

SEER*DMS MEANINGFUL USE WORKGROUP

Update

Background

- Committee Chair
 - Brent Mumphrey
 - Louisiana Tumor Registry
 - IT Project Coordinator
- First meeting was July 2016
- Participants
 - 9 State Registries
 - Louisiana, New Jersey, New York, New Mexico, Iowa, Utah, Georgia, Connecticut, Hawaii
 - IMS
 - NCI

Workgroup Objective

- What is the best use of the physician data/CDA messages received through the Meaningful Use Initiative?
 - Casefinding?
 - Updated treatment information?
- To answer this, we first need to decide:
 - How do we process the CDA messages received
 - Evaluate the quality of data contained in the CDA messages

How to process the CDA message?

- Option 1 – Use external tool to pre-process the messages before add to DMS
- Option 2 – Create a CDA import and workflow for the CDA messages in DMS

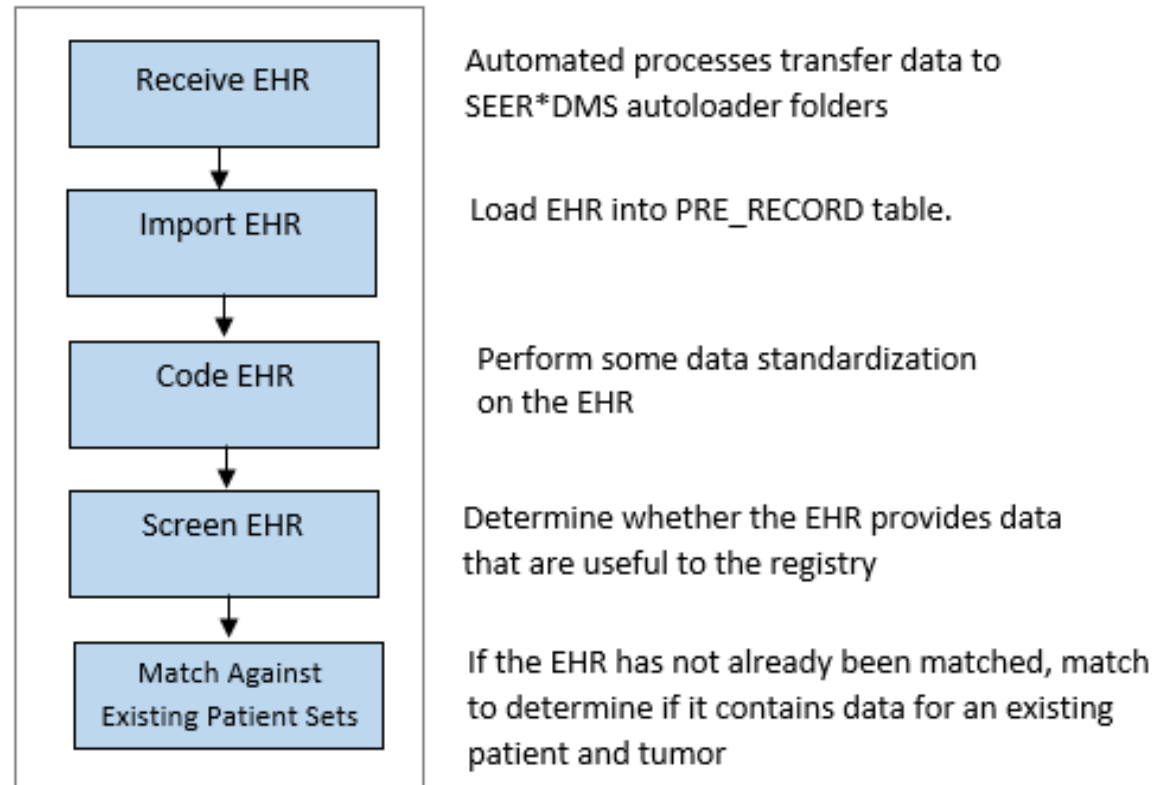
Pre-processing CDA Externally

- CDC Registry Plus™ eMaRC Plus
 - Wendy Blumenthal gave us a demo of eMaRC's capabilities
 - CDA messages are imported into the software
 - Reports are validated to make sure they contain all required fields
 - Parses data elements
 - Maps and translates to NAACCR elements
 - Consolidates CDA messages for same patient and cancer
 - Exports in NAACCR format for import into Registry database

