HL7 Membership & Basic Overview

HL7 - More Than You think
HIMSS
March 1, 2016

Grant M. Wood
Intermountain Healthcare Clinical Genetics Institute
and HL7 Clinical Genomics workgroup
Need For Integrated Systems

Doctors need to be connected with each other – especially during transfer of care
Need For Integrated Systems

Doctors need to be connected with pharmacists – reduce harmful errors
Need For Integrated Systems

Hospitals need to be connected with each other – especially for medical record transfer
Need For Integrated Systems

Laboratories need to be connected to the patient’s electronic health record
Need For Integrated Systems

Doctors need to be connected to the patient’s personal health record
Annual Savings at Highest Level of Interoperability

- Interoperability Between Hospital-Based Outpatient Clinicians and External Laboratories - $31.8 billion
- Connectivity Between Office-Based Clinicians and External Radiology Centers - $26.2 billion
- Interoperability Between Outpatient Providers and Pharmacies - $2.71 billion
- Provider to Provider Connectivity - $13.2 billion
- If a medium-size hospital would invest $2.7 million, after the first year, spending $250,000 per year to maintain those systems, it would accrue benefits of $1.3 million per year

Standards and Select IP Freely Available

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HL7 Standards Soon to be Free of Charge

Health IT Standards Leader to Support Widespread Global Adoption by Making Standards and Select IP Freely Available

Ann Arbor, Michigan, USA – Sept. 4, 2012 – Health Level Seven® International (HL7®), the global leader in developing interoperability standards for healthcare IT, announced today its decision to make much of its intellectual property (IP), including standards, freely available under licensing terms. The landmark decision represents HL7’s commitment to the betterment of healthcare worldwide by ensuring that all stakeholders have equal access to its HIT standards. The new policy is expected to take effect in the first quarter of 2013.
HL7 Collaboration Goal

- Stimulate, encourage and facilitate domain experts from healthcare industry stakeholder organizations to participate in HL7 to develop healthcare information standards in their area of expertise.

- Partner with healthcare information technology users to ensure that HL7 standards meet real-world requirements, and that appropriate standards development efforts are initiated by HL7 to meet emergent requirements.
More Than These Highlights

- HL7 FHIR
- The Argonaut Project
- C-CDA
We Read in Healthcare IT News ...

- ONC reveals final interoperability roadmap
- Population health
- Integrating medical device data into EHRs
- Telemedicine, Patient engagement
- Cybersecurity
- Meaningful Use Stage 3 still in effect says CMS and ONC, looking toward a new program with flexibility for innovation
- Leading health IT vendors get in precision medicine game at White House Summit
- And so much more ...
Standards Drive Increased Business for Healthcare IT Vendors and Service Providers

- Speed of development, faster time to market
- Lower development and installation costs over customized interfaces
- Clients prefer the flexibility and scalability of products with standardized interfaces
- Enhanced interoperability of product
- Standards create best practices for the international community
- Bigger market beyond that for proprietary products
HL7 Has Produced a Family of Standards

- Patient Administration and Demographics
- Orders and Results for Clinical Lab/Pathology, Imaging (radiology, ultrasound, etc.)
- Symptoms, Diagnosis, Findings, and Treatments
- Clinical Research (e.g. Genomics) and Public Health/Disease Surveillance
- Pharmacy prescriptions, dispensing and administration
- Scheduling and managing healthcare resources
- Claims and Reimbursements
- Patient Care messages, Clinical Documents (referrals, H&P, summary record, etc.)
Many Types of Healthcare Information Need to be Exchanged

- Pharmacy Medication Lists
- Lab Test Results
- Hospitalization Summaries
- Doctors Orders and Clinicians Notes
- Medical Imaging Results
- Home Health Monitoring Devices
- Payers / Financial Systems
- Government Agencies, Public Health, Research
Healthcare IT Stakeholders

- Patients
- Consumers
- General Practitioners
- Specialists
- Outpatient Healthcare Providers
- Residential Care Providers
- Hospitals
- Healthcare Administration
- Laboratories

