

Continuity of Care Document

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February 2006, HIMSS



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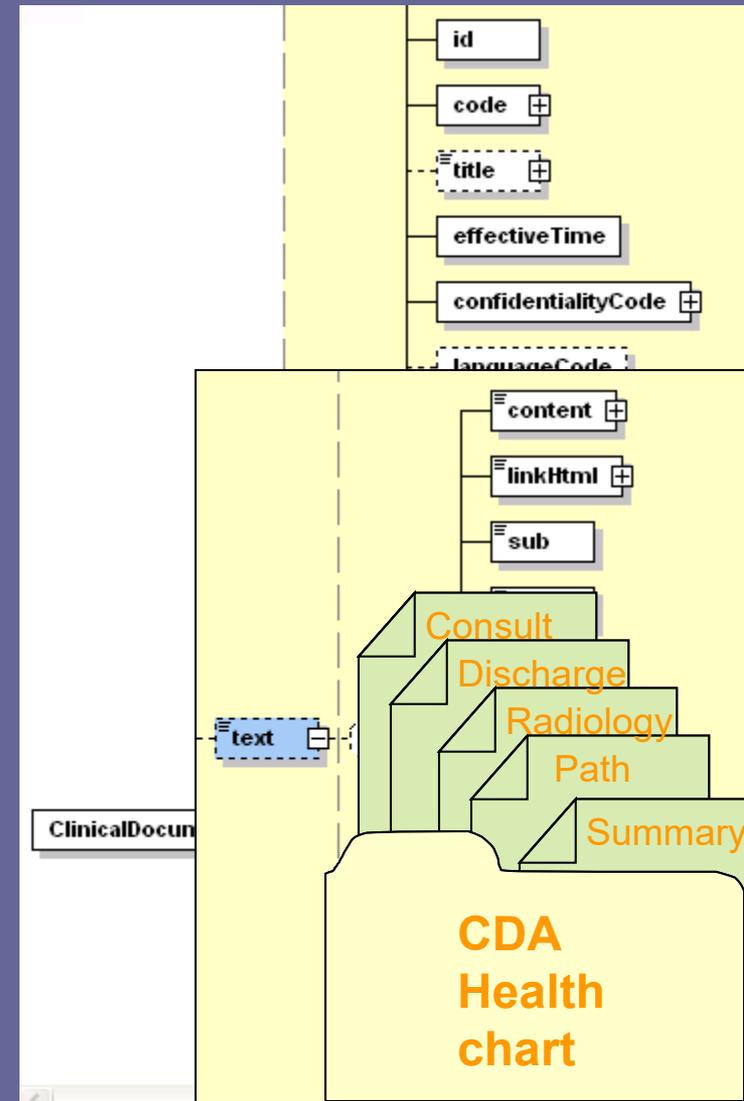
- Principal, Alschuler Associates, LLC
 - CDA design, implementation, support
 - Tricare Management Activity, Department of Defense, Enterprise Wide Referrals & Authorizations
 - Subcontractor, HITSP
 - Project Springfield: document-based personal health accounts
- Co-author, CDA & CRS Quick Start Guides
- Member, HL7 Board of Directors
- Co-editor, CDA
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- past Chair, KEG & XML SIG & HL7 Marketing Committee
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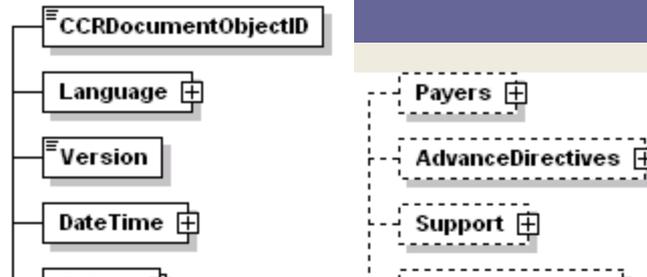
HL7's CDA



- Clinical Document Architecture
 - ANSI/HL7 R1-2000, R2-2005
- eDocuments for Interoperability
 - Key component for local, regional, national electronic health records
 - Gentle on-ramp to information exchange
 - Everyone uses documents
 - EMR compatible, no EMR required
 - All types of clinical documents



ASTM's CCR



- Standard Specification for Continuity of Care Record (CCR)
 - a core data set of the most relevant administrative, demographic, and clinical information facts about a patient's healthcare, covering one or more healthcare encounters.
 - Released January, 2006



Designation: E 2369 – 05

Standard Specification for Continuity of Care Record (CCR)

This standard is issued under the fixed designation E 2369; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A superscript epsilon (ϵ) indicates an editorial change since the last revision.

