HL7 Basic Overview

HIMSS Las Vegas

February 21, 2012

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Intermountain Healthcare Clinical Genetics Institute

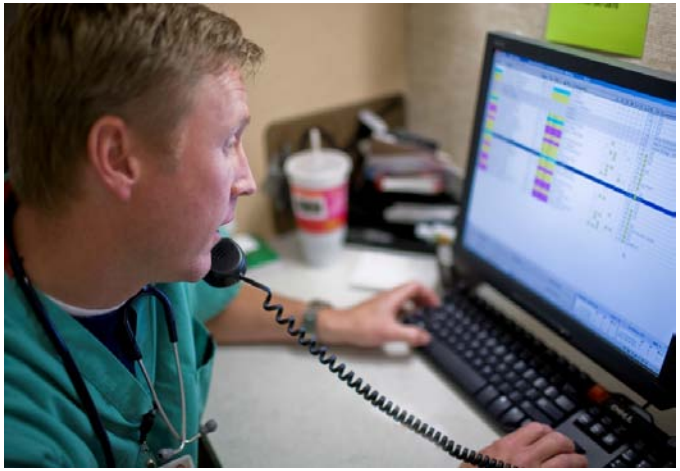
and HL7 Clinical Genomics workgroup

Topics

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

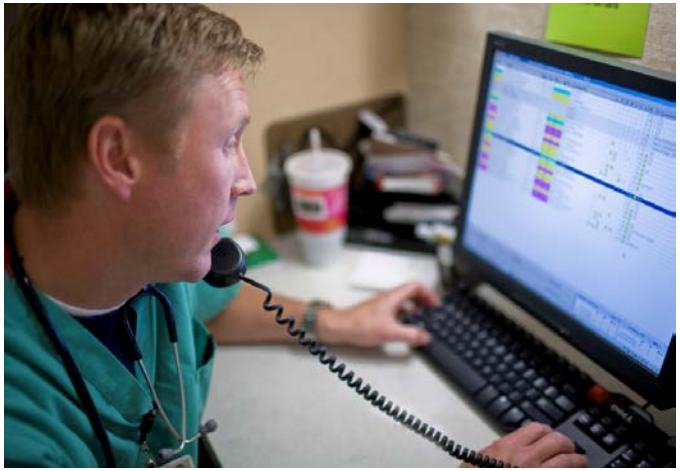
Need For Integrated Systems

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

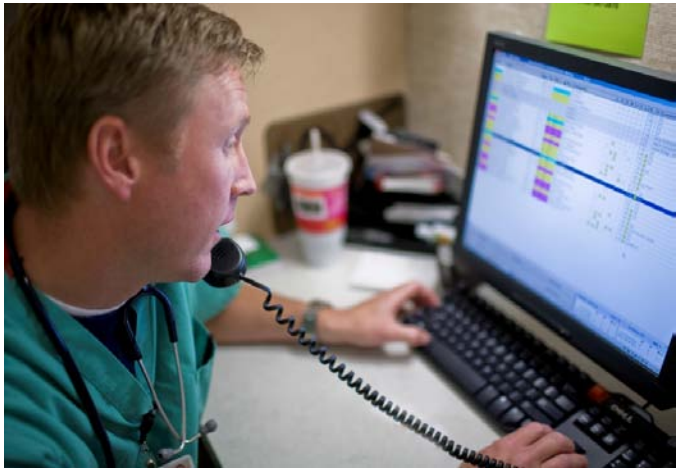
Hospitals need to be connected with each other – especially for medical record transfer

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

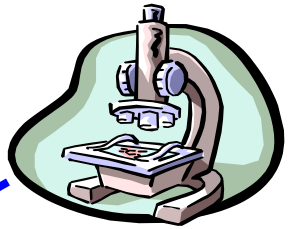
Healthcare Information Exchange Challenges

