Implementation Guide for CDA Release 2
HITSP Summary Documents using CCD and CDA Content Modules
C32, C83, and C80

C32 Version 2.5, C83 Version 2.0.1
DRAFT: FOR DEVELOPMENT USE ONLY

Contents

Acknowledgments

Revision History

Rev	Date	By Whom	Changes
First draft for posting	August 31, 2010	Dave Carlson	Updated model content and publication format
First draft for IG consolidation project	December 29, 2010	Dave Carlson	

Notes on draft status

December 29, 2010: This is a first draft of HITSP/IHE/HL7 implementation guide consolidation for C32 and CCD. This draft includes all template sections defined in C83, some of which are not part of C32 summaries. The next draft will limit content to templates used in C32.

Chapter 1

INTRODUCTION

Topics:

Overview

This implementation guide is generated from UML models developed in the Open Health Tools (OHT) Model-Driven Health Tools (MDHT) project. The HITSP specifications have been formalized into computational models expressed in UML. These models are used by automated tooling to generate this publication, plus validation tools and Java libraries for implementers.

This document combines specifications from several HITSP documents, as summarized in the following sections. For the authoritative source, please refer to the approved specifications from HITSP.

C32 Patient Summary

The HITSP Summary Documents Using HL7 Continuity of Care Document (CCD) Component describes the document content summarizing a consumer's medical status for the purpose of information exchange. The content may include administrative (e.g., registration, demographics, insurance, etc.) and clinical (problem list, medication list, allergies, test results, etc) information. Any specific use of this Component by another HITSP specification may constrain the content further based upon the requirements and context of the document exchange. This specification defines content in order to promote interoperability between participating systems. Any given system creating or consuming the document may contain much more information than conveyed by this specification. Such systems may include Personal Health Record Systems (.1.s), Electronic Health Record Systems (EHRs), Practice Management Applications and other persons and systems as identified and permitted.

This Component is essentially a subset of the healthcare data that has been developed for specific business Use Cases. This subset contains the minimum critical or pertinent medical information sections as specified by the business case. Information conveyed according to the Component Construct is a representative extract of the information available on the creating system. The information in the HITSP Summary Documents Using HL7 Continuity of Care Document (CCD) Component and the creating systems must be consistent. Furthermore there should be no data elsewhere in the creating systemthat would contradict the meaning of any data in this construct. The expectation is that consuming systems will be able to use this specification as a source of information to input and/or update information in their instantiation of the healthcare record. This specification does not define the policies applicable to the import of this information.

It is anticipated and desirable that some implementers of the HITSP Summary Documents Using HL7 Continuity of Care Document (CCD) Component will want to add data and sections to permit greater communication between systems. The underlying standards (primarily HL7 CCD – Continuity of Care Document) have additional modules that may serve such purposes. This practice is beyond the scope of this HITSP Component. Implementers should be aware that they must assume that receivers of the document may only be able to view or process content modules as described in this specification, and may not be able to use the additional modules in the document. This means that the HITSP Summary Documents Using HL7 Continuity of Care Document (CCD) Component must be able to stand-alone. Applications may wish to display the document in two different user-selected views, one of which is restricted to the minimal dataset contents of this component. Adding optional sections and data elements should not generate errors. Optional data should be used if understood by the receiving system, but must not change the meaning of the document.

This Component refers to the HITSP 2008 work cycle. It expands upon the prior version of the specification for a consumer’s registration/medication history information to include content to support the consumer's access to clinical information, medication management activities and supportive information for quality of care assessment.

C83 Content Modules

The purpose of the Healthcare Information Technology Standards Panel (HITSP) CDA Content Modules Component is to define the library of Components that may be used by CDA-based constructs developed by HITSP and others in standards based exchanges. The Components are organized into modules to simplify navigation. These modules are organized along the same principals as the HL7 Continuity of Care Document.

The data elements found in these modules are based on HL7 CDA Implementation Guides and the IHE PCC Technical Framework Volume II, Release 5 and its related supplements. These guides contain specifications for document sections that are consistent with all clinical documents currently selected for HITSP constructs.

C80 Clinical Document and Message Terminology

The purpose of the Health Information Technology Standards Panel (HITSP) Clinical Document and Message Terminology Component is to define the vocabulary for either document-based or message-based HITSP constructs such as Clinical Document Architecture (CDA) documents, HL7 V2 messages, etc. For more in-depth information about how this Component relates to other HITSP constructs, see HITSP/TN901 Clinical Documents.

Approach

Working with an initial portion of the data provides the opportunity to work with the data from the perspective of the underlying model and electronic format and to explore many design issues thoroughly. Taking this as an initial step ensures that the data set developers and standards community can reach consensus prior to the larger commitment of time that would be required to bring the full data set into standard format.

This project supports reusability and ease of data collection through a standard data representation harmonized with work developed through Health Information Technology Expert Panel (HITEP), balloted through Health Level Seven (HL7) and/or recognized by the Health Information Technology Standards Panel (HITSP).

This implementation guide (IG) specifies a standard for electronic submission of NCRs in a Clinical Document Architecture (CDA), Release 2 format.

Scope

TODO: scope of this implementation guide.

Audience

The audience for this document includes software developers and implementers who wish to develop...

Organization of This Guide

The requirements as laid out in the body of this document are subject to change per the policy on implementation guides (see section 13.02" Draft Standard for Trial Use Documents" within the HL7 Governance and Operations Manual, *http://www.hl7.org/documentcenter/public/membership/HL7_Governance_and_Operations_Manual.pdf*).

Templates

Templates are organized by document (see Document Templates), by section (see Section Templates), and by clinical statements (see Clinical Statement Templates). Within a section, templates are arranged hierarchically, where a more specific template is nested under the more generic template that it conforms to. See Templates by Containment for a listing of the higher level templates by containment; the appendix Templates Used in This Guide includes a table of all of the templates Organized Hierarchically.

Vocabulary and Value Sets

Vocabularies recommended in this guide are from standard vocabularies. When SNOMED codes are used, rules defined in Using SNOMED CT in HL7 Version 3 are adhered to. In many cases, these vocabularies are further constrained into value sets for use within this guide. Value set names and OIDs are summarized in the table Summary of Value Sets. Each named value set in this summary table is stored in a template database that will be maintained by CHCA.

Use of Templates

When valued in an instance, the template identifier (`templateId`) signals the imposition of a set of template-defined constraints. The value of this attribute provides a unique identifier for the templates in question.

Originator Responsibilities

An originator can apply a `templateId` to assert conformance with a particular template.

In the most general forms of CDA exchange, an originator need not apply a `templateId` for every template that an object in an instance document conforms to. This implementation guide asserts when `templateId`s are required for conformance.

Recipient Responsibilities

A recipient may reject an instance that does not contain a particular `templateId` (e.g., a recipient looking to receive only CCD documents can reject an instance without the appropriate `templateId`).

A recipient may process objects in an instance document that do not contain a `templateId` (e.g., a recipient can process entries that contain Observation acts within a Problems section, even if the entries do not have `templateId`s).

Conventions Used in This Guide

Conformance Requirements

Conformance statements are grouped and identified by the name of the template, along with the templateId and the context of the template (e.g., ClinicalDocument, section, observation), which specifies the element under constraint. If a template is a specialization of another template, its first constraint indicates the more general template. In all cases where a more specific template conforms to a more general template, asserting the more specific template also implies conformance to the more general template. An example is shown below.

Template name

`[<type of template>: templateId <XXXX.XX.XXX.XXX>]`

Description of the template will be here .....

1. Conforms to <The template name> Template (templateId: XXXX<XX>XXX>YYY).
2. **SHALL** contain [1..1] @classCode = <AAA> <code display name> (CodeSystem: 123.456.789 <XXX> Class) **STATIC** (CONF:<number>).
3. .....

Figure 1: Template name and "conforms to" appearance

The conformance verb keyword at the start of a constraint (**SHALL** , **SHOULD** , **MAY**, etc.) indicates business conformance, whereas the cardinality indicator (0..1, 1..1, 1..*, etc.) specifies the allowable occurrences within an instance. Thus, " **MAY** contain 0..1" and " **SHOULD** contain 0..1" both allow for a document to omit the particular component, but the latter is a stronger recommendation that the component be included if it is known.

The following cardinality indicators may be interpreted as follows:

0..1 as zero to one present
1..1 as one and only one present
2..2 as two must be present
1..* as one or more present
0..* as zero to many present

Value set bindings adhere to HL7 Vocabulary Working Group best practices, and include both a conformance verb (**SHALL** , **SHOULD** , **MAY,** etc.) and an indication of **DYNAMIC** vs. **STATIC** binding. The use of **SHALL** requires that the component be valued with a member from the cited value set; however, in every case any HL7 "null" value such as other (OTH) or unknown (UNK) may be used.

Each constraint is uniquely identified (e.g., "CONF:605") by an identifier placed at or near the end of the constraint. These identifiers are not sequential as they are based on the order of creation of the constraint.

1. **SHALL** contain [1..1] component/structuredBody (CONF:4082).
    a. This component/structuredBody **SHOULD** contain [0..1] component (CONF:4130) such that it
        a. **SHALL** contain [1..1] Reporting Parameters section (templateId:2.16.840.1.113883.10.20.17.2.1) (CONF:4131).
    b. This component/structuredBody **SHALL** contain [1..1] component (CONF:4132) such that it
        a. **SHALL** contain [1..1] Patient data section - NCR (templateId:2.16.840.1.113883.10.20.17.2.5) (CONF:4133).

Figure 2: Template-based conformance statements example

CCD templates are included within this implementation guide for ease of reference. CCD templates contained within this implementation guide are formatted WITHOUT typical **KEYWORD** and **XML** element styles. A WIKI site is available if you would like to make a comment to be considered for the next release of CCD: *http://wiki.hl7.org/index.php?title=CCD_Suggested_Enhancements* The user name and password are: wiki/wikiwiki. You will need to create an account to edit the page and add your suggestion.

