



# Disruptive Factors Expanding the Value of the Interoperability Continuum, Part 2

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# Hans J. Buitendijk, M.Sc., FHL7

*Moderator*  
Director, Interoperability Strategy  
Cerner



- Over 35 years in the HIT industry in development, consulting, around business process optimization, systems integration, and interoperability.
- Focused on standards development and regulations strategies, and development to improve on interoperability.
- Actively participates in HL7™, EHRA, CommonWell Health Alliance, Carequality, Da Vinci and other interoperability initiatives and discussions.
- Member of the inaugural HIMSS Interoperability Committee.

# Lenel James

Business Lead – Health Information Exchange  
Blue Cross Blue Shield Association

- Business Lead the Industry Standards and eHealth team, in the Commercial Markets and & Enterprise Data Solutions Division at BCBSA
- Co-chair of the HL7 Payer User Group, and planning committee member of the HL7 Payer Summit
- Member of the Program Management Office of the HL7 Da Vinci Project.
- Member of the Coordinating Committee for the ONC FHIR At Scale Taskforce (FAST).



# Sean Kennedy, MS, PMP, MPH

Senior Director for Industry Solutions & Architecture  
Salesforce Healthcare and Life Sciences



- Leads HLS strategy, solution architecture, integration, compliance and security efforts, advises on product development and go to market strategies, and supports customers as they work to build scalable, frictionless and secure solutions that generate enormous value.
- Serves as the first Chair of the HIMSS Exploring CRM Technologies in Healthcare Task Force, which aims to define and educate the HIMSS community on what CRM in Healthcare is.
- Prior to Salesforce, Sean served as the Director Health Information Exchange for the Massachusetts eHealth Institute (MeHI) where he led the State's HIE & HIT adoption efforts.

# Susan Matney, PhD, RNC-OB, FAAN, FACMI, FHIMSS

Nurse Informaticist  
Intermountain Healthcare



- Nurse Informaticist
- HSPC Terminology and Modeling Lead
- Chair Nursing LOINC Subcommittee
- Vocabulary Facilitator for HL7 Clinical Information Modeling Initiative (CIMI)
- Nursing Knowledge: Big Data Science Conference Steering Committee Member

# Khan Siddiqui, MD

Founder, CTO & CMO  
higi



- Serial Entrepreneur and Founder of higi with over 22 years of experience as a practicing clinician and technology professional. Highlights:
  - Director of Center for Biomedical Imaging and Informatics at Johns Hopkins University
  - Microsoft Health executive
- Holds 12 patents for technology in deep learning, AI, image processing, data visualization, as well as securing patient information handling and health records.
- Enjoys spending time with his wife, two sons and family, as well as biking around Chicago in between painting and SCUBA diving.

# Agenda

- Welcome & Introductions
- API Flashback
- ONC/CMS NPRM and APIs
- Accelerating FHIR and APIs
- Accelerating at Scale
- APIs as an Enabler for Expanded Work
- Q&A

# API Flashback:

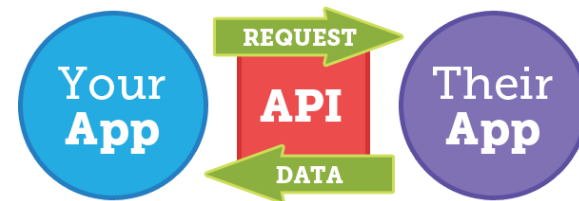
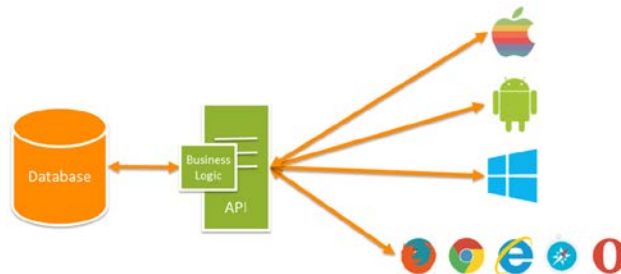
## Why the focus on APIs in Healthcare?

