Section D

HIT Standardization Phases and Entities (Continued)
**Standardization Phases**

- Needs and priorities

- *What should be accomplished?*
### Setting Priorities in Standards for Public Health

#### AHIC Priorities and Use Case Roadmap

<table>
<thead>
<tr>
<th>2006 Use Case</th>
<th>2007 Use Cases</th>
<th>2008 Use Cases</th>
<th>2009 Use Case Work</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consumer Empowerment Use Case</strong></td>
<td><strong>Consumer Access to Clinical Information</strong></td>
<td><strong>Remote Monitoring</strong></td>
<td><strong>General Laboratory Orders</strong></td>
</tr>
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<td>- Registration</td>
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<td>- Remote Monitoring of Vital Signs and Labs (Glucose)</td>
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<td>- Provider Permissions</td>
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<td>- Common Device Connectivity</td>
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<td></td>
<td>- PHR Transfer</td>
<td>- Structured email</td>
<td>- Clinical Encounter Note Details</td>
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<tr>
<td><strong>EHR Use Case</strong></td>
<td><strong>Emergency Responder EHR</strong></td>
<td><strong>Medication Management</strong></td>
<td><strong>Order Sets</strong></td>
</tr>
<tr>
<td>- Laboratory Result Reporting</td>
<td>- On-Site Care</td>
<td>- Medication Reconciliation</td>
<td>- Consumer Preferences</td>
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<td>- Emergency Care</td>
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<td>- Common Data Transport</td>
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<td></td>
<td>- Definitive Care</td>
<td>- Ambulatory Prescriptions</td>
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<td></td>
<td>- Provider Authentication and Authorization</td>
<td>- Contra-indications</td>
<td>- Medical Home: Co-Morbidity</td>
</tr>
<tr>
<td><strong>Biosurveillance Use Case</strong></td>
<td><strong>Quality</strong></td>
<td><strong>Consultations and Transfers of Care</strong></td>
<td><strong>Medical Home: Registries</strong></td>
</tr>
<tr>
<td>- Visit</td>
<td>- Hospital Measurement and Reporting</td>
<td>- Referrals</td>
<td>- Maternal and Child Health: Pediatric focused</td>
</tr>
<tr>
<td>- Utilization</td>
<td>- Clinician Measurement and Reporting</td>
<td>- Problem Lists</td>
<td>- Maternal and Child Health: Adult-focused</td>
</tr>
<tr>
<td>- Clinical Data</td>
<td>- Feedback to Clinicians</td>
<td>- Transfer of Care</td>
<td>- Prior Auth &amp; Sched for TPO: Prior Authorization</td>
</tr>
<tr>
<td>- Lab and Radiology</td>
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<td></td>
<td>- Prior Auth &amp; Sched for TPO: Scheduling</td>
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<td></td>
<td>- Long Term Care Assessments</td>
</tr>
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<td></td>
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<td></td>
<td>- Consumer AE Reporting</td>
</tr>
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</table>

#### Public Health Case Reporting

- Case Reporting
- Bidirectional Communication
- Labs
- Adverse Events

#### Immunizations & Response Management

- Resource Identification
- Vaccine
- EHR Data
Setting Priorities in Standards for Public Health

Goal:
This is part of an evolutionary path
There will be incremental growth
All journeys start with a few steps

2011-2012
Current CMS NPRM

Stage 1
- ePrescribing
- Lab results into EHRs
- Send clinical summary to providers and patient
- Public health reporting
- Quality reporting (2012)

2013-2016
Future CMS rule

Stage 2
- Patient PHR access
- ePrescribing refills
- Electronic summary record
- Receive health alerts
- Immunization information

2015-2016
Future CMS rule

Stage 3
- Access comprehensive patient data
- Automated real-time surveillance

The following public health programs are included in the Meaningful Use of Health IT—Stage 1 (2011):
- Laboratory data reporting to public health agencies
- Immunization data reporting to public health agencies
- Syndromic surveillance data reporting to public health agencies

Public health agencies can electronically receive them ...

Standardization Phases

- Standards development and maintenance
- What are the standards?
Standard Development and Maintenance

- **Standard Development Organizations (SDOs)**
  - SNOMED (clinical terminology)
  - LOINC (laboratory standards)
  - NCPDP (drugs standards)
  - DICOM (images standards)
  - HL7 (messaging and structured document standards)

- **Data Content Committees (DCCs)**
  - National Uniform Billing Committee (NUBC)
  - National Uniform Claims Committee (NUCC)
  - CDISC (clinical trial data reporting to FDA)
Standardization Phases

- Standards harmonization

- What standards to use?
Standard Harmonization Organizations (SHOs)
- Health Information Technology Standards Panel (HITSP), [www.hitsp.org](http://www.hitsp.org)
- Integrating the Healthcare Enterprise (IHE), [www.ihe.net](http://www.ihe.net)
Discussion Document

Standards Harmonization Technical Committees Update
Report to the Healthcare Information Technology Standards Panel

Contract HHSP23320054103EC

Health Information Technology Standardization Panel (HITSP) includes 206 member organizations:

- 17 SDOs (8%)
- 161 non-SDOs (79%)
- 18 governmental bodies (8%)
- 10 consumer groups (5%)

URL: http://www.hitsp.org
(Standards harmonization document)

From: use case (scenarios, business actors, and business and functional/interoperability requirements)

To: interoperability specification supporting the use cases (technical actors, transactions, standards)
### Setting Priorities in Standards for Public Health

#### AHIC Priorities and Use Case Roadmap

**2006**
- Consumer Empowerment Use Case
  - Registration
  - Medication History

**2007 Use Cases**
- Consumer Access to Clinical Information
  - Access to Clinical Data
  - Provider Permissions
  - PHR Transfer

