



eHEALTH INITIATIVE

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S&I Framework: Collaborative Initiatives Leading the Nation into the New Era of Health Information Exchange

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Reminder

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(6 to mute, *7 to unmute)*



About eHealth Initiative

- Since 2001, eHealth Initiative is the only national, non-partisan group that represents all the stakeholders in healthcare. Represent over 15 different stakeholder groups and 39 states across the nation.
- Mission to promote use of information and technology in healthcare to improve quality, safety and efficiency.
- Last year, over 4500 individuals attended our events and 500+ individuals participated in our national councils and workgroups
- eHealth Initiative focuses its research, education and advocacy efforts in four areas:
 - Data and Analytics
 - IT Infrastructure to Support Accountable Care
 - Technology for Patients with Chronic Disease
 - Data Exchange & Interoperability



Agenda

4:00 – 4:05 PM Welcome and Introductions

4:05 – 4:30 PM S&I Framework Overview & New Developments

- Dr. Lauren Thompson, *Office of the National Coordinator for Health IT (ONC)*
- Mera Choi, *Office of the National Coordinator for Health IT (ONC)*

Live Demo of MUSICO

- Mike Flanigan, *Enterprise Science and Computing (ESAC)*

4:30 – 4:45 PM Implementer Perspective

- Calvin Beebe, Technical Specialist II, *Mayo Clinic*

4:45 – 4:55 PM Discussion

4:55 – 5:00 PM Updates and announcements of eHI future events.

5:00 PM Adjourn



Dr. Lauren Thompson



ONC:

Director Federal Health Agriculture (FHA); Director of Standards, Office of Science and Technology

Mera Choi



ONC:

S&I Framework Coordinator, Standards & Interoperability, Office of Science and Technology





The Office of the National Coordinator for
Health Information Technology



S&I Framework Update

eHI Policy Workgroup

November 21, 2013

Lauren Thompson, PhD
Director, Federal Health Architecture
Directory, Standards & Interoperability, Office of Science and
Technology

Mera Choi
Office of Science & Technology

Putting the **I** in Health **IT**
www.HealthIT.gov



Timing

Framework Launch Date	Jan 7, 2011
First Initiative Launch Date	Jan 31, 2011
Elapsed Time since Initiative Launch (as-of today)	33 months

Participation & Process

# Wiki Registrants	2732
# Committed Members	757
# Committed Organizations	580
# Working Sessions Held	2,038
S&I Face to Face meetings	3
Standards Organizations engaged	35
S&I Monthly Newsletter Editions	21
SDS Newsletter Subscribers	1,925

Outputs

# Consensus Approved Use Cases	19
# Pilots Committed	39
# Pilot Vendors	42
Total Ballots	24
# Total HL7 Ballot Comments Received	5,983
# HL7 Ballot Comments Resolved	3,766

S&I Initiative Portfolio Snapshot



	Pre-Discovery	Use Case	Harmonization	RI, Test & Pilot	Evaluation
Direct Project (S&I Archetype)					<i>In production</i>
Transitions of Care					<i>C-CDA Companion Guide for Meaningful Use balloted in September 2013 and is now under ballot reconciliation</i>
Lab Results Interface					<i>IG & Second Errata Published; 2014 CEHRT In Progress, IG preparation for normative ballot 2013</i>
Query Health					<i>Pilots completed, QRDA III Published, HQMF R2 DSTU to be published November 2013</i>
Data Segmentation for Privacy					<i>Pilots in Evaluation, IG in normative recirculation ballot with HL7 Security WG, RESTful IG still in IHE SDO adoption process</i>
Public Health Reporting					<i>Community-Led; RI Framework and CDA guide published; Testing & Pilots in progress; community will be meeting on a monthly basis</i>
eSMD					<i>IG and UC consensus closed for UC 1, UC 2, AoR L1, and Prov. Dirs. Guidance, UC consensus closed for AoR L2 eDoC Generic Use Case, and eDoC PMD User Story, AoR L2 IG DSTU is now in ballot reconciliation</i>

