Implementation Guide for CDA Release 2
IHE Patient Care Coordination (PCC)

Revision 6.0

DRAFT: FOR DEVELOPMENT USE ONLY

Contents

Acknowledgments

Revision History

Rev	Date	By Whom	Changes
New	July 2010	Dave Carlson	
First draft for posting	August 31, 2010	Dave Carlson	Updated model content and publication format

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 IHE Patient Care Coordination (PCC) specification has 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.

Integrating the Healthcare Enterprise (IHE) is an initiative designed to stimulate the integration of the information systems that support modern healthcare institutions. Its fundamental objective is to ensure that in the care of patients all required information for medical decisions is both correct and available to healthcare professionals. The IHE initiative is both a process and a forum for encouraging integration efforts. It defines a technical framework for the implementation of established messaging standards to achieve specific clinical goals. It includes a rigorous testing process for the implementation of this framework. And it organizes educational sessions and exhibits at major meetings of medical professionals to demonstrate the benefits of this framework and encourage its adoption by industry and users.

The approach employed in the IHE initiative is not to define new integration standards, but rather to support the use of existing standards, HL7, DICOM, IETF, and others, as appropriate in their respective domains in an integrated manner, defining configuration choices when necessary. When clarifications or extensions to existing standards are necessary, IHE refers recommendations to the relevant standards bodies.

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.

Discharge Summary

[ClinicalDocument: templateId `1.3.6.1.4.1.19376.1.5.3.1.1.4`]

1. **SHALL** conform to *IHE Medical Summary* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.1.2`)
2. **SHALL** contain [1..1] `code` (CodeSystem: 2.16.840.1.113883.6.1 LOINC STATIC)
3. **SHALL** contain [1..1] `component`, such that it
   a. contains *IHE Active Problems Section* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.6`)

```
<?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="1.3.6.1.4.1.19376.1.5.3.1.1.2" assigningAuthorityName="IHE
 Medical Summary"/>
  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.4" assigningAuthorityName="IHE
 Discharge Summary"/>
  <id root="c9fb1a59-45d1-4587-afc7-821b5f76c7de"/>
  <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
  <title/>
  <effectiveTime/>
  <confidentialityCode/>
  <languageCode/>
  <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"/>
          <code code="11450-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Problem list"/>
          <title>Problem list</title>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 5: Discharge Summary example

Medical Document

[ClinicalDocument: templateId `1.3.6.1.4.1.19376.1.5.3.1.1.1`]

1. **SHALL** conform to *CDT General Header Constraints* template (templateId: `2.16.840.1.113883.10.20.3`)

```
<?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">
  <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"/>
```

```
  <id root="7e8f9315-a0f6-4ea3-8071-cd03a5c64145"/>
  <code/>
  <title/>
  <effectiveTime/>
  <confidentialityCode/>
  <languageCode/>
</ClinicalDocument>
```

Figure 6: Medical Document example

Medical Summary

[ClinicalDocument: templateId `1.3.6.1.4.1.19376.1.5.3.1.1.2`]

1. **SHALL** conform to *IHE Medical Document* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.1.1`)
2. **SHALL** contain [1..1] `code` (CodeSystem: 2.16.840.1.113883.6.1 LOINC STATIC)
3. **SHALL** satisfy: MedicalSummaryProblemConcernEntry
   - `[OCL]: self.getSections()->exists(sect : cda::Section | sect.getActs()->exists(act : cda::Act | act.oclIsKindOf(ihe::ProblemConcernEntry)))`
4. **SHALL** satisfy: MedicalSummaryAllergyConcernEntry
   - `[OCL]: self.getSections()->exists(sect : cda::Section | sect.getActs()->exists(act : cda::Act | act.oclIsKindOf(ihe::AllergyIntoleranceConcern)))`
5. **SHALL** satisfy: MedicalSummaryMedications
   - `[OCL]: self.getSections()->exists(sect : cda::Section | sect.getSubstanceAdministrations()->exists(sub : cda::SubstanceAdministration | sub.oclIsKindOf(ihe::Medication)))`