**2008 Use Cases**
- Remote Monitoring
  - Remote Monitoring of Vital Signs and Labs (Glucose)

- Patient – Provider Secure Messaging
  - Structured email
  - Reminders

**2009 Use Case Work**
- General Laboratory Orders
- Medication Gaps
- Common Device Connectivity
- Clinical Encounter Note Details
- Order Sets
- Consumer Preferences
- Common Data Transport
- Newborn Screening
- Medical Home: Co-Morbidity
- Medical Home: Registries
- Maternal and Child Health: Pediatric focused
- Maternal and Child Health: Adult-focused
- Prior Auth & Sched for TPO: Prior Authorization
- Prior Auth & Sched for TPO: Scheduling
- Long Term Care Assessments
- Consumer AE Reporting
National Biosurveillance Use Case

- Charge: “transmit essential data from electronically enabled healthcare to authorized public health agencies in real-time”
Biosurveillance Use Case: Workflow

Event Detection

1. Neighboring Jurisdictions
2. Hospital
3. State Public Health Surveillance System
4. Local Public Health Surveillance System
5. DHHS
6. Media
7. Pharmacy
8. Response Team
9. Laboratory
10. Order test
11. Report test result electronically & by phone
12. Data mining of EMR notes
13. Report on the positive case electronically & by phone

4 - Report/retrieve of symptoms, diagnosis & medication prescription data from EHRS
7 - Notify on increased number of cases & recommend to order specific tests
11 - Report test result electronically & by phone
Biosurveillance

AHIC–ONC BIO Consolidated Use Case

Biosurveillance – Patient-level and Resource Utilization Interoperability Specification

Component
Resource Utilization

Base
Std
HL7 V2.5
ORU ’R01

HAV
EDXL

Terminology Standards

HCPCS
CPT
LOINC

SNOMED-CT
SNOMED-CT
NCCLS
NCCLS

ICD-9/10
ICD-9/10
UB-92
UB-92

FIPS 5.2
FIPS 5.2

UCUM
URL
Standard Harmonization Organizations (SHOs)

- Health Information Technology Standards Panel (HITSP), [www.hitsp.org](http://www.hitsp.org)
- Integrating the Healthcare Enterprise (IHE), [www.ihe.net](http://www.ihe.net)
Standardization Phases

- Trial implementation and testing
  
  *Show what can be accomplished*
Standards Trial Implementation

Clinical Care
Hospital of Birth

Public Health Surveillance
State Health Department

- ADT birth record
- Newborn screening test
- Hearing screening test
- Immunization administration
- External laboratory

EHR-PH Info Exchange

- HL7 2.4
- HL7 3.0
- HL7 3.0
- HL7 2.4
- HL7 2.4

Health transaction base

- HL7 3.0
- J2EE
- J2EE

Newborn screening registry
- HL7 3.0

Hearing screening registry
- HL7 3.0

Immunization registry
- HL7 2.4

Communicable disease registry

Healthcare transaction viewer

Providers, PUBLIC HEALTH and Software Developers Working Together to Deliver Interoperable Health Information Systems in the Enterprise and Across Care Settings

PHDSC was invited to form a public health domain at IHE
Integrating the Healthcare Enterprise (IHE)

- White papers
- Technical frameworks
- Integration profiles
- Content profiles
- Testing tools
Health IT Vendors Involved in IHE

Leadership

Implementer

Supporter

Organizational Participants

Participants as of 11/20/06 © 2006 Healthcare Information and Management Systems Society
Standards Testing IHE Connectathon

- 300+ participants, 120+ systems
- 60+ systems developers
- Four domains
  - Cardiology
  - IT infrastructure
  - Patient care coordination
  - Radiology
- 2800+ monitored test cases

Photo source: IHE.net. Permission pending.
Public Health Testing at IHE

- Develop HIT testing methods and tools for public health
  - Early hearing detection and intervention
  - Vital records
  - Cancer registries
Standardization Phases

- Certification of standards-based products

- *Certify standards-based IT products*
Standard Certification

- Certification Commission for Health Information Technology (CCHIT)
  - www.cchit.org
Public Health Systems Certification

- Develop HIT certification for public health through public health functional profile
  - Early hearing detection and intervention
  - Vital records
  - Cancer
  - Communicable diseases
### PHDSC Business Case

#### PHDSC Business Case: HIT Standardization Phases, Products and Entities

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<th>Needs and priorities</th>
<th>Development and maintenance</th>
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<td>Standards</td>
<td>Interoperability specifications</td>
<td>Technical frameworks</td>
<td>Integration profiles</td>
<td>Test reports</td>
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<td>On-going activities (2008-now)</td>
<td>Developed methodology for public health participation in HIT standards development and harmonization</td>
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<td>New activities (2010-11)</td>
<td>Develop methodology for public health participation in HIT product testing and certification</td>
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<td>Future activities</td>
<td>Develop methodology for evaluation of standard-based HIT products (HIT adoption)</td>
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ONC Standards and Interoperability Framework

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### Diagram

- **Use Case Development and Functional Requirements (Accenture)**
- **Harmonization of Core Concepts (Deloitte)**
- **Implementation Specifications (Deloitte)**
- **Reference Implementation (Lockheed Martin)**
- **Certification and Testing (Stanley/Deloitte)**

**Tools and Services**

- Use Case Development, Harmonization Tools, Vocabulary Browser, Value Set Repository, Testing Scripts, etc.

**Deployment reports**
Standardization Phases

- Deployment of standards-based products
- *Deploy standards-based IT products*
Standard Deployment

- US