DEFINITION

Clinical Document Architecture (CDA)

Clinical Document Architecture (CDA) is a popular, flexible markup standard developed by Health Level 7 International (HL7) that defines the structure of certain medical records, such as discharge summaries and progress notes, as a way to better exchange this information between providers and patients. These documents can include text, images and other types of multimedia -- all integral parts of electronic health records (EHRs).

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CDA -- which is among the most widely adopted HL7 standards -- uses a common design structure with the following six characteristics, as set forth by HL7:

- Persistence (remaining in use for a long period)

- Stewardship (maintained by a trusted organization, e.g., a hospital using CDA)

- Potential for authentication (legal attestation that the clinical information is accurate)

- Context (a default context to the record, such as the patient identity and who created the document)

- Wholeness (the full document, not just parts of it, can be authenticated)

- Human readability (a person can read the material on a browser or mobile device)

CDA is based on XML (Extensible Markup Language). To represent health concepts, CDA uses HL7's Reference Information Model (RIM), which puts data in a clinical or administrative context and expresses how pieces of data are connected. CDA also takes advantage of coding systems such as SNOM CT (Systematized Nomenclature of Medicine -- Clinical Terms) and LOINC (Logical Observation Identifiers Names and Codes).

With the HL7 format using XML and RIM, Clinical Document Architecture allows EHRs and other health IT systems to process documents while also letting people easily read them on Web browsers and mobile devices.

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By setting standards for information exchange, CDA is a step toward the goal of ensuring that patient records can be created and read by any EHR software system. Many EHR vendors can produce CDA from their proprietary formats, according to HL7.

CDA does not identify a particular method for transferring the data in a document; options include DICOM (Digital Imaging and Communications in Medicine), MIME (Multi-Purpose Internet Mail Extensions, FTP (File Transfer Protocol) and HTTP (Hypertext Transfer Protocol), as well as HL7 version 2 messages and HL7 version 3 messages.

Together with the Continuity of Care Record (CCR) standard, CDA forms the basis for the Continuity of Care Document (CCD) standard for patient document information exchange. Both the CCR and CCD standards meet the United States government's guidelines for the meaningful use of EHR technology.

There are two off-shoots of CDA worth briefly mentioning:

- In 2010-2011, HL7 worked on Green CDA, which supporters touted as a lightweight version of CDA that was easier to use. However, in 2015 there is little mention of Green CDA.
- In 2012, in response to conflicting CDAs in use by the healthcare industry, the Office of the National Coordinator for Health Information Technology (ONC) streamlined commonly used templates to create the Consolidated-CDA (C-CDA).

HL7 standards also include a newer offering called Fast Healthcare Interoperability Resources (FHIR - pronounced "fire"). FHIR is gaining traction in the healthcare industry, and is different than CDA. For example, CDA focuses on clinical document exchange; FHIR can also exchange information about finances and other areas not directly linked to patient care.

This was last updated in June 2015

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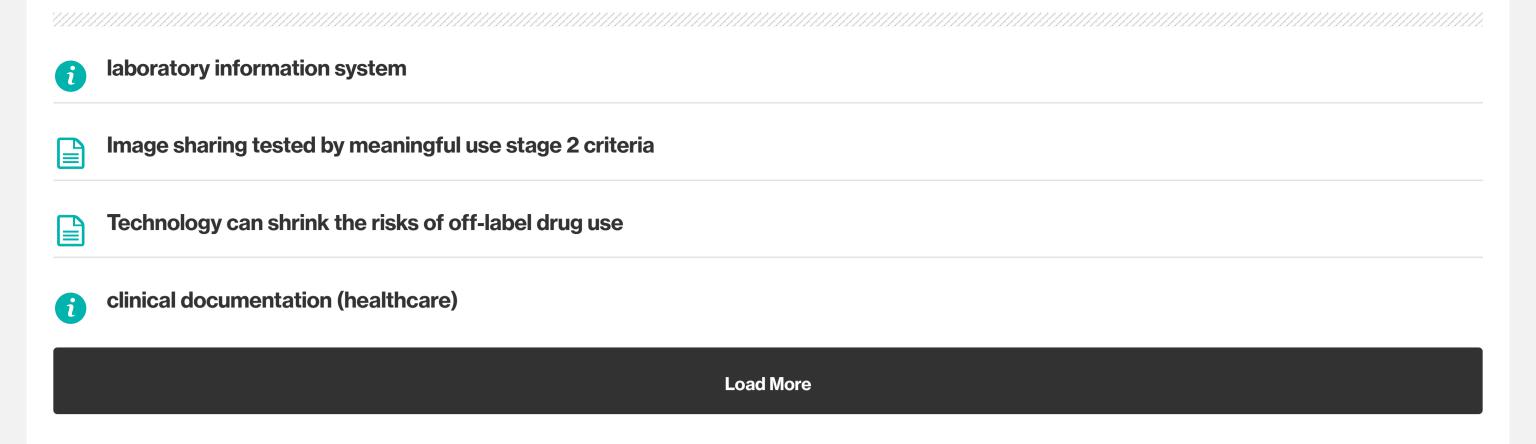
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