HL7 Basic Overview

HIMSS Las Vegas
February 21, 2012

Grant M. Wood
Intermountain Healthcare Clinical Genetics Institute
and HL7 Clinical Genomics workgroup
Topics

- Need for Electronic Healthcare Information Exchange
- Role of Healthcare Standards and Benefits
- What is HL7 and Examples of Standards
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
Global Healthcare Trends

- Rising cost of healthcare
  - Under or not insured
  - Aging population
  - High cost of chronic care
  - Demand on public health hospitals
  - System and organizational inefficiencies

- Paper to Electronic Records
  - Better clinical outcomes
  - Cost effective

- Public Health
  - Prevention efforts
  - Bioterrorism and pandemic events: Anthrax, Avian Flu, TB, etc
Global Healthcare Trends

- Consumer Empowered
  - Patients and providers seeking greater access and control over information
  - Personal Health Records empower a consumer to manage their own health

- National-Regional IT Networks
  - Canada, Finland, Denmark, Austria, USA, UK, Australia
  - Government selected healthcare standards
  - Emerging government-sponsored conformance testing

- Biotech Era
  - Personalized medicine is beginning to emerge, e.g. genomic data and test for cancer drug
Healthcare Information Exchange Challenges

- Across healthcare institutions and others groups needing healthcare data (insurance, public health, research):
  - How can clinical data be shared among different healthcare enterprises using different technology?
  - How can the same patient be identified across different institutions?
  - How can data exchange be secured and access to patient data be monitored?

- Within healthcare institutions:
  - How can patient’s clinical data from different sources (lab, pharmacy, clinician notes, etc) be brought to patient’s point of care and into an electronic medical record?
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
- Patient

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Healthcare IT Stakeholders

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

- Payers
- Employers
- Suppliers
- Review Boards
- Practice Guidelines
- Government Agencies
- Standards Enforcement Agencies
HL7 Has Produced a Family of Standards

- Orders and Results for Clinical Lab/Pathology, Imaging (radiology, ultrasound, etc.)
- Signs and Symptoms, Diagnosis and Treatments
- Patient Administration and Demographics
- 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.)

Sharing and re-use of information from many healthcare domains
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 2,300+ members include approximately 500 corporate members who represent more than 90% of the information systems vendors serving healthcare

• Over 43 healthcare standards from anatomic pathology to vocabulary

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

- HL7's mission is to provide standards for interoperability that:
  - improve care delivery
  - optimize workflow
  - reduce ambiguity
  - enhance knowledge transfer

- Wide range of healthcare standards: clinical, clinical genomics, administrative, clinical research, electronic claims attachments, public health, personal health, etc
HL7 High Level Goals

- Develop coherent, extendible standards that permit structured, encoded 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
HL7 High Level Goals

- 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

- Collaborate 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
And growing

An International Organization with Over 30+ HL7 Affiliates

Argentina, Australia, Austria, Brazil, Canada, China, Colombia, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hong Kong, India, Luxembourg, Mexico, New Zealand, The Netherlands, Romania, Russia, Singapore, Spain, Sweden, Switzerland, Taiwan, Turkey, United Kingdom, United States, Uruguay, and others.
Healthcare Standards Improve Patient Care

Benefits of Standards:
- increase efficiency,
- improve quality,
- lower cost,
- and reduce risk

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
Supports lifetime electronic health record
Eliminate duplicate medical tests
Improve public health reporting
Empower patient to manage their own health
Standards Drive Increased Business for Healthcare IT Vendors and Service Providers

- Speed of development, faster time to market
- Lower development & installation costs, over customized interfaces
- Enhanced interoperability of product
- Clients prefer the flexibility of products with standardized interfaces
- More scalable solution
- Standards create best practices for the international community
- Bigger market beyond that for proprietary products
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 Project
- Country Affiliates with workshops, education
- IT professional Certification
- University Educational Program
- Networking among members
- E-Newsletter
Still to Come

- HL7 Family of Standards
  - Version 2 messaging
  - Version 3 messaging and documents
  - The Reference Information Model (RIM)
  - Clinical Document Architecture
  - EHR specifications
  - Clinical Genetics

- Research on annual cost savings when interoperable systems are implemented

- Other products, activities, and benefits HL7 has to offer
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
Need a Standard Coding, Terminology, and Vocabulary System for Common Understanding

A and B differ syntactically and cannot interoperate without translation.

