The Open Medical Record System (OpenMRS)

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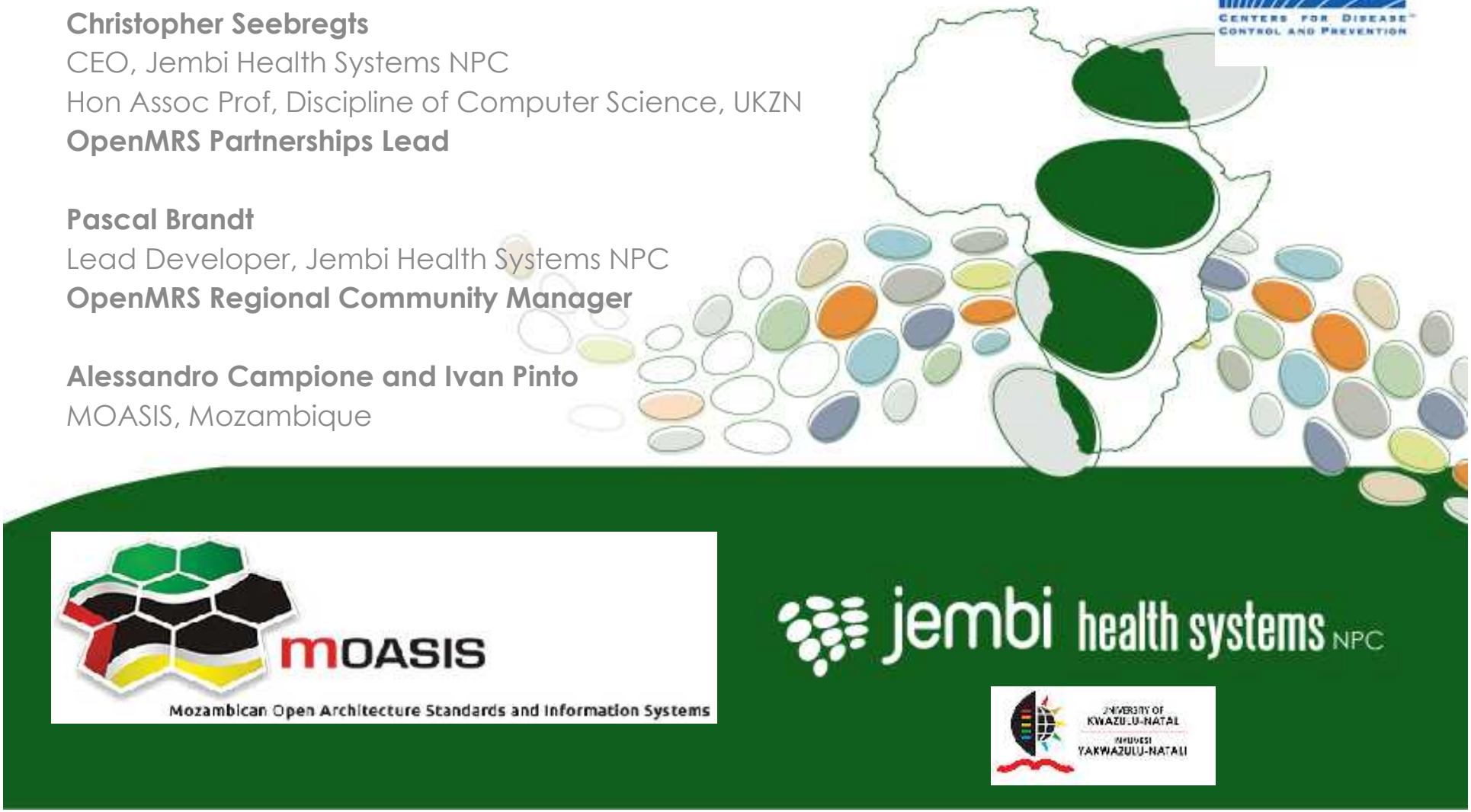

