The Open Medical Record System (OpenMRS)

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MOASIS
Mozambican Open Architecture Standards and Information Systems
OpenMRS Overview

What is OpenMRS?

- Open source **medical record system**
- Started in 2004 to support Kenya AMPATH facilities
- Built by a team of **developers**, **informaticists**, and **implementers** across the world
  - South Africa, Kenya, Rwanda, Lesotho, Zimbabwe, Mozambique, Uganda, Tanzania, Haiti, India, China, United States, Pakistan, the Philippines, and many other places
Mission

to improve healthcare delivery in resource-constrained environments by coordinating a global community that creates a robust, scalable, user-driven, open source medical record system platform
OpenMRS clinical and research locations as of 2011
OpenMRS Community Development Process
OpenMRS Platform API

- Three code layers
  - Database Layer
  - Service Layer
  - Presentation layer
- Hibernate, Spring, AJAX
OpenMRS Data Model
Concept Management

OpenMRS

Concept Dictionary Maintenance
Download the concept dictionary in CSV format -- (dynamically creates a CSV file containing terms/concepts)
Add new Concept

Find Concept(s)
Find a concept by typing in its name or Id: Positive
Include Retired

Showing 1 to 6 of 6 entries
Original OpenMRS Forms Entry
OpenMRS Reference Application

Logged in as Super User () at Inpatient Ward.

- Find Patient Record
- Active Visits
- Register a patient
- Capture Vitals
- Configure Metadata

System Administration
OpenMRS Reference Application
OpenMRS Modules

NOTE: Adding, removing, or starting modules will restart OpenMRS

Add or Upgrade Module  Check for Upgrades

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<tr>
<th>Action</th>
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<th>Version</th>
<th>Author</th>
<th>Description</th>
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HOSPITAL IMPLEMENTATIONS
Hospital Implementation at Mirebelais (Haiti)
Hospital Implementation in Bahmni

- Bahmni is an easy to use, open source hospital system for healthcare providers in low-resource settings
- Developed by ThoughtWorks, Inc
- Combines three open source products into a single solution
  - OpenMRS for electronic medical records
  - OpenERP for hospital operations
  - OpenELIS for laboratory information management
- System interoperates by messaging to support various workflows
  - Lab results are sent to OpenMRS from OpenELIS
  - Invoices are generated in OpenERP for lab tests
Bahmni (OpenMRS Patient Dashboard)
Bahmni (OpenELIS Dashboard)
## Bahmni (OpenERP Payments Page)

![Bahmni OpenERP Payments Page](image-url)
REGIONAL COMMUNITIES
Original OpenMRS Community
OpenMRS Community
OpenMRS Mozambique (eSaude)

- One of the first official regional OpenMRS communities (along with Kenya)
- Still a very young community - just over 1 year old
- Community was established in order to
  - Harmonize the work being done by USD funded organisations in the country (shared forms and reports)
  - Share knowledge and resources amongst partners
  - Establish a unified voice for interaction with global community
- Implementing partners include Friends in Global Health (FGH), Chass-SMT, Chass-Niassa, EGPAF, ICAP, CCS, ARIEL
- Base system (developed by FGH) is being used at the starting point and collects data HIV and produces reports in a standard format
OpenMRS Mozambique (eSaude)

- **Current uses**
  - Managing patients with HIV
  - Data entry and reporting
  - ARV register

- **Future uses**
  - Maternal & Child health
  - Data integration into national reporting system
  - Pharmacy module
OpenMRS Mozambique (eSaude)

● Implementation Guidelines
  o First output of community collaboration
  o Defines best practices and standard operating procedures for implementing OpenMRS in the Mozambican context
  o Input from all implementing partners
  o Made available for use to countries that might have a similar implementing environment
OpenMRS Mozambique (eSaude)

- Data Migration Tool
  - Tool developed by community to migrate to OpenMRS from their previous Access-based system
  - Built generic enough to be usable for migration from other system
  - Open source and released publicly on GitHub
  - Extensions to the tool proposed as a Google Summer of Code project
OpenMRS Mozambique (eSaude)

● Point of Care
  o The next community project
  o Currently in the planning phase
  o First step will be to implement patient registration workflow
OpenMRS-DHIS2 Interoperability

- Number of iterations, all developed as OpenMRS modules
- Latest module, developed as part of GSoC has gained community support
- Works by aggregating data in OpenMRS using Cohort queries, then populates DXF files and posts to DHIS2 via the API
References

- Cooking Up An Open Source EMR For Developing Countries: OpenMRS – A Recipe For Successful Collaboration
- The OpenMRS Implementers Network
- The OpenMRS System: Collaborating Toward an Open Source EMR for Developing Countries
- [http://scholar.google.com](http://scholar.google.com) “OpenMRS” for more
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Thank you

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