1. Scope

1.1 The Continuity of Care Record (CCR) is a core data set of the most relevant administrative, demographic, and clinical information facts about a patient's healthcare, covering one or more healthcare encounters.² It provides a means for one healthcare practitioner, system, or setting to aggregate all of the pertinent data about a patient and forward it to another practitioner, system, or setting to support the continuity of care.

1.1.1 The CCR data set includes a summary of the patient's health status (for example, problems, medications, allergies) and basic information about insurance, advance directives, care documentation, and the patient's care plan. It also includes identifying information and the purpose of the CCR. (See 5.1 for a description of the CCR's components and sections, and Annex A1 for the detailed data fields of the CCR.)

CCR is created in a structured electronic format. This specified XML coding provides flexibility that will allow users to prepare, transmit, and view the CCR in multiple ways, for example, in a browser, as an element in a Health Level 7 (HL7) message or CDA compliant document, in a secure email, as a PDF file, as an HTML file, or as a word processing document. It will further permit users to display the fields of the CCR in multiple formats.

1.3.1 The CCR XML schema or .xsd (see the Adjunct to this specification) is defined as a data object that represents a snapshot of a patient's relevant administrative, demographic,



ASTM CCR vs. HL7 CDA



- Conflicting?
- Overlapping?
- What if you could have both!#*?!
 - What if you could have your data elements
 - And send them in a common exchange framework?



ASTM CCR + HL7 CDA = CCD



- CDA is designed to support national society recommendations, national clinical practice guidelines, standardized data sets, etc.
- From the perspective of CDA, the ASTM CCR is a standardized data set that can be used to constrain CDA specifically for summary documents.
- The resulting specification, known as the Continuity of Care Document (CCD), is being developed as a collaborative effort between ASTM and HL7.



Continuity of Care Document



- CCD maps the CCR elements into a CDA representation.

| CCR data element | CDA R2 correspondence |
|--|--|
| Results | Section |
| Result | Observation |
| DateTime | Observation.effectiveTime |
| IDs | Observation.id |
| Type: Values include: Hematology, Chemistry, Serology, Virology, Toxicology, Microbiology, Imaging - X-ray, Ultrasound, CT, MRI, Angiography, Cardiac Echo, Nuclear Medicine, Pathology, Procedure | Draw values from observation.code (e.g. by looking at the LOINC class for a LOINC code). |
| Description | Observation.code |
| Status | Observation.statusCode |
| Procedure | Observation.methodCode; Procedure |
| Test | Observation |





Continuity of Care Document



Project will develop basis for automated translation

```
<Results>
  <Result>
    <CCRDataObjectID>
      2.16.840.1.113883.19.1
    </CCRDataObjectID>
    <DateTime>
      <Type>
        <Text>Assessment Time</Text>
      </Type>
      <ExactDateTime>
        200004071430
      </ExactDateTime>
    </DateTime>
    <Type>
      <Text>Hematology</Text>
    </Type>
    <Description>
      <Text>CBC WO DIFFERENTIAL</Text>
      <Code>
        <Value>43789009</Value>
        <CodingSystem>SNOMED CT</CodingSystem>
      </Code>
    </Description>
    <Status><Text>Final Results</Text></Status>
```

```
<section>
  <code code="30954-2"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"/>
  <title>Laboratory results</title>
  <text>
    CBC (04/07/2000): HGB 13.2; WBC 6.7; PLT 123
  </text>
  <entry>
    <observation classCode="OBS" moodCode="EVN">
      <id root="2.16.840.1.113883.19" extension=
      <code code="43789009"
        codeSystem="2.16.840.1.113883.6.96"
        codeSystemName="SNOMED CT"
        displayName="CBC WO DIFFERENTIAL"/>
      <statusCode code="completed"/>
      <effectiveTime value="200004071430"/>
```



Sample section



- 1 INTRODUCTION
- 2 (PROTOTYPE) LAB RESULTS
 - 2.1 Introduction
 - 2.2 Section conformance
 - 2.3 Clinical statement conformance
 - 2.4 Extensions
 - 2.5 Rendered example
 - 2.6 Encoded example
 - 2.7 ASTM CCR Mapping
 - 2.8 Appendix - CCR example
- Sample section developed by Dr. Bob Dolin, Kaiser Permanente



