Lantana
CONSULTING GROUP

CDA ←→ FHIR TRANSFORMS

FHIR Application Roundtable Presentation

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- Quality and Public Health Reporting expert

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- Information Analyst
- FHIR and CDA expert

Mission:

- Improve healthcare through health information technology (IT)
- Lead through our consulting and volunteer practice

Value Proposition:

- Interoperability for care coordination, system integration, and a comprehensive, longitudinal record
- Information extraction for measurement and reporting, decision support, and improvement

Services:

- Strategic planning
- Implementation
- Specification development and testing

Project Background

An ONC High Impact Pilot grant

- Create a pharmacist care plan (PhCP) to support the move to value based care
- Pilot with implementers to test and refine a standard for pharmacist care plans
- Collaborators:
  - Community Care of North Carolina (CCNC)
  - PioneerRx
  - QS/1

Project Objectives

Improve practice efficiency

- Eliminate duplication of effort by pharmacists
- Allow pharmacists to focus on high risk patients
- Support greater patient engagement

Improve clinical quality

- Increase structured data capture
- Support shift to automated, electronic quality measurement

Support interoperable exchange

- Close a gap in current standard specifications
- Support sharing of structured data from patient interactions between providers, pharmacist and payers

Work Products

Three key tools placed into the public domain:

- CDA (Clinical Document Architecture) and FHIR® (Fast Health Interoperable Resources) implementation guides (IGs) for PhCPs
- A library of bi-directional transformations converting PhCP FHIR to and from PhCP CDA
- PhCP FHIR and PhCP CDA training for implementers delivered in person and materials delivered to ONC

Dual CDA/FHIR IGs

- First dual CDA/FHIR IG development project
- Included CDA and FHIR examples
- Demonstrated a viable pathway for CDA/FHIR integration and transition planning

CDA ←→ FHIR Transformations

- Open Source
- Targets the PhCP document type, but extendable to others
- Bi-Directional
  - FHIR to CDA: Comply with existing C-CDA standards while moving early to FHIR
  - CDA to FHIR: load FHIR systems and servers with C-CDA data
- https://github.com/lantanagroup/PhCP-Public-Transforms

CDA to FHIR Demo

- **Live**
  - Convert CDA document to FHIR document using XSLT
  - Convert FHIR documents to CDA document using XSLT.

