The Consolidated CDA (C-CDA) Implementation Guide and Templated CDA

Calvin E. Beebe
Mayo Clinic
Co-chair SDWG
HL7 Board Treasurer
What is templated CDA?
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**History**
- Frequency of wheezing:
  - Daily and continual.
  - Daily but not continual.
- Episodes per week: ________________

**Labs**
- Peak Flow: __________ l/min.

**Assessment**
- Asthma, Intermittent.
- Asthma, Mild Persistent.
- Asthma, Moderate Persistent.
- Asthma, Severe Persistent.

**Plan**
- Pneumococcal Vaccine
- Complete PFTs with lung volumes.
- Provide education on peak flow self-monitoring.
- Environmental and Occupational screening questionnaire.
- Teach inhaler/spacer/holding chamber technique.
- Discuss environmental control measures to avoid exposure to known allergens and irritants.
- Teach self-monitoring.

CDA Template Library
What is templated CDA?

```
<section>
  <templateId root="2.16.840.1.113883.3.27.354"/>
  <title>Plan</title>
  <text>
    Complete PFTs with lung volumes; Provide education on peak flow self-monitoring; ...
  </text>
  <entry>
    <observation classCode="OBS" moodCode="INT">
      <code code="23426006" codeSystem="&SNOMEDCT;" display="Pulmonary function test"/>
    </observation>
  </entry>
  <entry>
    <act classCode="ACT" moodCode="INT">
      <code code="223468009" codeSystem="&SNOMEDCT;" display="Teaching of skills"/>
      <qualifier>
        <name code="363702006" display="has focus"/>
        <value code="29893006" display="Peak flow rate measurement"/>
      </qualifier>
    </act>
  </entry>
</section>
```
Templated CDA business case

- Heavy adoption via Meaningful Use
  - Consolidated CDA; Quality Reporting Document Architecture; Cancer registry

- Streamlined standards development
  - Reusable building blocks.

- Streamlined standards implementation
  - Implement once, deploy often.

- Modular and reusable
  - Templates (e.g., blood pressure, discharge diagnosis) can be repackaged with other templates in any number of CDA implementation guides.

- Core component of CDA’s “incremental interoperability” strategy
  - Begin with simple CDA, and add templates as they are prioritized.

- Designed to work with HL7 / NLM Common Terminology Services model
Templates are computable artifacts
Templates are computable artifacts

- CDA Template Library
- greenCDA XML
- Data Entry Form
- CDA Instance Validation
- Runtime API

Support for standards development

Support for standards implementation
Standards Harmonization

Today

Thousand flowers bloom

Active harmonization

Gradual increase in templates, per new use cases
MU2 – Big Picture View

Local EHR

National Meaningful Use

- Clinical reuse
- Decision support
- Secondary use
- Quality reporting

CDA Template Library
Why is CDA so popular??

1. Get the data flowing, get the data flowing, get the data flowing
2. Incrementally add structure, where valuable to do so

**HL7 CDA Structured Documents**

**Coded Discrete Data Elements (via CDA templates)**

**SNOMED CT**

- Disease, DF-00000
- Metabolic Disease, D6-00000
- Disorder of carbohydrate metabolism, D6-50000
- Disorder of glucose metabolism, D6-50100
- Diabetes Mellitus, DB-61000
- Type 1, DB-61010
- Neonatal, DB75110
- Carpenter Syndrome, DB-02324
- Insulin dependant type IA, DB-61020

**Quality Reporting**

**Decision Support**

**Clinical Applications**

**Meaningful Use!**
Templated CDA

- Many different kinds of documents.
- A bucket of reusable templates.

A CDA document using CCD templates plus others

A CDA document using CCD templates

CCD

Demographics

Allergies

Family History

Social History

Vital Signs

Medications

Problems

Payer

CDA

New Template...

Chief Complaint

Discharge

Diagnosis

Transport

Mode of

Surgical Finding

Discharge Diet
Consolidated CDA

• Many different kinds of documents:
  o CCD
  o Consultation Note
  o Diagnostic Imaging Report
  o Discharge Summary
  o H&P
  o Operative Note
  o Procedure Note
  o Progress Note
  o Unstructured Document
• A bucket of reusable templates
• www.hl7.org
Consolidated CDA (C-CDA)

- Continuity of Care Document
- History and Physical Discharge Summary
- Consultation Notes
- Diagnostic Imaging Rpt
- Procedure Note
- Operative Note
- Progress Note
- Unstructured Documents

C-CDA

ONC - CEHRT
HITSP - C32, C80, C83
IHE – PCC
HL7 – CCD
HL7 – CDA

HL7 Health Story Implementation Guides
Welcome to Model-Driven Health Tools (MDHT)

Open Health Tools Model-Driven Health Tools (MDHT) Project is a wide-ranging open source effort to promote interoperability in healthcare infrastructure. It promotes shared artifacts between related healthcare standards and standards development organizations, and works to develop localized specifications. It also delivers a common modeling framework and tools that support seamless integration of design, publication, and runtime artifact creation.

Benefits / Advantages of MDHT

Improved Interoperability in Overall Health Care Infrastructure
CDA template tools

Welcome to art-decor.org

DECOR (Data Elements, Codes, OIDs and Rules) is a method in terms of data sets and scenarios and use it to generate XML instance validation, generation and processing so that we can iteratively improve recorded data and link together knowledge like caregivers, terminologists, modelers, etc. DECOR mainly registers datasets, data types, allowable values with an underlying version management. The underlying style sheets can be used for HTML documentation, conversion, and other XML materials.

ART (Advanced Requirement Tooling) is the DECOR extension to generate artifacts from DECOR files. ART is based on XForms.

Healthcare Providers, Medical Experts and Researchers

Terminologists

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Thank you!