A and C differ semantically.

A cannot represent the concept "Unknown"
HL7 Messages and Documents

**Messages**
- A message is event driven and includes a specific workflow.
  - Order Lab Tests
- It could include bi-directional flow of data
  - Lab Test Results

**Documents**
- The Clinical Document Architecture (CDA) can facilitate clinical document exchange within and between medical institutions.
- CDA can be used to bring patient’s clinical documents into a patient-centric EHR.
- A collection of information about an encounter
- Can be digitally signed
Clinical Document Architecture (CDA)

- Interoperability
  - Human
    - The “paper world” with documents, forms...
  - Application
    - Storage, management of clinical data
    - Context driven analysis
    - Reusability
  - An approved standard way to exchange dictated, scanned, or electronic reports on a patient between various health information technology systems and platforms
CDA is the Basis For …

- Consult Note
- Continuity of Care Document
- 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
- Unstructured Documents

- Emergency Care Summary
- Summary Documents Using HL7 CCD
- Patient Level Quality Data Document Using IHE Medical Summary (XDS-MS)
- Encounter Document constructs
- Consult and History & Physical Note Document
- Immunization Document
- Scanned document
- … and many more …
What is a Continuity of Care Document?

- A medical summary representing the continuity of care record core data set covering one or more healthcare encounters.

- A snapshot in time for a patient, in CDA form, containing the pertinent:
  
  - clinical,
  - demographic, and
  - administrative data
CCD Required Sections

- Conditions (Problems)
  - active
  - resolved
  - chief complaint
  - reason for visit
  - diagnoses
    - admission
    - discharge
    - pre-operative
    - post-operative

- Allergies and Intolerances
  - pharmacy
  - dietary
  - general

- Medications
  - history
  - administered
  - discharge
  - current
Optional Sections

- Advanced Directives
- Functional Status
- Procedures
- Encounters
- Family History
- Social History
- Immunizations
- Vital Signs
- Fetal Vital Signs
- Lab Results
- Plan of Care
**Patient:** Ellen Ross  
**MRN:** 12345  
**Birthdate:** January 27, 1960  
**Sex:** Female  
**Consultant:** Bernard Wiseman, Sr.  
**Created On:** March 29, 2005

### Good Health Clinic Care Record Summary

#### Advance Directives

<table>
<thead>
<tr>
<th>Documentation</th>
<th>Contact</th>
<th>Effective Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living Will</td>
<td>Copy on file or obtain from her Husband</td>
<td>1994</td>
<td></td>
</tr>
<tr>
<td>Power of Attorney</td>
<td>Obtain from her Husband</td>
<td>1994</td>
<td></td>
</tr>
<tr>
<td>Organ Donor</td>
<td>Massachusetts Registry of Motor Vehicles</td>
<td>1/27/2004 -</td>
<td>Registered Organ Donor</td>
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</tbody>
</table>

#### Conditions

**Active**

<table>
<thead>
<tr>
<th>Problem</th>
<th>Date</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td>Ankle Sprain</td>
<td>3/28/2005</td>
<td>Slipped on ice and fell</td>
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</tbody>
</table>

**Resolved**

<table>
<thead>
<tr>
<th>Problem</th>
<th>Date</th>
<th>Comments</th>
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</thead>
</table>

**Reason for Visit**

Ankle Sprain

**Procedures**

<table>
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<tr>
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<th>Date</th>
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<tbody>
<tr>
<td>Laparoscopic Cholecystectomy</td>
<td>9/28/2002</td>
</tr>
<tr>
<td>Cesarian Section</td>
<td>3/22/2002</td>
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</tbody>
</table>