1. The value for "Observation / @moodCode" in a problem observation SHALL be "EVN" 2.16.840.1.113883.5.1001 ActMood STATIC. (CONF: 814).
2. A problem observation SHALL include exactly one Observation / statusCode. (CONF: 815).
3. The value for "Observation / statusCode" in a problem observation SHALL be "completed" 2.16.840.1.113883.5.14 ActStatus STATIC. (CONF: 816).
4. A problem observation SHOULD contain exactly one Observation / effectiveTime, to indicate the biological timing of condition (e.g. the time the condition started, the onset of the illness or symptom, the duration of a condition). (CONF: 817).

Figure 3: CCD conformance statements example

Keywords

The keywords SHALL, SHALL NOT, SHOULD, SHOULD NOT, MAY, and NEED NOT in this document are to be interpreted as described in the *HL7 Version 3 Publishing Facilitator's Guide*:

- **SHALL**: an absolute requirement
- **SHALL NOT**: an absolute prohibition against inclusion
- **SHOULD/SHOULD NOT**: valid reasons to include or ignore a particular item, but must be understood and carefully weighed
- **MAY/NEED NOT**: truly optional; can be included or omitted as the author decides with no implications

XML Examples

XML samples appear in various figures in this document in a fixed-width font. Portions of the XML content may be omitted from the content for brevity, marked by an ellipsis (…) as shown in the example below.

```
<ClinicalDocument xmlns='urn:h17-org:v3'>
  ...
</ClinicalDocument>
```

Figure 4: ClinicalDocument example

XPath expressions are used in the narrative and conformance requirements to identify elements because they are familiar to many XML implementers.

Chapter 2

DOCUMENT TEMPLATES

Topics:

This section contains the document level constraints for CDA documents that are compliant with this implementation guide.

Patient Summary

[ClinicalDocument: templateId `2.16.840.1.113883.3.88.11.32.1`]

This Component describes the document content that summarizes a consumer's medical status for the purpose of health information exchange. While an EHR or PHR system can contain much more information, this Component only deals with the summary information to be exchanged between such systems as established as requirements described in AHIC Use Cases.

1. **SHALL** conform to *IHE Medical Document* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.1.1`)
2. **SHALL** conform to *CCD Continuity Of Care Document* template (templateId: `2.16.840.1.113883.10.20.1`)
3. **MAY** contain [0..1] `component`, such that it
   a. contains *Advance Directives Section* (templateId: `2.16.840.1.113883.3.88.11.83.116`)
   (C32-[CT1-1])
4. **MAY** contain [0..1] `component`, such that it
   a. contains *Allergies Reactions Section* (templateId: `2.16.840.1.113883.3.88.11.83.102`)
   (C32-[CT1-2])
5. **MAY** contain [0..*] `component`, such that it
   a. contains *Comment* (templateId: `2.16.840.1.113883.3.88.11.83.11`)
   (C32-[CT1-3])
6. **MAY** contain [0..1] `component`, such that it
   a. contains *Problem List Section* (templateId: `2.16.840.1.113883.3.88.11.83.103`)
   (C32-[CT1-4])
7. **MAY** contain [0..1] `component`, such that it
   a. contains *Encounters Section* (templateId: `2.16.840.1.113883.3.88.11.83.127`)
   (C32-[CT1-5])
8. **MAY** contain [0..1] `component`, such that it
   a. contains *Immunizations Section* (templateId: `2.16.840.1.113883.3.88.11.83.117`)
   (C32-[CT1-7])
9. **MAY** contain [0..1] `component`, such that it
   a. contains *Payers Section* (templateId: `2.16.840.1.113883.3.88.11.83.101`)
   (C32-[CT1-9])
10. **MAY** contain [0..1] `component`, such that it
    a. contains *Medications Section* (templateId: `2.16.840.1.113883.3.88.11.83.112`)
    (C32-[CT1-11])
11. **MAY** contain [0..1] `component`, such that it
    a. contains *Plan Of Care Section* (templateId: `2.16.840.1.113883.3.88.11.83.124`)
    (C32-[CT1-13])
12. **MAY** contain [0..1] `component`, such that it
    a. contains *IHE Pregnancy History Section* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.1.5.3.4`)
    (C32-[CT1-14])
13. **MAY** contain [0..1] `component`, such that it

   a. contains *Surgeries Section* (templateId: `2.16.840.1.113883.3.88.11.83.108`)

   (C32-[CT1-15])

14. **SHOULD** contain [1..*] `supportHeaders`, such that it

   a. contains *Support*

   (C32-[CT1-16])

15. **MAY** contain [0..1] `component`, such that it

   a. contains *Vital Signs Section* (templateId: `2.16.840.1.113883.3.88.11.83.119`)

   (C32-[CT1-17])

16. **MAY** contain [0..1] `component`, such that it

   a. contains *Diagnostic Results Section* (templateId: `2.16.840.1.113883.3.88.11.83.122`)

   (C32-[CT1-18])

17. **MAY** satisfy: Contains 0..* HealthcareProvider in cda:documentationOf/cda:serviceEvent/cda:performer (C32-[CT1-6])
18. **SHALL** satisfy: Contains 0..* InformationSource in ancestor-or-self::./cda:author[1] (C32-[CT1-8])
19. **SHOULD** satisfy: Contains 0..* LanguageSpoken in cda:recordTarget/cda:patientRole/cda:patient/cda:languageCommunication (C32-[CT1-10])
20. **SHALL** satisfy: Contains 1..1 Person Information in cda:recordTarget/cda:patientRole (C32-[CT1-12])

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <realmCode code="US"/>
  <templateId root="2.16.840.1.113883.10.20.1" assigningAuthorityName="CCD
 Continuity Of Care Document"/>
  <templateId root="2.16.840.1.113883.10.20.3" assigningAuthorityName="CDT
 General Header Constraints"/>
  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.1" assigningAuthorityName="IHE
 Medical Document"/>
  <templateId root="2.16.840.1.113883.3.88.11.32.1"
 assigningAuthorityName="HITSP Patient Summary"/>
  <id root="69c4cc4c-ac90-4722-88e9-25fd08d9d3c1"/>
  <code code="34133-9" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Summarization of episode note"/>
  <title/>
  <effectiveTime/>
  <confidentialityCode/>
  <languageCode/>
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="2.16.840.1.113883.10.20.1.1"
 assigningAuthorityName="CCD Advance Directives Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.34"
 assigningAuthorityName="IHE Advance Directives Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.35"
 assigningAuthorityName="IHE Coded Advance Directives Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.116"
 assigningAuthorityName="HITSP Advance Directives Section"/>
          <code code="42348-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Advance directives"/>
          <title>Advance directives</title>
        </section>
      </component>
      <component>
        <section>
```

```
          <templateId root="2.16.840.1.113883.10.20.1.2"
assigningAuthorityName="CCD Alerts Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.13"
assigningAuthorityName="IHE Allergies Reactions Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.102"
assigningAuthorityName="HITSP Allergies Reactions Section"/>
          <code code="48765-2" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Allergies, adverse reactions, alerts"/>
          <title>Allergies, adverse reactions, alerts</title>
        </section>
      </component>
      <component>
        <section>
          <templateId root="2.16.840.1.113883.10.20.1.11"
assigningAuthorityName="CCD Problem Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.6"
assigningAuthorityName="IHE Active Problems Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.103"
assigningAuthorityName="HITSP Problem List Section"/>
          <code code="11450-4" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Problem list"/>
          <title>Problem list</title>
        </section>
      </component>
      <component>
        <section>
          <templateId root="2.16.840.1.113883.10.20.1.3"
assigningAuthorityName="CCD Encounters Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.5.3.3"
assigningAuthorityName="IHE Encounter History Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.127"
assigningAuthorityName="HITSP Encounters Section"/>
          <code code="46240-8" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="History of encounters"/>
          <title>History of encounters</title>
        </section>
      </component>
      <component>
        <section>
          <templateId root="2.16.840.1.113883.10.20.1.6"
assigningAuthorityName="CCD Immunizations Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.23"
assigningAuthorityName="IHE Immunizations Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.117"
assigningAuthorityName="HITSP Immunizations Section"/>
          <code code="11369-6" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="History of immunizations"/>
          <title>History of immunizations</title>
        </section>
      </component>
      <component>
        <section>
          <templateId root="2.16.840.1.113883.10.20.1.9"
assigningAuthorityName="CCD Payers Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.5.3.7"
assigningAuthorityName="IHE Payers Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.101"
assigningAuthorityName="HITSP Payers Section"/>
          <code code="48768-6" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Payment sources"/>
          <title>Payment sources</title>
        </section>
      </component>
      <component>
```

```
       <section>
         <templateId root="2.16.840.1.113883.10.20.1.8"
assigningAuthorityName="CCD Medications Section"/>
         <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.19"
assigningAuthorityName="IHE Medications Section"/>
         <templateId root="2.16.840.1.113883.3.88.11.83.112"
assigningAuthorityName="HITSP Medications Section"/>
         <code code="10160-0" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="History of medication use"/>
         <title>History of medication use</title>
       </section>
     </component>
     <component>
       <section>
         <templateId root="2.16.840.1.113883.10.20.1.10"
assigningAuthorityName="CCD Plan Of Care Section"/>
         <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.31"
assigningAuthorityName="IHE Care Plan Section"/>
         <templateId root="2.16.840.1.113883.3.88.11.83.124"
assigningAuthorityName="HITSP Plan Of Care Section"/>
         <code code="18776-5" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Treatment plan"/>
         <title>Treatment plan</title>
       </section>
     </component>
     <component>
       <section>
         <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.5.3.4"
assigningAuthorityName="IHE Pregnancy History Section"/>
         <code code="10162-6" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="HISTORY OF PREGNANCIES"/>
         <title>HISTORY OF PREGNANCIES</title>
       </section>
     </component>
     <component>
       <section>
         <templateId root="2.16.840.1.113883.10.20.1.12"
assigningAuthorityName="CCD Procedures Section"/>
         <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.11"
assigningAuthorityName="IHE Surgeries Section"/>
         <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.12"
assigningAuthorityName="IHE Coded Surgeries Section"/>
         <templateId root="2.16.840.1.113883.3.88.11.83.108"
assigningAuthorityName="HITSP Surgeries Section"/>
         <code code="47519-4" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="History of procedures"/>
         <title>History of procedures</title>
       </section>
     </component>
     <component>
       <section>
         <templateId root="2.16.840.1.113883.10.20.1.16"
assigningAuthorityName="CCD Vital Signs Section"/>
         <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.25"
assigningAuthorityName="IHE Vital Signs Section"/>
         <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.5.3.2"
assigningAuthorityName="IHE Coded Vital Signs Section"/>
         <templateId root="2.16.840.1.113883.3.88.11.83.119"
assigningAuthorityName="HITSP Vital Signs Section"/>
         <code code="8716-3" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Vital signs"/>
         <title>Vital signs</title>
       </section>
     </component>
```