OpenMRS Overview

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

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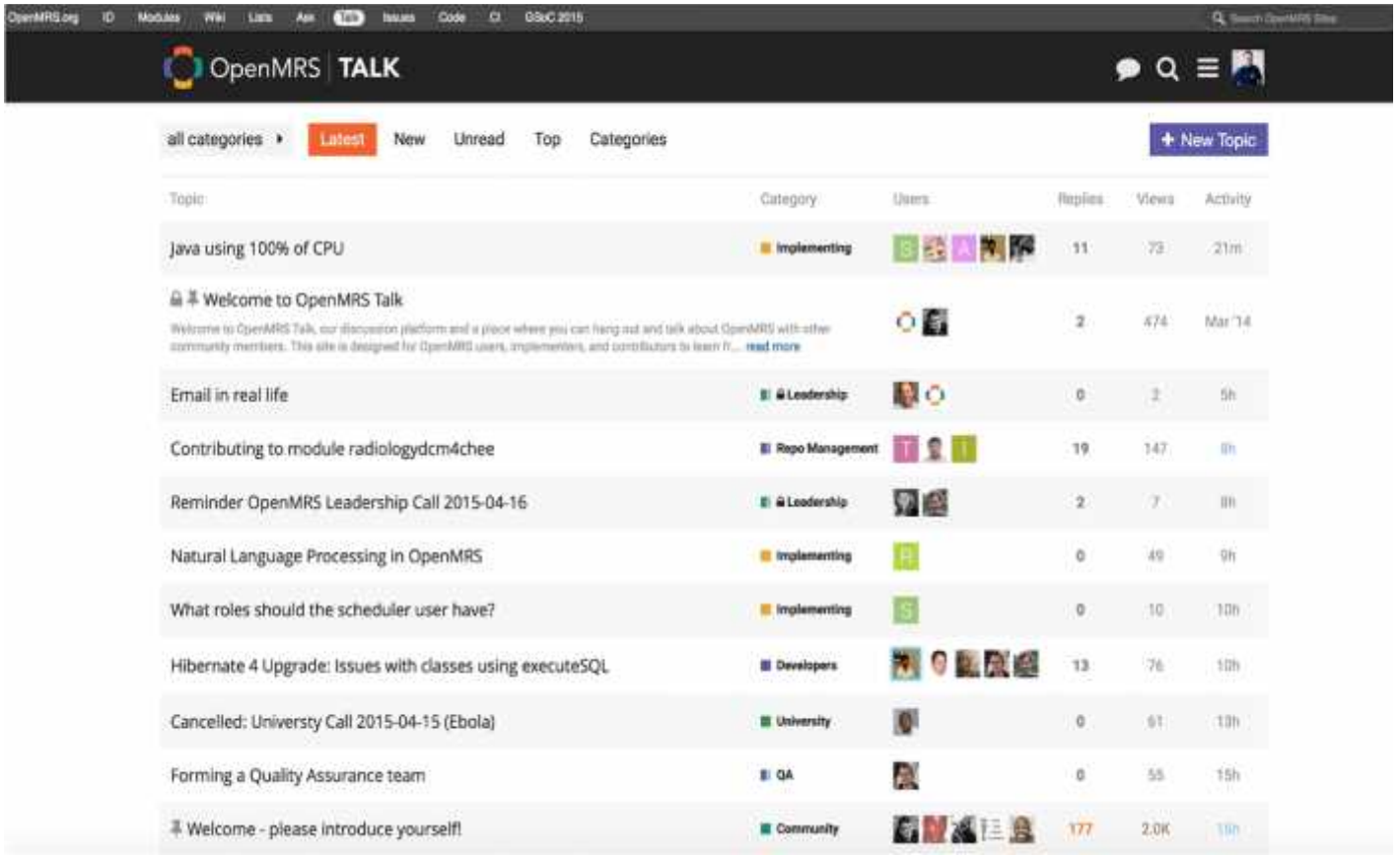
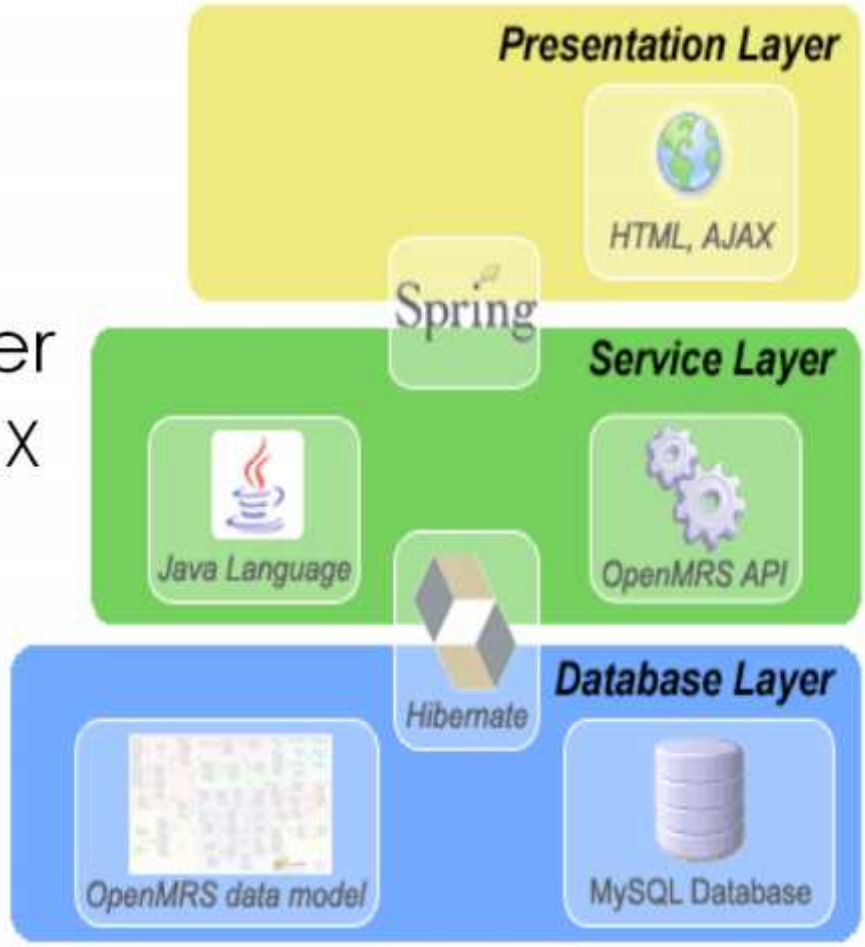
OpenMRS Community Development Process

