Integrating the Healthcare Enterprise and HL7

Use of HL7 Standards
HL7 and Integrating the Healthcare Enterprise

Use of HL7 Standards
Keith W. Boone
Standards Architect
GE Healthcare

- Co-chair, HL7 Structured Documents
- Co-chair, IHE Patient Care Coordination
- Co-chair, HITSP Care Records and Health Management TC
IHE Domains using HL7

<table>
<thead>
<tr>
<th>Domain</th>
<th>Standards</th>
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<tbody>
<tr>
<td>1. Radiology</td>
<td>✓ HL7 V2</td>
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<tr>
<td>2. Radiation Oncology</td>
<td>✓ HL7 V2</td>
</tr>
<tr>
<td>3. Cardiology</td>
<td>✓ HL7 V2</td>
</tr>
<tr>
<td>4. Laboratory</td>
<td>✓ CDA R2, HL7 V2, HL7 V3</td>
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<tr>
<td>5. Pathology</td>
<td>✓ CDA R2, HL7 V2</td>
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<tr>
<td>6. IT Infrastructure</td>
<td>✓ CCOW, HL7 V2, HL7 V3, CDA R2</td>
</tr>
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<td>7. Patient Care Coordination</td>
<td>✓ CDA R2, HL7 V2, HL7 V3</td>
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<tr>
<td>8. Quality, Public Health and Research</td>
<td>✓ CDA R2, HL7 V2, HL7 V3</td>
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<tr>
<td>9. Patient Care Devices</td>
<td>✓ HL7 V2</td>
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<tr>
<td>10. Pharmacy</td>
<td>✓ HL7 V2</td>
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<tr>
<td>11. Eyecare</td>
<td>✓ HL7 V2</td>
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Other Standards used by IHE

- ASTM
- DICOM
- IEEE
- IETF
- ISO
- LOINC
- OASIS
- SNOMED
- W3C
Organizational Comparison

- **IHE**
  - Profiling Organization
  - 11 Domains
    - Planning
    - Technical
  - Domain Sponsors
  - Domain Co-chairs
  - National Deployment Committees
  - Public Comment Process
    - ISO TR Process
    - Open Comment Period
    - All Comments Answered
    - Domain Committee Vote
    - Schedule Driven

- **HL7**
  - Standards Development Organization
  - ~ 50 Working Groups
  - 4 Steering Divisions
  - Technical Steering Committee
  - Architecture Review Board
  - National Affiliates
  - Balloting Process
    - Membership Vote
    - All Comments Answered
    - 60% (Draft)/90% (Standard) Approval
    - No Fixed Schedule
IHE is a Profiling Organization

Profile = Implementation Guide

- Organized around Use Cases
- Uses Multiple Industry Consensus Standards
  - Relies on Developed Standards
  - Coordinates with Standards Organizations
- Constrains Use
A History of IHE/HL7 Collaboration

- 2005 HL7 / IHE Connectathon and Demonstration
- Memoranda of Understanding
  - IHE and HL7 Members treated equally by both organizations
  - Joint Meetings at HL7 WGM
- Overlapping Membership
  - HL7 Members permeate throughout IHE
  - IHE Members permeate throughout HL7
- Overlapping Leadership
- HL7 CEO on IHE Board
- IHE Profiles use HL7 Standards
- HL7 Implementation Guides use IHE Profiles
Patient Identifier Cross-referencing (PIX)
- Supports determination of matching patient identifiers (ADT^A01, A04, A05, A08, A31, A40; Q23)

Patient Synchronized Applications (PSA)
- CCOW synchronization (Patient Context, User Context)

Patient Demographics Query (PDQ)
- Query for patient ID given partial or complete demographic information (Q22, Q23, ZV1)

Scanned Documents (XDS-SD)
- CDA for Sharing Scanned Documents

Basic Patient Privacy Consents
- CDA Structures to Indicate Consent to Privacy Policies
Document-based Referral Request (DRR)
- Transmission of requests for consultation or referral (ORM)

PIX and PDQ using HL7 v3
- Adds use of HL7 v3 to PIX and PDQ Pediatric (Patient Registry Query – HL7v3)

Demographics Option for PIX and PDQ
- Add information needed for pediatric patients

Sharing Value Sets (SVS)
- Publication and distribution of value sets to value set users (CTS informative reference)
IHE Laboratory Profiles

- **HL7 Version 2.5.1**
  - Laboratory Testing Workflow (LTW)
  - Laboratory Device Automation (LDA)
  - Laboratory Barcode Labeling (LBL)
  - Laboratory Point Of Care Testing (LPOCT)
  - Laboratory Code Sets Distribution (LCSD)
  - Inter Laboratory Workflow (ILW - trial)

- **CDA Release 2.0**
  - Sharing Laboratory Reports (XD-LAB)
Patient Care Coordination

Clinical Document Architecture and CCD

- Final Text
  - Medical Summaries (XDS-MS), Emergency Department Referral (EDR), Exchange of Personal Health Record Content (XPHR)

- Trial Implementation
  - Emergency Department Encounter Summary (EDES), Antepartum Record (APR), Labor and Delivery Record (LDR), Functional Status Assessments (FSA), Immunization Content (IC), Patient Plan of Care (PPOC), EMS Transfers of Care (ETC)

- New for 2010
  - Perioperative Plan of Care
  - Post-Partum Visit Summary
  - Newborn Discharge Summary
  - Perinatal Workflow
Patient Care Coordination

- **HL7 V3 Care Record and Care Record Query (Trial Implementation)**
  - Query for Existing Data (QED)
  - Care Management (CM)
  - Request for Clinical Guidance (RCG)

- **HL7 Version 2 (All new for 2010)**
  - Perinatal Workflow
    - V2.5.1 ADT/ORL/ORU
  - Patient Centered Coordination Plan
    - V2.5.1 ADT/ORM?
Patient Care Devices

- Device Enterprise Communications (DEC)
- Alarm Communication Management (ACM)
- Subscribe to Patient Data (SPD)
- Patient Identity Binding (PIB)
- Point of Care Infusion Verification (PIV)
Other Domains

Radiology
- Structured Workflow (SWF)
- Patient Information Reconciliation (PIR)
- Simple Image and Numeric Report (SINR)
- Charge Posting (CHG)

Cardiology
- Cath Workflow (CATH)
- Echo Workflow (ECHO)
Other Commitments to HL7

- HL7 Templates Registry Pilot Project
  - Commitment to Store and Test IHE PCC, ITI and Lab Templates to the Registry
- HL7, IHE, HITSP, EHRA
  - Coordination on CCD Implementation
IHE, HL7 and Meaningful Use

- **Patient Summary Exchange**
  - CCD -> Exchange of Personal Health Records (XPHR)

- **Laboratory Results**
  - HL7 V2.5.1 -> Laboratory Testing Workflow (LTW)

- **CPOE**
  - HL7 V2.5.1 -> LTW, Radiology Structured Workflow (SWF)

- **Patient Demographics**
  - HL7 V2.5.1 -> IHE PIX and PDQ

- **Problems, Medications and Allergies**
  - HL7 CDA Release 2.0 and CCD -> IHE Medical Summaries

- **Discharge Summaries**
  - HL7 CDA Release 2.0 -> IHE XDS-MS Discharge Summary
Questions
Resources

- **IHE Website**
  - [http://www.ihe.net](http://www.ihe.net)

- **IHE Wiki**
  - [http://wiki.ihe.net](http://wiki.ihe.net)