```
<?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="1.3.6.1.4.1.19376.1.5.3.1.1.2" assigningAuthorityName="IHE
 Medical Summary"/>
  <id root="4a97e1ca-629b-456b-8a00-fc290489f567"/>
  <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
  <title/>
  <effectiveTime/>
  <confidentialityCode/>
  <languageCode/>
</ClinicalDocument>
```

Figure 7: Medical Summary example

PHR Extract

[ClinicalDocument: templateId `1.3.6.1.4.1.19376.1.5.3.1.1.5`]

1. **SHALL** conform to *IHE Medical Summary* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.1.2`)

```
<?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">
  <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="1.3.6.1.4.1.19376.1.5.3.1.1.2" assigningAuthorityName="IHE
 Medical Summary"/>
  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.5" assigningAuthorityName="IHE
 PHR Extract"/>
  <id root="56c96c45-1674-4a95-8f34-6e870fd69cd6"/>
  <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
  <title/>
  <effectiveTime/>
  <confidentialityCode/>
  <languageCode/>
</ClinicalDocument>
```

Figure 8: PHR Extract example

PHR Update

[ClinicalDocument: templateId `1.3.6.1.4.1.19376.1.5.3.1.1.6`]

1. **SHALL** conform to *IHE Medical Summary* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.1.2`)

```
<?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">
  <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="1.3.6.1.4.1.19376.1.5.3.1.1.2" assigningAuthorityName="IHE
 Medical Summary"/>
  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.6" assigningAuthorityName="IHE
 PHR Update"/>
  <id root="c9e9fb8f-8249-4fda-b41f-74c16d0828ec"/>
  <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
  <title/>
  <effectiveTime/>
  <confidentialityCode/>
  <languageCode/>
</ClinicalDocument>
```

Figure 9: PHR Update example

Scanned Document

[ClinicalDocument: templateId `1.3.6.1.4.1.19376.1.2.20`]

A variety of legacy paper, film, electronic and scanner outputted formats are used to store and exchange clinical documents. These formats are not designed for healthcare documentation, and furthermore, do not have a uniform mechanism to store healthcare metadata associated with the documents, including patient identifiers, demographics, encounter, order or service information. The association of structured, healthcare metadata with this kind of document is important to maintain the integrity of the patient health record as managed by the source system. It is necessary to provide a mechanism that allows such source metadata to be stored with the document.

1. **SHALL** conform to CDA Clinical Document
2. **SHALL** contain [1..1] `code`
   - Entered by operator or appropriately fixed for scanned content.
3. **SHALL** contain [1..1] `confidentialityCode`
   - Assigned by the operator in accordance with the scanning facility policy. The notion or level of confidentiality in the header may not be the same as that in the Affinity Domain, but in certain cases could be used to derive a

confidentiality value among those specified by the Affinity Domain. Attributes @code and @codeSystem shall be present.

4. **SHALL** contain [1..1] `effectiveTime`
   - Denotes the time at which the original content was scanned. At a minimum, the time shall be precise to the day and shall include the time zone offset from GMT.