- *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

Government Agencies, Public Health, Research



Lab Test Results

Payers / Financial Systems

Patient

Hospitalization Summaries

Home Health Monitoring Devices

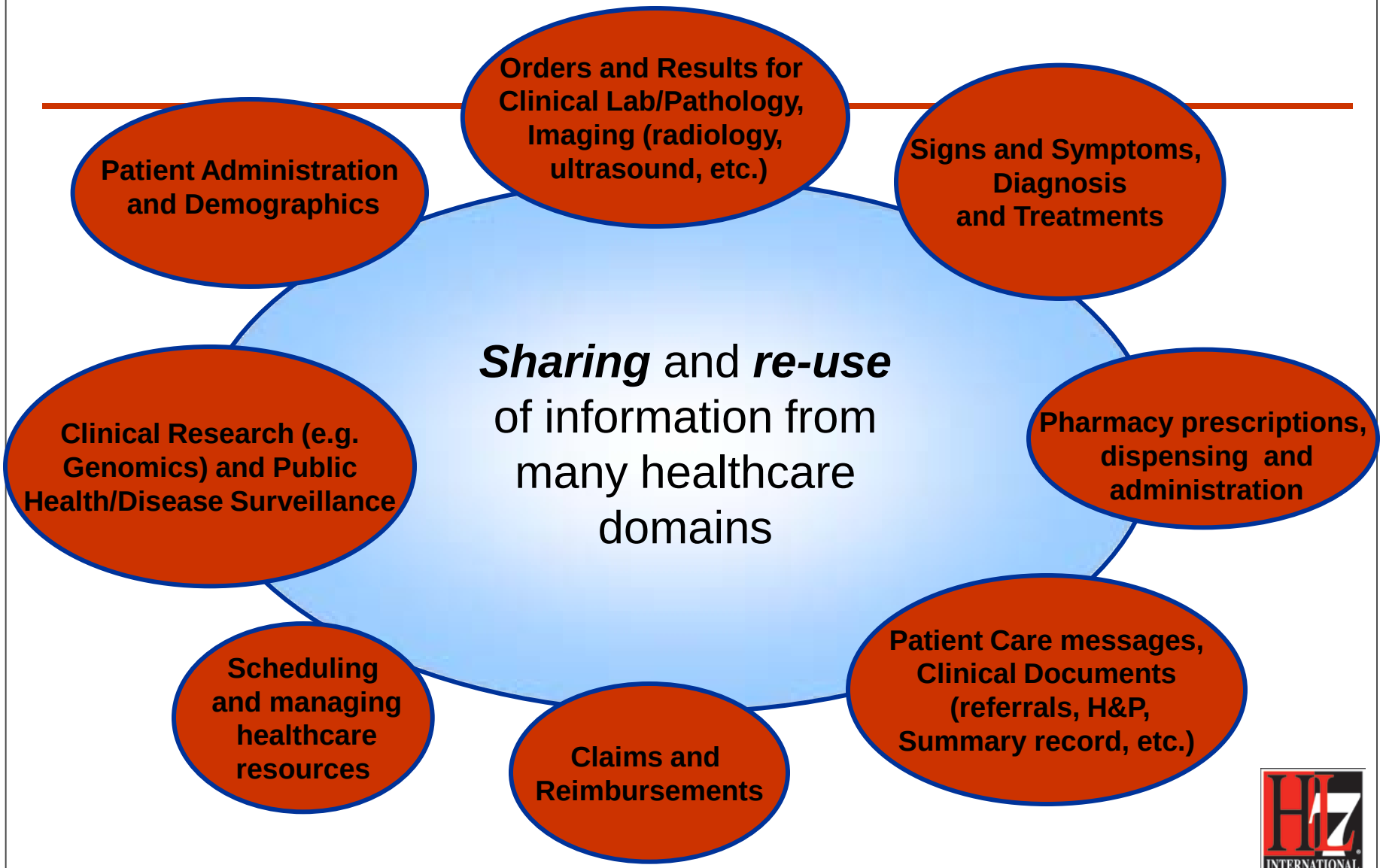
Medical Imaging Results

Doctors Orders and Clinicians Notes

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



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

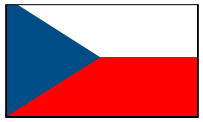
HL7 High Level Goals

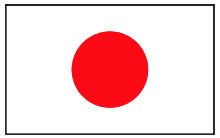
- Stimulate, encourage and facilitate domain experts from healthcare industry stakeholder organizations to participate in HL7 to develop healthcare information standards in their area of expertise

