

# Using HL7 FHIR to support interoperability: Lessons from Intermountain Healthcare

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# Intermountain Healthcare

- Integrated Health Delivery Organization
  - HQ in Salt Lake City, UT
  - Spans all of Utah and Southern Idaho
- 22 Hospitals, 185+ clinics
- Strong Hx of Informatics Innovation (homegrown solutions)
- Recent implementation of Cerner EMR

# A New Direction for Health IT



- *Create an open, standards-based API to iCentra*
- *Support standards efforts for interoperability*

## Coincidentally...



- DSTU 1 published by HL7 in Feb 2014
- Intermountain & Cerner agree on FHIR as API standard



- Intermountain & Cerner agree on SMART as app interop standard
- Joint support for SMART on FHIR
- Participation (w/ other vendors) at HIMSS 2014, demonstrating interoperable SMART on FHIR apps

# Intermountain / Cerner Working Relationship

- Joint oversight committee
- Weekly & Monthly meetings
- Project review/approval process
- Cerner develops FHIR services
- Intermountain develops requirements, FHIR profiles, apps
  - Cerner helps with FHIR resource (data) mapping
- Participation with Argonauts
  - Recently joined Argonaut FHIR Bulk Data Access Workgroup
- HIMSS coordination
- “Think Days”

# Intermountain Organization

- Interoperability Group
- Separate technical support group(s)
- Modeling/Terminology
- Architecture group re-forming
- Oversight by clinical operations
- Involvement with standards organizations

# Accomplishments

- FHIR DSTU 2 dev & production servers
- OAuth support
- SMART app integration in iCentra
- Production release of 2 FHIR-based apps
  - PE Diagnostic/Treatment app in development
- Sharing of app enhancements across orgs/EHRs
- Use of FHIR resources for HIE, Telehealth, PH reporting
- Implementation of Publish/Subscribe services\*
- SMART on FHIR sandbox development environment

## Lessons Learned I

- EMR Vendor provides a fairly extensive set of FHIR resources...
- ...Vendors are cautious & conservative at this point
- ...Need support for additional use cases and Write capability



## Lessons Learned II

- Still need some expertise on vendor data
- Data are not always where you think they are, and they don't always come back as expected

## Lessons Learned III

- Lack of specificity in FHIR Resources
  - *US Core FHIR Profiles not enough*
  - Need *true* semantic interoperability (FHIR Profiles)
- FHIR supports single patient/subject queries
  - Working on population-based queries and formats (*FHIR Bulk Data*)
  - Registries and Research-related efforts?

## Lessons Learned IV

- Differences in Vendor implementations of FHIR
  - Data Models
  - Search parameters and approaches
- Differences in terminology support
  - Local term mapping probably needed

## Lessons Learned V

- Interoperability of apps still in early stages
- Open source apps are NOT free
- Prioritization and Governance are key

## Next Steps

- Cerner contract v2.0
  - Pushing the “platform” approach
  - Intermountain driving architecture decisions
- Exercising additional FHIR resources and attributes
- Support for FHIR profiles
- Support for other interoperability standards
- Governance model for architecture, interoperable app dev, 3<sup>rd</sup> party eval, & implementation

# Thank You!

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