5. **SHALL** contain [1..1] `id`
   - The root attribute shall contain the oid for the document, in which case the extension attribute shall be empty, or an oid that scopes the set of possible unique values for the extension attribute, in which case the extension shall be populated with a globally unique identifier within the scope of the root oid.
6. **SHALL** contain [1..1] `languageCode`
   - Denotes the language used in the character data of the wrapper CDA header. If the scanned content, when rendered, is in a language different than that of the header, the language context of the CDA will be overwritten at the body level (see ITI TF-3: 5.2.3.9 ClinicalDocument/component/nonXMLBody for an example). Attribute @code shall be present.
7. **SHOULD** contain [1..1] `title`
   - Entered by operator, or possibly can be taken from the scanned content.
8. **SHALL** contain [1..1] `typeId`
9. **SHOULD** contain [1..*] `scanOriginalAuthor`, such that it
   a. contains *IHE Scan Original Author* (templateId: `1.3.6.1.4.1.19376.1.2.20.1`)
10. **SHALL** contain [1..*] `scanningDevice`, such that it
    a. contains *IHE Scanning Device* (templateId: `1.3.6.1.4.1.19376.1.2.20.2`)
11. **SHALL** contain [1..1] `scanDataEnterer`, such that it
    a. contains *IHE Scan Data Enterer* (templateId: `1.3.6.1.4.1.19376.1.2.20.3`)
12. **MAY** contain [0..1] `legalAuthenticator`, such that it
    a. contains CDA Legal Authenticator
    - Context is left up to the scanning facility to refine in accordance with local policies.
13. **MAY** contain [0..1] `documentationOf`, such that it
    a. contains CDA Documentation Of
    - Used to encode the date/time range of the original content. If the original content is representative of a single point in time then the endpoints of the date/time range shall be the same. Information regarding this date/time range shall be included, if it is known. In many cases this will have to be supplied by the operator.
14. **SHALL** satisfy: The typeId root is 2.16.840.1.113883.1.3 and extension is POCD_HD000040.
    - ```
      [OCL]: self.typeId.root = '2.16.840.1.113883.1.3' and
       self.typeId.extension = 'POCD_HD000040'
      ```
15. **SHALL** satisfy: Contains exactly one recordTarget.
    - Contains identifying information about the patient concerned in the original content. In many cases this will have to be supplied by the operator.
    - ```
      [OCL]: self.recordTarget->size() = 1
      ```
16. **SHALL** satisfy: Contains one or more author / assignedAuthor / assignedPerson and/or author / assignedAuthor / representedOrganization
    - ```
      [OCL]: self.author->exists(author : cda::Author | not
       author.assignedAuthor.assignedPerson.oclIsUndefined()
         or not author.assignedAuthor.representedOrganization.oclIsUndefined())
      ```
17. **SHALL** satisfy: recordTarget/patientRole/id element includes both the root and the extension attributes.
    - ```
      [OCL]: self.recordTarget->forAll(target : cda::RecordTarget | not
       target.patientRole.oclIsUndefined()
         and target.patientRole.id->forAll(roleId : datatypes::II | not
       roleId.root.oclIsUndefined()
      ```