- 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

An International Organization with Over 30+ HL7 Affiliates


Argentina

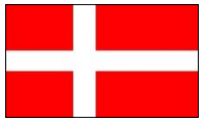

Czech Republic


Japan


New Zealand


Taiwan


Australia

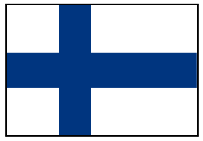

Denmark

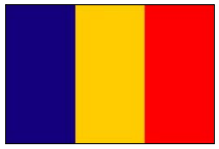

South Korea


The Netherlands


Turkey

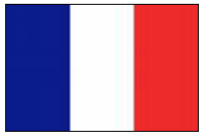

Austria


Finland


Romania


United Kingdom


Brazil


France


Russia

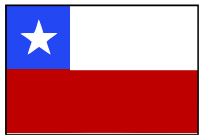

United States


Canada


Germany

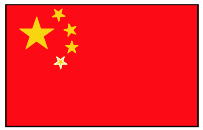

Singapore


Uruguay


Chile


Greece

And growing


China


Hong Kong


Spain


Columbia


India


Luxembourg


Sweden

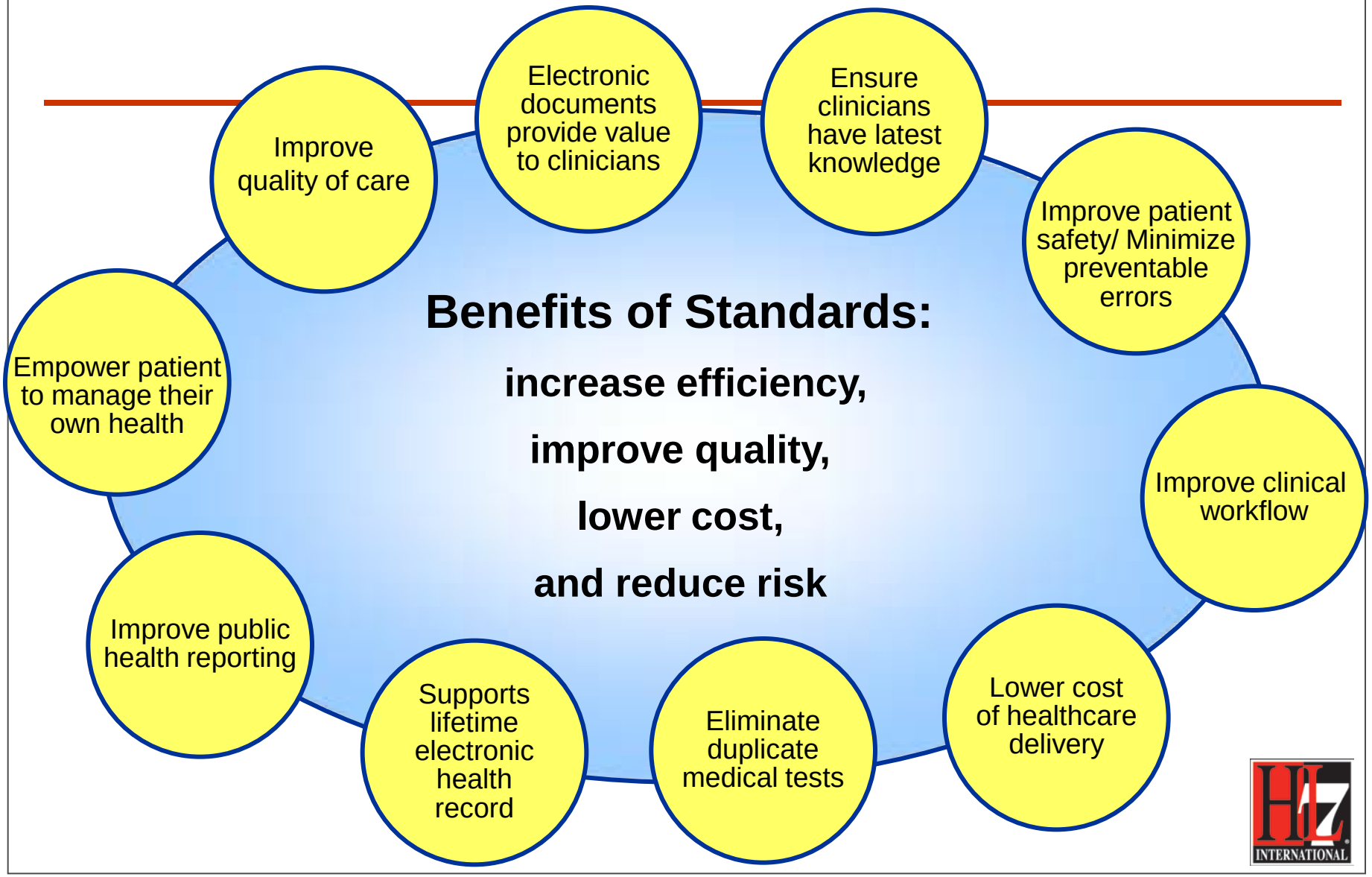

Croatia


Italy


Mexico


Switzerland

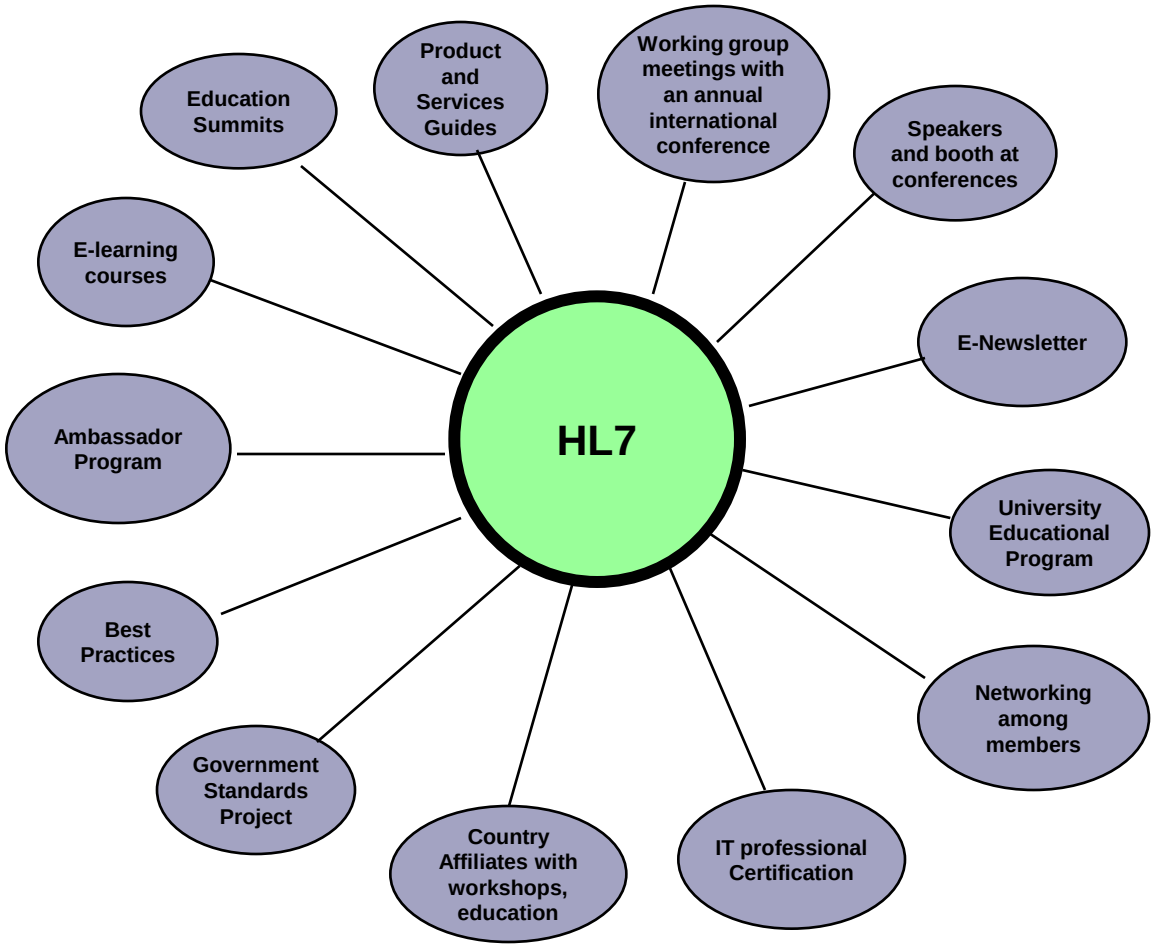
Healthcare Standards Improve Patient Care