```
      <component>
        <section>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.28"
 assigningAuthorityName="IHE Coded Results Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.122"
 assigningAuthorityName="HITSP Diagnostic Results Section"/>
          <code code="30954-2" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="STUDIES SUMMARY"/>
          <title>STUDIES SUMMARY</title>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 5: Patient Summary example

Unstructured Document

[ClinicalDocument: templateId `2.16.840.1.113883.3.88.11.62.1`]

IMPORTANT NOTE: *The HITSP C62 specification does not include a templateId for this doument type. The id 2.16.840.1.113883.3.88.11.62.1 is included in this model to support instance validation, but we are designing a solution to allow removal of this Id.*

1. **SHALL** conform to *IHE Scanned Document* template (templateId: `1.3.6.1.4.1.19376.1.2.20`)
2. **SHALL** conform to *IHE Medical Document* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.1.1`)
3. **SHOULD** satisfy: This construct should not be used when the data are structured.
   - `[OCL]: self.component.structuredBody.oclIsUndefined()`
4. **SHALL** satisfy: Each document pertains to one and only one patient.
   - ```
     [OCL]: self.recordTarget->one(record : cda::RecordTarget
      | not record.patientRole.oclIsUndefined() and not
      record.patientRole.patient.oclIsUndefined())
     ```

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <realmCode code="US"/>
  <templateId root="2.16.840.1.113883.10.20.3" assigningAuthorityName="CDT
 General Header Constraints"/>
  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.1" assigningAuthorityName="IHE
 Medical Document"/>
  <templateId root="1.3.6.1.4.1.19376.1.2.20" assigningAuthorityName="IHE
 Scanned Document"/>
  <templateId root="2.16.840.1.113883.3.88.11.62.1"
 assigningAuthorityName="HITSP Unstructured Document"/>
  <id root="f6b6e576-af38-4cfe-a7da-9d10d62dfb35"/>
  <code/>
  <title/>
  <effectiveTime/>
  <confidentialityCode/>
  <languageCode/>
  <author>
    <templateId root="1.3.6.1.4.1.19376.1.2.20.2" assigningAuthorityName="IHE
 Scanning Device"/>
    <time/>
  </author>
  <dataEnterer>
    <templateId root="1.3.6.1.4.1.19376.1.2.20.3" assigningAuthorityName="IHE
 Scan Data Enterer"/>
    <time/>
```
```

