HL 7 FHIR® and the Future of Interoperability

January 25, 2017
2pm – 3pm ET
Housekeeping Issues

- All participants are muted
  - To ask a question or make a comment, please submit via the chat feature and we will address as many as possible after the presentations.

- Audio and Visual is through www.readytalk.com
  - If you are experiencing technical difficulties accessing audio through the web, there will be a dial-in phone number displayed for you to call. In addition, if you have any challenges joining the conference or need technical assistance, please contact ReadyTalk Customer Care: 800.843.9166.

- Today’s slides will be available for download on the eHI Resource page at: https://www.ehidc.org/resources/eventsummaries
Agenda

• Welcome and Introductions
  – Jennifer Covich Bordenick, CEO, eHealth Initiative

• Discussion & Comments
  – Russell Leftwich, MD
    • Senior Clinical Advisor for Interoperability, InterSystems and Adjunct Assistant Professor of Biomedical Informatics, Vanderbilt University
  – Charles Jaffe, MD
    • Chief Executive Officer, HL7

• Questions & Answers from Audience
Speakers

Charles Jaffe, MD
Chief Executive Officer, HL7

Russell Leftwich, MD
Senior Clinical Advisor for Interoperability, InterSystems and Adjunct Assistant Professor of Biomedical Informatics, Vanderbilt University
Overview of eHealth Initiative

• Since 2001, eHealth Initiative (c6) and the Foundation for eHealth Initiative (c3) have conducted research, education and advocacy to demonstrate the value of technology and innovation in health.

• Serve as the industry leader convening executives from multi-stakeholder groups to identify best practices to transform care through use of health IT

• The missions of the two organizations are the same: to drive improvement in the quality, safety, and efficiency of healthcare through information and technology.

• Our work is centered around the 2020 Roadmap. The primary objective of the 2020 Roadmap is to craft a multi-stakeholder solution to enable coordinated efforts by public and private sector organizations to transform care delivery through data exchange and health IT.
Roadmap to Transforming Care

OUTPUTS & RECOMMENDATIONS
Guidance, Education, Reports

RESEARCH
Information Gathering, Surveys, Interviews

CONVENE
- Exec Roundtables, Committees, Webinars, Workgroups
eHealth - Convening Executives to Research & Identify Best Practices

• Data Analytics

• Data Access and Privacy

• Interoperability

• Patient and Provider Technology Adoption
eHealth Initiative Annual Conference
March 21 – 23, 2017
House of Sweden
2900 K Street, N.W., Washington, D.C.

Together Facing the Challenges of Change. eHealth Initiative’s 2017 Annual Conference & Member Meetings will bring together the most influential leaders from across the healthcare spectrum to discuss critical issues related to the use of data and technology to improve healthcare for all Americans.

www.ehidc.org/events
Thank You
FHIRM and the Future of Interoperability:
The origins of FHIRM
Russell Leftwich, MD Senior Clinical Advisor, Interoperability
Interoperability: The Future

- Patient
- Physician
- Payer
- Hospital
- Social service agency
- Pharmacy
- Government
- Internet of Things
- Genomics Lab
- Personal monitoring devices
- Family
- Laboratory
- Researcher
- Long Term Care
- EMS
- Rehab
- Home care agency
- Schools
- Pharma/device company
Data everywhere.
How do we get access?
HL7 version2 (2.x) is 30 years old.

HL7 CDA® is over 10 years old.
What if HL7 created a new interoperability standard starting from scratch?
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RESTful Interface

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
FHIR is both the technology and the agreement on the meaning of the data.
FHIR Supports 4 Interoperability Paradigms

- RESTful
- Documents
- Messages
- Services
FHIR Profiles

Profiles are implementation guides
Built for specific use cases ranging from simple to complex
Encompass the entire scenario

Profiles include entire implementation
Multiple Resources & Extensions, the building blocks of FHIR
Vocabulary/terminology/code binding

Interoperability is in the FHIR Profiles
FHIR Profiles are based on formal information models
Shared profiles create interoperability
Isn’t FHIR just a draft standard that is still being developed and tested?
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; iPhone n+1 will always do more
So then FHIR will eventually replace all other standards?
The Lifecycle of Standards
The Future: Bridging Systems in a Hybrid Environment

Health Information Exchange

- FHIR
- IHE (XDS.b)
- CDA
- HL7v2

Data Transform

FHIR Resource Repository

Index

FHIR Transform
REST Enabled Health Information Exchange

- REST enabled HIE
- Data Transform
- Index
- FHIR Resource Repository
- FHIR Transform
- Gateway or EHR

Flow:
- FHIR-based REST client
  - Login
  - Search
  - PUT/POST
- REST enabled HIE
- Gateway or EHR
Mobile App/ Web App

HIE Platform

Data Sources  EMR  LIS  RLS

FHIRE Layer

Presentation

Open Health APIs

OATH  JSON  FHIR

Services

REST
Attending HIMSS17 in Orlando?