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

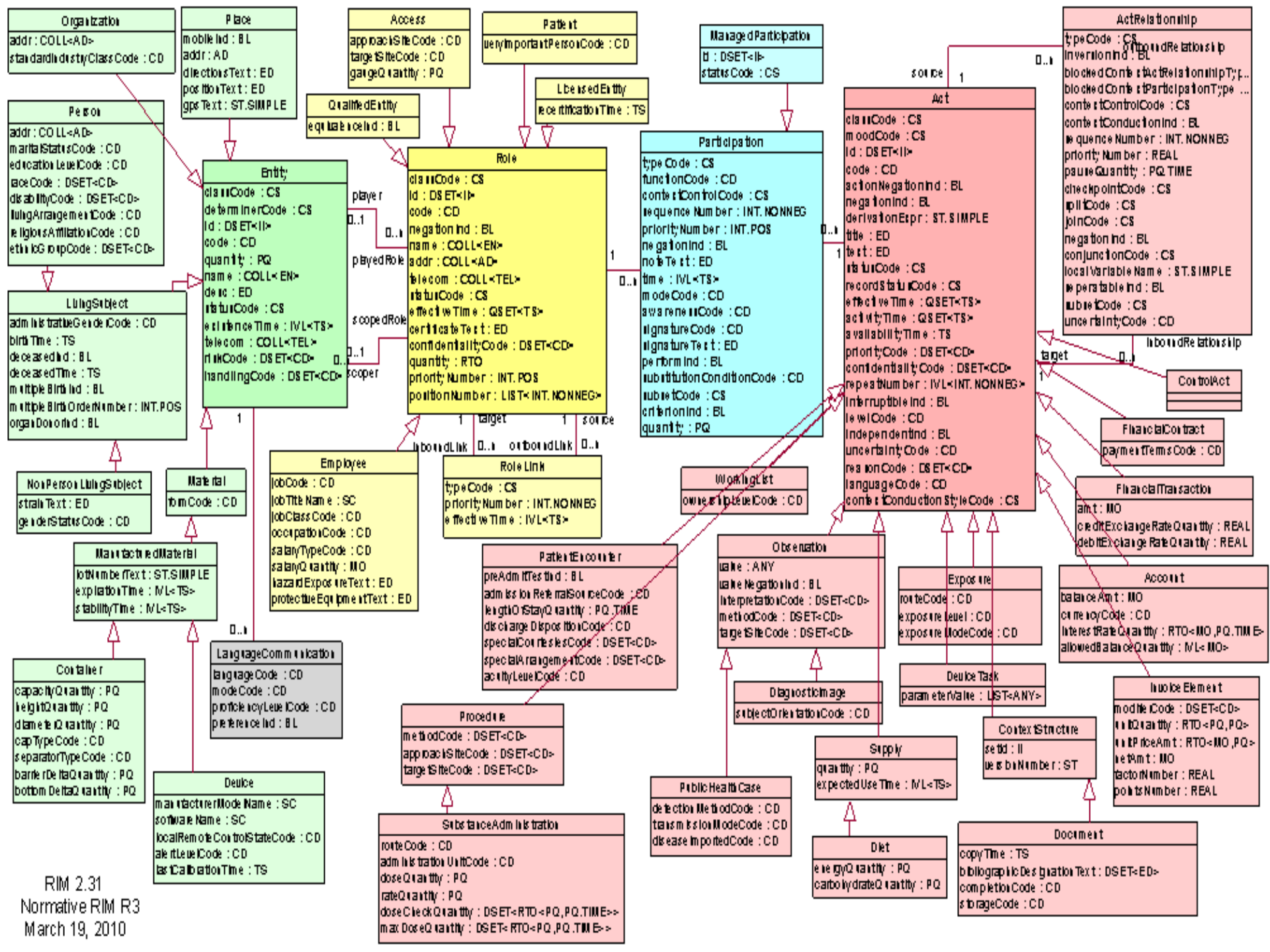


Still to Come

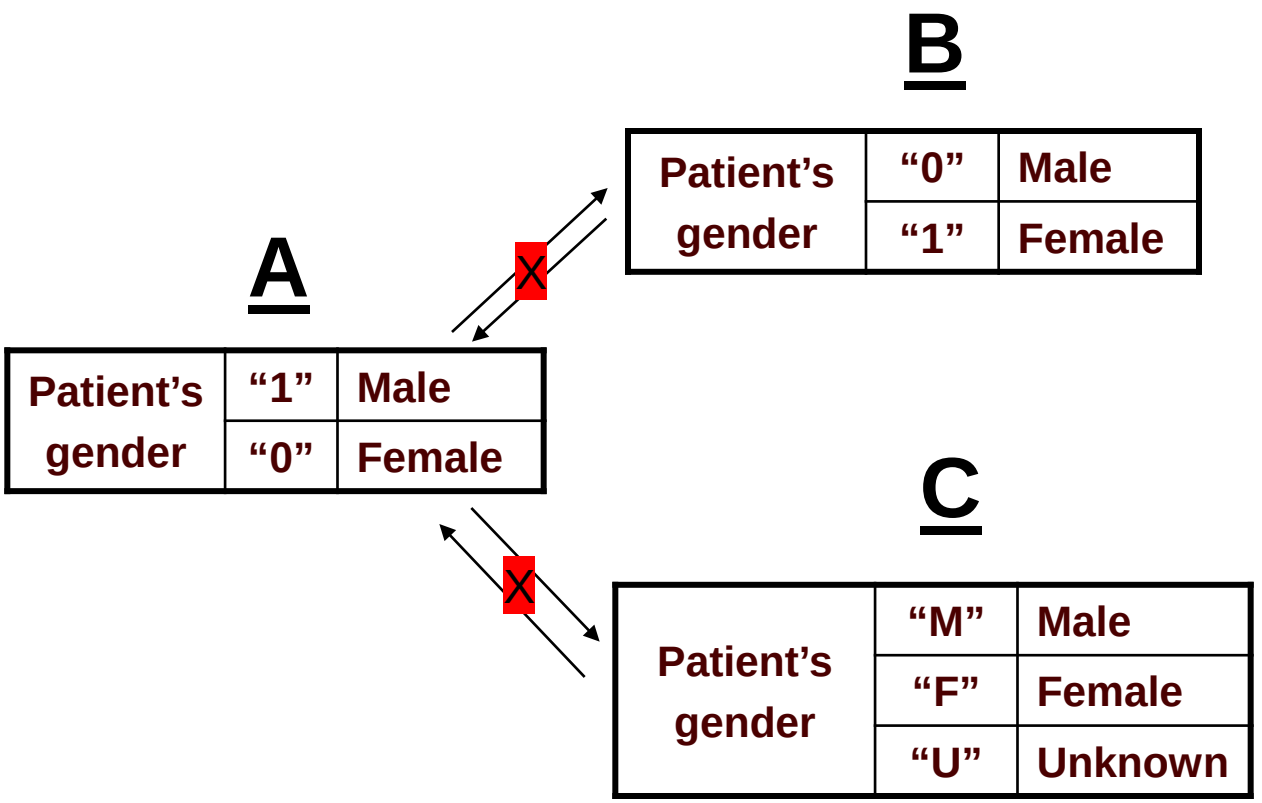
- HL7 Family of Standards
  - Version 2 messaging
  - Version 3 messaging and documents
  - The Reference Information Model (RIM)
  - Clinical Document Architecture
  - EHR specifications
  - Clinical Genetics
- Research on annual cost savings when interoperable systems are implemented
- Other products, 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


