Impact Stories - Scenarios to Workflows

This page is under construction and is not a complete list of scenarios.

Below you will find current and/or future scenarios for the use of OpenHIE architecture. These scenarios are about the people and the value that better health information can have on their life (ie. Mosa). To the left of these scenarios you will find a list of components used to make up a specific scenarios HIE architecture (ie. OHIE and other HIS components). Finally, you can click on workflows which will describe the transactions / interactions between the components that make everything work "behind the curtain".

Use Cases or Data Exchanges - aggregate reporting from EMR to HMIS, case reporting from EMR to SHR, facility source to HMIS

Health Worker Alerting

Scenario Steps	OpenHIE Workflow(s) (Data Exchanges)
Mosa is a 19-year-old woman living in a small village in Rwanda. Mosa is pregnant, and like many in her village, she is HIV positive. She is registered at a local clinic providing Ministry of Health sponsored antenatal care (ANC). The clinic uses a local instance of an electronic medical record (EMR), referencing her national ID and syncing with her country-wide shared electronic health record (SHR) maintained in the Ministry's database. The clinic's EMR notes that she requires a hospital delivery using PMTCT (prevention of mother-to-child transmission) protocols. This information is updated to the national shared health record (SHR).	When Mosa was entered into the local EMR, the Create patient demographic record workflow is used to send the patient's demographic information to the Client Registry. The Save patient-level clinical data workflow is used to create a shared health record for Mosa.
Weeks into her pregnancy Mosa experiences minor bleeding or spotting. During a routine home visit, Mosa's community health care worker (CHW), Grace, logs this information. Grace uses a basic mHealth application on her mobile phone to update Mosa's SHR. Grace advises Mosa to go to the local clinic for a checkup. At the clinic Mosa is found to be anemic and referred to hospital for follow-up. The referral is flagged as urgent, and is updated to Mosa's shared SHR.	The Save patient-level clinical data workflow is used to add information to Mosa's shared health record.
Three days later when Mosa has not checked into the hospital, a mobile alert is sent to Grace to follow up with Mosa. Grace finds her at home with a severe fever. Grace arranges for Mosa's transport to the hospital where they retrieve her medical history from the shared SHR. With this important information, they are able to provide appropriate care to Mosa and her unborn baby.	Send health worker alert workflow

OHIE Components

- Interoperability Layer (IOL) - See: What constitutes an OpenHIE IOL?
- Shared Health Record (SHR) - See: What constitutes an OpenHIE SHR?
- Client Registry

Other HIS Components

- EMR

Immunization (Example)

Scenario Steps	OpenHIE Workflow(s) (Data Exchanges)
1. Baby (Rebecca) is born and gets registered through a vital registration system	The Create patient demographic record workflow is used to send the patient's demographic information to the Client Registry.

2. The immunization schedule is used to alert the community community health worker for Rebecca's village that a vaccination has been missed.	The Send health worker alert workflow workflow is used to notify community

OHIE Components

- Interoperability Layer (IOL) - What constitutes an OpenHIE IOL?
- (Optional) Shared Health Record (SHR) - What constitutes an OpenHIE SHR?

Other HIS Components

- EMR

Case-Based Reporting

Scenario One Steps - Diagnosis case-based reporting trigger	OpenHIE Workflow (s) (Data Exchanges)
Mr Kamau is a 25 year old male patient who lives in a rural community and receives care at a local clinic that is using the OpenMRS system to record information. His demographic data has been entered into this OpenMRS and he has a unique ID at the clinic. As as result, Mr. Kamau is a registered patient in the local clinic. He has a known diagnosis of new HIV case (three years ago), new HIV disease (two years ago), and HIV on Treatment (two years ago) These diagnoses/triggers have already been reported through the CBR module to the Surveillance Officer.	The Create patient demographic record workflow is used to send the patient's demographic information to the Client Registry.
Mr. Kamau works five days a week. He is consistently compliant with his ARV medication and has had his viral load tested on a six month basis. At his current visit, his OpenMRS ID is used to find his chart electronically, and his data and chart information are made available to the health care team. He currently has an undetected viral load. At today's visit, he notes that he has had a productive cough, fever for the last few days, and night sweats since 4 weeks ago. Because of these symptoms, he receives a chest XRay, and has a sputum culture collected to test for TB. The sputum comes back positive for non-resistant TB and Mr. Kamau is started on medications at that visit. He can be treated for TB at the health care facility where he is receiving his ARV care. The health care facility where he gets care initiates his TB treatment, and reports his disease to the Surveillance Officer This care consists of oral medication which is originally initiated on a daily basis. The TB diagnosis is a trigger for a case report. Therefore after each clinic visit, data is transferred from the HIT record to a shared health record and stored in the shared health record.	Send Case Report to SHR

Scenario Two Steps - Testing case-based reporting trigger	OpenHIE Workflow (s) (Data Exchanges)
Mr Masane is a 35 year old male patient with presents to the clinic with unintentional weight loss over the last few weeks. He notes that he 'doesn't feel like eating'. He denies any cough, fever, or rigors. He tested for HIV two years ago and was negative at that time. He has had malaria in the past, but has no symptoms of that at the current time.	The Create patient demographic record workflow is used to send the patient's demographic information to the Client Registry.

