

Mekelle University Experience

Health Data Exchange and Interoperability Hackathon
Orientation Organized by Ethiopia-JSI/Digital Health Activity

OpenHIE: Academy Sub-community
Interoperability: eCHIS and DHIS2 Aggregate Data
Exchange
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OpenHIE

-Overview

- An open community of practice
- Core principles: openness, transparency and sharing of ideas, software and strategies for deployment and use
- Comprehensive approach to sustainably build technologies, infrastructure, and human resources
- developing practical, scalable health information sharing architectures within resource constrained settings

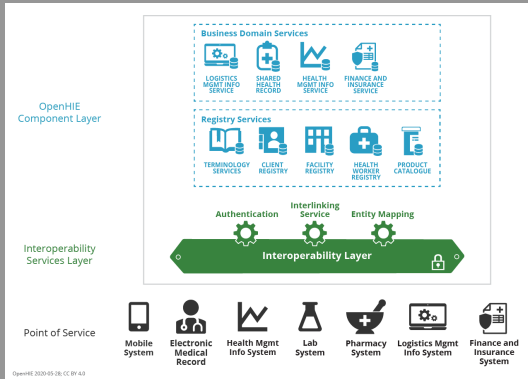
Resources:

- OpenHIE Academy:
<https://academy.ohie.org/>
- OpenHIE Wiki:
<https://wiki.ohie.org/>
- OpenHIE Discourse:
<https://discourse.ohie.org/>
- Architecture Spec.:
<https://ohie.org/architecture-specification/>



OpenHIE

-OpenHIE Architecture



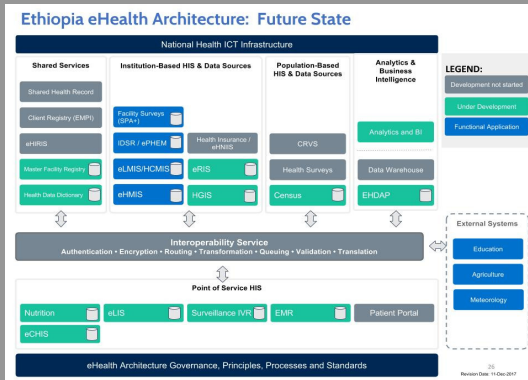
A Blueprint:

- Architectural and Exchange Patterns
- Developed in a community process
- Applied to different contexts and setting
- Standards based data exchange

Image taken from OHIE WIKI



Ethiopia eHealth Architecture



A Blueprint:

- A future state
- Components have different state of maturity
- Interoperability is an emphasis

Reference technology

-Open Health Information Mediator (OpenHIM) Overview

- Middleware component, NodeJS and MongoDB
- OpenHIM IOL reference technology
- Open-source!
- Provides secure communication, routing, orchestrating and translating requests as they flow between systems
- Extensible: mediator development
- Service Oriented Architecture

Resources:

- Site: <http://openhim.org/>
- Documentation:
<http://openhim.org/docs/introduction/about/>
- GitHub:
<https://github.com/jembi/openhim-core-js> and
<https://github.com/jembi/openhim-console>
- Mediator Library:
<http://openhim.org/mediator-library/>



The Academy Sub-community

- A dedicated sub-community
- An e-learning source of FREE courses
- Certification

Academy platform:

- OpenHIE Academy:
<https://academy.ohie.org/>



Interoperability Usecase

-eCHIS and DHIS2 Aggregate Data Exchange

Global Open Facility Registry (GOFR)/Facility Match:

- Reconciliation tool
- Providing a focused service to collect, curate, store and distribute standardized and current facility and resource data

Electronic Community Health Information System (eCHIS):

- Digitize family folder information system for Health Extension Workers (HEWs)
- Support longitudinal client tracking and referrals
- Data reporting and tool—providing data to decision makers on community health status



Interoperability Usecase

-eCHIS and DHIS2 Aggregate Data Exchange

Open Concept Lab (OCL):

- Open-source Terminology Management Service
- Accessible @ <https://www.openconceptlab.org/>

District Health Information Software 2 (DHIS2):

- Free and open source health management data platform
- Aggregate statistical data collection, validation, analysis, management, and presentation
- Web-based and boasts great visualization features and the ability to create analysis from live data



Interoperability Usecase

-eCHIS and DHIS2 Aggregate Data Exchange

eCHIS-DHIS2 Data Exchange

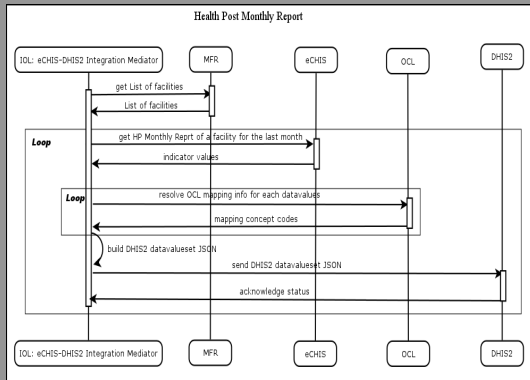
Mediator:

- Polling mediator executed monthly
- Monthly, Quarterly, and Yearly Health posts report
- Orchestrates sequence of actions to adopt data formats and resolve terminologies for use by eCHIS and DHIS2 APIs
- Involves data transformation
- IOL: OpenHIM
- Development: NodeJS
- Uses existing eCHIS and DHIS2 APIS



Interoperability Usecase

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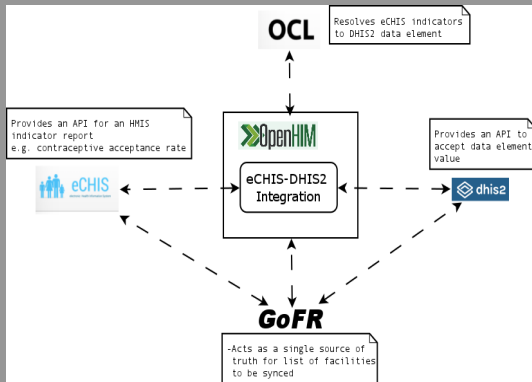


Actors:

- IOL: eCHIS-DHIS2 Integration Mediator, MFR, eCHIS, OCL and DHIS2

Interoperability Usecase

-eCHIS and DHIS2 Aggregate Data Exchange



eHA Components:

- IOL: eCHIS-DHIS2 Integration Mediator,
- MFR,
- eCHIS,
- OCL and
- DHIS2

Demonstration

-OpenHIM

DEMO!

