ie DSDM

Next Course of Action

SAVE

Triage InformationPregnancy/ Family PlanningExaminationInvestigations

Presenting Signs and Symptoms

☐ Oral or anal ulcers

☐ Weak arms or legs

☐ Diarrhea

☐ Weight loss in last month

☐ Decreased hearing

☐ Whites spots/thrush in mouth

☐ Difficulty or painful swallowing

☐ Fever, chills or night sweats

☐ Red/purple or dark spots on skin

☐ Unable to walk without assistance

☐ Cough or shortness of breath > 1 week

☐ Other specify

☐ New seizure

☐ Headache

☐ Acting unusual

☐ Difficulty walking

☐ Double or Blurry vision

Advanced Disease and WHO Clinical Stage

Advanced Disease Status

WHO Clinical Stage

TB Status

TB Status

TB Start Date

TB Stop Date

Reg No.



Features – 2: Point Care - Queues

| TESTS ORDERED 1 | | WORKLIST 0 | | REFERRED TESTS 0 | | RESULTS 0 | |
|-----------------|-------|------------|-------------------------|------------------|---|-----------|--|
| Q ID | NAMES | AGE | ORDER FROM | WAITING TIME | TEST(S) ORDERED | | |
| 4 | | 39 | kema mable - ART Clinic | 0:0:24 | <div><div>2 Tests Unprocessed</div><div><div>CD4 PANEL</div><div>GeneXpert Test</div></div></div> | | |

Features – 3: Clinical Decision Support

- Analysis of patient data
 - Patient flags – traffic light analogy
 - Encounter summaries extract
 - Important data analysis – due for viral load, appointments etc
- Data validation rules to ensure completeness and accuracy of data
- Lab tests and results

Suppressed VL
05/18/018 - VL ID
THIS CLIENT IS ELIGIBLE FOR APN
DST ORDERED
tpt started

vnabanoba 24 Jan 20 at 2:58 PM

PATIENT SUMMARY

Last CD4 Count: 18.0 on 05.May.2017
Current Regimen: TDF-3TC-ATV/r from 09.Jun.2020
BMI: 19.5 (150.1 cm 44.0 kg)

ART STATUS

BASELINE REGIMEN START DATE: **17.Dec.2013** 3164 days ago
BASELINE REGIMEN: **TDF-3TC-EFV** 3164 days ago

TPT STATUS

TPT STATUS: **Treatment complete** 182 days ago

VIRAL LOAD HISTORY

| Date | HIV VIRAL LOAD DATE | VIRAL LOAD, QUAL | HIV VIRAL LOAD |
|-------------|---------------------|------------------|----------------|
| 09.Jun.2020 | 09.Jun.2020 | | |
| 25.Oct.2019 | 25.Oct.2019 | DETECTED | 302 |

MCH SUMMARY

MID-UPPER ARM CIRCUMFERENCE-CODE: **GREEN** 182 days ago
HEMOGLOBIN: **13.1** 3015 days ago

DATA QUALITY VIOLATIONS

Client #3006 has more than one encounter on 21/03/2018 [Fix](#)
Client #3006 has more than one encounter on 25/10/2019 [Fix](#)
Client #3006 has ART regimen Other for visit on 2019-06-28 00:00:00.0 [Fix](#)

DIRECTIONS TO RESIDENCE

None in the last days

PATIENT TRANSFER HISTORY

No Data

LAST ART VISIT SUMMARY

RETURN VISIT DATE: **09.Oct.2020** 182 days ago
Reason for appointment/visit: **ART Refill** 182 days ago
CURRENT ARV REGIMEN: **TDF-3TC-ATV/r** 182 days ago
AR REGIMEN DOSE: **240** 182 days ago
ARV REGIMEN DAYS DISPENSED: **120** 182 days ago
WHO HIV CLINICAL STAGE: **HIV WHO CLINICAL STAGE T1** 182 days ago

RECENT VISITS

| | |
|-------------|----------------------|
| 09.Jun.2020 | ART Card - Encounter |
| 24.Jan.2020 | ART Card - Encounter |
| 25.Oct.2019 | ART Card - Encounter |

FAMILY

None

PATIENT DSDM MODEL HISTORY

| | |
|------|---------------------------|
| FTIR | 09.Jun.2020 - Current |
| FBIM | 10.Apr.2012 - 09.Jun.2020 |

TB PROGRAM STATUS

PATIENT FLAGS

Lost since 08.Nov.2020

ALLERGIES

Unknown

FINGERPRINT DETAILS

No Fingerprint Captured.