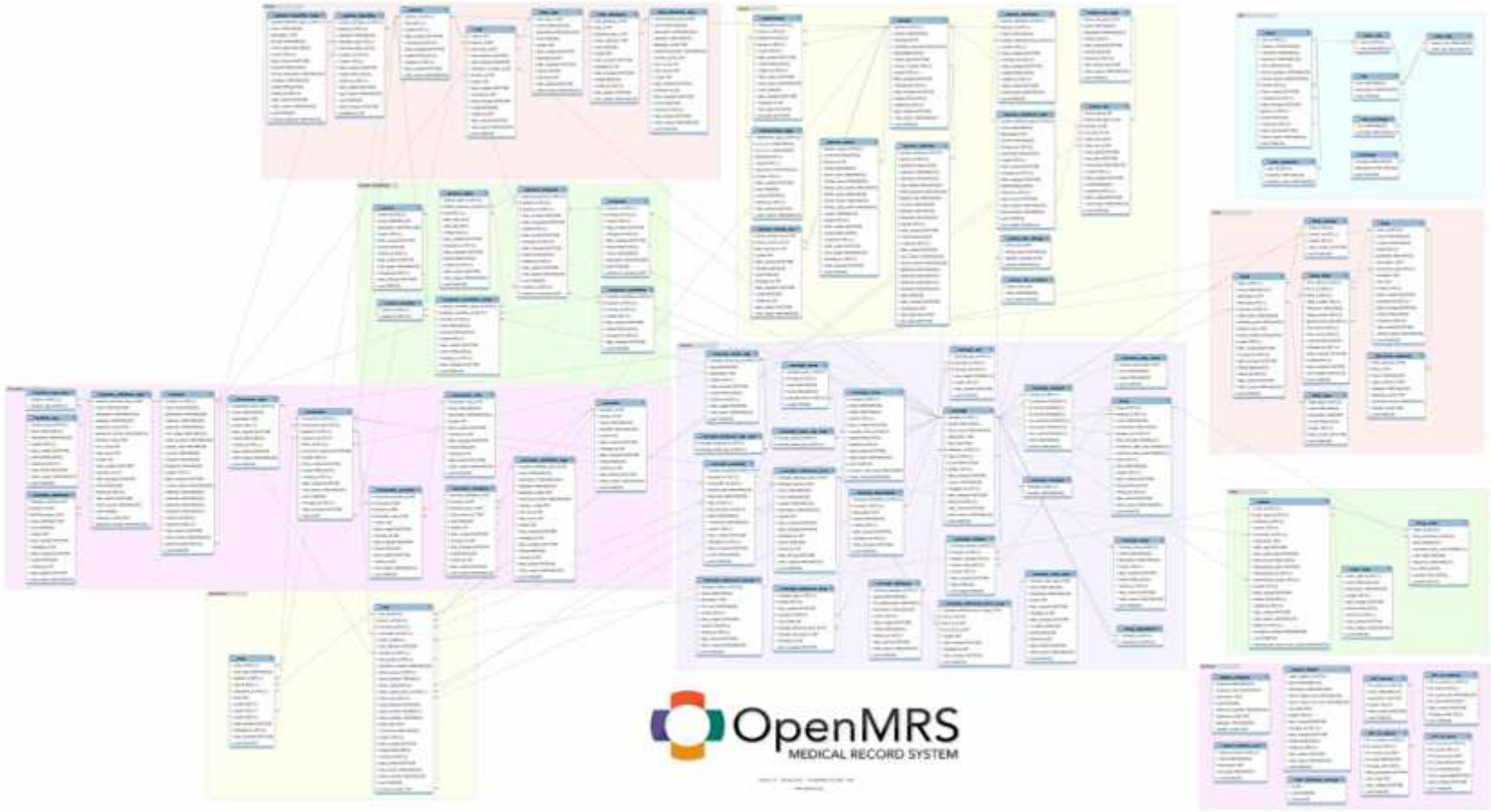


OpenMRS Platform API

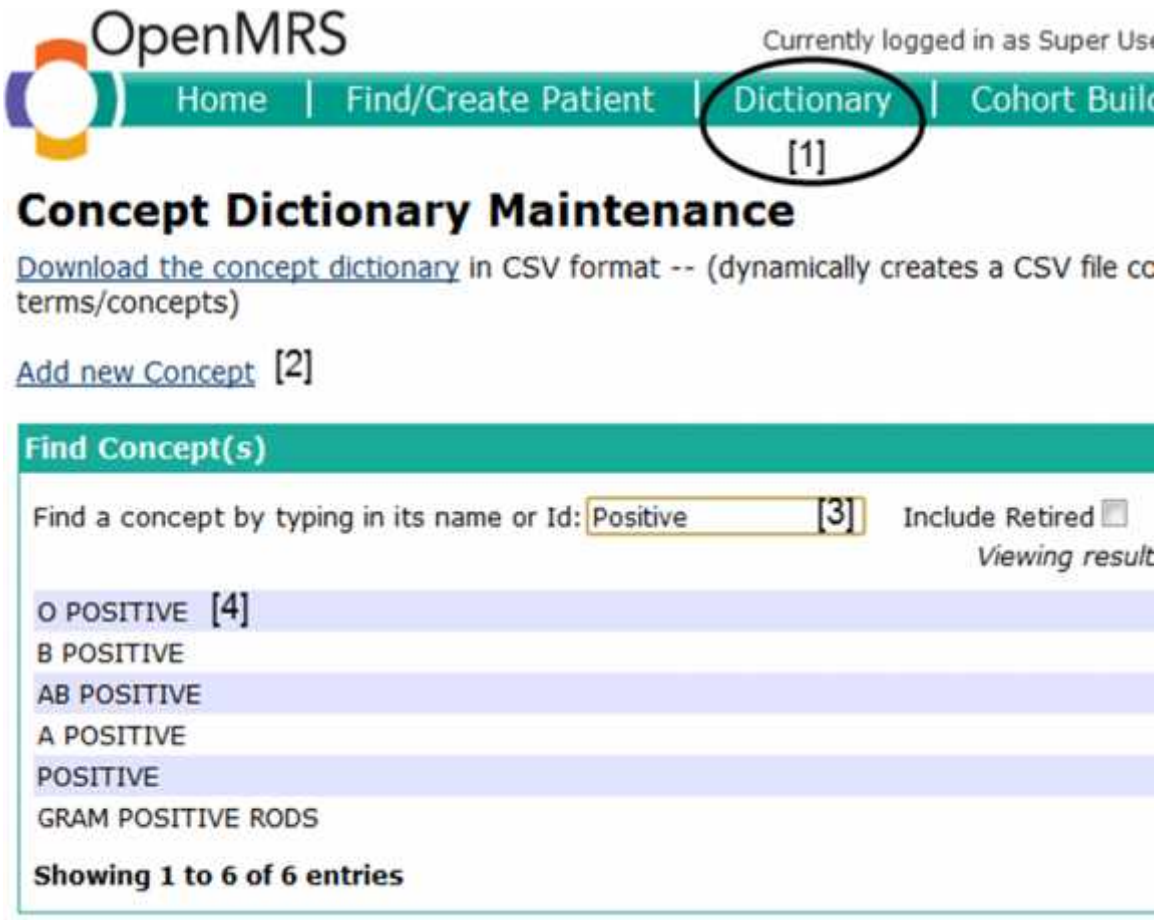
- Three code layers
  - Database Layer
  - Service Layer
  - Presentation layer
- Hibernate, Spring, AJAX