- Research
- Pharmaceutical
- Payers, Insurance
- Employers
- Medical Equipment
- Review Boards
- Practice Guidelines
- Government Agencies
- Standards Enforcement Agencies
The HL7 Organization

• Founded in 1987, Health Level Seven International (HL7), with members in over 55 countries, is a not-for-profit, ANSI-accredited standards developing organization

• HL7 is dedicated to providing a comprehensive framework and related standards for the exchange, integration, sharing, and retrieval of electronic health information that supports clinical practice and management, delivery and evaluation of health services

• HL7's 2,500+ members include approximately 500 corporate members who represent more than 90% of the information systems vendors serving healthcare

• Over 45 healthcare standards from anatomic pathology to vocabulary

Take a Flash tour at http://www.hl7.org/documentcenter/public/training/IntroToHL7/player.html
HL7 Interoperability Goals

- Develop coherent, extendible standards that permit structured, coded healthcare information of the type required to support patient care, to be exchanged between computer applications, while preserving the meaning.

- Promote the use of HL7 standards worldwide through the creation of HL7 International Affiliate organizations.
An International Organization with Over 30+ HL7 Affiliates

Argentina
Australia
Austria
Brazil
Canada
China
Columbia
Croatia
Czech Republic
Denmark
Finland
France
Germany
Greece
Hong Kong
India
Italy
Japan
New Zealand
The Netherlands
Romania
Russia
Singapore
Spain
Sweden
Switzerland
Taiwan
Turkey
United Kingdom
United States
Uruguay
Healthcare Standards
Improve Patient Care

- Improve quality of care
- Electronic documents provide value to clinicians
- Ensure clinicians have latest knowledge
- Improve patient safety/Minimize preventable errors
- Improve clinical workflow
- Lower cost of healthcare delivery
- Eliminate duplicate medical tests
- Supports lifetime electronic health record
- Improve public health reporting
- Empower patient to manage their own health

Improve public health reporting
Supports lifetime electronic health record
Eliminate duplicate medical tests
Lower cost of healthcare delivery
Improve clinical workflow
Improve patient safety/Minimize preventable errors
Improve quality of care
Electronic documents provide value to clinicians
Ensure clinicians have latest knowledge
Empower patient to manage their own health
Additional HL7 Programs and Activities

- Education Summits
- Product and Services Guides
- Working group meetings with an annual international conference
- Speakers and booth at conferences
- E-learning courses
- Ambassador Program
- Best Practices
- Government Standards Projects
- Country Affiliates with workshops, education
- IT professional Certification
- Networking among members
- University Educational Program
- E-Newsletter
Additional HL7 Programs and Activities

- Education webportal
- Connectathons
- HL7 policy summits
- Industry-specific summits i.e. Payor, Provider, Pharma, Vendor, Life Science
- Big data, population analytics, registries, shared databases
- Expanded member benefits
## Membership Benefits At a Glance

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<th>Benefactor</th>
<th>Gold</th>
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<td>Maximum number of voting members</td>
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<td>Significant discounts on HL7 meeting registrations and other educational offerings</td>
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<td>Opportunity to promote implementation case studies</td>
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<tr>
<td>Early bird discounts on all meetings, all the time</td>
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<td>Free half-day seats at HL7 WGM tutorials every year</td>
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<td>Special recognition in HL7 press releases and promotional materials</td>
<td>★</td>
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<tr>
<td>Special recognition in HL7 newsletters and on the website</td>
<td>★</td>
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<td>Ability to transfer voting right to other individuals within the organization</td>
<td>★</td>
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<td>Use of HL7’s Organizational and “Care Connected” logos</td>
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Some History – Starting with HL7 Version 2

- HL7’s Version 2.x (V2) messaging standard is the workhorse of electronic data exchange in the clinical domain and arguably the most widely implemented standard for healthcare in the world.