Features – 4: Reports and Data Extracts

UgandaEMR Reports - HMIS Tools 2019 Version

- **Registers** – monthly and quarterly MOH HMIS standard Reports
- **Facility Reports** – support facility operations
 - Due & Overdue for VL
 - Active Patients in Care
 - Non-Suppressed VL
 - HTC Card Data Export
 - Stability Assessment & Patient DSDM Report
- **MER Indicator Reports** – PEPFAR exports
- **Early Warning Indicator Reports** for surveillance
- **Data Integration Data Exports** - for integration with other systems
- Reports are extracted in both Excel and CSV formats

FACILITY REPORTS

[Appointments List](#)
[Missed Appointments List](#)
[Daily Missed Appointments List](#)
[ART Patient Export](#)
[Facility Death List](#)
[Exposed Infants Due for 1st PCR](#)
[Exposed Infants Due for 2nd PCR](#)
[Exposed Infants Due for Rapid Test](#)
[Exposed Infants Due for Appointment](#)
[OptionB+ Weekly SMS Report](#)
[Transfer Out List](#)
[Transfer In List](#)
[Lost Clients](#)
[Lost To Follow Up](#)
[Active Patients in Care](#)
[PEPFAR Active Patients in Care](#)
[Due For Viral Load](#)
[Overdue for Viral Load](#)
[Non Suppressed Viral Load](#)
[HTS Client Card Data Export](#)
[Stability Assessment Report](#)
[Patient DSDM Model Report](#)
[Patients Transitioned to DTG](#)

REGISTERS

[HMIS PHAR 003:Dispensing Log](#)
[HMIS 055 : HCT Register](#)
[HMIS 006: Maternity Register](#)
[HMIS 008 : PNC Register](#)
[HMIS 005: ANC Register](#)

MONTHLY REPORTS

[Case Based Surveillance EID Report](#)
[HMIS 105 Section 4: HTS 2019](#)
[Adherence Report](#)
[Early Warning Indicator Report](#)
[HCA Annual Report](#)
[HCA 12 and 24 Months Report](#)

QUARTERLY REPORTS

[HMIS 106A Section 1A](#)
[HMIS 106a Section 1B](#)
[CBS Adult Quarterly Report](#)
[HMIS 177 Viral Load Addendum Quarterly Report](#)

MER REPORTS

[HTS_RECENT Report](#)
[HCT_TST_Facility Report](#)
[Tx Current_28Days Report](#)
[Tx Current_90Days Report](#)
[Tx New Report](#)
[TB STAT Report](#)
[TB ART Report](#)
[PMTCT STAT Report](#)
[MER TX RTT Report](#)
[PMTCT ART Report](#)
[TX_ML Report](#)

EARLY WARNING INDICATORS

[Lost To Follow Up](#)
[Pill Pickup](#)
[Viral Load Suppression](#)