```
   and not roleId.extension.oclIsUndefined()))
```

18. **SHALL** satisfy: At least one recordTarget/patientRole/addr element includes at least the country subelement.
    - The addr element has an unbounded upper limit on occurrences. It can, and should, be replicated to include additional addresses for a patient, each minimally specified by the country sub element.
    - ```
      [OCL]: self.recordTarget->exists(target : cda::RecordTarget | not
      target.patientRole.oclIsUndefined()
        and target.patientRole.addr->exists(address : datatypes::AD |
      address.country->exists(c : datatypes::ADXP |
        not c.oclIsUndefined() and c.getText().size() > 0)))
      ```
19. **SHALL** satisfy: At least one recordTarget/patientRole/patient/name element has at least one given subelement and one family subelement.
    - ```
      [OCL]: self.recordTarget->exists(target : cda::RecordTarget | not
      target.patientRole.patient.oclIsUndefined()
        and target.patientRole.patient.name->exists(name: datatypes::PN |
           not name.given->isEmpty() and not name.family->isEmpty()))
      ```
20. **SHALL** satisfy: The recordTarget/patientRole/patient/ administrativeGenderCode element is present.
    - ```
      [OCL]: self.recordTarget->one(target : cda::RecordTarget |
        not
      target.patientRole.patient.administrativeGenderCode.oclIsUndefined())
      ```
21. **SHALL** satisfy: The recordTarget/patientRole/patient/ birthTime element is present with precision to the year.
    - ```
      [OCL]: self.recordTarget->one(target : cda::RecordTarget |
        not target.patientRole.patient.birthTime.oclIsUndefined())
      ```
22. **SHOULD** satisfy: Contains author of type ScanOriginalAuthor to represent original author of this scanned document.
    - ```
      [OCL]: self.author->exists(author : cda::Author | not
      author.oclIsUndefined() and author.oclIsKindOf(ihe::ScanOriginalAuthor))
      ```
23. **SHALL** satisfy: Contains author element of type ScanningDevice to represent the scanning device and software used to produce the scanned content.
    - ```
      [OCL]: self.author->exists(author : cda::Author | not
      author.oclIsUndefined() and author.oclIsKindOf(ihe::ScanningDevice))
      ```
24. **SHALL** satisfy: Contains ScanDataEnterer element to represent the scanner operator who produced the scanned content.
    - ```
      [OCL]: not self.dataEnterer.oclIsUndefined() and
      self.dataEnterer.oclIsKindOf(ihe::ScanDataEnterer)
      ```
25. **SHALL** satisfy: custodian/assignedCustodian/representedCustodianOrganization/name is present.
    - ```
      [OCL]: not
      self.custodian.assignedCustodian.representedCustodianOrganization.name.oclIsUndefir
      ```
26. **SHALL** satisfy: custodian/assignedCustodian/representedCustodianOrganization/addr is present and includes at least the country sub element.
    - ```
      [OCL]: not
      self.custodian.assignedCustodian.representedCustodianOrganization.addr.oclIsUndefir
        and
      self.custodian.assignedCustodian.representedCustodianOrganization.addr.country-
      >exists(c : datatypes::ADXP |
           not c.oclIsUndefined() and c.getText().size() > 0)
      ```
27. **SHALL** satisfy: The legalAuthenticator/assignedEntity/id element if known shall include both the root and the extension attributes.
    - ```
      [OCL]: self.legalAuthenticator.assignedEntity.id->size() > 0 implies (
        self.legalAuthenticator.assignedEntity.id->forAll(ident : datatypes::II
      |
           not ident.root.oclIsUndefined() and not
      ident.extension.oclIsUndefined()))
      ```
28. **SHALL** satisfy: The component/nonXMLBody is present.

- Used to wrap the scanned content. The nonXMLBody element is guaranteed to be unique; thus the x-path to recover the scanned content is essentially fixed.
- `[OCL]: not self.component.nonXMLBody.oclIsUndefined()`

29. **SHALL** satisfy: If the human-readable language of the scanned content is different than that of the wrapper (specified in ClinicalDocument/languageCode), then ClinicalDocument/component/nonXMLBody/languageCode shall be present. Attribute code@code shall be present. Attribute code@codeSystem shall be IETF (Internet Engineering Task Force) RFC 3066 in accordance with the HL7 CDA R2 documentation.
30. **SHALL** satisfy: The component/nonXMLBody/text element is present and encoded using xs:base64Binary encoding. Its #CDATA will contain the scanned content.
    - `[OCL]: not self.component.nonXMLBody.text.oclIsUndefined()`
31. **SHALL** satisfy: The component/nonXMLBody/text@mediaType is "application/pdf" for PDF, or "text/plain" for plaintext.
    - `[OCL]: self.component.nonXMLBody.text.mediaType = 'application/pdf' or self.component.nonXMLBody.text.mediaType = 'text/plain'`
32. **SHALL** satisfy: The component/nonXMLBody/text@representation is B64.
    - The @representation for both PDF and plaintext scanned content will be "B64", because this profile requires the base-64 encoding of both formats.
    - `[OCL]: self.component.nonXMLBody.text.representation = datatypes::BinaryDataEncoding::B64`