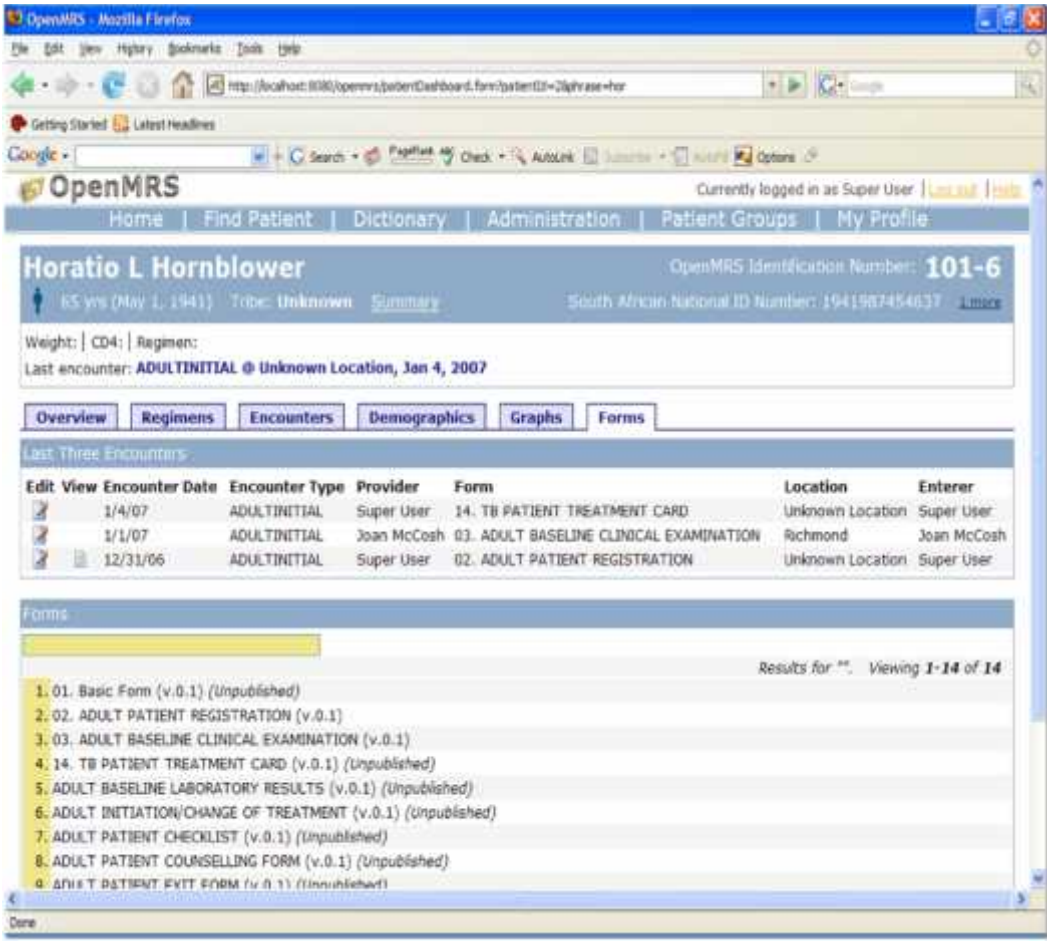
OpenMRS Data Model



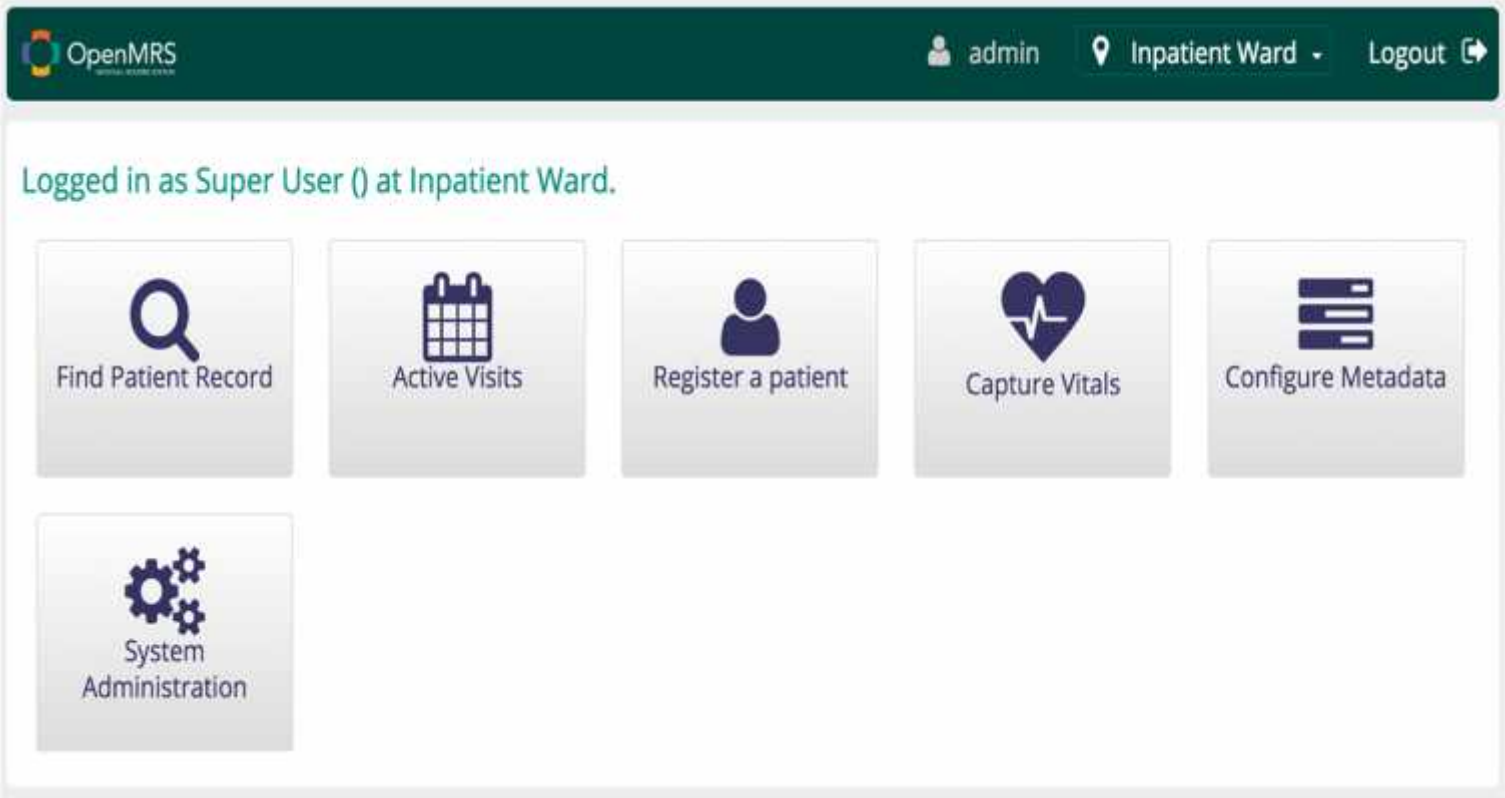
Concept Management