#### Encounters

<table>
<thead>
<tr>
<th>Date</th>
<th>Provider</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/28/2005</td>
<td>Community Hospital</td>
<td>ED Visit for Ankle Sprain</td>
</tr>
<tr>
<td>9/28/2002</td>
<td>City Hospital</td>
<td>Gall Bladder Surgery</td>
</tr>
<tr>
<td>3/21/2002</td>
<td>Community Hospital</td>
<td>Labor and Delivery</td>
</tr>
<tr>
<td>10/28/2001</td>
<td>Community Hospital</td>
<td>ED Visit for Acute Cholecystitis</td>
</tr>
</tbody>
</table>

#### Family History

<table>
<thead>
<tr>
<th>Family Member</th>
<th>Problem</th>
<th>Cause of Death?</th>
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<tbody>
<tr>
<td>Father</td>
<td>Alcoholism</td>
<td>No</td>
</tr>
<tr>
<td>Father</td>
<td>Liver Cancer</td>
<td>Yes</td>
</tr>
</tbody>
</table>

#### Social History

<table>
<thead>
<tr>
<th>Social History</th>
<th>Comments</th>
<th>Date Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking</td>
<td>1/2 pack per day</td>
<td>? - 1996</td>
</tr>
<tr>
<td>Alcohol Use</td>
<td>1-2 drinks per week</td>
<td></td>
</tr>
</tbody>
</table>

#### Allergies and Intolerances

**Medication**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allergy</td>
<td>Penicillin</td>
<td>Amoxicillin is OK</td>
</tr>
</tbody>
</table>

**Dietary**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intolerance</td>
<td>Pork and Pork Products</td>
<td>Causes severe gastric distress.</td>
</tr>
</tbody>
</table>

**General**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allergy</td>
<td>Bee Stings</td>
<td>Severe Reaction</td>
</tr>
</tbody>
</table>
Sample CCD Document

**Medications**

**History**

<table>
<thead>
<tr>
<th>Medication</th>
<th>Prescription or Dose</th>
<th>Dates of Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indomethacin</td>
<td>50mg bid with food</td>
<td>12/10/2003</td>
</tr>
</tbody>
</table>

**Administered**

None

**Discharge**

<table>
<thead>
<tr>
<th>Medication</th>
<th>Prescription or Dose</th>
<th>Dates of Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen with codeine</td>
<td>#3 1-2 tablets prn for pain</td>
<td>03/28/2005</td>
</tr>
</tbody>
</table>

**Current**

<table>
<thead>
<tr>
<th>Medication</th>
<th>Prescription or Dose</th>
<th>Dates of Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen with codeine</td>
<td>#3 1 tablets for pain as needed</td>
<td>03/28/2005</td>
</tr>
<tr>
<td>Indomethacin</td>
<td>50mg bid with food</td>
<td>12/10/2003</td>
</tr>
</tbody>
</table>

**Immunizations**

- DTP - 1962
- Polio Virus - 1961
- MMR - 1961

**Lab Results**

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
<th>Normal Range</th>
<th>Abnormal</th>
<th>Date of Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum HCG</td>
<td>14</td>
<td></td>
<td></td>
<td>7/28/2001</td>
</tr>
</tbody>
</table>

**Plan of Care**

Acetaminophen with codeine prn for pain. Stay off the foot. Keep foot elevated, and use supplied air splint and crutches. Advise follow-up with orthopedist if not significantly better in 5 days.