INTEGRATION DATA EXPORTS

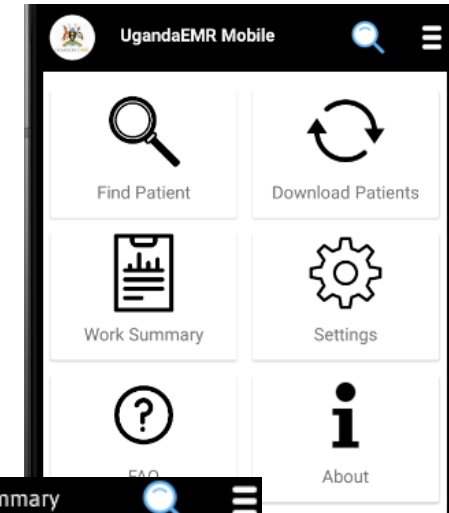
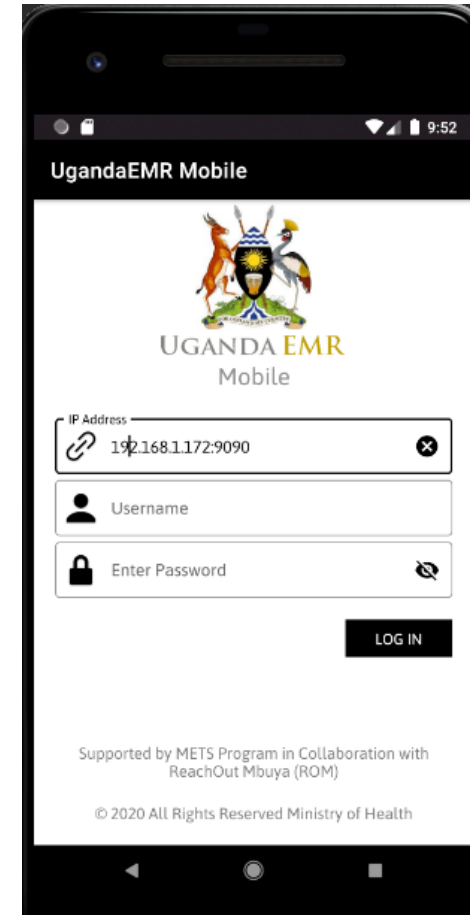

[Family Connect EMTCT Module Data Export](#)
[UgandaEMR Metrics Report](#)
[Recency HTS Client Card Data Export](#)

Features – 5: System Integration and HIE Data Exchange

- Integration with other systems via CSV/Excel/XML/FHIR formats:
 - UNICEF MomConnect through eMTCT module
 - Lab Systems LIS (FHIR & LOINC mappings)
 - Rx Solutions use UgandaEMR as source of patient data for dispensing (FHIR and RxNorm)
- Integration options:
 - CSV/Excel/XML based data file exchange
- HIE data exchange operations
 - Submission of viral load request and receipt of results within the EMR
 - HIV Recency Testing surveillance
 - UgandaEMR Usage analytics submission (monitor rollout)
 - Submission of Monthly 105 and Quarterly 106a to DHIS2 via ADX profiles
 - Submission of TB patient data to TB Surveillance system

Features 6: DSDM and Community Support

- Differentiated Service Delivery Models
 - Framework to decongest health centers
 - Provide stable virally suppressed clients with long refills & services in community
- Mobile App
 - Community based health service delivery outreach from a facility
 - Covers: Assessments, back to care followup and drug dispensing

| PATIENT NAME | PATIENT NO | GENDER | D.O.B |
|--------------------|------------|--------|--------------|
| EVANGELINE ISADORA | MOH 0987 | F | JUN 01, 1990 |
| NICHOLE CELESTE | MOH 1565 | F | NOV 18, 1975 |
| HERROD WALLACE | MOH 1723 | M | NOV 01, 2010 |
| PATRICIA FLEUR | MOH 2201 | F | FEB 13, 2008 |
| LEONARD BRADY | MOH 2363 | M | JAN 01, 2007 |
| KAMEKO CANDICE | MOH 2372 | F | APR 04, 1966 |
| WALKER GUY | MOH 2617 | M | JAN 01, 1999 |
| JOHN BENJAMIN | MOH 2667 | M | JAN 01, 1984 |
| CHESTER HOLMES | MOH 2802 | M | JAN 01, 1966 |
| GABRIEL LINUS | MOH 3404 | M | JAN 01, 1974 |
| CHARISSA KAITLIN | MOH 3629 | F | JAN 01, 1990 |
| BRIAN HARLAN | MOH 3631 | M | JAN 01, 1977 |

Stakeholder Involvement & Capacity Development Approach

- Implementation aligned with:
 - MoH program area priorities, policy, strategy and guidelines
 - District and facility level operational needs
- Grow capacity of stakeholders
 - National TOTs May 2016 and June 2017 (~250 trainers)
 - IP Regional Training – led by national trainers
 - ~ 2500 health sector staff trained nationally (September 2020) to use UgandaEMR
 - Hosted International OpenMRS conference December 2016
 - 2 Developer Bootcamp for 40 participants in November 2018 and October 2019 on how to add HMIS tools to UgandaEMR
 - 4 custom distributions built on top of UgandaEMR – MUJHU Mulago, Mulago ISS Clinic, UgandaEMR, UPDFEMR



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Any Questions