S&I Initiative Portfolio Snapshot, continued



	Pre-Discovery	Use Case	Harmonization	RI, Test & Pilot	Evaluation
Longitudinal Coordination of Care	<i>Community-Led; 1st UC Complete; PAS SWG Complete; Created 'Care Plan' Glossary for HITPC & HL7; Use Case 2: Care Plan Exchange Complete; C-CDA updates for Sept HL7 Ballot in ballot reconciliation; Pilots SWG launched 9/16</i>				
Laboratory Orders Interface	<i>Second Ballot reconciliation in process for LOI IG; Lab pilot efforts include LOI and eDOS ; Target publication November 2013</i>				
Health eDecisions	<i>Use Case 1: Knowledge Artifact Sharing Model, Schema and IG was approved by HL7, UC 1 Pilots Complete. Use Case 2: CDS Guidance Service achieved consensus. Balloted 4 HL7 specifications in September 2013. Preparing for UC2 pilots.</i>				
Blue Button Plus	<i>Push & Pull IG's complete – now focused on adoption/implementation. Pilot WG in planning; Re-starting Payer WG to complete payer guidance.</i>				
Structure Data Capture	<i>Use Case & Standard solution plan consensus complete ; IG development in progress. Form SWG working on schema development. Public Health SWG in User Story review. Pilots planning has begun.</i>				
EU/US eHealth Cooperation	<i>Continuing to support 2 work groups: Interoperability WG – in process of developing a Use Case for completion by mid December & Workforce Development. WG – mapping skills within Acute Care setting to roles in EU and US</i>				
Data Access Framework	<i>Working on the development of the Local Data Access Use Case, targeted to be consented by EOM November/early December</i>				
PDMP – HIT Integration	<i>Project Charter Drafted, Kickoff launched on 11/14</i>				

- [S&I Pilots website](#) indicates geographically where all pilots are located



Charter/Scope Summary

- The Use Case focuses on the generic Functionality required to access a form or template, generated by a CDE, form, or template library, displayed in an EHR system and saved/stored in a structured, standardized format sent to an External Data Repository
 - Identified Content Work stream SWGs
 - Patient-Centered Outcomes Research (PCOR) (NLM)
 - Common Formats (AHRQ)
 - Technical Work stream SWG focused on development of four guidance areas: CDE Structure, Form/Template Structure, EHR-Interaction, and Auto-populate

Leadership Team

- Initiative Coordinator: Evelyn Gallego
- ONC Lead: Farrah Darbouze
- SME (ONC): Jamie Skipper, Jiuyi Hua
- External SME: Lisa Lang (NLM), Amy Helwig (AHRQ)
- Community Standards SWG Lead: Dr. Ken Pool

Current Status

- Two Implementation Guides are targeted for development based on REST/OAuth & SOAP/SAML
 - SOAP/SAML IG will be balloted through IHE as an SDC Quality, Research and Public Health (QRPH) Content Profile
 - REST/OAuth IG is planning on attempting a ballot through HL7 once FHIR resources are created
- Technical work streams:
 - Forms SWG kickoff was 6/5 - Led by AHRQ, NLM – *now drafting relevant IG sections for incorporation*
 - Standards SWG kickoff was 7/11 – *recommendations transitioned to IG development as of 8/29*
- Charter approved through consensus on 3/15/2013
- Use Case approved through consensus on 5/30/2013
- Standards solution plan has gone through consensus and will be established 9/17 after the publication of the IHE ITI Volume 10 Framework with updates made to the RFD Profile
- Public Health SWG is undergoing User Story review
- Pilot Outreach continues

Charter/Scope Summary

The value of the DAF initiative will be demonstrated through two work streams that enable providers to access their own patient's data both locally and externally

Local Data Access: A standardized way for providers to access their own patient(s)' data within the health organizations internal Health IT system

Targeted Data Access: A standardized way for providers to access a *known* individual patient's data from an external organization

The Initiative will leverage existing industry standards to create a framework that demonstrates modularity and substitutability for a limited set of standards combinations based on identified business requirements of the community.