Organization
addr : COLL<AD>
standardIndustryClassCode : CD
Place
mobileInd : BL
addr : AD
directionsText : ED
positionText : ED
gpsText : ST.SIMPLE
Access
approachSiteCode : CD
targetSiteCode : CD
gaugeQuantity : PQ
Patient
veryImportantPersonCode : CD
ManagedParticipation
id : DSET<II>
statusCode : CS
ActRelationship
typeCode : CS
inversionInd : BL
blockedContextActRelationshipTy...
blockedContextParticipationType ...
contextControlCode : CS
contextConductionInd : BL
sequenceNumber : INT.NONNEG
priorityNumber : REAL
pauseQuantity : PQ.TIME
checkpointCode : CS
splitCode : CS
joinCode : CS
negationInd : BL
conjunctionCode : CS
localVariableName : ST.SIMPLE
repeatableInd : BL
subsetCode : CS
uncertaintyCode : CD
Person
addr : COLL<AD>
maritalStatusCode : CD
educationLevelCode : CD
raceCode : DSET<CD>
disabilityCode : DSET<CD>
livingArrangementCode : CD
religiousAffiliationCode : CD
ethicGroupCode : DSET<CD>
QualifiedEntity
equivalenceInd : BL
LicensedEntity
recertificationTime : TS
Entity
classCode : CS
determinerCode : CS
id : DSET<II>
code : CD
quantity : PQ
name : COLL<EN>
desc : ED
statusCode : CS
existenceTime : IVL<TS>
telecom : COLL<TEL>
riskCode : DSET<CD>
handlingCode : DSET<CD>
player
playedRole
scopedRole
scoper
Role
classCode : CS
id : DSET<II>
code : CD
negationInd : BL
name : COLL<EN>
addr : COLL<AD>
telecom : COLL<TEL>
statusCode : CS
effectiveTime : QSET<TS>
certificateText : ED
confidentialityCode : DSET<CD>
quantity : RTO
priorityNumber : INT.POS
positionNumber : LIST<INT.NONNEG>
Participation
typeCode : CS
functionCode : CD
contextControlCode : CS
sequenceNumber : INT.NONNEG
priorityNumber : INT.POS
negationInd : BL
noteText : ED
time : IVL<TS>
modeCode : CD
awarenessCode : CD
signatureCode : CD
signatureText : ED
performInd : BL
substitutionConditionCode : CD
subsetCode : CS
criterionInd : BL
quantity : PQ
Act
classCode : CS
moodCode : CS
id : DSET<II>
code : CD
actionNegationInd : BL
negationInd : BL
derivationExpr : ST.SIMPLE
title : ED
text : ED
statusCode : CS
recordStatusCode : CS
effectiveTime : QSET<TS>
activityTime : QSET<TS>
availabilityTime : TS
priorityCode : DSET<CD>
confidentialityCode : DSET<CD>
repeatNumber : IVL<INT.NONNEG>
interruptibleInd : BL
levelCode : CD
independentInd : BL
uncertaintyCode : CD
reasonCode : DSET<CD>
languageCode : CD
contextConductionStyleCode : CS
source
target
inboundRelationship
outboundRelationship
ControlAct
FinancialContract
paymentTermsCode : CD
FinancialTransaction
amt : MO
creditExchangeRateQuantity : REAL
debitExchangeRateQuantity : REAL
Account
balanceAmt : MO
currencyCode : CD
interestRateQuantity : RTO<MO,PQ.TIME>
allowedBalanceQuantity : IVL<MO>
InvoiceElement
modifierCode : DSET<CD>
unitQuantity : RTO<PQ,PQ>
unitPriceAmt : RTO<MO,PQ>
netAmt : MO
factorNumber : REAL
pointsNumber : REAL
LivingSubject
administrativeGenderCode : CD
birthTime : TS
deceasedInd : BL
deceasedTime : TS
multipleBirthInd : BL
multipleBirthOrderNumber : INT.POS
organDonorInd : BL
NonPersonLivingSubject
strainText : ED
genderStatusCode : CD
Material
formCode : CD
ManufacturedMaterial
lotNumberText : ST.SIMPLE
expirationTime : IVL<TS>
stabilityTime : IVL<TS>
Container
capacityQuantity : PQ
heightQuantity : PQ
diameterQuantity : PQ
capTypeCode : CD
separatorTypeCode : CD
barrierDeltaQuantity : PQ
bottomDeltaQuantity : PQ
Device
manufacturerModelName : SC
softwareName : SC
localRemoteControlStateCode : CD
alertLevelCode : CD
lastCalibrationTime : TS
LanguageCommunication
languageCode : CD
modeCode : CD
proficiencyLevelCode : CD
preferenceInd : BL
Employee
jobCode : CD
jobTitleName : SC
jobClassCode : CD
occupationCode : CD
salaryTypeCode : CD
salaryQuantity : MO
hazardExposureText : ED
protectiveEquipmentText : ED
RoleLink
typeCode : CS
priorityNumber : INT.NONNEG
effectiveTime : IVL<TS>
inboundLink
outboundLink
WorkingList
ownershipLevelCode : CD
PatientEncounter
preAdmitTestInd : BL
admissionReferralSourceCode : CD
lengthOfStayQuantity : PQ.TIME
dischargeDispositionCode : CD
specialCourtesiesCode : DSET<CD>
specialArrangementCode : DSET<CD>
acuityLevelCode : CD
Procedure
methodCode : DSET<CD>
approachSiteCode : DSET<CD>
targetSiteCode : DSET<CD>
SubstanceAdministration
routeCode : CD
administrationUnitCode : CD
doseQuantity : PQ
rateQuantity : PQ
doseCheckQuantity : DSET<RTO<PQ,PQ.TIME>>
maxDoseQuantity : DSET<RTO<PQ,PQ.TIME>>
Observation
value : ANY
valueNegationInd : BL
interpretationCode : DSET<CD>
methodCode : DSET<CD>
targetSiteCode : DSET<CD>
DiagnosticImage
subjectOrientationCode : CD
PublicHealthCase
detectionMethodCode : CD
transmissionModeCode : CD
diseaseImportedCode : CD
Exposure
routeCode : CD
exposureLevel : CD
exposureModeCode : CD
DeviceTask
parameterValue : LIST<ANY>
Supply
quantity : PQ
expectedUseTime : IVL<TS>
Diet
energyQuantity : PQ
carbohydrateQuantity : PQ
ContextStructure
setId : II
versionNumber : ST
Document
copyTime : TS
bibliographicDesignationText : DSET<ED>
completionCode : CD
storageCode : CD
RIM 2.31
Normative RIM R3
March 19, 2010