**Reviewed by:** Bernard Wiseman, Jr. on March 29, 2005
21 North Ave
Burlington, MA 01803
WP: (999) 555-1212

**Signed by:** Bernard Wiseman, Sr. on March 29, 2005
21 North Ave
Burlington, MA 01803
WP: (999) 555-1212

**Entered by:** Bernice Wiseman on March 29, 2005

**Copy to:** Phil Green
Good Health Clinic
21 North Ave
Burlington, MA 01803
P: (999) 555-1212

**Informed by:**
- Abigail Ruth (Mother)
- Joseph Jones
- Jane Queen, (General Physician)
Sample CCD Document

Healthcare Providers

primary care physician: Bernard Wiseman, Sr. (General Physician)
21 North Ave
Burlington, MA 01803
WP: (999) 555-1212

Support Providers

Mother: Abigail Ruth
17 Daws Rd.
Blue Bell, MA 02368
WP: (999) 555-1212

Insurance Information

Subscriber: Kenneth Ross
ID: 123456789
17 Daws Rd.
Blue Bell, MA 02368
WP: (999) 555-1212

Payer: Good Health Insurance Company
3191 Broadbridge Avenue
Stratford, CT 06614-2559
WP: (203) 555-1212
The EHR-S Functional Model

Is Not…

- A messaging specification
- An EHR specification
- An implementation specification (not the “how”)
  - Does not prescribe technology
  - Does not dictate how functions must be implemented (e.g., via the user interface, database design)

Is…

- A system specification
- An EHR system specification
- A reference list of functions that may be present in an EHR-S (the “what”)
  - Enables consistent expression of functionality
  - Provides flexibility for innovation and product differentiation
  - Gold standard, sensitive to what can practically be done by a system, future system development
## EHR-S Functional Model at a Glance

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Care</td>
<td></td>
</tr>
<tr>
<td>C1.0</td>
<td>Care Management</td>
</tr>
<tr>
<td>C2.0</td>
<td>Clinical Decision Support</td>
</tr>
<tr>
<td>C3.0</td>
<td>Operations Management and Communication</td>
</tr>
<tr>
<td>Supportive</td>
<td></td>
</tr>
<tr>
<td>S1.0</td>
<td>Clinical Support</td>
</tr>
<tr>
<td>S2.0</td>
<td>Measurement, Analysis, Research, Reporting</td>
</tr>
<tr>
<td>S3.0</td>
<td>Administrative and Financial</td>
</tr>
<tr>
<td>Information</td>
<td></td>
</tr>
<tr>
<td>Infrastructure</td>
<td></td>
</tr>
<tr>
<td>I 1.0</td>
<td>EHR Security</td>
</tr>
<tr>
<td>I 2.0</td>
<td>EHR Information and Records Management</td>
</tr>
<tr>
<td>I 3.0</td>
<td>Unique identity, registry, and directory services</td>
</tr>
<tr>
<td>I 4.0</td>
<td>Support for Health Informatics &amp; Terminology Standards</td>
</tr>
<tr>
<td>I 5.0</td>
<td>Interoperability</td>
</tr>
<tr>
<td>I 6.0</td>
<td>Manage business rules</td>
</tr>
<tr>
<td>I 7.0</td>
<td>Workflow</td>
</tr>
</tbody>
</table>

Functions describe the behavior of a system in user-oriented language so as to be recognizable to the key stakeholders of an EHR System.
EHR-S Profiles Developed or Under Development

- Emergency Department
- Child Health
- Long Term Care
- Behavioral Health
- Records Management & Evidentiary Support
- Regulated Clinical Research (Clinical Trials)
- Vital Statistics Reporting

For more information:

HL7 Electronic Health Record
http://www.hl7.org/ehr/index.asp

HL7 Functional Profile Registry
http://xreg2.nist.gov:8080/ehrsRegistry/index.jsp
Genetic test results from genetics lab to the patient’s electronic health record.
News headline - Scientists find genes that could predict Type 2 diabetes

One of the lead scientists says the findings “mean we can create a good genetic test to predict people's risk of developing this type of diabetes.”

1. Family history risk assessment
2. Order genetic test
3. Test interpretation
4. Store results (family health history, sequence data, alleles, exons, SNP’s also called variations or mutations)
5. Clinical decision support
6. Pharmacogenomics for targeted drugs
Interoperability Between Hospital-Based Outpatient Clinicians and External Laboratories

Annual savings of $31.8 billion at highest level of interoperability. In addition to reducing duplicate tests, it would –

1) reduce delays and costs associated with paper-based ordering and reporting of results,
2) provider-laboratory connectivity would give clinicians better access to patients’ longitudinal test results,
3) eliminate errors associated with reporting results orally,
4) optimize ordering patterns by making information on test costs readily available to clinicians, and
5) make testing more convenient for patients.