```
  </dataEnterer>
</ClinicalDocument>
```

Figure 6: Unstructured Document example

Chapter 3

SECTION TEMPLATES

Topics:

Admission Medication History Section

[Section: templateId 2.16.840.1.113883.3.88.11.83.113]

The Admission Medication Section contains information about the relevant medications of a patient prior to admission to a facility.

1. **SHALL** conform to *IHE Admission Medication History Section* template (templateId: 1.3.6.1.4.1.19376.1.5.3.1.3.20)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.20"
 assigningAuthorityName="IHE Admission Medication History Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.113"
 assigningAuthorityName="HITSP Admission Medication History Section"/>
          <code code="42346-7" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="MEDICATIONS ON ADMISSION"/>
          <title>MEDICATIONS ON ADMISSION</title>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 7: Admission Medication History Section example

Advance Directives Section

[Section: templateId 2.16.840.1.113883.3.88.11.83.116]

The Advance Directives Section contains information that defines the patient's expectations and requests for care along with the locations of the documents.

1. **SHALL** conform to *IHE Coded Advance Directives Section* template (templateId: 1.3.6.1.4.1.19376.1.5.3.1.3.35)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="2.16.840.1.113883.10.20.1.1"
 assigningAuthorityName="CCD Advance Directives Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.34"
 assigningAuthorityName="IHE Advance Directives Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.35"
 assigningAuthorityName="IHE Coded Advance Directives Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.116"
 assigningAuthorityName="HITSP Advance Directives Section"/>
          <code code="42348-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Advance directives"/>
          <title>Advance directives</title>
          <entry>
```

```
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.1.17"
 assigningAuthorityName="CCD Advance Directive Observation"/>
              <id root="f1ec61cd-a144-42e3-8660-80ce11721e9d"/>
              <code/>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="1972"/>
                <high value="2008"/>
              </effectiveTime>
            </observation>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 8: Advance Directives Section example

Allergies Reactions Section

[Section: templateId `2.16.840.1.113883.3.88.11.83.102`]

The Allergies and Other Adverse Reactions Section contains data on the substance intolerances and the associated adverse reactions suffered by the patient. At a minimum, currently active and any relevant historical allergies and adverse reactions shall be listed.

1. **SHALL** conform to *IHE Allergies Reactions Section* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.13`)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="2.16.840.1.113883.10.20.1.2"
 assigningAuthorityName="CCD Alerts Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.13"
 assigningAuthorityName="IHE Allergies Reactions Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.102"
 assigningAuthorityName="HITSP Allergies Reactions Section"/>
          <code code="48765-2" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Allergies, adverse reactions, alerts"/>
          <title>Allergies, adverse reactions, alerts</title>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 9: Allergies Reactions Section example

Assessment And Plan Section

[Section: templateId `2.16.840.1.113883.3.88.11.83.123`]

The Assessment and Plan Section contains information about the assessment of the patient's condition and expectations for care including proposals, goals, and order requests for monitoring, tracking, or improving the condition of the patient.

An assessment and plan section varies from the plan of care section defined later in that it includes a physician assessment of the patient condition.

NOTE : The assessments described in this section are physician assessments of the patient's current condition, and do not include assessments of functional status, or other assessments typically used in nursing. In Implementation Guides currently selected, when both the assessment and plan are documented, they are included together in a single section documenting both. When the physician assessment is not present, only the plan of care section appears. There are no cases where a physician assessment is provided without a plan.

1. **SHALL** conform to *IHE Assessment And Plan Section* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.1.13.2.5`)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.13.2.5"
 assigningAuthorityName="IHE Assessment And Plan Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.123"
 assigningAuthorityName="HITSP Assessment And Plan Section"/>
          <code code="51847-2" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="ASSESSMENT AND PLAN"/>
          <title>ASSESSMENT AND PLAN</title>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 10: Assessment And Plan Section example

Chief Complaint Section

[Section: templateId `2.16.840.1.113883.3.88.11.83.105`]

The Chief Complaint Section contains information about the patient's chief complaint.

1. **SHALL** conform to *IHE Chief Complaint Section* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1`)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1"
 assigningAuthorityName="IHE Chief Complaint Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.105"
 assigningAuthorityName="HITSP Chief Complaint Section"/>
          <code code="10154-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="CHIEF COMPLAINT"/>
          <title>CHIEF COMPLAINT</title>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 11: Chief Complaint Section example

Diagnostic Results Section

[Section: templateId `2.16.840.1.113883.3.88.11.83.122`]

The Diagnostic Results Section contains information about the results from diagnostic procedures the patient received.

1. **SHALL** conform to *IHE Coded Results Section* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.28`) (C83-[CT-122-1])
2. **SHALL** contain [1..*] `entry`, such that it
   a. contains *Procedure* (templateId: `2.16.840.1.113883.3.88.11.83.17`) (C83-[CT-122-2])
3. **SHALL** contain [1..*] `entry`, such that it
   a. contains *Result* (templateId: `2.16.840.1.113883.3.88.11.83.15`) (C83-[CT-122-2])

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.28"
assigningAuthorityName="IHE Coded Results Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.122"
assigningAuthorityName="HITSP Diagnostic Results Section"/>
          <code code="30954-2" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="STUDIES SUMMARY"/>
          <title>STUDIES SUMMARY</title>
          <entry>
            <procedure>
              <templateId root="2.16.840.1.113883.10.20.1.29"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.19"/>
              <templateId root="2.16.840.1.113883.3.88.11.83.17"
assigningAuthorityName="HITSP Procedure"/>
              <id root="9df489ae-3a42-494d-8873-9640ad829a7a"/>
              <code/>
              <text/>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="1972"/>
                <high value="2008"/>
              </effectiveTime>
              <approachSiteCode/>
              <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
            </procedure>
          </entry>
          <entry>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.1.31"
assigningAuthorityName="CCD Result Observation"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.13"
assigningAuthorityName="IHE Simple Observation"/>
              <templateId root="2.16.840.1.113883.3.88.11.83.15"
assigningAuthorityName="HITSP Result"/>
              <id root="d329b7d3-7b86-412e-9d10-1fa9bf4c433a"/>
              <code/>
```

```
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="1972"/>
                <high value="2008"/>
              </effectiveTime>
              <interpretationCode/>
              <methodCode/>
            </observation>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 12: Diagnostic Results Section example

Discharge Diagnosis Section

[Section: templateId `2.16.840.1.113883.3.88.11.83.111`]

The Discharge Diagnosis Section contains information about the conditions identified during the hospital stay that either need to be monitored after discharge from the hospital and/or where resolved during the hospital course.

1. **SHALL** conform to *IHE Discharge Diagnosis Section* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.7`)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.7"
 assigningAuthorityName="IHE Discharge Diagnosis Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.111"
 assigningAuthorityName="HITSP Discharge Diagnosis Section"/>
          <code code="11535-2" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="HOSPITAL DISCHARGE DX"/>
          <title>HOSPITAL DISCHARGE DX</title>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 13: Discharge Diagnosis Section example

Encounters Section

[Section: templateId `2.16.840.1.113883.3.88.11.83.127`]

The Encounter Section contains information describing the patient history of encounters. At a minimum, current and pertinent historical encounters should be included; a full encounter history may be included.

1. **SHALL** conform to *IHE Encounter History Section* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.1.5.3.3`)
2. **SHALL** contain [1..*] `entry`, such that it
   a. contains *Encounter* (templateId: `2.16.840.1.113883.3.88.11.83.16`)

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="2.16.840.1.113883.10.20.1.3"
 assigningAuthorityName="CCD Encounters Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.5.3.3"
 assigningAuthorityName="IHE Encounter History Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.127"
 assigningAuthorityName="HITSP Encounters Section"/>
          <code code="46240-8" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="History of encounters"/>
          <title>History of encounters</title>
          <entry>
            <encounter classCode="ENC" moodCode="EVN">
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.14"/>
              <templateId root="2.16.840.1.113883.10.20.1.21"
 assigningAuthorityName="CCD Encounters Activity"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.14"/>
              <templateId root="2.16.840.1.113883.3.88.11.83.16"
 assigningAuthorityName="HITSP Encounter"/>
              <id root="47ececdb-ace0-4a26-b96d-61b80d9b1d4e"/>
              <code codeSystem="2.16.840.1.113883.6.12"
 codeSystemName="CPT-4"/>
              <text/>
              <effectiveTime>
                <low value="1972"/>
                <high value="2008"/>
              </effectiveTime>
              <priorityCode/>
            </encounter>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 14: Encounters Section example

Family History Section

[Section: templateId `2.16.840.1.113883.3.88.11.83.125`]

The Family History Section contains information about the genetic family members, to the extent that they are known, the diseases they suffered from, their ages at death, and other relevant genetic information.

1. **SHALL** conform to *IHE Family Medical History Section* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.14`)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="2.16.840.1.113883.10.20.1.4"
 assigningAuthorityName="CCD Family History Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.14"
 assigningAuthorityName="IHE Family Medical History Section"/>
```

```
          <templateId root="2.16.840.1.113883.3.88.11.83.125"
 assigningAuthorityName="HITSP Family History Section"/>
          <code code="10157-6" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="History of family member diseases"/>
          <title>History of family member diseases</title>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 15: Family History Section example

Functional Status Section

[Section: templateId 2.16.840.1.113883.3.88.11.83.109]

The Functional Status Section provides information about the capability of the patient to perform acts of daily living.

1. **SHALL** conform to *CCD Functional Status Section* template (templateId: 2.16.840.1.113883.10.20.1.5)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="2.16.840.1.113883.10.20.1.5"
 assigningAuthorityName="CCD Functional Status Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.109"
 assigningAuthorityName="HITSP Functional Status Section"/>
          <code code="47420-5" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Functional status assessment"/>
          <title>Functional status assessment</title>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 16: Functional Status Section example

History Of Past Illness Section

[Section: templateId 2.16.840.1.113883.3.88.11.83.104]

The History of Past Illness Section contains data about problems the patient suffered in the past.

1. **SHALL** conform to *IHE History Of Past Illness Section* template (templateId: 1.3.6.1.4.1.19376.1.5.3.1.3.8)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.8"
 assigningAuthorityName="IHE History Of Past Illness Section"/>
```

```
          <templateId root="2.16.840.1.113883.3.88.11.83.104"
 assigningAuthorityName="HITSP History Of Past Illness Section"/>
          <code code="11348-0" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="HISTORY OF PAST ILLNESS"/>
          <title>HISTORY OF PAST ILLNESS</title>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 17: History Of Past Illness Section example

History Of Present Illness

[Section: templateId 2.16.840.1.113883.3.88.11.83.107]

The History of Present Illness Section contains information about the sequence of events preceding the patient's current complaints.

1. **SHALL** conform to *IHE History Of Present Illness* template (templateId: 1.3.6.1.4.1.19376.1.5.3.1.3.4)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.4"
 assigningAuthorityName="IHE History Of Present Illness"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.107"
 assigningAuthorityName="HITSP History Of Present Illness"/>
          <code code="10164-2" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="HISTORY OF PRESENT ILLNESS"/>
          <title>HISTORY OF PRESENT ILLNESS</title>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 18: History Of Present Illness example

Hospital Admission Diagnosis Section

[Section: templateId 2.16.840.1.113883.3.88.11.83.110]

The Hospital Admitting Diagnosis Section contains information about the primary reason for admission to a hospital facility.

1. **SHALL** conform to *IHE Hospital Admission Diagnosis Section* template (templateId: 1.3.6.1.4.1.19376.1.5.3.1.3.3)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
```

```
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.3"
 assigningAuthorityName="IHE Hospital Admission Diagnosis Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.110"
 assigningAuthorityName="HITSP Hospital Admission Diagnosis Section"/>
          <code code="46241-6" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="HOSPITAL ADMISSION DX"/>
          <title>HOSPITAL ADMISSION DX</title>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 19: Hospital Admission Diagnosis Section example

Hospital Course Section

[Section: templateId `2.16.840.1.113883.3.88.11.83.121`]

The Hospital Course Section contains information about of the sequence of events from admission to discharge in a hospital facility.

1. **SHALL** conform to *IHE Hospital Course Section* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.5`)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.5"
 assigningAuthorityName="IHE Hospital Course Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.121"
 assigningAuthorityName="HITSP Hospital Course Section"/>
          <code code="8648-8" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="HOSPITAL COURSE"/>
          <title>HOSPITAL COURSE</title>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 20: Hospital Course Section example

Hospital Discharge Medications Section

[Section: templateId `2.16.840.1.113883.3.88.11.83.114`]

The Hospital Discharge Medications Section contains information about the relevant medications of the medications ordered for the patient for use after discharge from the hospital.

1. **SHALL** conform to *IHE Hospital Discharge Medications Section* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.22`)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
```

```
      <component>
        <section>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.22"
 assigningAuthorityName="IHE Hospital Discharge Medications Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.114"
 assigningAuthorityName="HITSP Hospital Discharge Medications Section"/>
          <code code="10183-2" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="HOSPITAL DISCHARGE MEDICATIONS"/>
          <title>HOSPITAL DISCHARGE MEDICATIONS</title>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 21: Hospital Discharge Medications Section example

Immunizations Section

[Section: templateId `2.16.840.1.113883.3.88.11.83.117`]

The Immunizations Section contains information describing the immunizations administered to the patient.

1. **SHALL** conform to *IHE Immunizations Section* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.23`)
2. **SHALL** contain [1..*] `entry`, such that it
   a. contains *Immunization* (templateId: `2.16.840.1.113883.3.88.11.83.13`)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="2.16.840.1.113883.10.20.1.6"
 assigningAuthorityName="CCD Immunizations Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.23"
 assigningAuthorityName="IHE Immunizations Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.117"
 assigningAuthorityName="HITSP Immunizations Section"/>
          <code code="11369-6" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="History of immunizations"/>
          <title>History of immunizations</title>
          <entry>
            <substanceAdministration classCode="SBADM">
              <templateId root="2.16.840.1.113883.10.20.1.24"
 assigningAuthorityName="CCD Medication Activity"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.12"
 assigningAuthorityName="IHE Immunization"/>
              <templateId root="2.16.840.1.113883.3.88.11.83.13"
 assigningAuthorityName="HITSP Immunization"/>
              <id root="0cd08ebf-6ccb-48c3-b03c-ccef6b3e3acd"/>
              <statusCode/>
              <effectiveTime/>
              <routeCode codeSystem="2.16.840.1.113883.5.112"
 codeSystemName="HL7 RouteOfAdministration"/>
              <maxDoseQuantity/>
            </substanceAdministration>
          </entry>
          <entry>
            <substanceAdministration classCode="SBADM">
```

```
              <templateId root="2.16.840.1.113883.10.20.1.24"
 assigningAuthorityName="CCD Medication Activity"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.12"
 assigningAuthorityName="IHE Immunization"/>
              <id root="b68281c9-8a3e-4004-ab3d-0b3baabbb095"/>
              <statusCode/>
              <effectiveTime/>
              <routeCode codeSystem="2.16.840.1.113883.5.112"
 codeSystemName="HL7 RouteOfAdministration"/>
              <maxDoseQuantity/>
            </substanceAdministration>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 22: Immunizations Section example

Medical Equipment Section

[Section: templateId `2.16.840.1.113883.3.88.11.83.128`]

The Medical Equipment section contains information describing a patient's implanted and external medical devices and equipment that their health status depends on, as well as any pertinent equipment or device history.

1. **SHALL** conform to *IHE Medical Devices Section* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.1.5.3.5`)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="2.16.840.1.113883.10.20.1.7"
 assigningAuthorityName="CCD Medical Equipment Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.5.3.5"
 assigningAuthorityName="IHE Medical Devices Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.128"
 assigningAuthorityName="HITSP Medical Equipment Section"/>
          <code code="46264-8" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="History of medical device use"/>
          <title>History of medical device use</title>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 23: Medical Equipment Section example

Medications Administered Section

[Section: templateId `2.16.840.1.113883.3.88.11.83.115`]

The Medications Administered Section contains information about the relevant medications administered to a patient during the course of an encounter.

1. **SHALL** conform to *IHE Medications Administered Section* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.21`)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.21"
 assigningAuthorityName="IHE Medications Administered Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.115"
 assigningAuthorityName="HITSP Medications Administered Section"/>
          <code code="18610-6" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="MEDICATION ADMINISTERED"/>
          <title>MEDICATION ADMINISTERED</title>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 24: Medications Administered Section example

Medications Section

[Section: templateId `2.16.840.1.113883.3.88.11.83.112`]

The Medications Section contains information about the relevant medications for the patient. At a minimum, the currently active medications should be listed.

1. **SHALL** conform to *IHE Medications Section* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.19`) (C83-[CT-112-1])
2. **SHALL** contain [1..*] `entry`, such that it
   a. contains *Medication* (templateId: `2.16.840.1.113883.3.88.11.83.8`)

   (C83-[CT-112-2])

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="2.16.840.1.113883.10.20.1.8"
 assigningAuthorityName="CCD Medications Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.19"
 assigningAuthorityName="IHE Medications Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.112"
 assigningAuthorityName="HITSP Medications Section"/>
          <code code="10160-0" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="History of medication use"/>
          <title>History of medication use</title>
          <entry>
            <substanceAdministration classCode="SBADM">
              <templateId root="2.16.840.1.113883.10.20.1.24"
 assigningAuthorityName="CCD Medication Activity"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.7"
 assigningAuthorityName="IHE Medication"/>
              <templateId root="2.16.840.1.113883.3.88.11.83.8"/>
              <id root="9f43af24-8aeb-45a0-b832-8ab11a5f40e6"/>
              <statusCode/>
              <effectiveTime/>
```

```
              <routeCode codeSystem="2.16.840.1.113883.5.112"
 codeSystemName="HL7 RouteOfAdministration"/>
              <approachSiteCode/>
              <doseQuantity/>
              <rateQuantity/>
              <maxDoseQuantity/>
            </substanceAdministration>
          </entry>
          <entry>
            <substanceAdministration classCode="SBADM">
              <templateId root="2.16.840.1.113883.10.20.1.24"
 assigningAuthorityName="CCD Medication Activity"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.7"
 assigningAuthorityName="IHE Medication"/>
              <id root="fff7217a-6e63-4dd3-8f35-0364c25c34a1"/>
              <statusCode/>
              <effectiveTime/>
              <routeCode codeSystem="2.16.840.1.113883.5.112"
 codeSystemName="HL7 RouteOfAdministration"/>
              <approachSiteCode/>
              <doseQuantity/>
              <rateQuantity/>
              <maxDoseQuantity/>
            </substanceAdministration>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 25: Medications Section example

Payers Section

[Section: templateId `2.16.840.1.113883.3.88.11.83.101`]

The Payers Section contains data on the patient's payers, whether a 'third party' insurance, self-pay, other payer or guarantor, or some combination. At a minimum, the patient's pertinent current payment sources should be listed. If no payment sources are supplied, the reason shall be supplied as free text in the narrative block (e.g., Not Insured, Payer Unknown, Medicare Pending, et cetera).

1. **SHALL** conform to *IHE Payers Section* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.1.5.3.7`)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="2.16.840.1.113883.10.20.1.9"
 assigningAuthorityName="CCD Payers Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.5.3.7"
 assigningAuthorityName="IHE Payers Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.101"
 assigningAuthorityName="HITSP Payers Section"/>
          <code code="48768-6" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Payment sources"/>
          <title>Payment sources</title>
        </section>
      </component>
    </structuredBody>
```

```
  </component>
</ClinicalDocument>
```