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

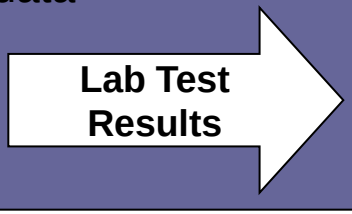
A cannot represent the concept "Unknown"

HL7 Messages and Documents

Messages

- A message is event driven and includes a specific workflow.

- It could include bi-directional flow of data



Documents

- The Clinical Document Architecture (CDA) can facilitate clinical document exchange within and between medical institutions.
- CDA can be used to a bring patient's clinical documents into to 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

Sample CCD Document

Patient: Ellen Ross
17 Daws Rd.
Blue Bell, MA 02368
HP: (781) 555-1212

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

Documentation	Contact	Effective Date	Comments
Living Will	Copy on file or obtain from her Husband	1994	
Power of Attorney	Obtain from her Husband	1994	
Organ Donor	Massachuesetts Registry of Motor Vehicles	1/27/2004 -	Registered Organ Donor

Conditions

Active

Problem	Date	Comments
Ankle Sprain	3/28/2005	Slipped on ice and fell

Resolved

Problem	Date	Comments
Cholecystitis	9/28/2002 - 6/2003	Surgery postponed until after delivery
Pregnancy	7/2001 - 4/22/2002	Prior history of miscarraige

Reason for Visit

Ankle Sprain

Procedures

Procedure	Date
Laparoscopic Cholecystectomy	9/28/2002
Cesarian Section	3/22/2002

Encounters

Date	Provider	Description
3/28/2005	Community Hospital	ED Visit for Ankle Sprain
9/28/2002	City Hospital	Gall Bladder Surgery
3/21/2002	Community Hospital	Labor and Delivery
10/28/2001	Community Hospital	ED Visit for Acute Cholecystitis

Family History

Family Member	Problem	Cause of Death?
Father	Alcoholism	No
Father	Liver Cancer	Yes

Social History

Social History	Comments	Date Range
Smoking	1/2 pack per day	? - 1996
Alcohol Use	1-2 drinks per week	

Allergies and Intolerances

Medication

Type	Description	Comments
Allergy	Penicillin	Amoxicillin is OK

Dietary

Type	Description	Comments
Intolerance	Pork and Pork Products	Causes severe gastric distress.

General

Type	Description	Comments
Allergy	Bee Stings	Severe Reaction

Sample CCD Document

Medications

History

Medication	Prescription or Dose	Dates of Use
Indomethacin	50mg bid with food	12/10/2003

Administered

None

Discharge

Medication	Prescription or Dose	Dates of Use
Acetaminophen with codiene	#3 1-2 tablets prn for pain	03/28/2005

Current

Medication	Prescription or Dose	Dates of Use
Acetaminophen with codiene	#3 1-2 tables for pain as needed	03/28/2005
Indomethacin	50mg bid with food	12/10/2003

Immunizations

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

Lab Results

Test	Result	Normal Range	Abnormal	Date of Measurement
Serum HCG	14			7/28/2001

Plan of Care

Acetaminophen with codiene 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.

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

Authored by: Good Health Clinic System v1.0 on March 29, 2005

Informed by: Bernard Wiseman , Jr.

Informed by: Abigail Ruth (Mother)

Informed by: Joseph Jones

Informed by: Jane Queen , (General Physician)

