HL7 is people, HL7 is ideas, HL7 is collaboration

More Than You Think
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?
Introducing FHIR

- **Fast Health Interoperability Resources**

- Pronounced “Fire”

- Based on industry best practices, with a focus on simplicity and implementability
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">
  <extension>
    <url value="http://www.goodhealth.org/consent/trials"/>
    <valueCode value="renal"/>
  </extension>
  <status value="generated"/>
  <div xmlns="http://www.w3.org/1999/xhtml">
    <p>Henry LEVIN the 7th, DOB 24-Sept 1932</p>
    <p>MRN: 123456</p>
  </div>
  <active value="true"/>
  <identifier>
    <use value="usual"/>
    <label value="MRN"/>
    <system value="http://www.goodhealth.org/identifiers/mrn"/>
    <id value="123456"/>
  </identifier>
  <details>
    <name>
      <family value="Levin"/>
      <given value="Henry"/>
      <suffix value="The 7th"/>
    </name>
    <gender>
      <system value="http://www.hl7.org/v2/0001"/>
      <code value="M"/>
    </gender>
    <birthDate value="1932-09-24"/>
  </details>
  <provider>
    <type value="Organization"/>
    <url value="../organization/@1"/>
    <display value="Good Health Clinic"/>
  </provider>
</Patient>
<Provider xmlns="http://hl7.org/fhir">
  <identifier॥,** Identifier A Human identifier for the person as this agent »
  </identifier>
  <details॥,** Provider’s personal demographics »
  </details>
  <identifier॥,** Identifier An identifier for this individual »
  </identifier>
  <name॥,** HumanName A name associated with the individual »
  </name>
  <telecom॥,** Contact A contact detail for the individual »
  </telecom>
  <gender॥,** Coding Gender for administrative purposes »
  </gender>
  <birthDate value="[dateTime]"॥,** The birth date for the individual »
  </birthDate>
  <deceased value="[boolean]"॥,** Indicates if the individual is deceased or not »
  </deceased>
  <address॥,** Address One or more addresses for the individual »
  </address>
  <photo॥,** Resource(Picture) Image of the person »
  </photo>
  <maritalStatus॥,** CodeableConcept Marital (civil) status of a person »
  </maritalStatus>
  <language॥,** The person’s proficiency level of a language »
  </language>
  <language॥,** CodeableConcept Language with optional region »
  </language>
  <mode॥,** CodeableConcept Language method of expression »
  </mode>
  <proficiencyLevel॥,** CodeableConcept Proficiency level of the language »
  </proficiencyLevel>
  <preference value="[boolean]"॥,** Language preference indicator »
  </preference>
</Provider>
Resources have 3 parts

- Defined Structured Data
  - The logical, *common* contents of the resource
  - Mapped to formal definitions/RIM & other formats

- Extensions
  - Local requirements, but everyone can use
  - Published and managed

- Narrative
  - Human readable (fall back)
Kinds of Resources

- Administrative Concepts
  - Person, Patient, Organization, Device, Facility
  - Coverage, Invoice, etc.
- Clinical Concepts
  - Allergy, Problem, Medication, Family History
  - Care Plan
- Infrastructure Functionality
  - Document, Message, Conformance/Profiling
Using Resources

- Classic Web RESTful approach
  - Simple approach led by Facebook, Twitter, etc.
- Bundles – use Atom to group them
  - Internet syndication (publish/subscribe)
  - Messages (~v2), Documents (~CDA)
- Custom Services (SOA)
  - Same content / base rules
- Portability
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](http://hl7.org/fhir)
  - Unencumbered – free for anyone to use
FHIR License

FHIR plain English license:

- FHIR is © HL7. The right to maintain FHIR remains vested in HL7
- You can redistribute FHIR
- You can create derivative specifications or implementation-related products and services
- Derivative Specifications cannot redefine what conformance to FHIR means
- You can’t claim that HL7 or any of its members endorses your derived [thing] because it uses content from this specification
- Neither HL7 nor any of the contributors to this specification accept any liability for your use of FHIR
Status

- DSTU published Feb 3rd 2014
  - Stable version for trial use
  - Subject to further change based on experience
- Widespread Community Growth and Adoption
- Demonstrations at the Interoperability Showcase (or see Harris, Cerner, Intermountain Healthcare)
- Interest from National Programs
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
- In the future, FHIR may gradually replace CCDA
Follow Up

- Read the spec: [http://hl7.org/fhir](http://hl7.org/fhir)
- Follow #FHIR on Twitter
- Become part of the community:
  - Come to a Connectathon!
  - Make comments online
  - Implement it
  - Come to the next meeting (Phoenix in May)
- Simple…. FAST...
- Easy to use and understand
- Standard skills, tools
- Cost-effective information sharing