Figure 26: Payers Section example

Physical Exam Section

[Section: templateId 2.16.840.1.113883.3.88.11.83.118]

The Physical Examination Section contains information describing the physical findings.

1. **SHALL** conform to *IHE Physical Exam Section* template (templateId: 1.3.6.1.4.1.19376.1.5.3.1.1.9.15)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.24"
 assigningAuthorityName="IHE Physical Exam Narrative Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.9.15"
 assigningAuthorityName="IHE Physical Exam Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.118"
 assigningAuthorityName="HITSP Physical Exam Section"/>
          <code code="29545-1" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="PHYSICAL EXAMINATION"/>
          <title>PHYSICAL EXAMINATION</title>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 27: Physical Exam Section example

Plan Of Care Section

[Section: templateId 2.16.840.1.113883.3.88.11.83.124]

The Plan of Care Section contains information about the expectations for care to be provided including proposed interventions and goals for improving the condition of the patient.

A plan of care section varies from the assessment and plan section defined above in that it does not include a physician assessment of the patient condition.

1. **SHALL** conform to *IHE Care Plan Section* template (templateId: 1.3.6.1.4.1.19376.1.5.3.1.3.31)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="2.16.840.1.113883.10.20.1.10"
 assigningAuthorityName="CCD Plan Of Care Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.31"
 assigningAuthorityName="IHE Care Plan Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.124"
 assigningAuthorityName="HITSP Plan Of Care Section"/>
```

```
          <code code="18776-5" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Treatment plan"/>
          <title>Treatment plan</title>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 28: Plan Of Care Section example

Problem List Section

[Section: templateId `2.16.840.1.113883.3.88.11.83.103`]

The Problem List Section contains data on the problems currently being monitored for the patient.

1. **SHALL** conform to *IHE Active Problems Section* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.6`)
2. **SHALL** contain [1..*] `entry`, such that it
   a. contains *Condition* (templateId: `2.16.840.1.113883.3.88.11.83.7`)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="2.16.840.1.113883.10.20.1.11"
 assigningAuthorityName="CCD Problem Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.6"
 assigningAuthorityName="IHE Active Problems Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.103"
 assigningAuthorityName="HITSP Problem List Section"/>
          <code code="11450-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Problem list"/>
          <title>Problem list</title>
          <entry>
            <act classCode="ACT" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.1.27"
 assigningAuthorityName="CCD Problem Act"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.5.1"
 assigningAuthorityName="IHE Concern Entry"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.5.2"
 assigningAuthorityName="IHE Problem Concern Entry"/>
              <templateId root="2.16.840.1.113883.3.88.11.83.7"
 assigningAuthorityName="HITSP Condition"/>
              <id root="c7872239-7116-45e9-8aab-be05b9a47a6f"/>
              <code nullFlavor="NA"/>
              <statusCode/>
              <effectiveTime>
                <low value="1972"/>
                <high value="2008"/>
              </effectiveTime>
            </act>
          </entry>
          <entry>
            <act classCode="ACT" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.1.27"
 assigningAuthorityName="CCD Problem Act"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.5.1"
 assigningAuthorityName="IHE Concern Entry"/>
```

```
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.5.2"
 assigningAuthorityName="IHE Problem Concern Entry"/>
              <id root="814fb477-4df4-4b7b-bbf3-20ff5ffe637c"/>
              <code nullFlavor="NA"/>
              <statusCode/>
              <effectiveTime>
                <low value="1972"/>
                <high value="2008"/>
              </effectiveTime>
            </act>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 29: Problem List Section example

Reason For Referral Section

[Section: templateId 2.16.840.1.113883.3.88.11.83.106]

The Reason for Referral Section contains information about the reason that the patient is being referred.

1. **SHALL** conform to *IHE Reason For Referral Section* template (templateId: 1.3.6.1.4.1.19376.1.5.3.1.3.1)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.1"
 assigningAuthorityName="IHE Reason For Referral Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.106"
 assigningAuthorityName="HITSP Reason For Referral Section"/>
          <code code="42349-1" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="REASON FOR REFERRAL"/>
          <title>REASON FOR REFERRAL</title>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 30: Reason For Referral Section example

Review Of Systems Section

[Section: templateId 2.16.840.1.113883.3.88.11.83.120]

The Review of Systems Section contains information describing patient responses to questions about the function of various body systems.

1. **SHALL** conform to *IHE Review Of Systems Section* template (templateId: 1.3.6.1.4.1.19376.1.5.3.1.3.18)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
```

```
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.18"
 assigningAuthorityName="IHE Review Of Systems Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.120"
 assigningAuthorityName="HITSP Review Of Systems Section"/>
          <code code="10187-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="REVIEW OF SYSTEMS"/>
          <title>REVIEW OF SYSTEMS</title>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 31: Review Of Systems Section example

Social History Section

[Section: templateId `2.16.840.1.113883.3.88.11.83.126`]

The Social History Section contains information about the person's beliefs, home life, community life, work life, hobbies, and risky habits.

1. **SHALL** conform to *IHE Social History Section* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.16`)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="2.16.840.1.113883.10.20.1.15"
 assigningAuthorityName="CCD Social History Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.16"
 assigningAuthorityName="IHE Social History Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.126"
 assigningAuthorityName="HITSP Social History Section"/>
          <code code="29762-2" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Social history"/>
          <title>Social history</title>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 32: Social History Section example

Surgeries Section

[Section: templateId `2.16.840.1.113883.3.88.11.83.108`]

1. **SHALL** conform to *IHE Coded Surgeries Section* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.12`)
2. **SHALL** contain [1..*] `entry`, such that it
   a. contains *Procedure* (templateId: `2.16.840.1.113883.3.88.11.83.17`)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="2.16.840.1.113883.10.20.1.12"
 assigningAuthorityName="CCD Procedures Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.11"
 assigningAuthorityName="IHE Surgeries Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.12"
 assigningAuthorityName="IHE Coded Surgeries Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.108"
 assigningAuthorityName="HITSP Surgeries Section"/>
          <code code="47519-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="History of procedures"/>
          <title>History of procedures</title>
          <entry>
            <procedure>
              <templateId root="2.16.840.1.113883.10.20.1.29"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.19"/>
              <templateId root="2.16.840.1.113883.3.88.11.83.17"
 assigningAuthorityName="HITSP Procedure"/>
              <id root="efc49ad3-9896-4a78-a2ae-ee58f58824b3"/>
              <code/>
              <text/>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="1972"/>
                <high value="2008"/>
              </effectiveTime>
              <approachSiteCode/>
              <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
            </procedure>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 33: Surgeries Section example

Vital Signs Section

[Section: templateId `2.16.840.1.113883.3.88.11.83.119`]

The Vital Signs Section contains information documenting the patient vital signs.