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

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

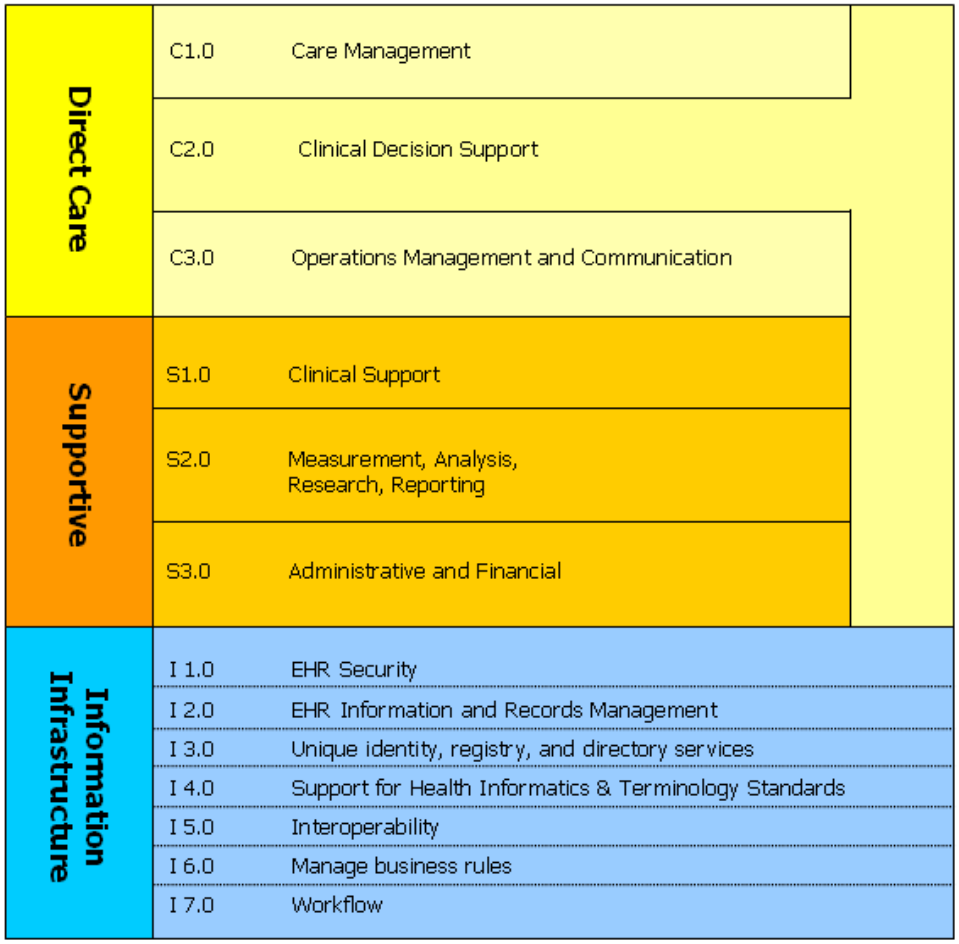
Is Not…

- 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



Functions describe the behavior of a system in user-oriented language so as to be recognizable to the key stakeholders of an EHR System

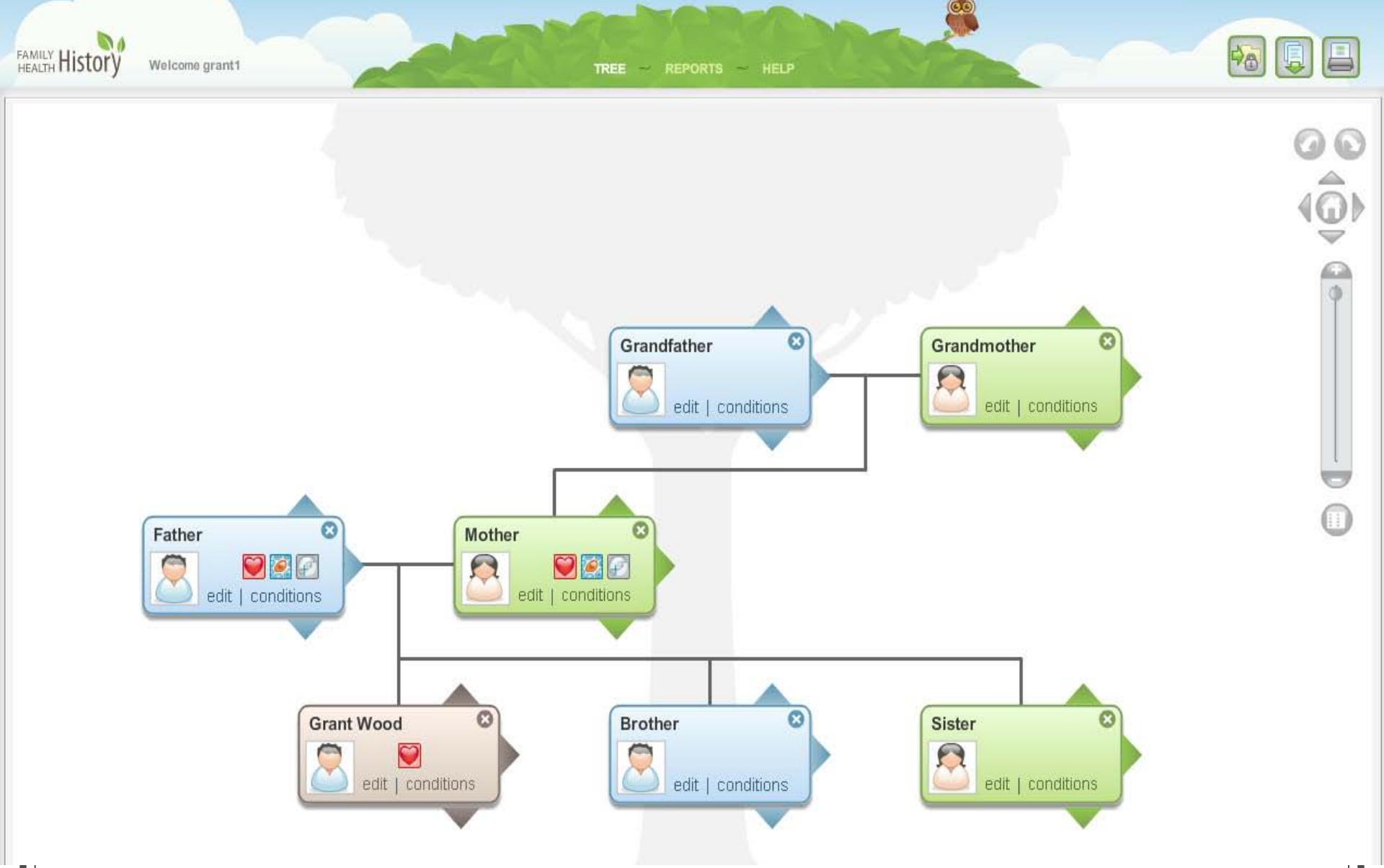
EHR-S Profiles Developed or Under Development