Leadership Team

- Initiative Coordinator: John Feikema
- ONC Lead: Mera Choi

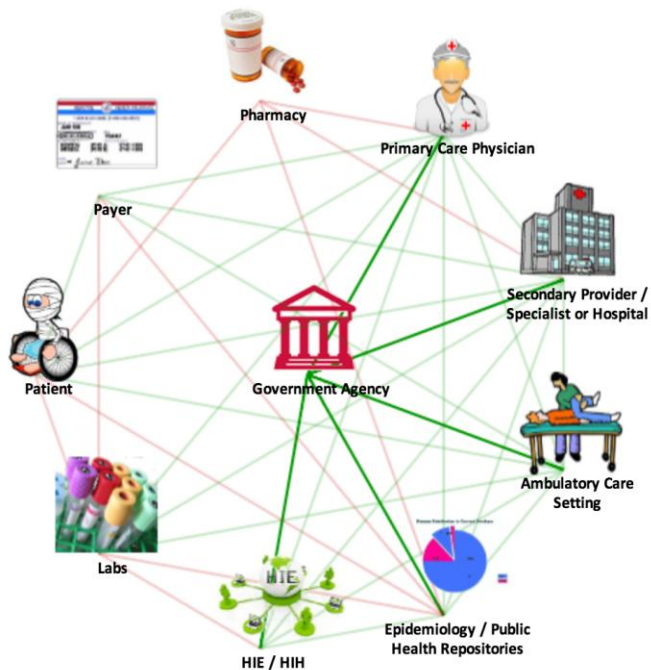
Current Status

- Discussed addition of 3rd User Story to Local DAF Use Case about Patient Portability 10/23
- Introduced and began discussing Data Requirements 10/23
- Local DAF Use Case is targeted to be concluded with consensus by 11/20
- DAF IHE Brief Proposal was accepted as a white paper into the Patient Care Coordination domain of IHE 10/09. PCC technical meetings will take place 11/12-11/13 to review DAF white paper.
- Targeted Data Access Workstream to develop Use Case from Late November- Mid January 2013

- MUSICO is a graphical tool that allows a user to explore existing relationships among roles (patient, primary care provider, etc.) based on initiatives and their associated standards and Meaningful Use requirements.
- MUSICO can also be used for gap analysis, i.e., where there is a need for standards that address interoperability needed in the health IT infrastructure.

Initial view is the graph of actors along with instructions for use:

Meaningful Use - S&I Framework Coordination (MUSICO)



MUSICO allows you to view the relationships between the different parties involved in the healthcare ecosystem as they relate to Meaningful Use and Standards Development

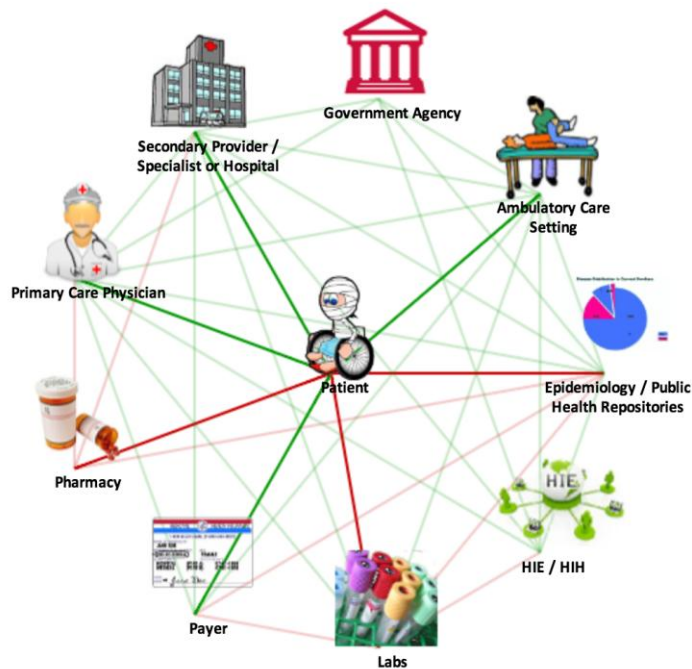
Instructions:

1. Left-Click on an actor to bring it to the center of the visualization tool
2. Right-Click on a second actor to view the S&I initiatives that share the relationship between the two actors

KEY	
	Exists in S&I
	Initiative TBD
	No Relationship Exists

After selecting a pair of actors (e.g., Patient and Ambulatory Care Setting) MUSICO displays the associated initiatives and applicable MU Alignment and Standards:

Meaningful Use - S&I Framework Coordination (MUSICO)



Patient ↔ Ambulatory Care Setting

Initiatives

Blue Button+ (BB+)

Initiative Description: Blue Button+ gives users the ability to obtain their healthcare records in a human-readable and machine-readable format; and to send them where they choose. Through Blue Button+, consumers will have the ability to exercise more access to and portability of their health care information. With the right privacy and security assurances, they will be able to:

- Better understand their health and make more informed decisions
- Help to make sure that they and all of their care team members are on the same page
- Improve the accuracy and completeness of the information
- Plug it into apps and tools that promise to make information truly available, when and where it is needed

Meaningful Use Alignment

- Improve Quality
 - Use of Automated Blue Button (SGRP 204A)
- Engage Patients & Family
 - View/Download/Transmit (SGRP 204A)

Standards in use

- Direct
- Consolidated-CDA
- OAuth 2.0 & Open ID
- FHIR

- Other views of the relationships:
 - A graph with with initiatives at the nodes, with the links defined by common standards.
- A search capability:
 - Select or search for a standard, and the graph will display all the initiatives that use that standard.

ONC website:

www.healthit.gov/

Putting the **I** in Health **IT** 

S&I Framework Wiki:

<http://wiki.siframework.org/>

 **S&I FRAMEWORK**

Calvin Beebe



Technical Specialist II
Mayo Clinic





S&I Framework

The Benefits of Collaborative Activities

Outline

- S&I Transition of Care Initiatives
 - Development of Consolidated CDA IG
 - Development of Companion Guide for C-CDA & Meaningful Use 2

Purpose

- **Meaningful Use:** Several Meaningful Use Stage 1 objectives call for key clinical information and/or Summary Records to be exchanged among providers and to be made available from providers to patients.
- One of the standards specified in the Standards Final Rule for this purpose is the HL7 CDA Release 2, Continuity of Care Document (CCD) to be implemented according to HITSP C32.
- This project will identify and address issues which are impacting implementation of C32 and other clinical content specifications that are based on Templated CDA.

Goals

- Consolidate the implementation guides for the eight HL7/Health Story clinical document types into a single library of CDA Templates and use model-driven tools to re-publish them from this library
- Update and harmonize C32 – CCD, while addressing known issues (ambiguity, gaps, etc.)
- Deliver a single, implementation-ready, implementer-friendly package, which includes both textual and computable representations
- Development of a testing solution to enable implementers to validate their output

Output: Consolidated CDA

Technical Name:

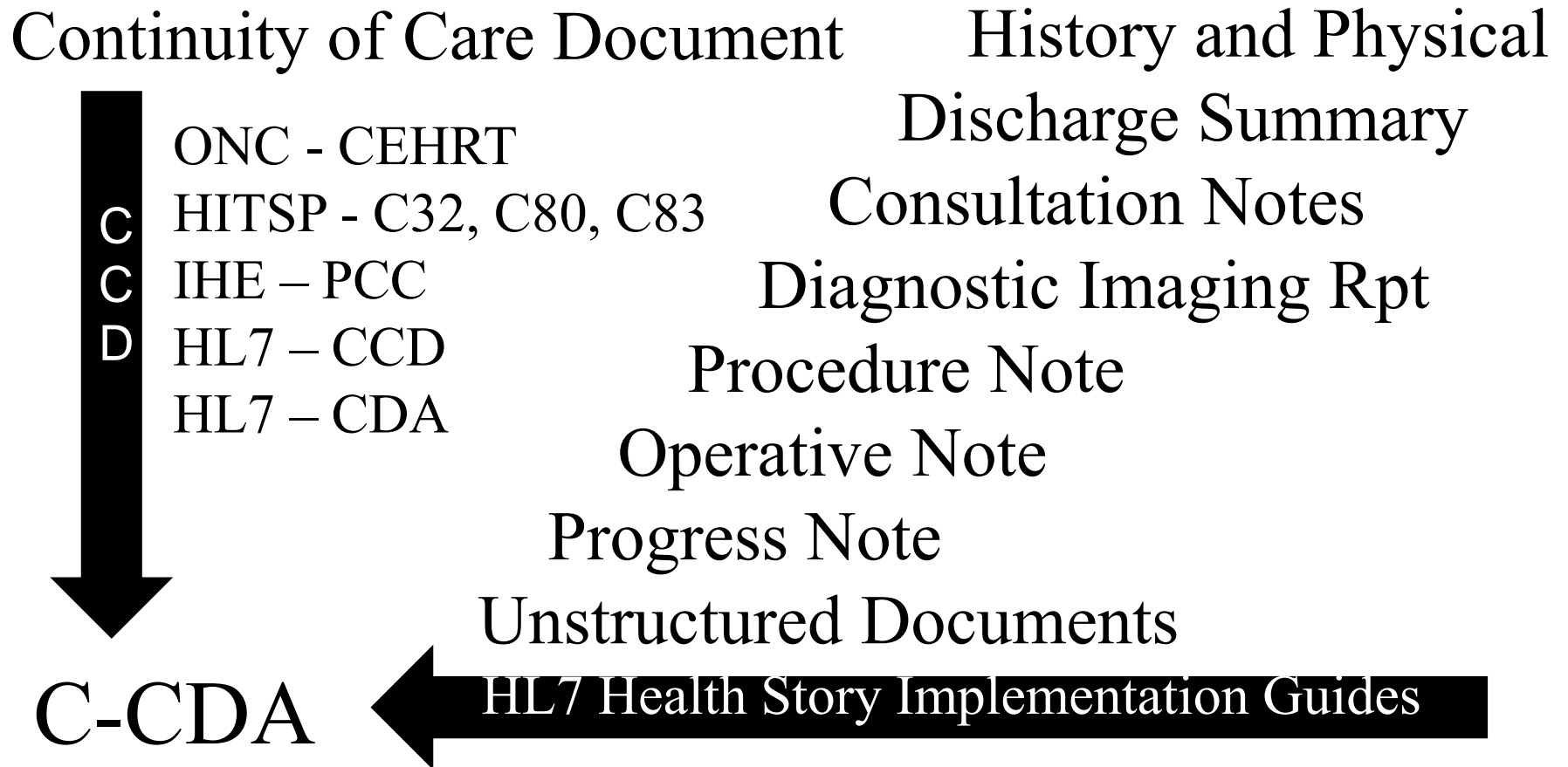
HL7 Implementation Guides for CDA Release 2: IHE Health Story Consolidation, DSTU Release 1.1 - US Realm