```
<?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">
  <templateId root="1.3.6.1.4.1.19376.1.2.20" assigningAuthorityName="IHE
 Scanned Document"/>
  <id root="a88aaf4a-d170-4611-85ed-8b720059494c"/>
  <code/>
  <title/>
  <effectiveTime/>
  <confidentialityCode/>
  <languageCode/>
  <author>
    <templateId root="1.3.6.1.4.1.19376.1.2.20.1" assigningAuthorityName="IHE
 Scan Original Author"/>
    <time/>
  </author>
  <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 10: Scanned Document example

Chapter 3

SECTION TEMPLATES

Topics:

Active Problems Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.6`]

The active problem section shall contain a narrative description of the conditions currently being monitored for the patient. It shall include entries for patient conditions as described in the Entry Content Module.

1. **SHALL** conform to *CCD Problem Section* template (templateId: `2.16.840.1.113883.10.20.1.11`)
2. **SHALL** contain [1..*] `entry`, such that it
   a. contains *IHE Problem Concern Entry* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.5.2`)

```
<?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="2.16.840.1.113883.10.20.1.11"
 assigningAuthorityName="CCD Problem Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.6"
 assigningAuthorityName="IHE Active Problems Section"/>
          <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"/>
              <id root="3d33dbc3-6e62-4269-af59-3461878c0bdd"/>
              <code nullFlavor="NA"/>
              <statusCode/>
              <effectiveTime>
                <low value="1972"/>
                <high value="2008"/>
              </effectiveTime>
            </act>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 11: Active Problems Section example

Admission Medication History Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.20`]

The admission medication history section shall contain a narrative description of the relevant medications administered to a patient prior to admission to a facility. It shall include entries for medication administration as described in the Entry Content Module.

1. **SHALL** conform to CDA Section

2. **SHALL** contain [1..1] `code/@code` = "42346-7" *MEDICATIONS ON ADMISSION* (CodeSystem: 2.16.840.1.113883.6.1 LOINC 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>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.20"
 assigningAuthorityName="IHE 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 12: Admission Medication History Section example

Advance Directives Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.34`]

The advance directive section shall contain a narrative description of the list of documents that define the patient's expectations and requests for care along with the locations of the documents.

1. **SHALL** conform to *CCD Advance Directives Section* template (templateId: `2.16.840.1.113883.10.20.1.1`)

```
<?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="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"/>
          <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="757b4b76-4f07-4f35-b703-b0a12c9454e0"/>
              <code/>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="1972"/>
                <high value="2008"/>
              </effectiveTime>
            </observation>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
```

```
</ClinicalDocument>
```

Figure 13: Advance Directives Section example

Allergies Reactions Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.13`]

The adverse and other adverse reactions section shall contain a narrative description of the substance intolerances and the associated adverse reactions suffered by the patient.

1. **SHALL** conform to *CCD Alerts Section* template (templateId: `2.16.840.1.113883.10.20.1.2`)

```
<?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="2.16.840.1.113883.10.20.1.2"
 assigningAuthorityName="CCD Alerts Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.13"
 assigningAuthorityName="IHE Allergies Reactions Section"/>
          <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 14: Allergies Reactions Section example

Assessment And Plan Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.1.13.2.5`]

The assessment and plan section shall contain a narrative description of the assessment of the patient condition and expectations for care including proposals, goals, and order requests for monitoring, tracking, or improving the condition of the patient.

1. **SHALL** conform to CDA Section
2. **SHALL** contain [1..1] `code/@code` = "51847-2" *ASSESSMENT AND PLAN* (CodeSystem: 2.16.840.1.113883.6.1 LOINC 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>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.13.2.5"
 assigningAuthorityName="IHE 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 15: Assessment And Plan Section example

Care Plan Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.31`]

The care plan section shall contain a narrative description of the expectations for care including proposals, goals, and order requests for monitoring, tracking, or improving the condition of the patient.

1. **SHALL** conform to *CCD Plan Of Care Section* template (templateId: `2.16.840.1.113883.10.20.1.10`)

```
<?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>
          <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"/>
          <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 16: Care Plan Section example

Chief Complaint Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1`]

This contains a narrative description of the patient's chief complaint.

1. **SHALL** conform to CDA Section
2. **SHALL** contain [1..1] `code/@code` = "10154-3" *CHIEF COMPLAINT* (CodeSystem: 2.16.840.1.113883.6.1 LOINC 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>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1"
 assigningAuthorityName="IHE 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 17: Chief Complaint Section example

Coded Advance Directives Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.35`]

1. **SHALL** conform to *IHE Advance Directives Section* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.34`)

```
<?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"/>
          <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="fe6b3a52-afae-4531-bbe8-5c2e6d8d0234"/>
              <code/>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="1972"/>
                <high value="2008"/>
              </effectiveTime>
            </observation>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 18: Coded Advance Directives Section example

Coded Results Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.28`]

The results section shall contain a narrative description of the relevant diagnostic procedures the patient received in the past. It shall include entries for procedures and references to procedure reports when known as described in the Entry Content Modules.

1. **SHALL** conform to CDA Section
2. **SHALL** contain [1..1] `code/@code` = "30954-2" *STUDIES SUMMARY* (CodeSystem: 2.16.840.1.113883.6.1 LOINC STATIC)
3. **SHALL** contain [1..*] `procedureEntry`, such that it
   a. contains *IHE Procedure Entry*
4. **SHOULD** contain [1..*] `entry`, such that it
   a. contains *IHE External Reference* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.4`)