Walker, et al. The Value Of Health Care Information Exchange And Interoperability
Health Affairs Web Exclusive, January 19, 2005
Connectivity Between Office-Based Clinicians and External Radiology Centers

Annual savings of $26.2 billion at highest level of interoperability. In addition to reducing duplicate tests, it would –

1) save time and costs associated with paper- and film-based processes,
2) improve ordering by giving radiologists access to relevant clinical information, thereby enabling them to recommend optimal testing,
3) improve patient safety by alerting both the provider and the radiologist to test contraindications,
4) facilitate coordination of care and help prevent errors of omission by enabling automated reminders when follow-up studies are indicated, and
5) lessen adverse environmental impacts by reducing the use of chemicals and paper in film processing.

Walker, et al. The Value Of Health Care Information Exchange And Interoperability
Health Affairs Web Exclusive, January 19, 2005
Interoperability Between Outpatient Providers and Pharmacies

Annual savings of $2.71 billion at highest level of interoperability. In addition to reducing the number of medication-related phone calls for both clinicians and pharmacists, it would –

1) improve clinical care by facilitating the formation of complete medication lists, thereby reducing duplicate therapy, drug interactions and other adverse drug events, and medication abuse,

2) enable automated refill alerts,

3) offer clinicians easy access to information about whether patients fill prescriptions,

4) complete insurance forms required for some medications,

5) help identify affected patients in the event of drug recalls, uncover new side effects, and improve formulary management.

Walker, et al. The Value Of Health Care Information Exchange And Interoperability
Health Affairs Web Exclusive, January 19, 2005
Provider to Provider Connectivity

Annual savings of $13.2 billion at highest level of interoperability. In addition to saving time associated with handling chart requests and referrals it would –

1. would reduce fragmentation of care from scattered records and improve referral processes.

Walker, et al. The Value Of Health Care Information Exchange And Interoperability
*Health Affairs* Web Exclusive, January 19, 2005
Use Case Medium-Size Hospital

The hospital (with 50–199 beds) would invest $2.7 million in clinical systems and interfaces to achieve the highest level of interoperability. After the first year, spending $250,000 per year to maintain those systems it would accrue benefits of $1.3 million annually, from

1) its transactions with other providers ($570,000),
2) laboratories ($200,000),
3) radiology centers ($170,000),
4) payers ($250,000), and
5) pharmacies ($70,000).

Walker, et al. The Value Of Health Care Information Exchange And Interoperability
Health Affairs Web Exclusive, January 19, 2005
Summary

- Need for computable and interoperable healthcare information

- Standards are critical for exchanging electronic healthcare information

- HL7 is the key organization for producing relevant global healthcare information standards
The Clinical Document Architecture

Release 1 Approved as an ANSI Standard November 2000.

The CDA, which was until recently known as the Patient Record Architecture (PRA), provides an exchange model for clinical documents (such as discharge summaries and progress notes) and brings the healthcare industry closer to the realization of an electronic medical record.

By leveraging the use of XML, the HL7 Reference Information Model (RIM) and coded vocabularies, the CDA makes documents both machine-readable so they are easily parsed and processed electronically, and human-readable so they can be easily retrieved and used by the people who need them. CDA documents can be displayed using XML-aware Web browsers or wireless applications such as cell phones.

Please note that if you are a member that this standard is available for download free of charge from the HL7 Standards area of the website.

Otherwise click on the Add button to add an item to your shopping cart.