Called: Consolidated CDA, C-CDA ...

- The C-CDA contains a library of CDA templates.
- Updates 9 CDA document types, including CCD
- Harmonizes previous HL7, IHE, HITSP efforts

It consolidated previous document templates into a single library, resolving conflicts, ambiguities as needed!

Consolidated CDA (C-CDA)



C-CDA Features

- New conformance rules were not introduced unless an ambiguity or conflict existed among the standards.
- Meaningful Use Support:
 - All CDA templates required for Final Rules for Stage 1 Meaningful Use² are included in the guide.
 - Many aspects of this guide were designed to meet the anticipated clinical document exchange requirements of Stage 2 Meaningful Use, which had not been released when this guide was published.
- Additional optional CDA elements, not included here, can be included and the result will be compliant with the documents in this standard.

Summary – Consolidated CDA

- Reduced the ambiguity in the CCD / C32 specifications stack
- Demonstration of model driven templated CDA
- Defined a single reference for US implementation guides based on CDA

And...

Consolidated CDA was developed prior to the release of the Final Rule for Meaningful Use Stage 2

Companion Guide

MU2 requirements in the context of C-CDA

Mapping the MU 2 Requirements to C-CDA



Purpose of the Companion Guide

- **Supplements the C-CDA IG** to provide additional context to assist implementers and connect them to tools and resources
- Provides **technical guidance for representing the 2014 Ed. CEHRT data requirements** using the C-CDA IG
- Includes **clinically-valid examples** of C-CDA components necessary to meet 2014 Ed. CEHRT requirements
- Recommends an **approach to implementations using the C-CDA IG** to meet the needs of clinicians and achieve Meaningful Use

What you will find in the Companion Guide Document

Section	Title	Description
1	Introduction	Overview of Companion Guide development and TOC Initiative
2	Understanding the C-CDA	Navigating the C-CDA IG, migration considerations (MU1 to MU2), implementation considerations for MU2 data requirements
3	Implementing MU Requirements	All representations of data requirements in C-CDA, best practices guidance (XML examples available separately)
4	C-CDA Document Alignment	Aligning MU2 requirements to the structured documents available in the C-CDA IG
5	Initiative Recommended Approach	Specific approach for implementing a CCD to meet MU2 requirements and needs of clinicians
6	Tools & Resources	Additional C-CDA and MU2 educational materials and tools to assist implementers
Appendix A	Clinical Best Practices	Considerations for clinicians, implications of Direct
Appendix B	C-CDA Document Requirements	Lists requirements for each of the eight structured documents in the C-CDA IG
Appendix C	Moving from HITSP C32 to CCD 1.1	Specific guidance for migrating from MU1 to MU2