**BENEFITS**

- Supports the majority of the common interfaces used in the healthcare industry globally
- Provides a framework for negotiations of what is not in the standard
- Reduces implementation costs
- Generally backward compatible
- 95% of US healthcare organizations use HL7 V2.x
- More than 35 countries have HL7 V2.x implementations
Some History – V3 Messaging

- **The Reference Information Model (RIM)** is the cornerstone of the HL7 Version 3 development process and an essential part of the HL7 V3 development methodology. HL7 v3 messages are based on an XML encoding syntax.

- **Conceptual foundation** – a single, common reference information model to be used across HL7

- **Semantic foundation** – in explicitly defined concept domains drawn from the best terminologies
Domains in the Normative HL7 V3 standard

- Accounting & Billing
- Claims & Reimbursement
- Materials Management
- Patient Administration
- Personnel Management
- Scheduling
- Blood bank
- Care Provision
- Clinical Decision Support
- Clinical Document Architecture
- Clinical Genomics
- Diagnostic Imaging
- Immunization
- Laboratory
- Medical Records
- Medication
- Orders and Observation
- Pharmacy
- Public Health
- Regulated Products
- Regulated Studies
- Specimen
- Therapeutic Devices
Clinical Document Architecture (CDA)

- Interoperability
  - An approved standard way to exchange dictated, scanned, or electronic reports on a patient between various health information technology systems and platforms
  - Human readable
    - The “paper world” of clinical documents, forms, etc.
  - Computer readable
    - XML representation of document data
    - EHR discrete data storage
    - Clinical decision support
CDA is the Basis For ...

- Continuity of Care Document
- Consult Note
- Diagnostic Imaging Report
- Discharge Summary
- Healthcare-associated Infections, Public Health Case Reports
- History and Physical
- Operative Note
- Personal Health Monitoring
- Plan-2-Plan Personal Health Record
- Quality Reporting Document
- Genetic Test Results

- Emergency Care Summary
- Patient Summary
- Patient Level Quality Data Document Using IHE Medical Summary (XDS-MS)
- Encounter Document constructs
- Clinical Oncology Treatment Plan
- Immunization Document
- Scanned document
- ... and many more ...
Continuity of Care Document (CCD)
Required Sections

- active
- resolved
- chief complaint
- reason for visit
- diagnoses
  - admission
  - discharge
  - pre-operative
  - post-operative
- pharmacy
- dietary
- general
- medications
- history
- administered
- discharge
- current
CCD Optional Sections

• Advanced Directives
• Functional Status
• Procedures
• Encounters
• Family History
• Social History

• Immunizations
• Vital Signs
• Fetal Vital Signs
• Lab Results
• Plan of Care
HL7 Overview
Mobile Health

- Supports real-life situations and how various aspects of mHealth are already delivering benefits in various healthcare situations across the world
- Identifying and promoting mobile health concepts for interoperability as adopted and adapted for use in the mobile environment
Consolidated CDA

- The development of a single implementation guide that represents harmonization of Health Story guides, HITSP C32, part of the IHE Patient Care Coordination, and the original CCD by HL7

- 9 different types of commonly used CDA documents
  - Continuity of Care Document
  - Consultation Notes
  - Discharge Summary
  - Imaging Integration, and DICOM Diagnostic Imaging Reports
  - History and Physical
  - Operative Note
  - Progress Note
  - Procedure Note
  - Unstructured Documents
Fast Health Interoperability Resources

- Defines a set of “Resources" that represent granular clinical concepts
  - Resources can be extended
  - Multiple resources and extensions can be combined to make a profile
  - Promises faster and wider standards adoption
  - Supports faster application development
Its Time to Contribute to Interoperability

- Create and build standards and standards-based solutions
- Have your voice heard
- Be part of national and international activities
Working Group Meetings

Health Level Seven® International
May 2016 Working Group Meeting
Montreal (Quebec), Canada
May 8-13, 2016

Additional Information and Registration Coming!

Montreal
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**See also**
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- [Related Wikis](https://wiki.hl7.org)/Related_Wikis)
- HL7 TSC Wiki
- HDF development wiki
- [IHE Wiki](https://wiki.hl7.org)/IHE_Wiki)
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Join Us!
QUESTIONS

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