OHIE Components

- Client Registry
- Shared Health Record (SHR) - What constitutes an OpenHIE SHR?
- Interoperability Layer

Other HIS Components

- EMR

Mr Masane has been getting care at this clinic for the last few years. His BMI has consistently been around 25. The clinic staff examines Mr Masane today and notes that he has a BMI of approximately 21. The health care team discuss the possibility of multiple different causes of his symptoms, including change in diet, recent change in his job situation, and disease states including GI causes, HIV and/or anemia. He undergoes a few tests; he is found to be mildly anemic with a hemoglobin of 10. He is also tested for HIV which is found to be positive on lab testing. The positive HIV test is a trigger for a case report. Therefore after each clinic visit, data is transferred from the HIT record to a shared health record and stored in the shared health record.	Send Case Report to SHR

Health Worker Alerting

Immunization - Health Care Worker Alerting

Scenario Steps	OpenHIE Workflow(s) (Data Exchanges)
A pregnant mum gives birth to her baby boy during an at-home delivery in her village.	
The next day, a designated elder (a village "officer") in the woman's village uses his mobile phone to send an SMS message to an MOH-supported application. The message records that a male child has been born in his village the previous night.	
The elder receives an ID code as an SMS reply and he writes down and gives this code to the child's mum with a reminder that she needs to take the baby for its immunizations.	

OHIE Components

Other HIS Components

- Mobile SMS Application

Workflows

- Send health worker alert workflow - V2.0

Immunization 2

https://docs.google.com/document/d/1laGAN3tqJ04Jv0TBFh80YGgikiM5XXP7V4WBDXwJJKw/edit#heading=h.b97l0su062m

OHIE Components

Other HIS Components

Workflows

Interoperability; antenatal care, child immunization case-based malaria care

Scenario Steps	OpenHIE Workflow(s) (Data Exchanges)
A young woman suspects that her husband has been unfaithful and, as a precaution, attends at a voluntary counselling and testing (VCT) clinic in a nearby village to be tested for HIV. The nurse at the VCT clinic uses the local electronic medical records system (EMR-1) to confirm the woman's identity based on her health ID#. The EMR-1 system, in the background, retrieves the woman's demographic record from the national health information exchange (HIE).	
The nurse counsels the woman and obtains her consent to do a rapid HIV test. The test result is positive for HIV – as is the repeat test. The nurse advises the young woman regarding what should be the course of her HIV care and records the information regarding her test results in the EMR-1 system. The information in the local EMR-1 is updated to the national HIE.	

OHIE Components

- Interoperability Layer (IOL) - What constitutes an OpenHIE IOL?

Other HIS Components

- EMR
- Mobile Health App

Workflows

the young woman discovers that she has become pregnant. A community health worker (CHW) in the young woman's village notes her condition and discusses with her that she should attend at the district antenatal care (ANC) clinic in a nearby village. Because of her sense of stigma, the young woman has told no one of her HIV+ test result; she does not share this information with the CHW. The CHW uses her mobile phone to access an mHealth application developed by the Ministry of Health (MOH) to manage the national maternal care registry. The CHW sends an SMS message to an MOH short-code indicating the young woman's ID# and the finding that she is pregnant. The reply SMS message from the mHealth application indicates to the CHW that the young woman should urgently attend at the ANC clinic. The CHW re-emphasizes the instructions to the young woman to go the ANC clinic and helps her make arrangements for the short trip.	
The young woman attends at the ANC clinic. Upon her registration there, the ANC nurse uses the clinic's electronic medical records system (EMR-2) to establish the woman's health record in the system. In the background, EMR-2 accesses the national HIE to confirm the woman's demographic information and to retrieve a summary of her health information. During the woman's antenatal care visit, the nurse reviews with her the important ways that care during her pregnancy will impact the health of her baby. The ANC doctor then counsels her regarding the prevention of mother-to- child transmission (PMTCT) protocols that will help the woman's baby be born without HIV and orders for her a course of antiretroviral (ARV) medications. The young woman begins her course of antiretroviral medicines and starts making plans for having her delivery in a facility that can deliver her baby according to the PMTCT guidelines.	

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Register Patient

OHIE Components

Other HIS Components

Workflows