PDMP FHIR® Implementation Guide and Pilots Overview

Project Briefing
February 20th, 2019
Agenda

• Introductions
• Overview of ONC
• Background on HL7® FHIR®
• Project Overview
• Project Phases
• Pilot Sites and Pilot Approach
• Pilot Example – LogiCoy Web App
Overview of ONC

• The Office of the National Coordinator for Health Information Technology (ONC) is the principal federal entity charged with coordination of nationwide efforts to implement and use the most advanced health information technology and the electronic exchange of health information.

• ONC is organizationally located within the Office of the Secretary for the U.S. Department of Health and Human Services (HHS).
ONC’s Opioid-related Efforts

- ONC’s current work focuses on utilizing health IT to help reduce the inappropriate use of opioids and opioid-related harms:
  - Prescription Drug Monitoring Program (PDMP) & Health IT Data Integration – Data Standardization
  - Clinical Decision Support (CDS)
  - Electronic Prescribing of Controlled Substances (EPCS)
  - ONC Health IT Certification Program to Support Care Continuum
  - Policy Vehicles, Coordination, Stakeholder Engagement
The FHIR® (Fast Healthcare Interoperability Resources) is an HL7® standard for exchanging healthcare information electronically. FHIR leverages the latest web standards and keeps a focus on ease of implementation.

HL7® FHIR® solutions are built from a set of modular components called "Resources". These resources are composed into working systems.

FHIR® Supports 4 interoperability paradigms:

- Most implementations today focus on REST
HL7® FHIR® features:

» Open Source: community includes developers, vendors, health care providers

» Extensible: resources can be extended in the framework

» Composable: resources are combined into profiles

» Documentation: included as part of the development process

» Support for modern web standards: XML, JSON, HTTP, Atom, OAuth, REST.

» Readable: every resource has a human-readable text representation

» Secure: the SMART specification can be used in systems and stand-alone apps
The ONC PDMP FHIR project has developed and tested a standard that:

- Can enable low-cost access to PDMPs with minimal infrastructure requirements
- Is an open, non-proprietary HL7® standard
- Can be used in conjunction with existing standards (PMIX, NCPDP)
- Can support non-proprietary Clinical Decision Support (CDS) tools in development
- Is currently being piloted in several states
PDMP Standards Mapping and Balloting - Phases

- **Phase 1 – PDMP FHIR Mapping**
  - 1/4/2018 - 6/4/2018
  - IG balloted and approved at HL7®

- **Phase 2 – PDMP FHIR Pilots**
  - Piloting with 3 states
Phase 1 – PDMP FHIR Mapping

Objective

- Develop a PDMP Implementation Guide (IG) to enable EHRs to access PDMPs using the HL7 FHIR standard and ballot the IG via HL7

Deliverables

- Mapping of HL7® FHIR® to NCPDP Script 10.6 and to PMIX 1.0 for request and response transactions
- PDMP IG (balloted and approved in June 2018)
PDMP IG Details

- Project used the US Core profiles and the US Meds profiles to request and receive PDMP data using FHIR® resources (no new FHIR® profiles were created)
- Request: 16 Data Elements mapped between PMIX and FHIR®
- Response: 46 Data Elements mapped between PMIX and FHIR®
- The PDMP FHIR IG is built on FHIR® R3
Phase 2 – PDMP FHIR Pilots

Objective

- Provide support for the PDMP standards mapping and balloting efforts and refine the FHIR® standards through pilot testing

Goals:

- Implementation and testing of the PDMP FHIR® IG
- Refine mapping in the PDMP FHIR® IG (based on pilot findings)
- Revise and update the PDMP FHIR® IG based on project activities and pilot testing
- Update (and re-ballot if necessary) the updated PDMP FHIR IG at HL7®

Deliverables

- An updated PDMP FHIR® IG with pilot site input (and any other sources)
Pilot Scope

• Core Tasks
  » Utilize HL7® FHIR® PDMP IG to implement both routes in test environments
    – Direct route testing: FHIR® server to be hosted at IL PDMP for IL
    – Intermediary route testing: FHIR® server to be hosted by LogiCoy for KY & UT
  » Capture lessons learned to update and refine the PDMP FHIR® IG

• Potential Tasks
  » Integration of PDMP data into EHR systems via FHIR® (in sandbox)
  » Gathering clinician feedback on use
Pilot Sites

• Illinois (Department of Human Services)
  » Path: Direct to PMP

• Kentucky (Department of Health)
  » Path: Intermediary (RxCheck) along with LogiCoy converter

• Utah (Department of Health)
  » Path: Intermediary (RxCheck) along with LogiCoy converter
Pilot Approach

• **Direct Route (IL)**
  
  » FHIR® server at PDMP data store
    
    – Outside FHIR® clients (e.g., a SMART App) connect to FHIR® server
    
    – FHIR® server directly connects to data store
    
    – FHIR® server returns results to FHIR clients
Pilot Approach

- **Intermediary Route (KY, UT)**
  
  » FHIR® converter upstream from intermediary
    
    - Outside FHIR® clients connect to LogiCoy FHIR converter
    
    - FHIR® converter translates from FHIR, queries data store via intermediary, obtains results, translates back to FHIR
    
    - FHIR® converter returns results to FHIR clients
Illinois Pilot - Utilizing the LogiCoy SMART on FHIR® web app

- Using test data from the Illinois PDMP
- This app can also connect to other states via RxCheck
- There are iOS and Android versions of the web app

*Note: This SMART on FHIR® app was developed independently by LogiCoy and is not an ONC product nor sponsored by ONC.*
IL LogiCoy Web App: Prescriptions View

Patient Prescription Analysis

Sherlock Holmes
- Age: 65 years 0 months
- D.O.B: 01-08-1954
- Address: 6890 HARTWIG DR, 40W553 R...
- Date: 01-08-2019

Prescriptions
- Total: 50
- Prescriptions: 16
- Prescribers: 15
- Pharmacies: 2

Prescriptions Details

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**Patient Prescription Analysis**

**Sherlock Holmes**
- **Age:** 65 years 0 months
- **D.O.B.:** 01-06-1954
- **Address:** 6890 HARTWIG DR, 40W553 R...
- **Date:** 01-08-2019

- **50 Prescriptions**
- **16 Prescribers**
- **15 Pharmacies**

**MME Details**
- **Average MME/day:** 31.75
- **Current MME/day:** 0.00

**Risk Analysis**

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IL LogiCoy Web App: Prescribers View
Questions and Discussion
Contact Information

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