

## AHIMA Content Standardization Project

### Achieving Semantic Interoperability through Standards

As part of Clinical Documentation Improvement (CDI) programs in various healthcare organizations that deployed Electronic Health Record (EHR) systems, multidisciplinary teams of clinicians (physicians, nurses) and CDI specialists have been defining **clinical pathways** (clinical workflow and data flow) and **case definition templates** (information content) based on the clinical guidelines, peer-reviewed literature and organizations' best practices.

The goal of CDI programs -- an organization-wide activity to produce "*legible, reliable, precise, complete, consistent, clear, and timely information thus affecting patient care, reimbursement, severity and quality scores*" -- is to enable proper documentation of the clinical encounter's content in EHR systems (Pamela Hess, 2015).

Standards development organizations (SDOs), professional organizations and governmental agencies have been developing **content standardization tools** to create standardized, semantically exchangeable clinical concepts templates and document templates, facilitating interpretation of information exchanged between sending and receiving systems.

AHIMA's goal is to enable collaboration between CDI programs and SDOs in standardizing clinical, public health and research content for information capture, sharing, use and re-use across organizations.

AHIMA reached out to developers of content standardization tools to explore capabilities of existing tools for building standardized case definition templates for healthcare organizations' CDI programs.

### AHIMA Free Webinars – Demonstrations: Content Standardization Tools in Healthcare

AHIMA hosted webinar demonstrations of various content standardization tools listed below.

#### Tool Demonstration Learning Objectives:

- **Understand standards** for semantic content in healthcare
- **Understand types of online tools** available for standardization of semantic content
- **Understand and compare capabilities of tools** to support CDI Programs in healthcare organizations in building case definition templates

#### Tool Capabilities Needed:

- **Easy to navigate and use** by general users without IT background
- **Support the ability to develop case definition templates** based on the business rules defined in the clinical pathways
- **Validate new templates** for completeness and correctness
- **Easy to update** earlier developed templates
- **Maintain versioning** of templates
- **Maintain journaling function** (capture notes from discussions with subject matter experts)

#### CEU Opportunity

We invite CDI professionals to assess the tool capabilities to support CDI programs. Tool demonstrations are available at <http://engage.ahima.org/viewdocument/2016-ahima-content-standardization?> Individuals will receive one CEU credit for listening to each of the webinars and completing the associated survey. For more information, please contact [Diana.Warner@ahima.org](mailto:Diana.Warner@ahima.org).

## AHIMA Content Standardization Project

### Examples of Content Standardization Tools in Healthcare Demonstrated at the AHIMA Free Webinars

- AHIMA Query Toolkit** – an interactive tool for generating physician queries to support healthcare organization’s compliance with billing/coding rules. The tool contains 59 query templates for various conditions.  
<https://my.ahima.org/store/product?id=64472>
- ART DÉCOR** – An open source tool used by the European countries to build document templates in healthcare. The tool was used in over 40 international projects. <https://art-decor.org/>
- caDSR Data Element Browser** – A centralized resource with web-based tools developed by the National Cancer Institute (NCI) for documenting and sharing human- and machine-readable data descriptions, metadata, NCI’s common data elements and data standards. <https://wiki.nci.nih.gov/display/caDSR/caDSR+Wiki#caDSRWiki-AboutcaDSR>
- CAM** – Content Assembly Mechanism is an open source tool developed by the SDO OASIS for specifying machine-processable information content templates of business transactions and the associated rules; used to support National Information Exchange Model projects. [https://www.oasis-open.org/committees/tc\\_home.php?wg\\_abbrev=cam](https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=cam)
- CAP eCC** – Developed by the College of American Pathologists, Electronic Cancer Checklist is used to build structured cancer pathology reports. The tool has over 90 reports. [www.cap.org/capecc](http://www.cap.org/capecc)
- CDC PHIN-VADS** – The Public Health Information Network Vocabulary Access and Distribution System provided by the Centers for Disease Control and Prevention (CDC) distributes standards-based vocabularies used within the US to local, state and national public health partners. <http://www.cdc.gov/phin/tools/phinvads/index.html>
- CMT** - Developed by Kaiser Permanente, **Convergent Medical Terminology** is an enterprise-wide common medical terminology solution and source of concept definitions for a healthcare organization. CMT is freely available from the National Library of Medicine (NLM). It contains over 75,000 clinical concepts and generates proposals for new SNOMED codes on the annual basis. <https://www.nlm.nih.gov/research/umls/Snomed/cmt.html>
- Quippe** – Developed by Medicomp, this clinical documentation tool allows for clinically meaningful filtering of existing or incoming data for both clinical summary views and for documentation. It contains over 300,000 clinical concepts with mappings in SNOMED-CT, RxNorm, LOINC, ICD-10-CM, and others data standards.  
<http://www.medicomp.com>
- MDHT** – An open source Model Driven Health Tool (MDHT) is used to built, edit and store templates for clinical content using HL7 message-based (versions 2.x) and document-based (CDA, FHIR) formats. MDHT contains 15 public health case reports and other templates. <https://projects.eclipse.org/projects/modeling.mdht>
- NIH Common Data Element (CDE) Resource Portal** – Provided by the National Institutes of Health and National Library of Medicine (NLM), this tool contains CDEs for 28 disease/research areas and assists investigators developing protocols for data collection. <https://www.nlm.nih.gov/cde/>
- NLM Value Set Authority Center (VSAC)** – Provided by National Library of Medicine (NLM) in collaboration with the Office of the National Coordinator for Health Information Technology and the Centers for Medicare & Medicaid Services this tool enables downloadable access to all official versions of vocabulary value sets contained in the 2014 US Clinical Quality Measures. <https://vsac.nlm.nih.gov/>
- Open EHR** – A multi-level modeling resource in which domain experts can build their content models (archetypes). It contains 497 archetypes, 33 templates and 28 term sets for health content. <http://www.openehr.org/>
- Semantic Interoperability Workbench** – Known as Information Exchange Workbench developed by the Substance Abuse and Mental Health Services Administration, it combines MDHT, Data Reference Index and other capabilities to build content templates using HL7v2.x/CDA/FHIR, X12 and other standards. <http://ihic2016.eu/Doc/Salyards.pdf>
- SHARE** - Clinical Data Interchange Standards Consortium (CDISC) launched the Shared Health And Research Electronic Library, SHARE, for developing, integrating and accessing CDISC standards electronically. SHARE is a curated, machine-readable resource that makes it easier to implement CDISC standards in health information systems and mobile applications, supporting learning health systems. <https://www.cdisc.org/standards/share>
- T-Rex** - An open-source Report Template Editor provided by Karos Health and the Radiological Society of North America, this tool allows providers to select data elements for their radiology report templates and store these templates in the RadReport Open Template Library. Contains about 30 cancer synoptic report templates.  
<https://www.karoshealth.com/resources/report-template-editor/>
- Trifolia Workbench HL7 Web Edition** – Developed by Lantana Consulting Group, the tool allows the development of HL7 CDA templates, provides template repository and publishing capabilities.  
<https://www.lantanagroup.com/newsroom/press-releases/trifolia-workbench-hl7-web-edition/>