5. **MAY** contain [0..*] `entry`, such that it
    a. contains *IHE Simple Observation* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.13`)

```
<?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="1.3.6.1.4.1.19376.1.5.3.1.3.28"
 assigningAuthorityName="IHE Coded Results Section"/>
          <code code="30954-2" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="STUDIES SUMMARY"/>
          <title>STUDIES SUMMARY</title>
          <entry>
            <act classCode="ACT" moodCode="EVN">
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.4"
 assigningAuthorityName="IHE External Reference"/>
            </act>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 19: Coded Results Section example

Coded Surgeries Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.12`]

The list of surgeries section shall include entries for procedures and references to procedure reports when known as described in the Entry Content Modules.

1. **SHALL** conform to *IHE Surgeries Section* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.11`)

```
<?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>
          <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"/>
          <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>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 20: Coded Surgeries Section example

Coded Vital Signs Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.1.5.3.2`]

The vital signs section contains coded measurement results of a patient's vital signs.

1. **SHALL** conform to *IHE Vital Signs Section* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.25`) (6.3.3.4.5.1)
2. **SHALL** contain [1..*] `entry`, such that it
   a. contains *IHE Vital Signs Organizer* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.13.1`) (6.3.3.4.5)

```
<?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="2.16.840.1.113883.10.20.1.16"
 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"/>
          <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="7185559c-2e7f-463d-b5b1-0330a806b7f8"/>
              <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 21: Coded Vital Signs Section example

Discharge Diagnosis Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.7`]

The discharge diagnosis section shall contain a narrative description of the conditions that need to be monitored after discharge from the hospital and those that were resolved during the hospital course. It shall include entries for patient conditions as described in the Entry Content Module.

1. **SHALL** conform to CDA Section

2. **SHALL** contain [1..1] `code/@code` = "11535-2" *HOSPITAL DISCHARGE DX* (CodeSystem: 2.16.840.1.113883.6.1 LOINC 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>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.7"
 assigningAuthorityName="IHE 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 22: Discharge Diagnosis Section example

Encounter History Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.1.5.3.3`]

The encounter history section contains coded entries describing the patient history of encounters.

1. **SHALL** conform to *CCD Encounters Section* template (templateId: `2.16.840.1.113883.10.20.1.3`)
2. **SHALL** contain [1..*] `entry`, such that it
   a. contains *IHE Encounter Entry* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.14`)

```
<?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="2.16.840.1.113883.10.20.1.3"
 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"/>
          <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>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 23: Encounter History Section example

Family Medical History Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.14`]

The family history section shall contain a narrative description of 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 *CCD Family History Section* template (templateId: `2.16.840.1.113883.10.20.1.4`)

```
<?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="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"/>
          <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 24: Family Medical History Section example

History Of Past Illness Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.8`]

The History of Past Illness section shall contain a narrative description of the conditions the patient suffered in the past. It shall include entries for problems as described in the Entry Content Modules.

1. **SHALL** conform to CDA Section
2. **SHALL** contain [1..1] `code/@code` = "11348-0" *HISTORY OF PAST ILLNESS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC 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>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.8"
 assigningAuthorityName="IHE 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 25: History Of Past Illness Section example

History Of Present Illness

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.4`]

The history of present illness section shall contain a narrative description of the sequence of events preceding the patient's current complaints.

1. **SHALL** conform to CDA Section
2. **SHALL** contain [1..1] `code/@code` = "10164-2" *HISTORY OF PRESENT ILLNESS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC 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>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.4"
 assigningAuthorityName="IHE 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 26: History Of Present Illness example

Hospital Admission Diagnosis Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.3`]

The hospital admitting diagnosis section shall contain a narrative description of the primary reason for admission to a hospital facility. It shall include entries for observations as described in the Entry Content Modules.

1. **SHALL** conform to CDA Section
2. **SHALL** contain [1..1] `code/@code` = "46241-6" *HOSPITAL ADMISSION DX* (CodeSystem: 2.16.840.1.113883.6.1 LOINC 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>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.3"
 assigningAuthorityName="IHE 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 27: Hospital Admission Diagnosis Section example

Hospital Course Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.5`]

The hospital course section shall contain a narrative description of the sequence of events from admission to discharge in a hospital facility.

1. **SHALL** conform to CDA Section
2. **SHALL** contain [1..1] `code/@code` = "8648-8" *HOSPITAL COURSE* (CodeSystem: 2.16.840.1.113883.6.1 LOINC 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>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.5"
 assigningAuthorityName="IHE 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 28: Hospital Course Section example

Hospital Discharge Medications Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.22`]

The hospital discharge medications section shall contain a narrative description of the medications requested (ordered) to be administered to the patient after discharge from the hospital. It shall include entries for medication requests as described in the Entry Content Module.

1. **SHALL** conform to CDA Section
2. **SHALL** contain [1..1] `code/@code` = "10183-2" *HOSPITAL DISCHARGE MEDICATIONS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC 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>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.22"
 assigningAuthorityName="IHE 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 29: Hospital Discharge Medications Section example

Immunizations Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.23`]

The immunizations section shall contain a narrative description of the immunizations administered to the patient in the past. It shall include entries for medication administration as described in the Entry Content Modules.

1. **SHALL** conform to *CCD Immunizations Section* template (templateId: `2.16.840.1.113883.10.20.1.6`)
2. **SHALL** contain [1..*] `entry`, such that it
   a. contains *IHE Immunization* (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>
          <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"/>
          <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"/>
              <id root="5df3f1f8-e96a-4355-940d-7c745a3e983c"/>
              <statusCode/>
              <effectiveTime/>
              <routeCode codeSystem="2.16.840.1.113883.5.112"
 codeSystemName="HL7 RouteOfAdministration"/>
              <maxDoseQuantity/>
            </substanceAdministration>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 30: Immunizations Section example

Intake Output Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.1.20.2.3`]

1. **SHALL** conform to CDA Section