Original OpenMRS Forms Entry



OpenMRS Reference Application



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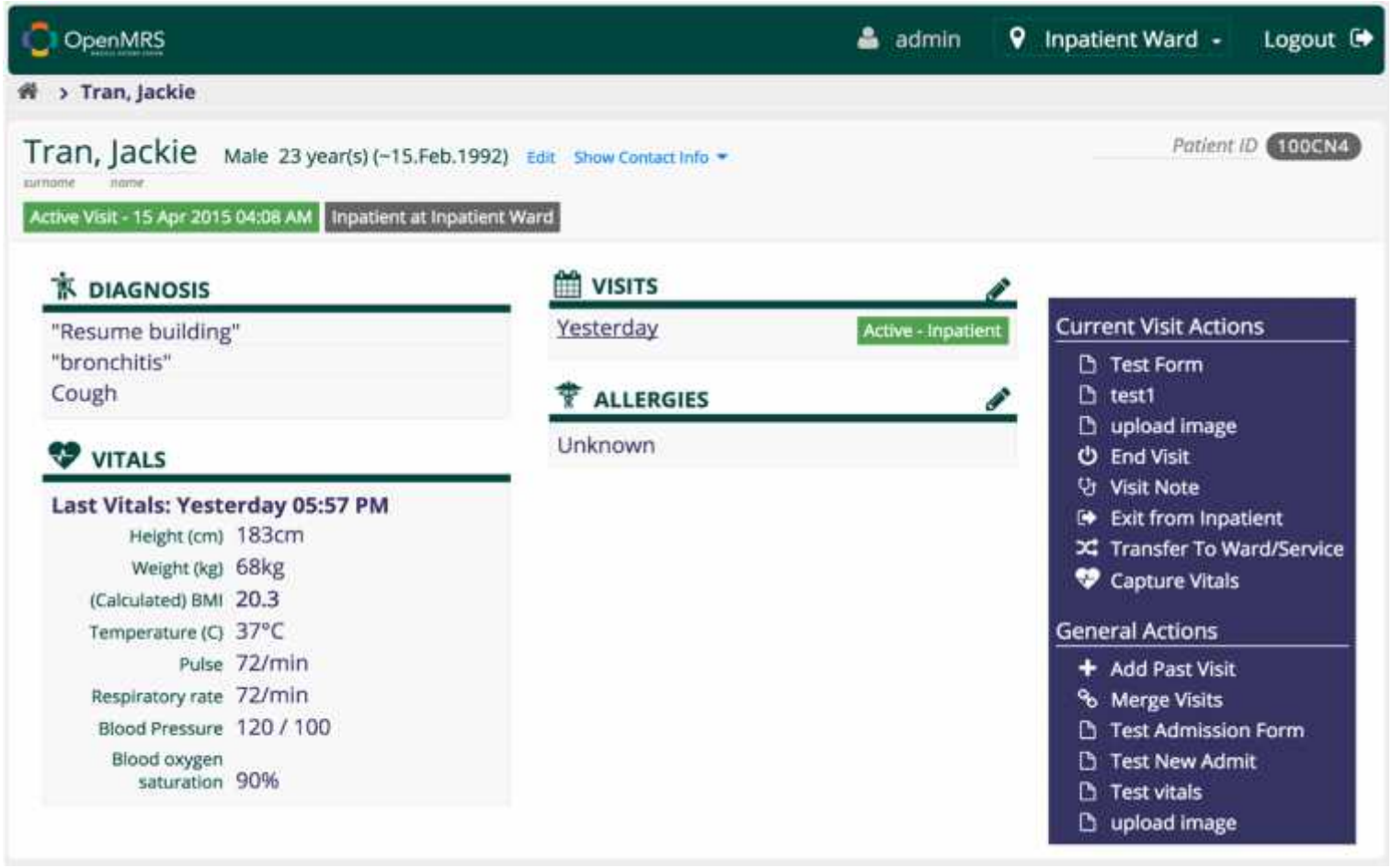
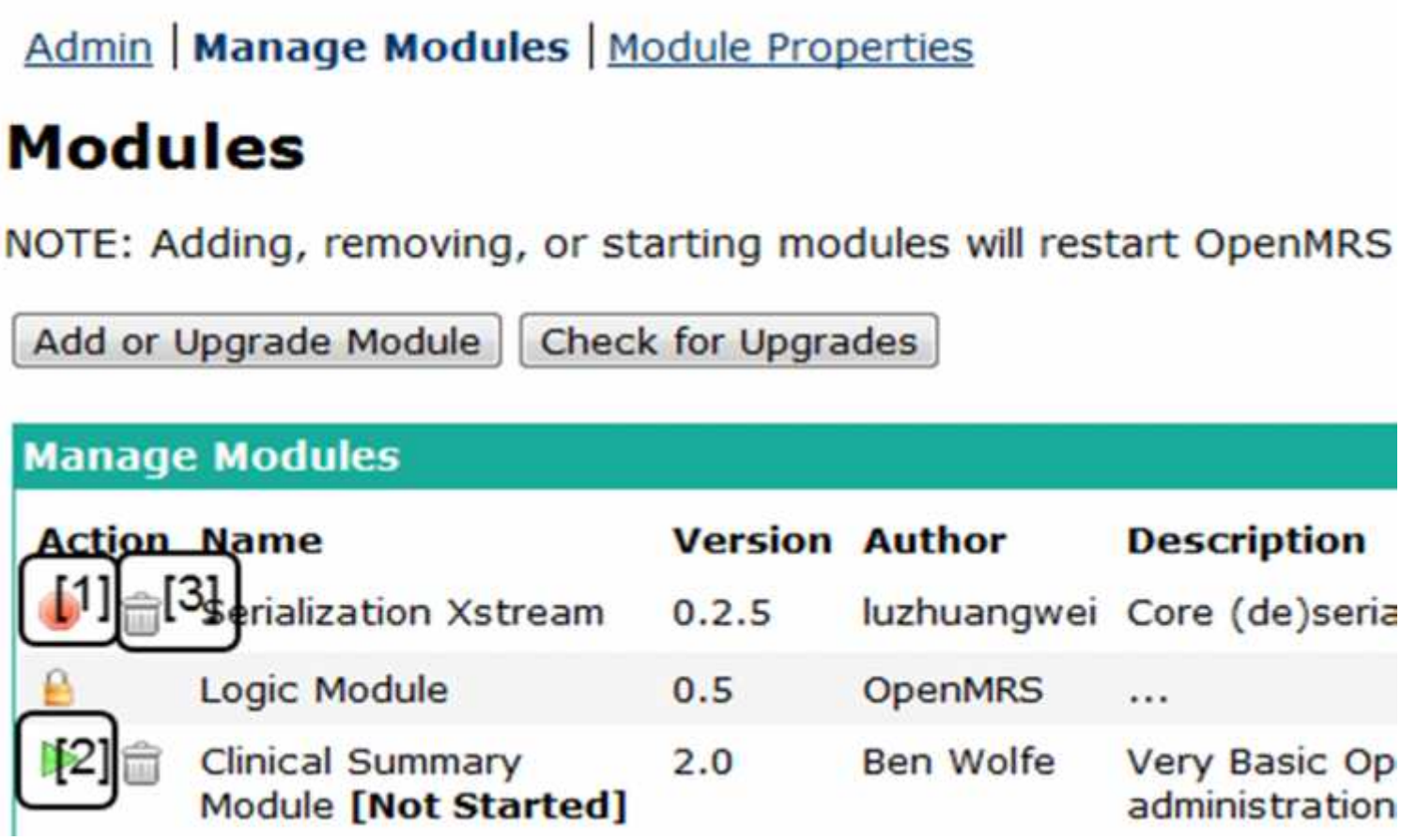
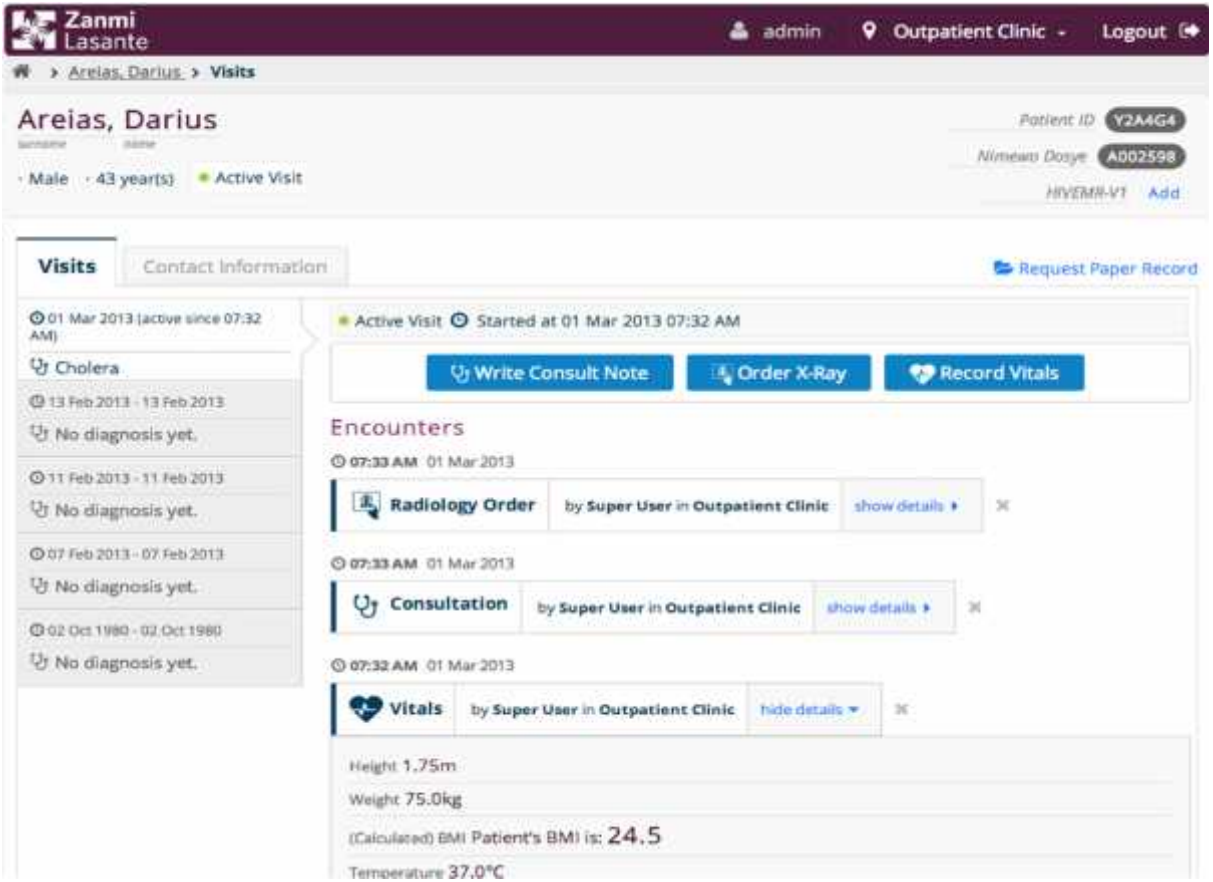