1. **SHALL** conform to *IHE Coded Vital Signs Section* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.1.5.3.2`)
2. **SHALL** satisfy: Contains entries conforming to the Vital Sign module.
   -
```
[OCL]: self.entry->exists(entry : cda::Entry |
 entry.organizer.oclIsKindOf(ihe::VitalSignsOrganizer) and
 entry.organizer.component.observation->exists(obs : cda::Observation |
 obs.oclIsKindOf(hitsp::VitalSign)))
```

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
```

```
  <component>
    <structuredBody>
      <component>
        <section>
          <templateId root="2.16.840.1.113883.10.20.1.16"
 assigningAuthorityName="CCD Vital Signs Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.25"
 assigningAuthorityName="IHE Vital Signs Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.5.3.2"
 assigningAuthorityName="IHE Coded Vital Signs Section"/>
          <templateId root="2.16.840.1.113883.3.88.11.83.119"
 assigningAuthorityName="HITSP Vital Signs Section"/>
          <code code="8716-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Vital signs"/>
          <title>Vital signs</title>
          <entry>
            <organizer classCode="CLUSTER" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.1.32"
 assigningAuthorityName="CCD Result Organizer"/>
              <templateId root="2.16.840.1.113883.10.20.1.35"
 assigningAuthorityName="CCD Vital Signs Organizer"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.13.1"
 assigningAuthorityName="IHE Vital Signs Organizer"/>
              <id root="4a70f9e9-78ec-4bbf-890f-22b8185c564b"/>
              <code code="46680005" codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT" displayName="Vital signs"/>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="1972"/>
                <high value="2008"/>
              </effectiveTime>
            </organizer>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 34: Vital Signs Section example

Chapter 4

CLINICAL STATEMENT TEMPLATES

Topics:

This section of the Implementation Guide details the clinical statement entries referenced in the document section templates. The clinical statement entry templates are arranged alphabetically.

Allergy Drug Sensitivity

[Act: templateId `2.16.840.1.113883.3.88.11.83.6`]

This module contains the allergy or intolerance conditions and the associated adverse reactions suffered by the patient. See the HL7 Continuity of Care Document Section 3.8 for constraints applicable to this module.

1. **SHALL** conform to *IHE Allergy Intolerance Concern* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.5.3`)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <entry>
            <act classCode="ACT" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.1.27"
 assigningAuthorityName="CCD Problem Act"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.5.1"
 assigningAuthorityName="IHE Concern Entry"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.5.3"
 assigningAuthorityName="IHE Allergy Intolerance Concern"/>
              <templateId root="2.16.840.1.113883.3.88.11.83.6"
 assigningAuthorityName="HITSP Allergy Drug Sensitivity"/>
              <id root="c685f17a-865c-43b3-98e5-6035d9642121"/>
              <code nullFlavor="NA"/>
              <statusCode/>
              <effectiveTime>
                <low value="1972"/>
                <high value="2008"/>
              </effectiveTime>
            </act>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 35: Allergy Drug Sensitivity example

Comment

[Act: templateId `2.16.840.1.113883.3.88.11.83.11`]

This module contains a comment to be supplied for any other entry Content Modules.

1. **SHALL** conform to *IHE Comment* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.2`)
2. **SHALL** contain [1..1] `author`, such that it
   a. contains *CDA Author*

   (C83-[DE-10-CDA-4])

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
```

```
    <structuredBody>
      <component>
        <section>
          <entry>
            <act classCode="ACT" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.1.40"
 assigningAuthorityName="CCD Comment"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.2"
 assigningAuthorityName="IHE Comment"/>
              <templateId root="2.16.840.1.113883.3.88.11.83.11"
 assigningAuthorityName="HITSP Comment"/>
              <code code="48767-8" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Annotation comment"/>
              <text/>
              <statusCode code="completed"/>
            </act>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 36: Comment example

Condition

[Act: templateId `2.16.840.1.113883.3.88.11.83.7`]

1. **SHALL** conform to *IHE Problem Concern Entry* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.5.2`)
2. **SHALL** contain [1..*] `entryRelationship`, such that it
   a. has @typeCode="SUBJ" *SUBJ (has subject)*
   b. contains *Condition Entry*

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <entry>
            <act classCode="ACT" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.1.27"
 assigningAuthorityName="CCD Problem Act"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.5.1"
 assigningAuthorityName="IHE Concern Entry"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.5.2"
 assigningAuthorityName="IHE Problem Concern Entry"/>
              <templateId root="2.16.840.1.113883.3.88.11.83.7"
 assigningAuthorityName="HITSP Condition"/>
              <id root="4e22d4f3-edca-4153-9d7f-3251074cf3ed"/>
              <code nullFlavor="NA"/>
              <statusCode/>
              <effectiveTime>
                <low value="1972"/>
                <high value="2008"/>
              </effectiveTime>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
```

```
                  <templateId root="2.16.840.1.113883.10.20.1.28"
assigningAuthorityName="CCD Problem Observation"/>
                  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.5"
assigningAuthorityName="IHE Problem Entry"/>
                  <templateId assigningAuthorityName="HITSP Condition Entry"/>
                  <id root="c4a4367b-cbbe-4fdb-875f-c434b0e91b72"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="1972"/>
                    <high value="2008"/>
                  </effectiveTime>
                  <value xsi:type="CD"/>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.1.28"
assigningAuthorityName="CCD Problem Observation"/>
                  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.5"
assigningAuthorityName="IHE Problem Entry"/>
                  <id root="d23dc04f-70af-40b4-a2ac-fde58b8f8855"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="1972"/>
                    <high value="2008"/>
                  </effectiveTime>
                  <value xsi:type="CD"/>
                </observation>
              </entryRelationship>
            </act>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 37: Condition example

Condition Entry

[Observation: templateId `null`]

1. **SHALL** conform to *IHE Problem Entry* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.5`)
2. **SHOULD** contain [1..1] `effectiveTime`
   - The problem date constraints include the onset and resolution dates for the problem. The onset date shall be recorded in the <low> element of the <effectiveTime> element when known. The resolution data shall be recorded in the <high> element of the <effectiveTime> element when known. These dates represent the clinically effective time span over which the problem existed. If the problem is known to be resolved, but the date of resolution is not known, then the <high> element shall be present, and the nullFlavor attribute shall be set to 'UNK'. Therefore, the existence of an <high> element within a problem does indicate that the problem has been resolved.
3. **SHALL** contain [1..1] `code`, which **SHALL** be selected from ValueSet 2.16.840.1.113883.3.88.12.3221.7.2 Problem Type Value Set STATIC

4. **SHALL** contain [1..1] `text`
5. **SHALL** contain [1..1] `value`, which **SHALL** be selected from ValueSet 2.16.840.1.113883.3.88.12.3221.7.4 Problem Value Set STATIC

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <entry>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.1.28"
 assigningAuthorityName="CCD Problem Observation"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.5"
 assigningAuthorityName="IHE Problem Entry"/>
              <templateId assigningAuthorityName="HITSP Condition Entry"/>
              <id root="3e073174-0104-414b-a722-42382887fc8b"/>
              <code codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
              <text/>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="1972"/>
                <high value="2008"/>
              </effectiveTime>
              <value xsi:type="CD"/>
            </observation>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 38: Condition Entry example

Encounter

[Encounter: templateId `2.16.840.1.113883.3.88.11.83.16`]

The encounter entry contains data describing the interactions between the patient and clinicians. Interaction includes both in-person and non-in-person encounters such as telephone and e-mail communication.

1. **SHALL** conform to *IHE Encounter Activity* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.14`)
2. **SHOULD** contain [1..1] `code`, which **SHOULD** be selected from ValueSet 2.16.840.1.113883.3.88.12.80.32 EncounterType DYNAMIC 20081218 (C83-[DE-16.02-1])
3. **MAY** contain [0..1] `priorityCode`, which **MAY** be selected from ValueSet 2.16.840.1.113883.3.88.12.80.33 Admission Type (NUBC) STATIC (C154-[DE-16.07-1])

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <entry>
            <encounter classCode="ENC" moodCode="EVN">
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.14"/>
              <templateId root="2.16.840.1.113883.10.20.1.21"
 assigningAuthorityName="CCD Encounters Activity"/>
```

```
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.14"/>
              <templateId root="2.16.840.1.113883.3.88.11.83.16"
 assigningAuthorityName="HITSP Encounter"/>
              <id root="697db3a9-41e2-4b30-8d8f-44ab16b41b41"/>
              <code codeSystem="2.16.840.1.113883.6.12"
 codeSystemName="CPT-4"/>
              <text/>
              <effectiveTime>
                <low value="1972"/>
                <high value="2008"/>
              </effectiveTime>
              <priorityCode/>
            </encounter>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 39: Encounter example

Immunization

[SubstanceAdministration: templateId `2.16.840.1.113883.3.88.11.83.13`]

1. **SHALL** conform to *IHE Immunization* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.12`)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <entry>
            <substanceAdministration classCode="SBADM">
              <templateId root="2.16.840.1.113883.10.20.1.24"
 assigningAuthorityName="CCD Medication Activity"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.12"
 assigningAuthorityName="IHE Immunization"/>
              <templateId root="2.16.840.1.113883.3.88.11.83.13"
 assigningAuthorityName="HITSP Immunization"/>
              <id root="7aad62c2-0cbc-42cc-9b0f-47d579a7c87f"/>
              <statusCode/>
              <effectiveTime/>
              <routeCode codeSystem="2.16.840.1.113883.5.112"
 codeSystemName="HL7 RouteOfAdministration"/>
              <maxDoseQuantity/>
            </substanceAdministration>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 40: Immunization example

Insurance Provider

[Act: templateId `2.16.840.1.113883.3.88.11.83.5`]

1. **SHALL** conform to *IHE Coverage Entry* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.17`)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <entry>
            <act classCode="ACT" moodCode="DEF">
              <templateId root="2.16.840.1.113883.10.20.1.20"
 assigningAuthorityName="CCD Coverage Activity"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.17"
 assigningAuthorityName="IHE Coverage Entry"/>
              <templateId root="2.16.840.1.113883.3.88.11.83.5"
 assigningAuthorityName="HITSP Insurance Provider"/>
              <id root="cdc0d4b9-d438-461f-8e67-98f05b603c40"/>
              <code code="48768-6" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Payment sources"/>
              <statusCode code="completed"/>
              <entryRelationship>
                <act classCode="ACT" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.1.26"
 assigningAuthorityName="CCD Policy Activity"/>
                  <id root="b42a075e-dc17-4e08-80ae-e3c20e1b2fa7"/>
                  <code/>
                  <statusCode code="completed"/>
                </act>
              </entryRelationship>
            </act>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 41: Insurance Provider example

Medication

[SubstanceAdministration: templateId `2.16.840.1.113883.3.88.11.83.8`]

1. **SHALL** conform to *IHE Medication* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.7`) (C83-[DE-8-CDA-2])
2. **SHOULD** contain [1..*] `effectiveTime`
   - Indicate Medication Stopped: Used to express a "hard stop," such as the last Sig sequence in a tapering dose, where the last sequence is 'then D/C' or where the therapy/drug is used to treat a condition and that treatment is for a fixed duration with a hard stop, such as antibiotic treatment, etc.
   - Administration Timing: defines a specific administration or use time. Can be a text string (Morning, Evening, Before Meals, 1 Hour After Meals, 3 Hours After Meals, Before Bed) or an exact time.
   - Frequency: defines how often the medication is to be administered as events per unit of time. Often expressed as the number of times per day (e.g., four times a day), but may also include event-related information (e.g.,

1 hour before meals, in the morning, at bedtime). Complimentary to Interval, although equivalent expressions may have different implications (e.g., every 8 hours versus 3 times a day).
- Interval: defines how the product is to be administered as an interval of time. For example, every 8 hours. Complimentary to Frequency, although equivalent expressions may have different implications (e.g., every 8 hours versus 3 times a day).
- Duration: for non-instantaneous administrations, indicates the length of time the administration should be continued. For example, (infuse) over 30 minutes.