- Interoperability until recently mostly focused on INTRA organizational workflows and data access
  - We need to continue to focus on that, BUT
  - We need more CROSS Stakeholder data access and exchange
- Other industries showed new opportunities to access, exchange, and aggregate data using web based APIs
- Data packages are not properly sized, formatted, accessible with current standards
  - The 2013 JASON Report “*A Robust Health Data Infrastructure*” urged focus on data elements
  - HL7® started FHIR®
  - ONC included APIs in 2015 Certification Edition



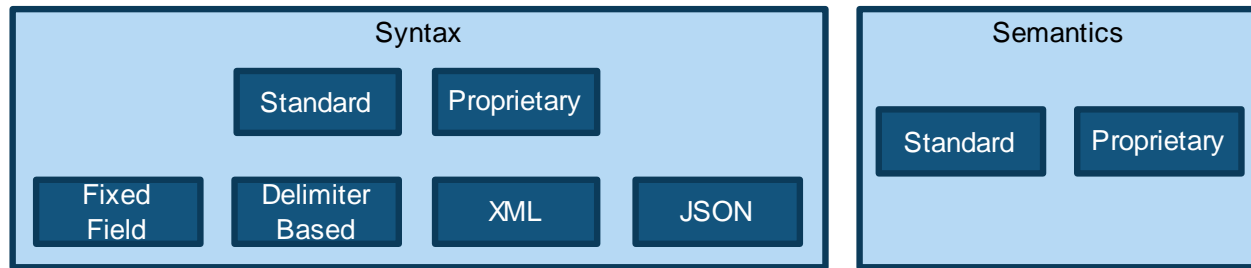
# API 101

- An API is a software intermediary that allows applications to talk to each other (API = Application Programming Interface)
- Given that APIs are defined at a specific data perspective, they can be ‘Lego-blocked’ together as building block for more complex purposes
- API “Lego Blocks” come in all different sizes
- Web-based, RESTful APIs using smaller building blocks are a foundational technology that drives modern computing and the API economy (Amazon, Netflix, Google, Facebook, EBay, YouTube, Twitter, & etc.)
  - Those APIs enable innovation in an unprecedented manner
- APIs are not new... but more granular, simplified, web-based easy to use versions of them are



# API Building Blocks

## *Payload*



## *Transport Protocol*



## *Network Medium*



## *Authentication*



# HL7® v2

## Workflow/Message

### Payload



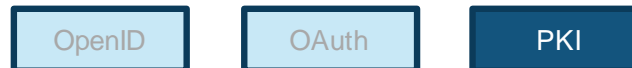
### Transport Protocol



### Network Medium



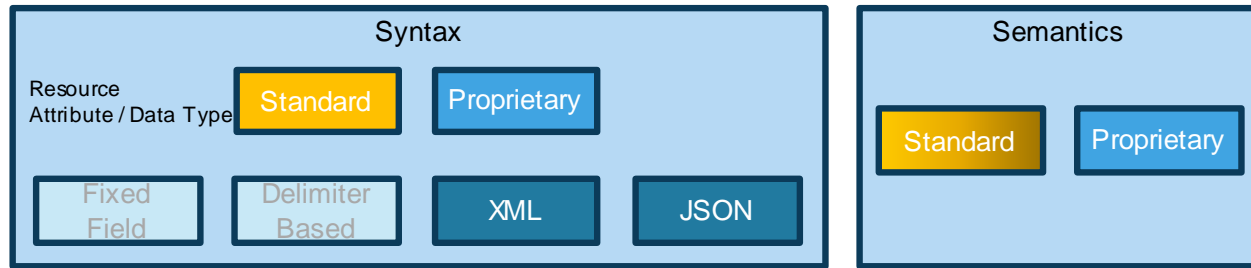
### Authentication



# HL7® FHIR®

*Data Element ↔ Document ↔ Bundle  
Message ↔ Web-Based Service*

**Payload**



**Transport Protocol**



**Network Medium**



**Authentication**



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# ONC/CMS NPRM and APIs

## ONC

- Data set scoped to USCDI
  - EHI ultimate goal
- FHIR DSTU2, STU3, or R4
- Argonaut, US Core
- Data Holder Responsibilities
- FHIR Endpoints
- User Authentication
- Refresh Tokens
- App Developer Validation
- Information Blocking
- Software Version Adoption Process

## CMS

- Payer to Payer
- Payer to Consumer
- Patient Matching
- Harmonize on ONC rules
- Patient Event Notification
- Provider Directory

# Accelerating FHIR and APIs



**Gravity Project**

***Profiles***

***Implementation Guides***



***Testing Tools***

***Reference Implementations***

***Vocabulary***

***CIMI***

***openEHR***



# Accelerating at Scale



TEF/CA/MRTC/QTF/RCE

**Broadcast**

**carequality**



**Dynamic Registration**



**Identity Proofing**



**Record Location Services**



**Brokering**

# APIs as an Enabler for Expanded Work





# Q&A



Hans Buitendijk  
Cerner



Lenel James  
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Sean Kennedy  
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Susan Matney  
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