```
<?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="1.3.6.1.4.1.19376.1.5.3.1.1.20.2.3"
 assigningAuthorityName="IHE Intake Output Section"/>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 31: Intake Output Section example

Medical Devices Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.1.5.3.5`]

The medical devices section contains narrative text describing the patient history of medical device use.

1. **SHALL** conform to *CCD Medical Equipment Section* template (templateId: `2.16.840.1.113883.10.20.1.7`)

```
<?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="2.16.840.1.113883.10.20.1.7"
 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"/>
          <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 32: Medical Devices Section example

Medications Administered Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.21`]

The medications administered section shall contain a narrative description of the relevant medications administered to a patient during the course of an encounter. It shall include entries for medication administration as described in the Entry Content Module.

1. **SHALL** conform to CDA Section
2. **SHALL** contain [1..1] `code/@code` = "18610-6" *MEDICATION ADMINISTERED* (CodeSystem: 2.16.840.1.113883.6.1 LOINC 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>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.21"
 assigningAuthorityName="IHE 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 33: Medications Administered Section example

Medications Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.19`]

The medications section shall contain a description of the relevant medications for the patient, e.g. an ambulatory prescription list. It shall include entries for medications as described in the Entry Content Module.

1. **SHALL** conform to *CCD Medications Section* template (templateId: `2.16.840.1.113883.10.20.1.8`)
2. **SHALL** contain [1..*] `entry`, such that it
   a. contains *IHE Medication* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.7`)

```
<?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="2.16.840.1.113883.10.20.1.8"
 assigningAuthorityName="CCD Medications Section"/>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.19"
 assigningAuthorityName="IHE 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"/>
              <id root="fe872945-5a96-4a6c-9ade-5e177b66f463"/>
              <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 34: Medications Section example

Payers Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.1.5.3.7`]

The Payers section contains data on the patient's payers, whether a 'third party' insurance, self-pay, other payer or guarantor, or some combination.

1. **SHALL** conform to *CCD Payers Section* template (templateId: `2.16.840.1.113883.10.20.1.9`)
2. **SHOULD** contain [1..*] `entry`, such that it
   a. contains *IHE Coverage Entry* (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>
          <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"/>
          <code code="48768-6" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Payment sources"/>
          <title>Payment sources</title>
          <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"/>
              <id root="648a8da9-281a-4a43-a1f5-db7331bc005b"/>
              <code code="48768-6" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Payment sources"/>
              <statusCode code="completed"/>
            </act>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 35: Payers Section example

Physical Exam Narrative Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.24`]

The physical exam section shall contain a narrative description of the patient's physical findings.

1. **SHALL** conform to CDA Section
2. **SHALL** contain [1..1] `code/@code` = "29545-1" *PHYSICAL EXAMINATION* (CodeSystem: 2.16.840.1.113883.6.1 LOINC 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>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.24"
 assigningAuthorityName="IHE Physical Exam Narrative 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 36: Physical Exam Narrative Section example

Physical Exam Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.1.9.15`]

The physical exam section shall contain only the required and optional subsections performed.