(CONF-308)

3. **SHOULD** contain [1..1] `routeCode` (CodeSystem: 2.16.840.1.113883.5.112 HL7 RouteOfAdministration DYNAMIC)
   - The route is a coded value, and indicates how the medication is received by the patient (by mouth, intravenously, topically, et cetera).

   (CONF-309, CONF-310)
4. **SHALL** satisfy: The time at which the medication was stopped is determined based on the content of the <high> element of the first <effectiveTime> element.
5. **SHALL** satisfy: The HL7 data type for PIVL_TS uses the institutionSpecified attribute to indicate whether it is the interval (time between dosing), or frequency (number of doses in a time period) that is important. If instititutionSpecified is not present or is set to false, then the time between dosing is important (every 8 hours). If true, then the frequency of administration is important (e.g., 3 times per day).
6. **SHALL** satisfy: The first <effectiveTime> SHALL use the IVL_TS data type unless for a single administration, in which case, it SHALL use the TS data type. (C83-[DE-8-CDA-3])
7. **SHALL** satisfy: Medications that are administered based on activities of daily living SHALL identify the events that trigger administration in the <event> element beneath the <effectiveTime> element. The <effectiveTime> element SHALL be of type EIVL_TS. (C83-[DE-8.03-CDA-1])
8. **SHALL** satisfy: Medications that are administered at a specified frequency SHALL record the expected interval between doses in the <period> element beneath an <effectiveTime> of type PIVL_TS. The <effectiveTime> element SHALL have an institutionSpecified attribute value of "true". (C83-[DE-8.04-CDA-1])
9. **SHALL** satisfy: Medications that are administered at a specified interval SHALL record interval between doses in the <period> element beneath an <effectiveTime> element of type PIVL_TS. The <effectiveTime> element SHALL have an institutionSpecified attribute value of "false". (C83-[DE-8.05-CDA-1])

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <entry>
            <substanceAdministration classCode="SBADM">
              <templateId root="2.16.840.1.113883.10.20.1.24"
 assigningAuthorityName="CCD Medication Activity"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.7"
 assigningAuthorityName="IHE Medication"/>
              <templateId root="2.16.840.1.113883.3.88.11.83.8"/>
              <id root="3dfea78d-5d9f-4d08-9296-8da3e09dc1d9"/>
              <statusCode/>
              <effectiveTime/>
              <routeCode codeSystem="2.16.840.1.113883.5.112"
 codeSystemName="HL7 RouteOfAdministration"/>
              <approachSiteCode/>
              <doseQuantity/>
              <rateQuantity/>
              <maxDoseQuantity/>
            </substanceAdministration>
          </entry>
        </section>
      </component>
```

```
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 42: Medication example

Medication Combination Medication

[SubstanceAdministration: templateId `null`]

1. **SHALL** conform to *Medication* template (templateId: `2.16.840.1.113883.3.88.11.83.8`)
2. **SHALL** conform to *IHE Combination Medication* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.11`)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <entry>
            <substanceAdministration classCode="SBADM">
              <templateId root="2.16.840.1.113883.10.20.1.24"
 assigningAuthorityName="CCD Medication Activity"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.7"
 assigningAuthorityName="IHE Medication"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.11"
 assigningAuthorityName="IHE Combination Medication"/>
              <templateId root="2.16.840.1.113883.3.88.11.83.8"/>
              <templateId assigningAuthorityName="HITSP Medication Combination
 Medication"/>
              <id root="94fdf38b-682c-4049-ba45-001a0152bd98"/>
              <statusCode/>
              <effectiveTime/>
              <routeCode codeSystem="2.16.840.1.113883.5.112"
 codeSystemName="HL7 RouteOfAdministration"/>
              <approachSiteCode/>
              <doseQuantity/>
              <rateQuantity/>
              <maxDoseQuantity/>
            </substanceAdministration>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 43: Medication Combination Medication example

Medication Conditional Dose

[SubstanceAdministration: templateId `null`]

1. **SHALL** conform to *Medication* template (templateId: `2.16.840.1.113883.3.88.11.83.8`)
2. **SHALL** conform to *IHE Conditional Dose* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.10`)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
```

```
    <structuredBody>
      <component>
        <section>
          <entry>
            <substanceAdministration classCode="SBADM">
              <templateId root="2.16.840.1.113883.10.20.1.24"
 assigningAuthorityName="CCD Medication Activity"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.7"
 assigningAuthorityName="IHE Medication"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.10"
 assigningAuthorityName="IHE Conditional Dose"/>
              <templateId root="2.16.840.1.113883.3.88.11.83.8"/>
              <templateId assigningAuthorityName="HITSP Medication Conditional
 Dose"/>
              <id root="dd133742-e0d1-43e8-9733-b8c0844a60c5"/>
              <statusCode/>
              <effectiveTime/>
              <routeCode codeSystem="2.16.840.1.113883.5.112"
 codeSystemName="HL7 RouteOfAdministration"/>
              <approachSiteCode/>
              <doseQuantity/>
              <rateQuantity/>
              <maxDoseQuantity/>
            </substanceAdministration>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 44: Medication Conditional Dose example

Medication Normal Dose

[SubstanceAdministration: templateId `null`]

1. **SHALL** conform to *Medication* template (templateId: `2.16.840.1.113883.3.88.11.83.8`)
2. **SHALL** conform to *IHE Normal Dose* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.7.1`)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <entry>
            <substanceAdministration classCode="SBADM">
              <templateId root="2.16.840.1.113883.10.20.1.24"
 assigningAuthorityName="CCD Medication Activity"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.7"
 assigningAuthorityName="IHE Medication"/>
              <templateId root="2.16.840.1.113883.3.88.11.83.8"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.7.1"
 assigningAuthorityName="IHE Normal Dose"/>
              <templateId assigningAuthorityName="HITSP Medication Normal
 Dose"/>
              <id root="d4d38359-ff1b-4f65-8947-463d7fa5d756"/>
              <statusCode/>
              <effectiveTime/>
              <routeCode codeSystem="2.16.840.1.113883.5.112"
 codeSystemName="HL7 RouteOfAdministration"/>
```

```
              <approachSiteCode/>
              <doseQuantity/>
              <rateQuantity/>
              <maxDoseQuantity/>
            </substanceAdministration>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 45: Medication Normal Dose example

Medication Split Dose

[SubstanceAdministration: templateId `null`]

1. **SHALL** conform to *Medication* template (templateId: `2.16.840.1.113883.3.88.11.83.8`)
2. **SHALL** conform to *IHE Split Dose* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.9`)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <entry>
            <substanceAdministration classCode="SBADM">
              <templateId root="2.16.840.1.113883.10.20.1.24"
 assigningAuthorityName="CCD Medication Activity"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.7"
 assigningAuthorityName="IHE Medication"/>
              <templateId root="2.16.840.1.113883.3.88.11.83.8"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.9"
 assigningAuthorityName="IHE Split Dose"/>
              <templateId assigningAuthorityName="HITSP Medication Split
 Dose"/>
              <id root="2292522c-b457-46b6-af33-6cb84d18dac8"/>
              <statusCode/>
              <effectiveTime/>
              <routeCode codeSystem="2.16.840.1.113883.5.112"
 codeSystemName="HL7 RouteOfAdministration"/>
              <approachSiteCode/>
              <doseQuantity/>
              <rateQuantity/>
              <maxDoseQuantity/>
            </substanceAdministration>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 46: Medication Split Dose example

Medication Tapered Dose

[SubstanceAdministration: templateId `null`]

1. **SHALL** conform to *Medication* template (templateId: `2.16.840.1.113883.3.88.11.83.8`)
2. **SHALL** conform to *IHE Tapered Dose* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.8`)

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <entry>
            <substanceAdministration classCode="SBADM">
              <templateId root="2.16.840.1.113883.10.20.1.24"
 assigningAuthorityName="CCD Medication Activity"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.7"
 assigningAuthorityName="IHE Medication"/>
              <templateId root="2.16.840.1.113883.3.88.11.83.8"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.8"
 assigningAuthorityName="IHE Tapered Dose"/>
              <templateId root="null" assigningAuthorityName="HITSP Medication
 Tapered Dose"/>
              <templateId assigningAuthorityName="HITSP Medication Tapered
 Dose"/>
              <id root="74454b50-bab2-4d2d-a186-818d277cf597"/>
              <statusCode/>
              <effectiveTime/>
              <routeCode codeSystem="2.16.840.1.113883.5.112"
 codeSystemName="HL7 RouteOfAdministration"/>
              <approachSiteCode/>
              <doseQuantity/>
              <rateQuantity/>
              <maxDoseQuantity/>
            </substanceAdministration>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 47: Medication Tapered Dose example

Procedure

[Procedure: templateId `2.16.840.1.113883.3.88.11.83.17`]

Defines a coded entry describing a procedure performed on a patient.