CDA to FHIR Transformation

```
<observation cl
  <!-- [C-CDA R
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  <id root="1a6
  <code code="5
    codeSystemN
    <translatio
      displayNa
  </code>
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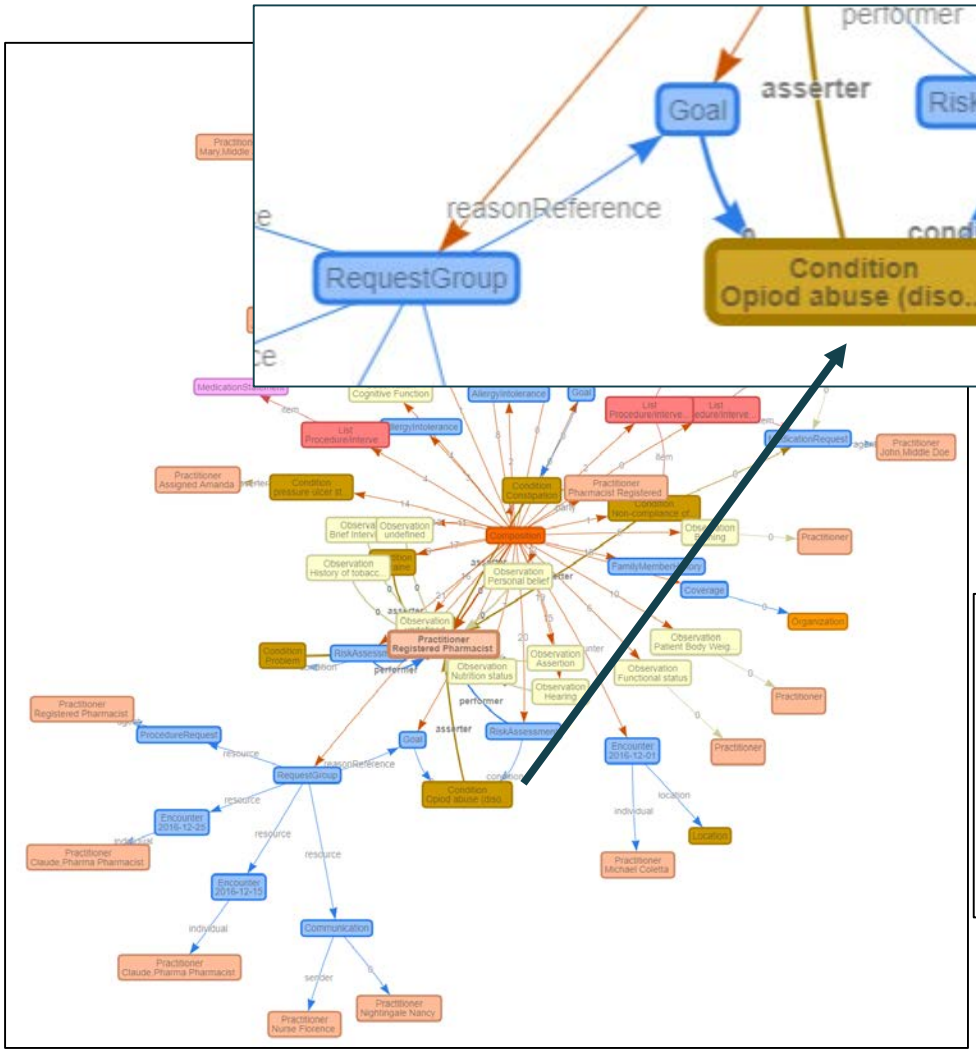
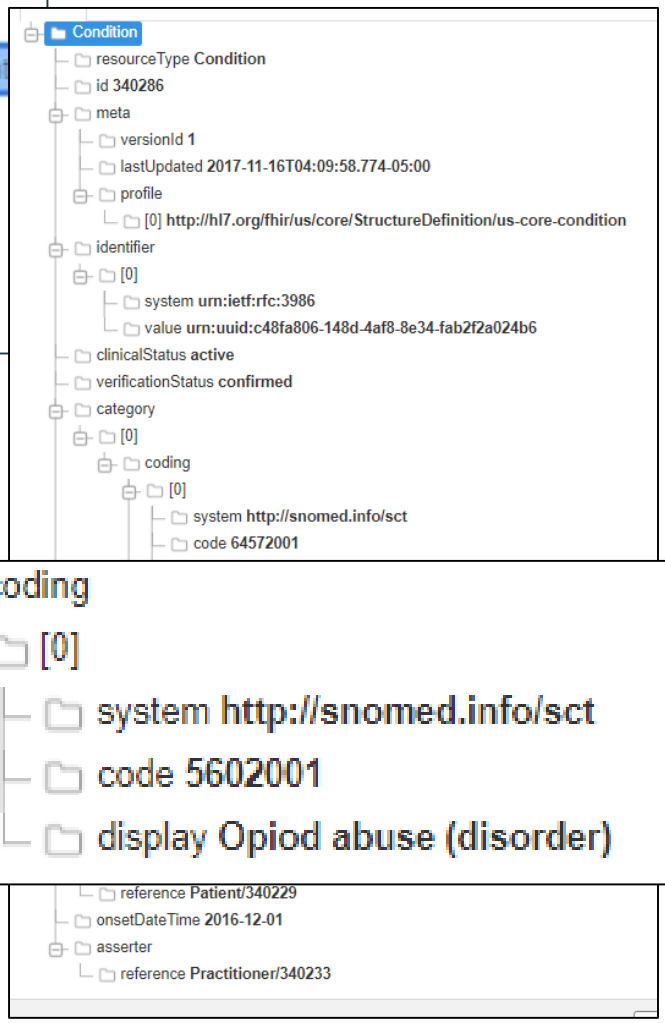
ClinFHIR Resource Graph





Successful ONC High Impact Pilot

- Pilot Period: June 1 – August 31, 2017
- Vendor interest: grew from three initial adopters to 22 participating vendors
- ~4,000 messages received from 100+ pharmacies

Successful incorporation of structured pharmacy data into the clinical record

Alignment efforts in IGs allowed for easy uptake in CDA or FHIR

Uptake of PhCPs

Month	Number of PhCPs Shared	Participating Pharmacies
June	537	30
July	999	61
August	2308	53
September	2035	88
October	3837	102