What you will find in the Requirements-Mapping Spreadsheet

- List of all MU2 data requirements
- Mappings of MU2 data requirements to C-CDA
- Breakdown of requirements by summary type

MU2 Data Set and Summary Types					
C-CDA Template <i>(entries required where vocabulary is specified by MU2)</i>	MU2 Data Elements <i>(blue indicates Common MU Data Set)</i>	MU2 170.314(b)(2) Transition of Care/Referral Summary	MU2 170.314(b)(7) Data Portability Export Summary	MU2 170.314 (e)(1) VDT Ambulatory or Inpatient Summary	MU2 170.314(e)(2) Clinical Summary
C-CDA General Header Template					
recordTarget/patientRole					
patient/name	Patient Name	X	X	X	X
patient/administrativeGenderCode	Patient Sex	X	X	X	X
patient/birthTime	Patient Date of Birth	X	X	X	X
patient/raceCode	Patient Race	X	X	X	X
patient/ethnicGroupCode	Patient Ethnicity	X	X	X	X
patient/languageCommunication	Patient Preferred Language	X	X	X	X
componentOf					
encompassingEncounter/responsibleParty	Provider Name and Office Contact Information	X (Ambulatory)	X (Ambulatory)	X (Ambulatory)	X
encompassingEncounter/encounterParticipants	Care Team Members	X	X	X	X
encompassingEncounter/effectiveTime	Admission and Discharge Dates			X (Inpatient)	
	Date of Visit				X
encompassingEncounter/location	Admission and Discharge Location			X (Inpatient)	
	Visit Location				X
documentationOf/serviceEvent					
assignedEntity/assignedPerson	Care Team Members	X	X	X	X

What you will find in the XML Sample Files

- Annotated examples of recommended C-CDA sections including entries for MU2 data requirements to demonstrate how MU2 data requirements are represented

CCD XML

```

<title>RESULTS</title>
<text>
  <list listType="ordered">
    <item><content ID="result1">Cholesterol - 176 mg/dL (normal)</content></item>
    <item><content ID="result2">Triglyceride - 100 mg/dL (normal)</content></item>
    <item><content ID="result3">HDL - 60 mg/dL (normal)</content></item>
    <item><content ID="result4">LDL - 116 mg/dL (normal)</content></item>
  </list>
</text>
<entry typeCode="DRIV">
  <organizer classCode="BATTERY" moodCode="EVN">
    <!-- Result organizer template -->
    <templateId root="2.16.840.1.113883.10.20.22.4.1"/>
    <id root="ddeb44f2-1085-49f3-b5f5-217060b8af2a"/>
    <code xsi:type="CE" code="24331-1"
      displayName="Lipid 1996 panel in Serum or Plasma"
      codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
    <statusCode code="completed"/>
    <component>
      <observation classCode="OBS" moodCode="EVN">
        <!-- Result observation template -->
        <templateId root="2.16.840.1.113883.10.20.22.4.2"/>
        <id root="8f6e2505-1ba8-4623-9905-79eac6a5c604"/>
        <code xsi:type="CE" code="2093-3"
          displayName="Cholesterol [Mass/volume] in Serum or Plasma"
          codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
        <text>
          <reference value="#result1"/>
        </text>
        <statusCode code="completed"/>
        <effectiveTime value="20110914"/>
        <value xsi:type="PQ" value="176" unit="mg/dL"/>
        <interpretationCode code="n" displayName="Normal"
          codeSystem="2.16.840.1.113883.5.83"
          codeSystemName="ObservationInterpretation"/>
        <referenceRange>
          <observationRange>
            <text>Recommended: 0-199; Moderate Risk: 200-239; High Risk:
              240+</text>
          </observationRange>
        </referenceRange>
      </observation>
    </component>
  </organizer>
</entry>