1. **SHALL** conform to *IHE Procedure Entry Procedure Activity Procedure* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.19`) (C83-[DE-17-CDA-2])
2. **SHOULD** contain [1..1] `targetSiteCode`, which **SHOULD** be selected from ValueSet 2.16.840.1.113883.3.88.12.3221.8.9 Body Site Value Set STATIC 2 (C83-[DE-17-CDA-3])
3. **SHOULD** satisfy: The code/@code attribute is present.
   - `[OCL]: not self.code.code.oclIsUndefined()`
4. **SHALL** satisfy: The code/originalText/reference/@value is present.
   - `[OCL]: not self.code.originalText.reference.value.oclIsUndefined()`
5. **SHOULD** satisfy: Contains the procedure provider in performer / assignedEntity.
   - `[OCL]: self.performer->forAll(perf : cda::Performer2 | not perf.oclIsUndefined() and perf.assignedEntity->size() > 0)`

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <entry>
            <procedure>
              <templateId root="2.16.840.1.113883.10.20.1.29"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.19"/>
              <templateId root="2.16.840.1.113883.3.88.11.83.17"
 assigningAuthorityName="HITSP Procedure"/>
              <id root="5ab0e01d-831a-4170-8e28-058d6956fdf9"/>
              <code/>
              <text/>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="1972"/>
                <high value="2008"/>
              </effectiveTime>
              <approachSiteCode/>
              <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
            </procedure>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 48: Procedure example

Result

[Observation: templateId `2.16.840.1.113883.3.88.11.83.15`]

This module contains current and relevant historical result observations for the patient. The scope of "observations" is broad with the exception of "vital signs" which are contained in the Vital Signs section.

1. **SHALL** conform to *CCD Result Observation* template (templateId: `2.16.840.1.113883.10.20.1.31`) ([C83-[DE-15-CDA-3])
2. **SHALL** conform to *IHE Simple Observation* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.13`) (C83-[DE-15-CDA-2])
3. **SHALL** contain [1..1] `code`
4. **SHALL** contain [1..1] `effectiveTime`
5. **SHALL** contain [1..1] `value`
   - The Result value records the desired result in a goal or recorded event, and will not present when recording an intent, request or proposal to measure a result.
6. **SHOULD** satisfy: Result Type SHOULD be selected from LOINC (codeSystem 2.16.840.1.113883.6.1) or SNOMED CT (codeSystem 2.16.840.1.113883.6.96) (C154-[DE-15.03-1])
7. **SHOULD** satisfy: Result Type for laboratory results SHOULD be coded as specified in HITSP/C80 Section 2.2.3.6.1 Laboratory Observations. (C154-[DE-15.03-2])
8. **SHALL** satisfy: Result Value SHALL be present when the observation/@moodCode is EVN or GOL, and SHALL NOT be present when observation/@moodCode is INT or PRP. (C83-[DE-15.05-CDA-1])
   - ```
     [OCL]: (self.moodCode = vocab::x_ActMoodDocumentObservation::EVN or
      self.moodCode = vocab::x_ActMoodDocumentObservation::EVN)
         implies (not self.value->isEmpty()) and
     ```
     ```

```
      (self.moodCode = vocab::x_ActMoodDocumentObservation::INT or
     self.moodCode = vocab::x_ActMoodDocumentObservation::PRP)
       implies (self.value->isEmpty())
```

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <entry>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.1.31"
 assigningAuthorityName="CCD Result Observation"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.13"
 assigningAuthorityName="IHE Simple Observation"/>
              <templateId root="2.16.840.1.113883.3.88.11.83.15"
 assigningAuthorityName="HITSP Result"/>
              <id root="4010cd7d-f139-4fc5-a1f7-d74197a42474"/>
              <code/>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="1972"/>
                <high value="2008"/>
              </effectiveTime>
              <interpretationCode/>
              <methodCode/>
            </observation>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 49: Result example

Vital Sign

[Observation: templateId `2.16.840.1.113883.3.88.11.83.14`]

1. **SHALL** conform to *IHE Vital Sign Observation* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.13.2`)
2. **SHALL** contain [1..1] `code`, which **SHALL** be selected from ValueSet 2.16.840.1.113883.3.88.12.80.62 Vital Sign Result Value Set STATIC 1

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <component>
    <structuredBody>
      <component>
        <section>
          <entry>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.1.31"
 assigningAuthorityName="CCD Result Observation"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.13"
 assigningAuthorityName="IHE Simple Observation"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.13.2"
 assigningAuthorityName="IHE Vital Sign Observation"/>
```

```
              <templateId root="2.16.840.1.113883.3.88.11.83.14"
 assigningAuthorityName="HITSP Vital Sign"/>
              <id root="24c63891-f2a3-42fd-8693-c688baed866b"/>
              <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/
>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="1972"/>
                <high value="2008"/>
              </effectiveTime>
              <value xsi:type="PQ"/>
              <interpretationCode/>
              <methodCode/>
              <targetSiteCode/>
            </observation>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 50: Vital Sign example

Chapter 5

OTHER CLASSES

Topics:

This section of the Implementation Guide describes other classes that are not CDA Clinical Documents, Sections, or Clinical Statements.

Healthcare Provider

[Performer1: templateId `2.16.840.1.113883.3.88.11.83.4`]

1. **SHALL** conform to *IHE Healthcare Providers Pharmacies* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.2.3`)

Figure 51: Healthcare Provider example

Language Spoken

[LanguageCommunication: templateId `2.16.840.1.113883.3.88.11.83.2`]

1. **SHALL** conform to *IHE Language Communication* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.2.1`) (C83-[DE-2.01-CDA-3])
2. **SHALL** contain [1..1] `languageCode`, which **SHALL** be selected from ValueSet 2.16.840.1.113883.1.11.11526 Language DYNAMIC 200609 (C154-[DE-2.01-1])
3. **SHALL** contain [0..1] `modeCode`, which **SHALL** be selected from ValueSet 2.16.840.1.113883.1.11.12249 LanguageAbilityMode Value Set STATIC 1
   - Mode codes SHALL be appropriate to the type of language. Thus English, as spoken in the U.S. SHOULD use the code en-US and SHOULD only use mode codes for written and verbal communications. On the other hand, American Sign Language would be represented using the code sign-US, and would only use mode codes for signed communication.

   (C83-[DE-2.01-CDA-4])
4. **SHALL** satisfy: Languages spoken shall be recorded using the <languageCommunication> infrastructure class associated with the patient. The <languageCommunication> element describes the primary and secondary languages of communication for a person. (C83-[DE-2.01-CDA-1])
5. **SHALL** satisfy: Sign language is treated as a separate language. (C154-[DE-2.01-2])
6. **SHOULD** satisfy: CDA allows for use of proficiencyLevelCode element, but this element SHOULD NOT be used. (C83-[DE-2.01-CDA-5])
   - Judgments about language proficiency are subjective, and could have a negative impact on consumers.
   - `[OCL]: self.proficiencyLevelCode.oclIsUndefined()`

Figure 52: Language Spoken example

Medication Information

[ManufacturedProduct: templateId `2.16.840.1.113883.3.88.11.83.8.2`]

1. **SHALL** conform to *IHE Product Entry* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.7.2`) (C83-[DE-8-CDA-4])

Figure 53: Medication Information example

Support

At a minimum, key support contacts relative to healthcare decisions, including next of kin, should be included. If no healthcare providers are supplied, the reason should be supplied as free text in the narrative block (e.g., Unknown, etc).

1. **SHALL** conform to *IHE Patient Contact*

Figure 54: Support example

Support Guardian

[Guardian: templateId `2.16.840.1.113883.3.88.11.83.3`]

At a minimum, key support contacts relative to healthcare decisions, including next of kin, should be included. If no healthcare providers are supplied, the reason should be supplied as free text in the narrative block (e.g., Unknown, etc).

1. **SHALL** conform to *IHE Patient Contact Guardian* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.2.4`)
2. **SHALL** conform to *Support*

Figure 55: Support Guardian example

Support Participant

[Participant1: templateId `2.16.840.1.113883.3.88.11.83.3`]

At a minimum, key support contacts relative to healthcare decisions, including next of kin, should be included. If no healthcare providers are supplied, the reason should be supplied as free text in the narrative block (e.g., Unknown, etc).

1. **SHALL** conform to *IHE Patient Contact Participant* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.2.4`)
2. **SHALL** conform to *Support*

Figure 56: Support Participant example

Chapter 6

VALUE SETS

The following tables summarize the value sets used in this Implementation Guide.

REFERENCES

- HL7 Implementation Guide: CDA Release 2 – Continuity of Care Document (CCD) A CDA implementation of ASTM E2369-05 Standard Specification for Continuity of Care Record© (CCR) April 01, 2007 available through *HL7* .
- HL7 Implementation Guide for CDA Release 2 Quality Reporting Document Architecture (QRDA) Draft Standard for Trial Use March 2009. Available at: *Quality Reporting Document Architecture (QRDA)*
- HL7 Implementation Guide for CDA Release 2 CDA for Public Health Case Reports (PHCR) Informative Standard October 2009. Available through *HL7* .
- HL7 Implementation Guide for CDA Release 2: NHSN Healthcare Associated Infection (HAI) Reports, Release 2 Draft Standard for Trial Use January 2009 Available at: *NHSN Healthcare Associated Infection (HAI) Reports*
- Dolin RH, Alschuler L, Boyer S, Beebe C, Behlen FM, Biron PV, Shabo A, (Editors). HL7 Clinical Document Architecture, Release 2.0. ANSI-approved HL7 Standard; May 2005. Ann Arbor, Mich.: Health Level Seven, Inc. Available through *HL7* or if an HL7 member with the following link: *CDA Release 2 Normative Web Edition.*
- *LOINC®* : Logical Observation Identifiers Names and Codes, Regenstrief Institute.
- *SNOMED CT®* : SNOMED Clinical Terms SNOMED International Organization.
- Extensible Markup Language, *www.w3.org/XML* .
- 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. Available at: *http://www.jamia.org/cgi/reprint/13/1/30* .
- Using SNOMED CT in HL7 Version 3; Implementation Guide, Release 1.5. Available through *HL7* or if an HL7 member with the following link: *Using SNOMED CT in HL7 Version 3*