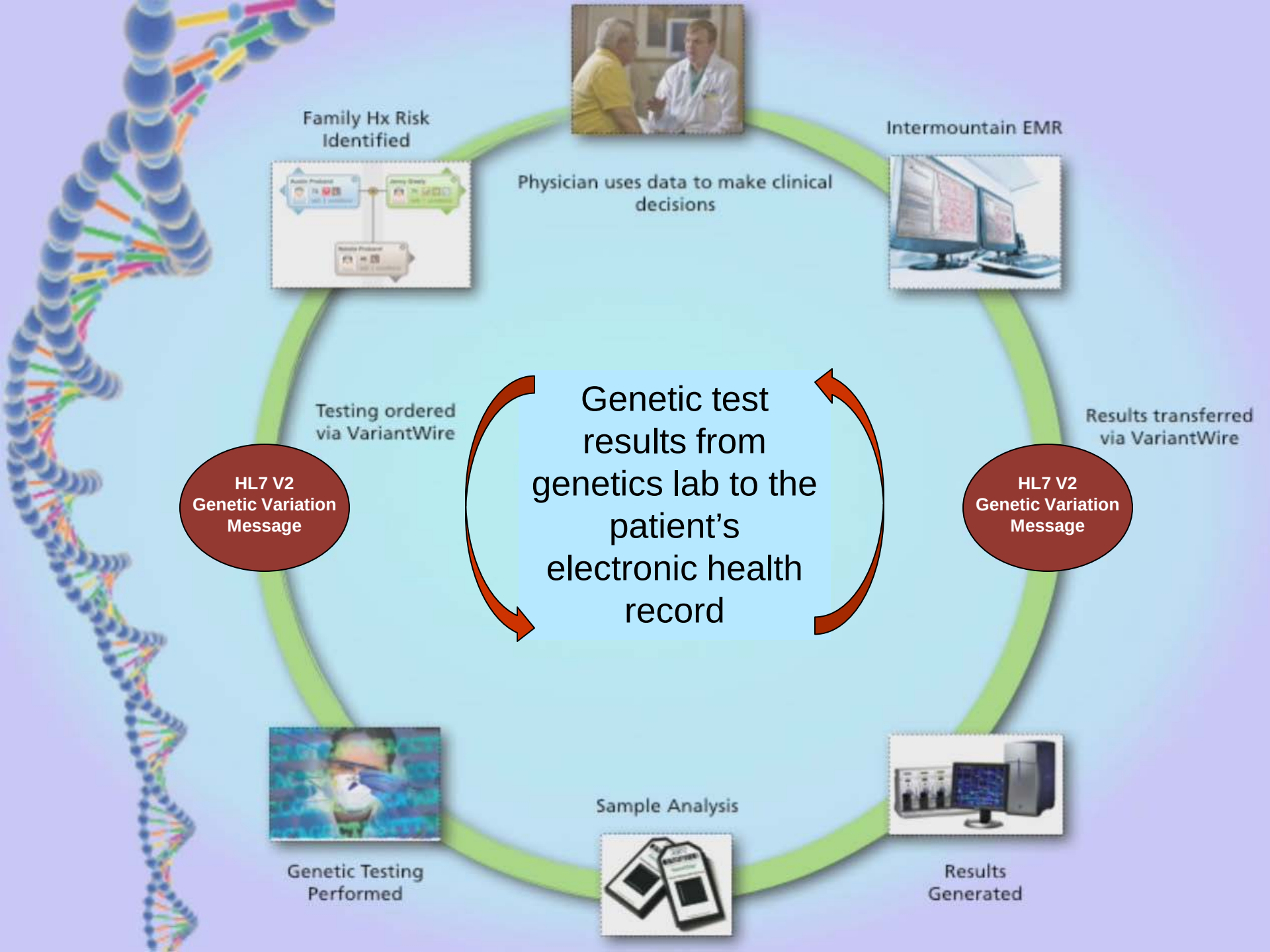
- Emergency Department
- Child Health
- Long Term Care
- Behavioral Health
- Records Management & Evidentiary Support
- Regulated Clinical Research (Clinical Trials)
- Vital Statistics Reporting

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




Family Hx Risk Identified
Physician uses data to make clinical decisions
Intermountain EMR
Testing ordered via VariantWire
HL7 V2 Genetic Variation Message
Genetic test results from genetics lab to the patient's electronic health record
Results transferred via VariantWire
HL7 V2 Genetic Variation Message
Genetic Testing Performed
Sample Analysis
Results Generated

Personalized Medicine Use Case

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 2 Approved as an ANSI Standard April 2005.
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.

CDA Releases	Mbr. Price	Non-Mbr
ADD HL7 Implementation Guide for CDA Release 2: Public Health Case Reporting, Release 1 (US Realm) - Electronic Copy	$0	$50
ADD Implementation Guide for CDA Release 2 – Level 1 and 2 – Care Record Summary (US realm) - Electronic copy	$0	$50
ADD HL7 Standard for CDA Release 2: Imaging Integration; Basic Imaging Reports in CDA and DICOM, Release 1 (Electronic Copy)	$0	$50
ADD CDA Release 2 Electronic Copy	$0	$50
ADD CDA Release 1 Electronic Copy	$0	$50
ADD Continuity of Care Document (CCD) Release 1	$0	$50

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Next Working Group Meeting

Health Level Seven® International

May 2012 Working Group Meeting

Vancouver, BC, Canada May 13-18, 2012

[HL7.org]

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Sheraton Vancouver Wall Centre Hotel

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Additional Information and Registration Coming!

Educational Summits

Health Level Seven® International

March Educational Summit 2012

Atlanta, GA March 6 - 8, 2012

[HL7.org]

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Ambassador Webinars

Health Level Seven® International

HL7 Ambassador Series: The HL7 Healthcare Connection

Online Webinar

June 8, 2010 12:00 - 1:00 pm EDT

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

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Space is limited.

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

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Required: Windows® 7, Vista, XP, 2003 Server or 2000

Macintosh®-based attendees

Required: Mac OS® X 10.4.11 (Tiger®) or newer

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- International Mentoring Committee

PROJECTS

Bridging the Chasm and the CIIC

Terminfo Project

Transition Planning

NLM Contract

WORK GROUP RESOURCES

Decision Making Practices

Project Scope Statement and Project Approval Process

Word template for the Project Scope statement and HL7's Project Approval Process.

Request Rational Software Modeler

Health Level Seven International

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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.

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- ○ Digest *
- ○ Digest with Attachments

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List Selection:

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- ☐ anatomicpath — Primary List

Architectural Review

- ☐ arb — Primary List

Arden Syntax

- ☐ ardensyntax — Primary List

Attachments

- ☐ asig — Primary List
- ☐ hl7x12ddcp — X12 Claim/Attachment Data Determination Coordination Project

Child Health

- ☐ childhealth — Primary List

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
  - http://productsandservices.hl7.org/Report/Report.aspx?varReport=Product

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