CCR CDA correspondance



```
<observation classCode="OBS" moodCode="EVN">  
  <id root="2.16.840.1.113883.19" extension="1"/>  
  <code code="43789009" codeSystem="2.16.840.1.113883.6.96"  
    codeSystemName="SNOMED CT" displayName="CBC WO DIFFERENTIAL"/>
```

- Same Context:
 - CDA: observation, code, code system
 - CCR: description, code, value, coding system
- CDA: optional unique ID; code system ID; mood
- Different approaches to human-readable text
- There are differences, but an implementation guide can support interoperability

```
<Description>  
  <Text>CBC WO DIFFERENTIAL</Text>  
  <Code>  
    <Value>43789009</Value>  
    <CodingSystem>SNOMED CT</CodingSystem>  
  </Code>  
</Description>
```





Continuity of Care Document



- Did this come out of the blue?
- There is a history of collaboration
 - Many people have participated in both efforts
 - Presentation on CDA for continuity of care at ASTM CCR meeting, August, 2003
 - Memorandum of Understanding, 2004
 - Acapulco demo: CDA for CCR, October, 2004
 - HL7 partnered with Massachusetts Medical Society, Microsoft, Ramsey Systems (UK)
 - Initial HL7 Care Record Summary ballot, April, 2005:
 - Limited to CDA header, no detailed section coding
 - Anticipated: “Development of detailed (CDA Level 3) Implementation Guides for “continuity of care” (CCR) in collaboration with the ASTM E31 under the 2004 Memorandum of Understanding”
 - HL7 ballot on CCR, Spring 2005: incorporated changes required for bi-directional exchange and semantic interoperability





Continuity of Care Document



- Will CCD see adoption?
- Role of IHE (Integrating the Healthcare Enterprise)
 - 2005: Cross-enterprise document sharing (XDS) with both CDA and CCR
 - 2006: XDS for Patient Care Coordination domain Medical Summaries
 - CDA Care Record Summary
 - Extend with coded content for three required sections
 - 2007: *likely will adopt CCD*





Continuity of Care Document



- Current activities
 - Meeting ~ weekly by webinar, teleconference
 - Sample lab section developed as pattern
 - Participation by ASTM E31.28, HL7 Structured Documents TC and
 - HL7 domain committees for patient care, lab, ED...
 - Clinical societies: ACP, AAFP, ACR...
 - Interest in international harmonization
 - CDA summary documents in use around the world





Continuity of Care Document



- Timeline
 - February – March: Meet by web/telconference
 - Individuals developing:
 - Header
 - List of sections
 - Lab
 - Allergies/adverse reactions
 - Problems/conditions
 - Medications
 - April – May
 - Initial ballot: header, list of sections, detailed sections
 - Ballot reconciliation: Spring HL7 Working Group Meeting
 - June – July
 - Develop complete draft for second ballot
 - August – September
 - Second ballot
 - Ballot reconciliation: Fall HL7 Working Group Meeting





Continuity of Care Document



- “ASTM is dedicated and privileged to work in collaboration with HL7 on the expression of ASTM's Continuity of Care Record content within HL7's CDA XML syntax and the seamless transformation of clinical and administrative data between the two standards.”
- Rick Peters, MD, E31.28





Continuity of Care Document



- Benefits

- Industry consensus on summary document contents and requirements through ASTM ballots (2004, 2005)
- Industry consensus on document exchange framework through HL7 ballots (1999-2005)
- Summaries for continuity of care
 - Interoperable with full range of document types
 - Interoperable with HL7 V3 messages, all RIM-based specifications (public health reporting, clinical trials, structured product labels and more)





CCD Resources



- HL7 Web site:
 - CDA Normative Web Edition
 - <http://www.hl7.org/Special/committees/lists.cfm>
 - CDA: strucdoc@lists.hl7.org
 - CCD: ccd@lists.hl7.org
- ASTM Web site:
 - ASTM.org
- JAMIA
 - Dolin RH, Alschuler L, Boyer S, Beebe C, Behlen FM, Biron PV, Shabo A. HL7 Clinical Document Architecture, Release 2. J Am Med Inform Assoc. 2006;13:30–39.
 - <http://www.jamia.org/cgi/reprint/13/1/30>
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