```

Narrative Text for Human Review

Cholesterol

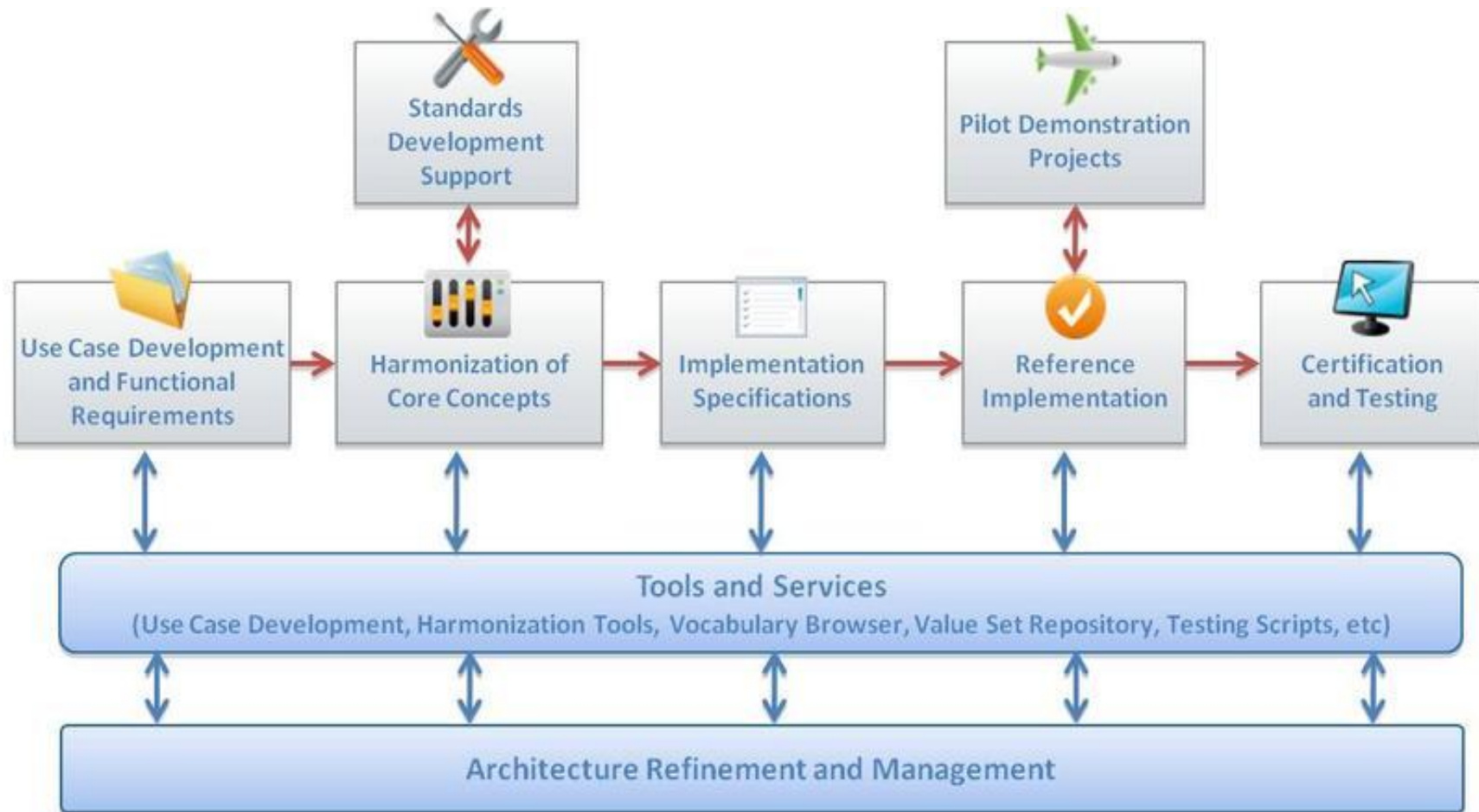
Code

Observed Value and Interpretation

C-CDA Companion Guide for MU2

- Bridges the gap between MU 2 requirements and Consolidated CDA.
 - Explores the fitness of various document types to satisfy MU 2
 - Provides a mapping of MU 2 data sets into the C-CDA specification stack.
 - Provides sample XML documents for implementers to review.

Summary - S&I Framework Functions





Journey → Semantic Interoperability

Summary

- As noted, the S&I Framework process has made vast improvements in the CDA based interoperability resources available to the industry.
- We are on a journey, and there is still room for improvements, so I would encourage your organization to participate as best it can in the S&I Framework and/or other SDO activities.

Discussion

To ask a question or make a comment,
submit via the chat feature.



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**Next Policy Workgroup Webinar
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