

# Integrating Cancer Reporting

Integrating Cancer Reporting: [https://whova.com/portal/webapp/hlfhi\\_202009/Agenda/1212535/](https://whova.com/portal/webapp/hlfhi_202009/Agenda/1212535/)

## Scenarios (Integrating Cancer Reporting Standards)

### Scenarios (Cancer Reporting)

Cancer Reporting requires inclusion of cancer pathology and biomarker test results, physician and facility information, and patient demographics. This activity involves leveraging the FHIR REST API to share the specific Integrating the Healthcare Enterprise (IHE) Structured Data Capture (SDC) form between the laboratory and public health cancer registry. Pathology laboratories are already deploying the College of American Pathologist (CAP) SDC forms to collect structured cancer pathology and biomarker data.

The ultimate goal is to test the use of the FHIR REST API to share the CAP SDC form and create FHIR Observations based on the CAP SDC form, so that each observation will be queryable on the Public Health Cancer Registry FHIR server. SDC is already in production as the new pathology-reporting standard in North America. Enabling interoperability between SDC and FHIR will encourage easier data retrieval at a more granular level, better data collection, and easier aggregated reporting to public health agencies.

#### Use FHIR REST API to GET the CAP SDC form

Action: Laboratory will use the existing FHIR REST API to request using GET a blank CAP SDC form using the GET to be populated by the laboratory system. Form Manager FHIR Server will host CAP SDC forms and upon receiving the GET command will return a FHIR Document Reference with the blank SDC Form included as an attachment. Success Criteria: Laboratory receives the blank CAP SDC form using the FHIR REST API (FHIR Document Reference with the blank SDC form as an attachment) from the Form Manager FHIR Server.

#### Populate and share CAP SDC form

Action: Laboratory system populates CAP SDC form and uses FHIR REST API to POST the completed CAP SDC form in a new FHIR Document Reference with populated SDC Form as an attachment to the Public Health FHIR server. Precondition: Laboratory has blank CAP SDC form for completion. Success Criteria: Public Health FHIR server receives FHIR Document Reference with populated CAP SDC form attached from Laboratory.

#### Create FHIR Observations from SDC form

Action: Public Health FHIR server will store the populated CAP SDC form in a database for the cancer registry program to query data. When Public Health FHIR server receives a QUERY for the CAP SDC form data, then the SDC Form elements will be used to create FHIR Observations. This might include writing data captured in SDC to Minimal Common Oncology Data Elements (mCODE) resources. Precondition: Public Health FHIR server receives FHIR Document Reference with completed CAP SDC form included as an attachment from laboratory. Success Criteria: CAP SDC form XML data is stored in database on Public Health FHIR server for querying by cancer registry program. Query request creates FHIR Observations with requested data and returns data to cancer registry.

#### Create a Discretely Mapped Electronic Pathology Report

Action: Laboratory system uses FHIR REST API to POST a discretely mapped electronic pathology FHIR bundle to Public Health FHIR server. This might include writing data captured in SDC to mCODE resources. Precondition: Laboratory has mapped completed CAP SDC form to discrete electronic pathology report FHIR data elements and creates a FHIR bundle. Success Criteria: Cancer registry system and/or electronic health record (EHR) system retrieves the discretely mapped electronic pathology FHIR bundle from the Public Health FHIR server.

#### Extracting SDC form from DocumentReference to HTML Page

Action: Extract an SDC form from a FHIR DocumentReference and display it as a form in an application or using XHTML to transform into a webpage. The receiving system cannot display an SDC form natively. The DocumentReference has an attached transform inside the IHE SDC package as a helper file or link or XHTML SDC Form that can be displayed by the receiving system. Alternate: The transform, stylesheet, and form are submitted as a FHIR Transaction Bundle. Precondition: SDC form in a DocumentReference. Success Criteria: able to display SDC form that was submitted using a DocumentReference. Notes: Put an SDC rendering framework into a HAPI, or FHIR .NET API extension(?) to the framework and allow people to extract and render an SDC form from a DocumentReference.

#### Extracting an SDC form from DocumentReference to Database

Action: An SDC form is submitted with data collected by a clinician on a specific cancer pathology report. The form is submitted in a DocumentReference and must be unwrapped so that it can be processed. Extract an SDC form from a FHIR DocumentReference and save it to a database. Precondition: SDC form in a DocumentReference. Success Criteria: Save SDC data submitted inside a DocumentReference to a database. Notes: Put an SDC rendering framework into a HAPI, or FHIR .NET API extension(?) to the framework and allow people to extract and render an SDC form from a DocumentReference. Investigate if this already exists for C-CDA.

#### Bundles containing DiagnosticReport and supporting Resources

Action: Send a bundle of data containing a DiagnosticReport about a single patient including Patient, Practitioner, Observations and ImagingStudy. DiagnosticReport.presentedForm is an Attachment resource and can be treated the same as DocumentReference.content.attachment to capture the IHE SDC form. This use case may include integrating ImagingStudy for Radiology or Digital Pathology use cases. Precondition: Have relevant resources available including Observations, IHE SDC form prepared for attachment, Patient, Practitioner, and Imaging Study. Success Criteria: Creating and submitting DiagnosticReport to FHIR endpoint.