<table>
<thead>
<tr>
<th>CDA Releases</th>
<th>Mbr.</th>
<th>Non-Mbr</th>
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<tbody>
<tr>
<td>ADD HL7 Implementation Guide for CDA Release 2: Public Health Case Reporting, Release 1 (US Realm) - Electronic Copy</td>
<td>$0</td>
<td>$50</td>
</tr>
<tr>
<td>ADD Implementation Guide for CDA Release 2 – Level 1 and 2 – Care Record Summary (US realm) - Electronic copy</td>
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<tr>
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Next Working Group Meeting

Health Level Seven® International

May 2012 Working Group Meeting
Vancouver, BC, Canada
May 13-18, 2012

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Sheraton Vancouver
Wall Centre Hotel

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Meeting Information
Key Information

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Activities/Attractions

Additional Information and Registration Coming!
Ambassador Webinars

HL7 Ambassador Series: The HL7 Healthcare Connection

Join us for a Webinar on June 8

For over 20 years, Health Level Seven® (HL7®) has been an International organization that has created the most widely used standards in healthcare information technology. This webinar will focus on how the implementation of HL7 standards and messaging architecture solves the problems of disconnected healthcare systems and serves as a vehicle for interoperability with disparate healthcare IT systems, applications and data architectures. Come learn how HL7 standards play a key role in the exchange of electronic data in today’s global healthcare community.

Title: HL7 Ambassador Series: The HL7 Healthcare Connection

Date: Tuesday, June 8, 2010

Time: 12:00 PM - 1:00 PM EDT

REGISTER NOW

Space is limited.
After registering you will receive a confirmation email containing information about joining the Webinar.

System Requirements
PC-based attendees
Required: Windows® 7, Vista, XP, 2003 Server or 2000

Macintosh®-based attendees
Required: Mac OS® X 10.4.11 (Tiger®) or newer
You must supply all required fields and can choose as many list services to subscribe to as you would like. At the bottom of this form, you must confirm your agreement to the regulations governing the proper use of our list services and submit this information. You will later receive an email that will provide a link to a page for final confirmation of your desire to subscribe to these lists.

After filling in the basic information below and choosing the lists to which you wish to subscribe, scroll down to the bottom of this page to affirm you understand the proper use of our lists and click the request subscriptions button.

<table>
<thead>
<tr>
<th>Field</th>
<th>Required</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name</td>
<td></td>
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</tr>
<tr>
<td>Last Name</td>
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</tr>
<tr>
<td>Organization</td>
<td></td>
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<tr>
<td>EMail</td>
<td></td>
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</tr>
<tr>
<td>List Service Password</td>
<td></td>
<td>(Minimum of 5 characters, maximum of 20)</td>
</tr>
<tr>
<td>Type of Delivery</td>
<td></td>
<td>Mail, Digest, Digest with Attachments</td>
</tr>
</tbody>
</table>

A password is required when signing up for any lists as a security measure. This “List service password” may be the same as or different from your HL7 membership password. Make sure you keep this password in a safe place for later login access to the List Manager website. To learn more about passwords, click here for FAQ information.

If you are not sure on which type of mail delivery you would like, look at the FAQ’s in the Welcome menu for detailed information or click here to jump to that information. All the lists you choose on this form will all be of this type.

List Selection:

- **Anatomic Pathology**
  - <check> anatomicpath Primary List</check>

- **Architectural Review**
  - <check> arb Primary List</check>

- **Arden Syntax**
  - <check> ardensyntax Primary List</check>

- **Attachments**
  - <check> asig Primary List</check>
  - <check> hl7x12ddcp X12 Claim/Attachment Data Determination Coordination Project</check>

- **Child Health**
  - <check> childhealth Primary List</check>
How to get more info on HL7

- Web site:
  - http://www.hl7.org

- International Affiliates
  - http://www.hl7.org/Special/committees/international/intl.htm

- Education and Tutorials
  - http://www.hl7.org/education/index.cfm

- How to request and HL7 Ambassador speaker
  - mailto:hq@hl7.org

- Contact info for HL7 HQ
  - mailto:hq@hl7.org

- Product and Services Guide
Thank You. Questions?

HL7 Basic Overview

HIMSS Las Vegas
February 21, 2012

Grant M. Wood
Intermountain Healthcare Clinical Genetics Institute
and HL7 Clinical Genomics workgroup