

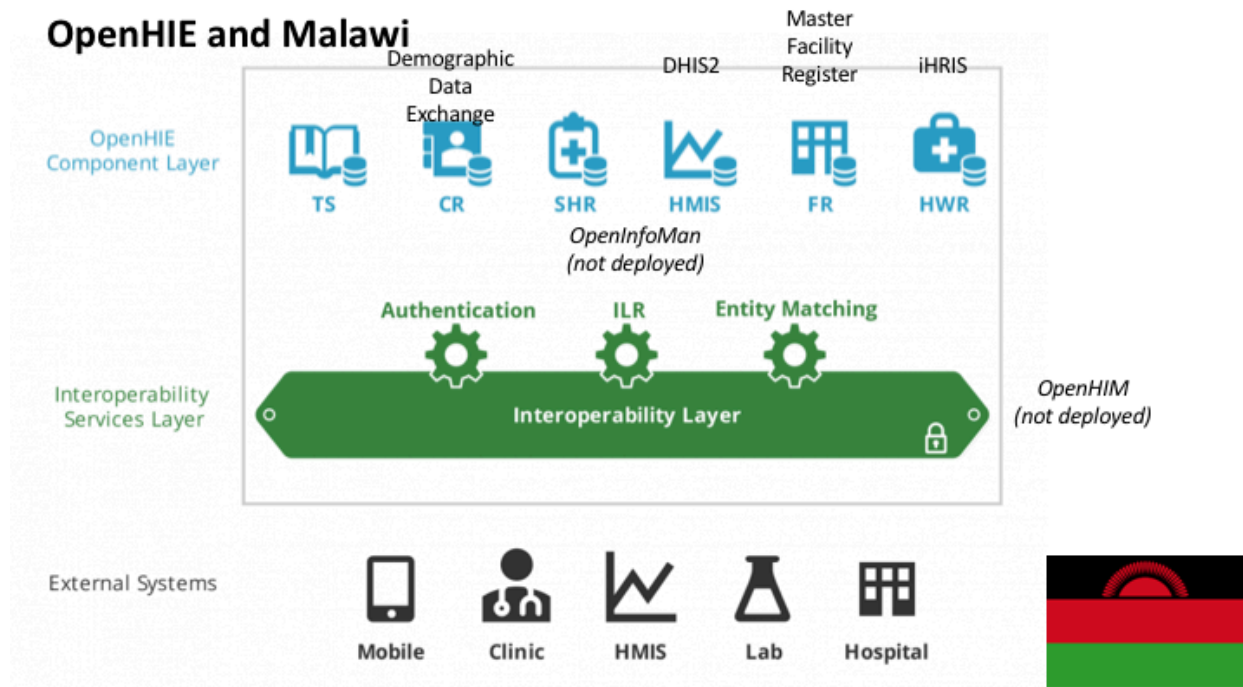
OpenHIE

2017/12/14 – Lilongwe, Malawi – [om.rs/17](https://open.hie.rs/17)

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Notes

- Why are you here / What do you want to learn?
 - Intro to OpenHIE
 - What are the priorities for data exchange with OpenHIE?
 - Implementation approaches
 - Example implementations
 - ~~Example message flow from Mobile to Clinic (for example)~~
 - Use of IHE profiles and FHIR
- Slides: https://www.dropbox.com/s/k8v553bhg2wnng4/malawi_openhie.pptx?dl=0
- Introduction to OpenHIE
 - OpenHIE as an architecture consisting of 3 layers (blue, green, black)
 - Blue
 - TS: terminology service
 - CR: client registry/master patient index
 - SHR: shared health record
 - HMIS: health management information system (e.g. DHIS2)
 - FR: master facility register
 - HWR: health worker registry
 - Green

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- IOL: interoperability layer
 - Security - certificates, authentication & authorization
 - Auditing/Logging
 - Synchronization of time
 - Synchronization of data - bi-directional
 - Translation/Mediation - can extend core functionality using custom mediators (e.g. to enable ADX, FHIR)
- Black
 - Point-of-service applications
 - OpenHIE as a set of (pre-existing) standards
 - OpenHIE encompassing reference software
 - OpenMRS fits into OpenHIE as a PoS application (and/or as a SHR)
 - Sync is for OpenMRS-OpenMRS exchange, essentially presumes that the world is only comprised of OpenMRS
 - Registries help exchange and normalize metadata (data that describes data)
- 2 models of metadata exchange:
 - Push metadata from TS to PoS
 - Use IOL/ILR/TS to map during data exchange
- How to reconcile overlap(s) across the blue components?
 - Leverage IOL to hide complexity
 - Use standards (e.g. ADX) for exchange
- IHE profiles group together and contextualize use of existing standards
 - E.g. PIXm, PDQm, mCSD, MHD
 - Moving towards using FHIR
 - Increasingly using “pull” rather than “push”
- FHIR: latest HL7 standard in RESTful manner, easier to comprehend
- What about connectivity constraints to access IOL and registries?
 - Think about payload
 - Use file queue mediator to try and re-try transactions in times of partial connectivity
- Data ownership concerns for data exchange across HIE?
 - Not synchronization all data across all systems
 - Query and temporarily store/view data from SHR
- How does a PoS application know what metadata to pull, and when/how often?
 - May not need to pull down metadata regularly, can be mapped by IOL
 - Keep track of last updated dates
- Technology is the easiest dimension, need to consider socio-political context
 - Certain countries may not have influence or jurisdiction to change how PoS systems work, hence leverage IOL to do mapping
- Capability Maturity Model
- OpenHIE sets functional role and standards for blue components

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- Countries can be very ambitious with installing software, without considering the data exchange use case(s)
 - M&E does not necessarily require all OpenHIE components
 - Need to think about the human dimensions of implementation
- Lost-to-follow-up for CBS in Uganda was only realized upon data integration
 - Patients were in fact visiting different HIV clinics
- Enterprise architecture should be considered once more than 3 systems
 - May take decades, need to think about first steps
 - Leadership and governance first, derived from health service delivery goals
 - Components can be re-used for other use cases
- Cross-border use cases
 - Not technology problem, mostly data ownership/sharing problem due to lack of data sharing agreements
 - The scope of “enterprise” is variable and subjective - can be district, country, region (e.g. EAC)
 - Architectures can be federated
 - Dealing with cross-border authentication/authorization

Action Items

- Birds of a Feather @ 8:30pm???