FHIRside Chat Lunch & Learn with Dr. Russell Leftwich

Location: InterSystems booth 1561

Lunch & Learn Session Schedule
Monday, February 20 from 12-1pm
Wednesday, February 22 from 12-1pm

Register Here

Visit InterSystems.com/HIMSS17 for more information
HL7 FHIR & the Future of Interoperability

Implementing the FHIR Platform

Charles Jaffe, MD, PhD
CEO, Health Level 7

eHealth Initiative
January 25, 2017
Implementing
the HL7 FHIR Platform

Collaboration & Outreach
Collaboration
JASON
Task Force
&
the Argonauts
Argonaut Project

- Private sector initiative established in December 2014 by 14 organizations to accelerate FHIR implementation
- Enabled by a series of focused “sprints”, rather than by connectathons
- Delivering implementable profiles and IGs, now supporting over 200 organizations and vendors
SMART on FHIR

- SMART: 6-year project at Boston Children’s Hospital (funded by ONC), based upon an API model, for enhancing health data interoperability
- SMART collaboration: HL7 partnership enabling FHIR security and privacy (2014)
- SMART objective: creation of an “App Store” for healthcare
More than three hundred clinical organizations, IT developers, government agencies and healthcare systems *worldwide* are now committed to developing FHIR applications.
CDS Hooks

• Clinical Decision Support using SMART & FHIR
• Augments CDS solutions embedded in the EHR
• Hook can provide information or trigger an App
Sync for Science

- Joint project of ONC, Harvard Medical School, EHR vendors and NIH
- Leverages patient-donated genomic data for clinical research and Precision Medicine
- Relies upon open APIs and FHIR
ONC-Funded FHIR Programs

• FHIR Profiles
  o Patient care
  o Clinical research
  o Quality measures, decision support, medications and genomics

• Certification of API criteria
openFDA Initiative
CMS is coordinating a diverse ecosystem of developers for creation of the Blue Button on FHIR
Public Health Reporting
Clinical Professional Societies
Partners: a diverse coalition of stakeholders collaborating on a single platform reusing the data for many purposes.
HL7 FHIR Foundation
FHIR.ORG

- Non-profit community for Implementers
- Implementation Registry
- Reference implementations & task tracking
- Community Forum & Help Desk
- Resources for conformance testing and public reference implementations
FHIR Applications Roundtable

- Showcase for FHIR Apps & Development tools
- Platform for best practices & collaboration
- Apps & tools in demonstration environment
- Harvard Medical School, July 27-28
  Duke University, March 8-9, 2017
Payer Summit
Implementing FHIR

July 11-12, 2016, Chicago
January 16, 2017, San Antonio
HL7 FHIR
Clinical Connectathon
September 23, 2016, Baltimore
January 20, 2017, San Antonio
HL7 FHIR Datathon for Translational Science

Joint Meeting with AMIA

March 26, 2017, San Francisco
Clinical Information Interoperability Council (CIIC)

- Focus: Clinical requirements across disciplines & delivery models
- Reprised from successful 2012 program
- Multiple partnership opportunities
- 2-day meeting planned for Summer 2017
HL7 International Genomics Summits

October 26-28, 2016, Washington
Late summer, 2017
HL7 North American Developer Forum

- Global scope & outreach
- Spring 2018
- In collaboration with Furore
International BioPharma
Leveraging HL7 FHIR
Thanks

cjaffe@hl7.org

JUST COUGH FOR OLD TIME’S SAKE.
Discussion

Charles Jaffe, MD
Chief Executive Officer, HL7

Russell Leftwich, MD
Senior Clinical Advisor for Interoperability, InterSystems and Adjunct Assistant Professor of Biomedical Informatics, Vanderbilt University
Thank You