

HITSP/C32 Test Package Registration and Medication History

Version 1
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Package Contents

- A folder containing 13 schematron entity files for testing HITSP/C32 documents.
- A copy of the HITSP/C32 specification (2007-05-11 V2.0) downloaded from the HITSP repository at ANSI.
- Four sample XML files that are valid CCD documents
- An XML transform (HumanViewCCD.xsl) for transforming the XML files into human readable output files.
- An XML transform (HITSP_C32RulesV1.xsl), derived from the enclosed entity files, for testing HITSP/C32 validation of a CCD document.
- This file (in word, pdf, and txt formats) describing the contents of the package.

Schematron Entity Files

The HITSP/C32 specification v2.0 defines 13 templateIds. NIST has defined one schematron entity file for each of these templateIds. The rules for each templateId are enforced only if that templateId is present in a document instance. This is consistent with the way schematron rules are checked for CCD and IHE profiles. The C32 specification only requires the existence of one C32 templateId in the root ClinicalDocument instance. The other templateIds define rules for C32 data elements classified as Required-if-Known (R2), so it is possible for a ClinicalDocument to validate to C32 while carrying only one templateId in the root element. In addition, there is no explicit requirement in the C32 specification that a C32 data element carry the corresponding C32 templateId, even if the document contains instances of that data element. NIST has written rules in these entity files to issue a Warning (but not an Error) if a document contains a C32 data element without the corresponding C32 templateId. These Warnings could be changed to Errors if the C32 specification clarifies the circumstances under which templateIds shall appear in instance documents, or clarifies that rules shall be checked even if C32 templateIds are not present.

CDA R2 and CCD Validation

All four sample documents are valid CDA R2 documents that validate to the XML schema provided with the CDA R2 specification from HL7. In addition, all four sample documents

validate as both CDA R2 and ASTM/HL7 CCD documents according to the CCD validator available at the Alschuler Associates web site: <http://www.alschulerassociates.com/validator/> .

Transforms

The HumanViewCCD transform is identical to the transform provided with the free CCD download package from the HL7 web site. It provides human readable output of most non-trivial CCD documents, including those included in this package.

The HITSP_C32RulesV1 transform is produced by NIST staff as a Version 1.0 attempt to present test results for validation of HITSP/C32 (Registration and Medication History) documents. It is derived directly from the entity files included in this package, but makes no attempt to provide “pretty” output. It is NIST intent to provide a web service (analogous to the Alschuler Associates web service) to allow for validation testing of important HITSP and IHE specifications that does have output more friendly to human eyes. This transform identifies HITSP/C32 Errors (missing Required content), Warnings (missing Required-if-Known content), and Notes (missing Optional content). It does not yet check that all “code” elements have code attributes from an identified Value Set having more than 10 members. This code checking will come in a later Version!

Each sample document has a reference to each of these transforms in its first few lines of text. We’ve found that if you open the sample documents with some browsers (especially Internet Explorer) the first transform the browser sees will be applied to the document and an html output document will be presented to the user.

Sample HITSP/C32 Documents

CCD_HITSP_C32_C27.xml

This document was derived from the sample CCD clinical document provided with the CCD package downloaded from the HL7 web site. NIST modified the header content in several ways to abide by HITSP/C32 and HITSP/C27 specifications. It carries exactly one HITSP/C32 templateId (2.16.840.1.113883.3.88.11.32.1) on its root element, so only the requirements of that templateId are enforced. This document validates as a HITSP/C32 document, but it produces nearly 30 warnings as to ways it does not abide by the intent of the HITSP/C32 specification. It carries the pregnancy observation required by C27, but probably not in the way intended by the CCD specification.

CCD_Minimal_ALL_C32_templateIds.xml

This document was produced with minimal content as allowed by the CDA R2 schema and the CCD validation rules. It has CDA and CCD template ids in its root ClinicalDocument element. It also carries all 13 HITSP/C32 template ids on the same root element, only one of which is in the correct location. This document produces nearly 50 HITSP/C32 errors, mostly from HITSP/C32 templateIds placed in incorrect locations and missing content required by a given templateId.

CCD_HITSP_C32_Test1.xml

This document is a modification of the above sample documents to correct all of the errors and many of the warnings. It contains nearly all of the HITSP/C32 templateIds and thus applies all of the rules contained in the 13 entity files included in this package. It validates as a HITSP/C32 document. Not all of the warnings were corrected. When a CCD section had multiple entries at least one of the entries was left with a non-fixed warning to alert the user to missing Required-if-Known (R2) content. It produces about 32 HITSP/C32 warnings of this type. It also produces a large number of Notes to point out optional C32 data elements that are not included in the document.

CCD_HITSP_C32_Medications.xml

This document was prepared to concentrate only on the Medications section of the HITSP/C32 specification. It produces only 3 HITSP/C32 errors (missing required CCD Sections for Insurance Providers, Allergies, and Conditions). It produces 13 Warnings, primarily to identify Required-if-Known (R2) or Optional (O) information missing from the header. It produces lots of Notes, including optional additional items that could have been included in the Medications data elements. It is NIST intent to use this document as a template for producing randomized samples that will validate to CCD and/or HITSP/C32 Medication sections.