OpenMRS Modules



HOSPITAL IMPLEMENTATIONS

Hospital Implementation at Mirebelais (Haiti)



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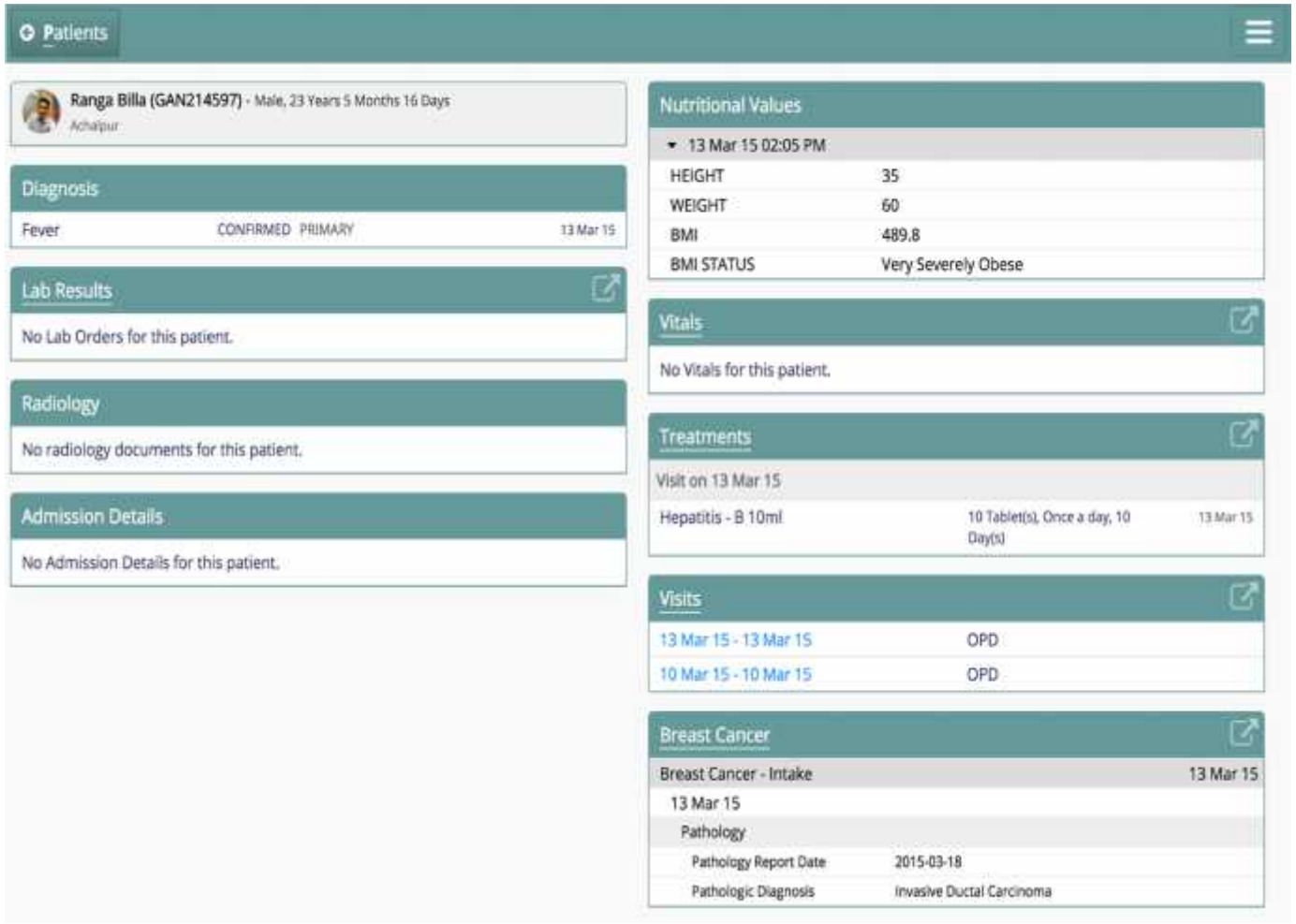
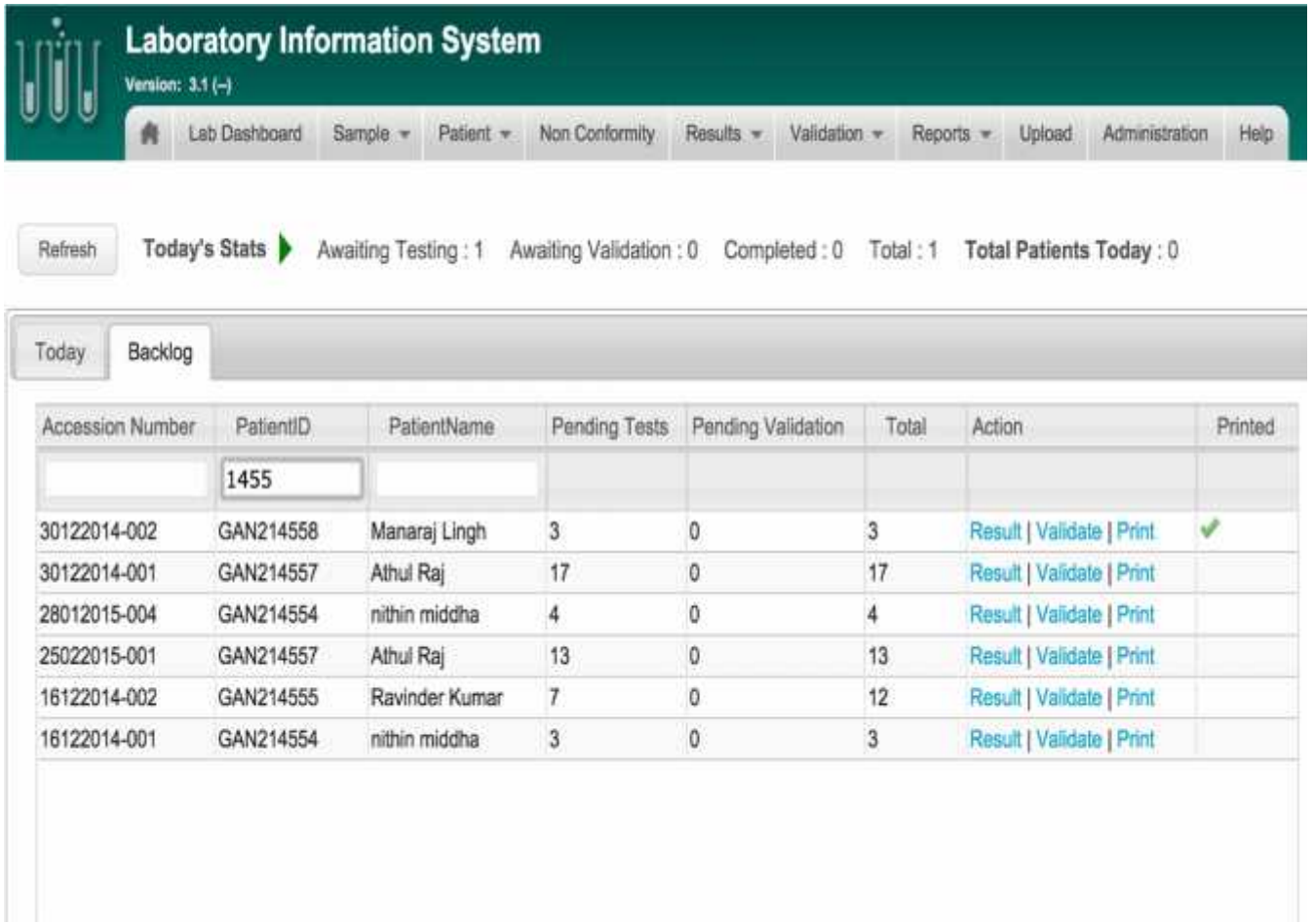
Hospital Implementation in Bahmni

- 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)