SEER*DMS Import/Workflow/Data Viewer

- IMS completed:
 - CDA import for SEER*DMS
 - Records are stored in the PRE_RECORD table like the claims data
 - All CDA data elements are currently stored
 - Simplified CDA Workflow
 - Mechanism for viewing CDA data in SEER*DMS

CDA Workflow in SEER*DMS



Viewing CDA Data in SEER*DMS

- Data Search / Data viewer
 - The PRE_RECORD table can be queried directly and the results can viewed in the data search.
 - All PRE_RECORD display identifiers will link to the data viewer.
- EHR tab in the Patient Set Editor
 - All linked CDAs are displayed in the EHR tab in the right panel
 - Proof of concept for now; will expand to show more types of information in the future.
- Popup viewer using XSLT
 - This is a complete representation of the original CDA XML record.
 - Some of these fields are not currently stored in the database, but we can use this interface to help determine what fields should be mapped.

Data Viewer

- All types of PRE_RECORD data (CDA, Claims, etc.) can be viewed in this interface.

The screenshot displays the EHR-440 Data Viewer interface. At the top, the title "EHR-440" is centered. Below it, there are several input fields and buttons: "Import" with value "IMP-34512", "Index" with value "0", "File" with value "C:\Users\j..._2016_01_13_0001.xml", and an "HTML" button. The "Facility" field contains "FAC-9999: UNKNOWN HOSPITAL". Below these are "Loaded" and "Modified" timestamps, both set to "06-08-2017 03:27:14PM" and "06-08-2017 03:27:15PM" respectively.

The "Matching" section includes a "Patient" field with "PAT-00245261", a "CTC" field with "No CTC matched", a "Score" field with "2000", and an "ID" field with "MB001". The "Desc" field contains the text "SSN, Date of Birth, Last Name (Patient or Maiden or Alias), First Name (Patient or Alias or Nickname)".

At the bottom, there are two tabs: "JSON" and "Original". The "JSON" tab is active, showing a JSON object with the following structure:

```
{
  "title" : "PATIENT MATCH",
  "authors" : [
    {
      "author_npi" : "1104813971",
      "author_facility" : {
        "fac_name" : "Dermatology Clinic",
        "fac_addr" : [
          {
            "city" : "Baton Rouge",
            "state" : "LA",
            "country" : "US",
            "zip" : "70802"
          }
        ]
      }
    }
  ]
}
```

EHR Tab - Reports

ID	CTC	Event Start	Event End	Title
C00 03-12-2014				
- Hem/Onc Life Ctr, LLC				
EHR-350		03-25-2014	01-15-2015	Hem/Onc Life Ctr, LLC Cancer Event Report for 1/15/2015
EHR-351		03-25-2014	01-15-2015	Hem/Onc Life Ctr, LLC Cancer Event Report for 1/15/2015
EHR-352		03-25-2014	01-15-2015	Hem/Onc Life Ctr, LLC Cancer Event Report for 1/15/2015
EHR-353		03-25-2014	01-15-2015	Hem/Onc Life Ctr, LLC Cancer Event Report for 1/15/2015
EHR-83		03-25-2014	01-15-2015	Hem/Onc Life Ctr, LLC Cancer Event Report for 1/15/2015
EHR-559		03-25-2014	01-22-2015	Hem/Onc Life Ctr, LLC Cancer Event Report for 1/22/2015
EHR-1265		03-25-2014	01-29-2015	Hem/Onc Life Ctr, LLC Cancer Event Report for 1/29/2015
EHR-1934		03-25-2014	02-05-2015	Hem/Onc Life Ctr, LLC Cancer Event Report for 2/5/2015
EHR-1952		03-25-2014	02-05-2015	Hem/Onc Life Ctr, LLC Cancer Event Report for 2/5/2015
EHR-1953		03-25-2014	02-05-2015	Hem/Onc Life Ctr, LLC Cancer Event Report for 2/5/2015
EHR-1954		03-25-2014	02-05-2015	Hem/Onc Life Ctr, LLC Cancer Event Report for 2/5/2015
EHR-1955		03-25-2014	02-05-2015	Hem/Onc Life Ctr, LLC Cancer Event Report for 2/5/2015
EHR-1805		03-25-2014	02-12-2015	Hem/Onc Life Ctr, LLC Cancer Event Report for 2/13/2015
EHR-2235		03-25-2014	02-19-2015	Hem/Onc Life Ctr, LLC Cancer Event Report for 2/20/2015

