Shared Health Record

Overview

According to OpenHIE standards a Shared Health Record (SHR) should fulfill the following four functions for client EMRs (like OpenMRS):

1. Store a useful subset of clinical data
2. Retrieve relevant data as needed
3. Update the SHR with relevant data as needed
4. Feed into reporting/analytics pipelines

Use Cases

Primary

- A point-of-care system (i.e., LIMS, EMR, etc.) should be able to store a normalised subset of clinical information items (that which is deemed appropriate to share) from a patient’s clinical record on that system.
  - We should be able to store Observations, Allergies, Care Summaries, Care Plans etc.
  - Store unstructured data along with associated metadata, e.g. a PDF document or digital image with attached patient demographic information
- A client system should be able to retrieve relevant portions (up to the full set) of this clinical record as needed.
  - Retrieve a longitudinal list of patient clinical information by type, date or other query parameters
- A client system should be able to update existing clinical records while keeping the version history
- System should acknowledge requests from a client system and provide appropriate information in the event of errors
- The system should be validated against the health needs of low resource settings, e.g. HIV, TB, Maternal Care.

Secondary

- Data should be available for extraction for secondary use.

Workflows

The Shared Health Record consists of a subset of workflows within the OpenHIE Framework, specifically:

- Save patient-level clinical data workflow – V2.0
- Query patient-level data workflow – v2.0
- Query for Aggregate data from the SHR
- Aggregate data exchange from patient level system to HMIS

Required FHIR Module Resources

US Core Profile:

(Resources are currently implemented in FHIR, not necessarily the entire profile)

- US Core AllergyIntolerance Profile
- US Core Condition Profile
- US Core DiagnosticReport Profile for Laboratory Results Reporting
- US Core DiagnosticReport Profile for Report and Note exchange
- US Core Encounter Profile
- US Core Laboratory Result Observation Profile
- US Core Location Profile
- US Core Medication Profile
- US Core MedicationRequest Profile
- US Core Patient Profile
- US Core Pediatric BMI for Age Observation Profile
- US Core Pediatric Weight for Height Observation Profile
- US Core Practitioner Profile
- US Core Provenance Profile

(Resources not currently implemented)

- US Core CarePlan Profile
- US Core CareTeam Profile
- US Core DocumentReference Profile
- US Core Immunization Profile
- US Core Implantable Device Profile
- US Core Organization Profile
- US Core Procedure Profile
- US Core Smoking Status Observation Profile
OpenHIE SHR recommended dataset:

- Items related to a patient daily care, such as:
  - Clinical Observations
  - Care summaries
  - Allergies
  - Medications that have been prescribed to the patient
  - Clinical Notes (Referral/provider) (not coordination of referrals)
  - Medical histories (we are implementing an SHR to store the history)
  - Quality of life indicators (these are observations)
  - Textual Care/Action Plans (for Asthma, Diabetes, PMTCT etc.)
  - Nutritional / mental health assessments (these are observations)
  - Problem Lists / Diagnosis / Health conditions
  - Radiology impression / report (not entire image, may be a pointer to the image)
  - Reportable items - make sure we collect enough for the next level up
  - Record a clinically relevant event to allow us to record details that something has happened
  - Lab report (without full lab sample details)

- Immunizations

**Required FHIR Module Functionality**

**Store a useful subset of clinical data**
Send a bundled response with the requested/required resources

**Retrieve relevant data as needed**
Create/Update functionality

**Maintaining Resource Identity**
Support for Unstructured Document Transfer (XDS.b? CDA?)
US Core DocumentReference Profile

**Update the SHR with relevant data as needed**
Subscriptions?
Custom OpenMRS Scheduled Task?

updatedSince

elements parameter support (to keep bundle size down)

**Feed into reporting/analytics pipelines**
Async FHIR Support
Pipeline support?

Coding conversions (terminology)

Version support

**Relevant FHIR Docs**

**Relevant Talk Posts**

**Relevant Github Links**