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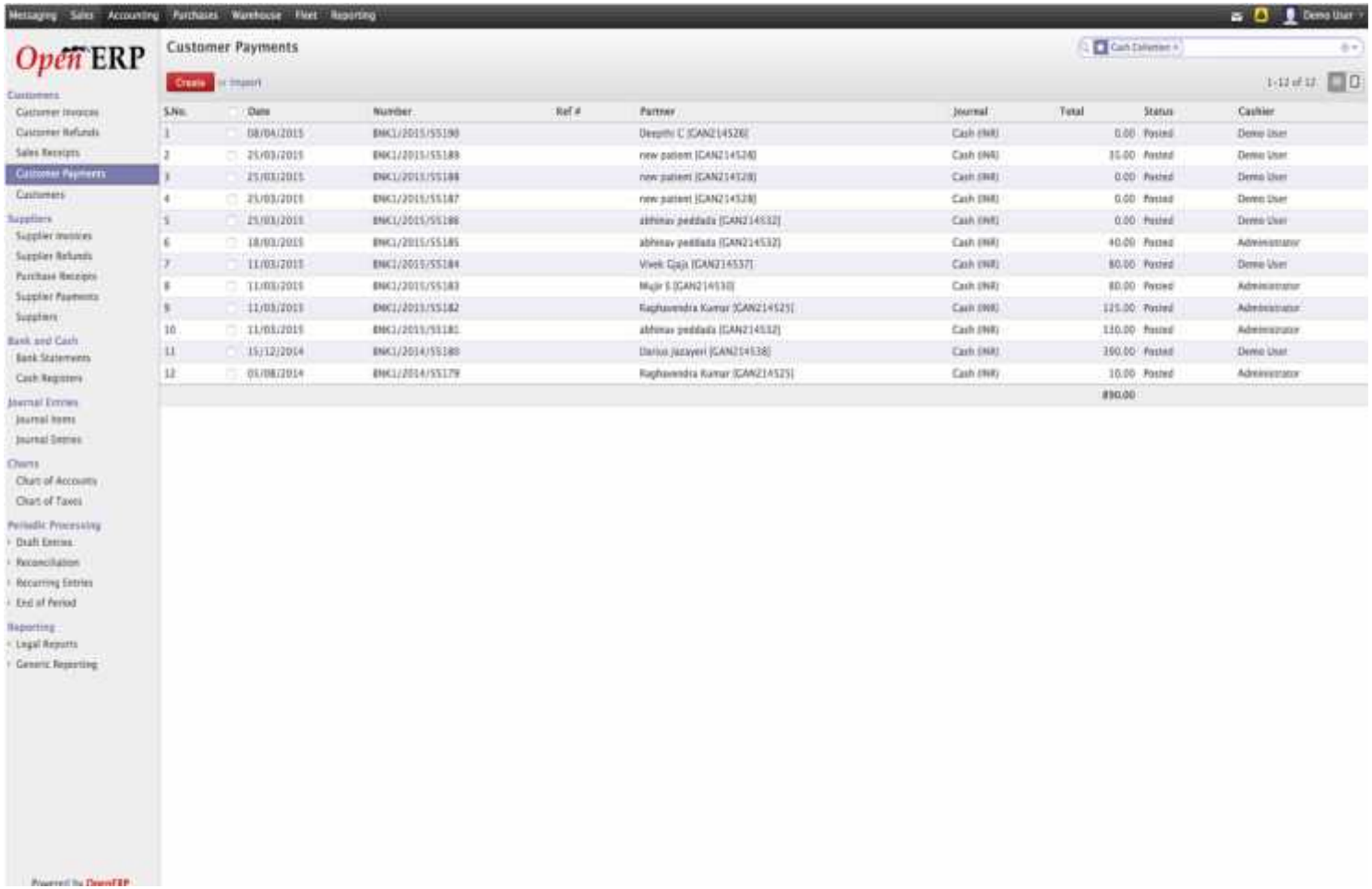
Bahmni (OpenERP Payments Page)



REGIONAL COMMUNITIES

Original OpenMRS Community

OpenMRS Community

OpenMRS Mozambique (eSaude)

Funded by CDC

- 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)

Funded by CDC

- 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 Medical Record System
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OpenMRS Mozambique (eSaude)

Funded by CDC

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

OpenMRS Mozambique (eSaude)

Funded by CDC

- 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)

Funded by CDC

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

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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 “OpenMRS” for more

Jembi Funders of this Work

- Rockefeller Foundation
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- United States President's Emergency Plan for AIDS Relief
- United States Centres for Disease Control and Prevention

Thank you

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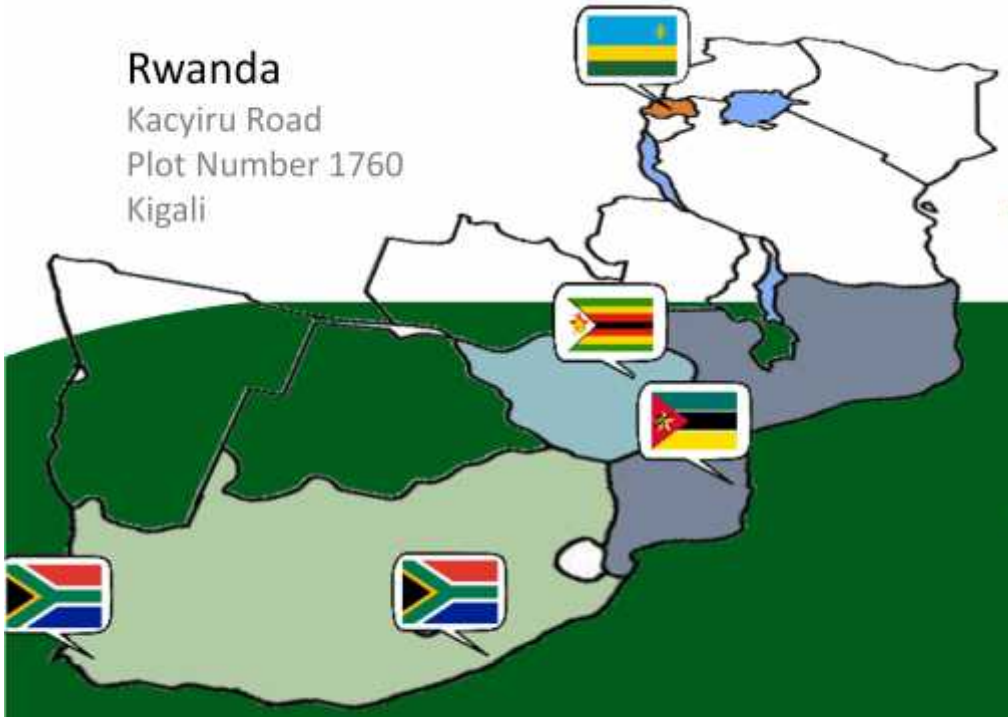

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