EHR Tab

- Displays linked CDA records when looking at a patient set.
- The “Reports” section shows each individual CDA record linked to the patient set.
- The “Demographics” sections shows linkage information.
 - The was important for verification when we worked with claims since there was no SSN to match with.
 - CDA have SSN so the matching is much more straightforward.
- The “Text” section is designed to show how text is repeated so many times.
 - This section will likely be removed in the future.
 - The text should eventually be shown in the existing text tab along with other record text.

EHR Tab - Demographics

<< Alerts Text Edits Images Comments EHR

Demographic

Count	Name	SSN	DOB	Sex	Address
Patient Set					
			09-16-1956	2	ALEXANDRIA, LA 71303
EHR					
14			09-16-1956	2	ALEXANDRIA, LA 71303-0000

EHR Tab - Text

The screenshot displays an EHR interface with a navigation bar at the top containing tabs for Alerts, Text, Edits, Images, Comments, and EHR. The 'Text' tab is selected. Below the navigation bar, there is a search area with a dropdown menu set to 'Text - Progress', a 'Keywords' input field, a search icon, and a 'Reset' button. The main content area shows a list of notes for a patient at 'Hem/Onc Life Ctr, LLC'. Each note entry includes a date and a summary of the text. The notes are:

- Notes from 07-26-2012 to 01-26-2015**
Thu, July 26, 2012 In May 1997, the patient was found to have an abnormal mammogram on the right. She had no palpable abnormalities associated with this abnormality. On June 12, 1997, she had a biopsy of this lesion, which was positive for poorly differentiated infiltrating ductal carcinoma. The tumor was 3.5 cm in maximum
- Notes from 07-26-2012 to 01-26-2015**
Thu, July 26, 2012 In May 1997, the patient was found to have an abnormal mammogram on the right. She had no palpable abnormalities associated with this abnormality. On June 12, 1997, she had a biopsy of this lesion, which was positive for poorly differentiated infiltrating ductal carcinoma. The tumor was 3.5 cm in maximum
- Notes from 07-26-2012 to 01-26-2015**
Thu, July 26, 2012 In May 1997, the patient was found to have an abnormal mammogram on the right. She had no palpable abnormalities associated with this abnormality. On June 12, 1997, she had a biopsy of this lesion, which was

Data Evaluation

- LA data was used for testing – 4200+ CDA message
- Most reports were created in 2015

creation_date	num_cda	pct_match_pat	pct_match_ctc
2017	3	66.67	0.00
2016	207	33.82	0.00
2015	4024	95.55	34.92

- The service dates are also primarily from 2015

service_date	num_cda	pct_match_pat	pct_match_ctc
	210	34.29	0.00
2015	4020	95.55	34.93
2014	4	100.00	25.00

- Almost all CDA records have SSN, so match rates are excellent
 - 89% matched at patient level
 - 38% matched at tumor level

CDAs with Duplicate Information

- Quite often there are sets of CDAs from the same doctor which have all the same information; each one adds just a bit of additional information.
- In theory, the latest one (based on report date) linked to patient for a specific doctor and start date should have all the information that is needed
- Some examples in LA have over twenty linked CDAs from the same doctor that seem like they can be trimmed down to one.

Next Steps

- CDA functionality has been added to the TEST server of all participating Registries
- Registries will start evaluating their data
- Questions needed to be answered:
 - What CDA data items need to be stored in PRE_RECORD table and which can be removed from the import
 - What kind of information would be helpful to summarize from the CDAs when viewing a patient set?
 - What are the main use cases for CDAs within SEER*DMS?
 - Missing treatment?
 - Missing cases?
 - Miscoded patients?

QUESTIONS?
