Partners in Interoperability: Clinicians
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Objectives

- Understand the basic components of FHIR
- Review the importance of common terminology
- Understand differences between abstraction and standards based queries
- Start to develop a process for information modeling
FHIR Supports 4 Interoperability Paradigms

- RESTful
- Documents
- Messages
- Services
REST

REpresentational State

Google, Twitter, FaceBook

Your favorite travel website
Your favorite travel site

Compare Cheap Flights on these Recommended Sites:

- Expedia
- CheapFareGuru
- CheapOair
- Kayak
- JustaTicket

See Rates

See price trends for your search
Calculated with 86 searches

Flight details and baggage fees

- Satisfactory Flight (8.2 out of 10)
- Very Good Flight (8.2 out of 10)
- Good Flight (7.1 out of 10)
“Resources” are:

- Small logically discrete units of exchange
- Known identity/ location
- “of interest” to healthcare
- Smallest unit of transaction
- Defined behavior and meaning
What’s a Resource?

Examples

• Administrative
  Patient, Practitioner, Org

• Clinical Concepts
  Allergy, Condition,
  Family History, Care Plan

• Infrastructure
  Document, Message, List

Non-examples

• Gender
  Too small

• History & Physical
  Too big

• Blood Pressure
  Too specific
How many Resources?

Release 1.0: 50 Resources

Release 2.0: 49 Additional Resources

Goal: 100-150 Resources
FHIR Extensions: 80/20 Rule

FHIR Resources have data elements if **80%** of existing systems include them

Extensions are the other **20%**

- Meet specific use cases
- The encoding looks no different, just not in the standard

Do it in your organization, but doesn't scale
FHIR Profiles

Profiles are implementation guides
   Built for specific use cases
   Encompass the entire scenario

Profiles include entire implementation
   Multiple Resources & Extensions
   Vocabulary/terminology/code binding

Interoperability is in using the same profile
   FHIR servers with public access to Profiles
Ah-ha moment on FHIR

Regardless of paradigm the content is the same*

It’s straight-forward to share content across paradigms
  e.g. Receive a lab result in a message.
  Package it in a discharge summary document

It also means constraints can be shared across paradigms
  e.g. Define a profile for Blood Pressure; use same resources in
  messages, documents, REST and services

* Ah-ha!!
Timeline for FHIR development

<table>
<thead>
<tr>
<th>STU* 1.0</th>
<th>STU 2.0</th>
<th>STU 3.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>2015</td>
<td>Sept 2016 in ballot</td>
</tr>
</tbody>
</table>

99 Resources
Vocabulary server
FHIR Maturity Model

50 Resources

www.FHIR.org

*Standard for Trial Use
iPhone Maturity Model

- People purchased and used the iPhone 2
- It did not have all of the features of iPhone 3
- Some features were improved, some were added
- iPhone 6 is even better, but you can still use earlier iPhones
What if you took scissors and cut a History & Physical into data elements?
Leveraging Data Collected in Clinical Care

- **Data captured in clinical care**
- **Data exchanged for care coordination**
- **Data accessed for process improvement**
- **Data accessed for clinical registries**
- **Data used in a learning health system**

Value
Clinical Information Models and FHIR Profiles

Clinical domain experts describe data concepts

Clinical information models built

FHIR profiles based on models

Implementation