FHIR

• FHIR : Fast Healthcare Interoperability Resources (Pronounced “Fire”)

• The hottest thing interoperability this year
  – Insert other jokes here...

• Based on industry best practices, with a focus on simplicity and implementability
Healthcare Standards

- Complex.... Slow...
- Hard to use and understand
- Require specialist skills, tools
- Costly
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What if it didn’t have to be like that?
REST & Resources

- REST: a pattern for using web technologies to manage information
- Resources: the building blocks that get exchanged
- Like web pages, but for computer usage
- Scalable – performance, and community
<Patient xmlns="http://hl7.org/fhir">
  <id value="glossy"/>
  <meta>
    <lastUpdated value="2014-11-13T11:41:00+11:00"/>
  </meta>
  <text>
    <status value="generated"/>
    <div xmlns="http://www.w3.org/1999/xhtml">
      <p>Henry Levin the 7th</p>
      <p>MRN: 123456. Male, 24-Sept 1932</p>
    </div>
  </text>
  <extension url="http://example.org/consent#trials">
    <valueCode value="renal"/>
  </extension>
  <identifier>
    <use value="usual"/>
    <type>
      <coding>
        <system value="http://hl7.org/fhir/v2/0203"/>
        <code value="MRN"/>
      </coding>
      <type>
        <system value="http://www.goodhealth.org/identifiers/mrn"/>
        <value value="123456"/>
      </identifier>
      <name>
        <family value="Levin"/>
        <given value="Henry"/>
        <suffix value="The 7th"/>
      </name>
      <gender value="male"/>
      <birthDate value="1932-09-24"/>
    <careProvider>
      <reference value="Organization/2"/>
      <display value="Good Health Clinic"/>
    </careProvider>
    <active value="true"/>
  </Patient>
Kinds of Resources

• Clinical Concepts
  – Allergy, Problem, Family History, Care Plan
  – Medication Management

• Administrative Concepts
  – Person, Patient, Organization, Device, Facility

• Infrastructure Functionality
  – Document, Message, Conformance/Profiling

• Financial Management
  – Claims / Reimbursement, Contract
Using Resources

• Classic Web RESTful approach
  – Simple approach led by Facebook, Twitter, etc.

• Documents / Messages
  – Same deployment as HL7 v2 / CDA
  – But common technical base

• Services (SOA)
  – Fit into existing enterprise architectures

• Portability – common structures everywhere
Extensions

• Managing extensibility is a central problem
• Everyone needs extensions, everyone hates them
• FHIR tames extensibility
  – Built in extensibility framework (engineering level)
  – Define, publish, find extensions
  – Use them
• This tames the overall specification
FHIR Ethos

• Simplicity / Web alignment
• Implementation focused
  – Reference Implementations (C#, Java, etc)
  – Publically available test servers (now)
  – Connectathons
• Freely available
  – http://hl7.org/fhir
  – Creative Commons Public Domain
Status

- 1\textsuperscript{st} DSTU published Feb 3\textsuperscript{rd} 2014
  - (Draft Standard for Trial Use)
  - Widespread Community Growth and Adoption

- 2\textsuperscript{nd} DSTU open for final ballot now
  - Changed based on implementer feedback
  - Expect to publish July/August
2nd DSTU Key Changes

• API
  – Simplify collections / transactions
  – Significant enhancements to search

• Introspection
  – Massive upgrade to capabilities

• Domain Resources
  – Simplification, enhancements
  – X new resources (all modules)
FHIR & CCDA

- CCDA is mandated by Meaningful Use
- FHIR is a new specification
- FHIR is not a replacement for CCDA (yet)
- Project to migrate CCDA content to FHIR
- Future: CCDA $\leftrightarrow$ FHIR interchange projects
- Document and data exchange will continue to co-exist
Key FHIR Projects

• SMART
  – Key integration framework for many uses of FHIR

• Argonaut
  – JASON Taskforce – API based access to data
  – Patient / Provider portals, data exchange

• HSPC
  – API based access to data
  – EHR plug-in framework
Follow Up

• Read the spec: http://hl7.org/fhir
• Follow #FHIR on Twitter
• Become part of the community:
  – Come to a Connectathon!
  – Make comments online
  – Join the FHIR email list
  – Implement it
  – Come to the next meeting (Paris in May)
FHIR

- Simple…. FAST...
- Easy to use and understand
- Standard skills, tools
- Cost-effective information sharing