1. **SHALL** conform to *IHE Physical Exam Narrative Section* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.24`)

```
<?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"/>
          <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 37: Physical Exam Section example

Pregnancy History Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.1.5.3.4`]

The pregnancy history section contains coded entries describing the patient history of pregnancies.

1. **SHALL** conform to CDA Section
2. **SHALL** contain [0..1] `code/@code` = "10162-6" *HISTORY OF PREGNANCIES* (CodeSystem: 2.16.840.1.113883.6.1 LOINC STATIC)
3. **SHALL** contain [1..*] `entry`, such that it
   a. contains *IHE Pregnancy Observation* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.13.5`)

```
<?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="1.3.6.1.4.1.19376.1.5.3.1.1.5.3.4"
 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>
          <entry>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.13"
 assigningAuthorityName="IHE Simple Observation"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.13.5"
 assigningAuthorityName="IHE Pregnancy Observation"/>
              <id root="f6de5bab-58ff-42a0-971d-ffb66beaa59c"/>
              <code/>
              <statusCode code="completed"/>
              <repeatNumber/>
              <interpretationCode/>
              <methodCode/>
              <targetSiteCode/>
            </observation>
          </entry>
        </section>
      </component>
```

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

Figure 38: Pregnancy History Section example

Reason For Referral Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.1`]

The reason for referral section shall contain a narrative description of the reason that the patient is being referred.

1. **SHALL** conform to CDA Section
2. **SHALL** contain [1..1] `code/@code` = "42349-1" *REASON FOR REFERRAL* (CodeSystem: 2.16.840.1.113883.6.1 LOINC 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>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.1"
 assigningAuthorityName="IHE 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 39: Reason For Referral Section example

Review Of Systems Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.18`]

The review of systems section shall contain a narrative description of the responses the patient gave to a set of routine questions on the functions of each anatomic body system.

1. **SHALL** conform to CDA Section
2. **SHALL** contain [1..1] `code/@code` = "10187-3" *REVIEW OF SYSTEMS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC 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>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.18"
 assigningAuthorityName="IHE 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 40: Review Of Systems Section example

Social History Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.16`]

The social history section shall contain a narrative description of the person's beliefs, home life, community life, work life, hobbies, and risky habits.

1. **SHALL** conform to *CCD Social History Section* template (templateId: `2.16.840.1.113883.10.20.1.15`)

```
<?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="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"/>
          <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 41: Social History Section example

Surgeries Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.11`]

The list of surgeries section shall contain a narrative description of the diagnostic and therapeutic operative procedures and associated anesthetic techniques the patient received in the past.

1. **SHALL** conform to *CCD Procedures Section* template (templateId: `2.16.840.1.113883.10.20.1.12`)

```
<?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>
          <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"/>
          <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>
    </structuredBody>
  </component>
```

```
</ClinicalDocument>
```

Figure 42: Surgeries Section example

Vital Signs Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.25`]

The vital signs section shall contain a narrative description of the measurement results of a patient's vital signs.

1. **SHALL** conform to *CCD Vital Signs Section* template (templateId: `2.16.840.1.113883.10.20.1.16`) (6.3.3.4.4.1)

```
<?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="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"/>
          <code code="8716-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Vital signs"/>
          <title>Vital signs</title>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 43: 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 Intolerance

[Observation: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.6`]

1. **SHALL** conform to *IHE Problem Entry* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.5`)

```
<?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>
          <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 root="1.3.6.1.4.1.19376.1.5.3.1.4.6"
 assigningAuthorityName="IHE Allergy Intolerance"/>
              <id root="6c99fb07-dba3-473d-98ea-08ed460c2bea"/>
              <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 44: Allergy Intolerance example

Allergy Intolerance Concern

[Act: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.5.3`]

This entry is a specialization of the Concern Entry, wherein the subject of the concern is focused on an allergy or intolerance.

1. **SHALL** conform to *IHE Concern Entry* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.5.1`)

```
<?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>
            <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"/>
              <id root="51abfae2-4261-46cb-9baf-a8c35b9af200"/>
              <code nullFlavor="NA"/>
              <statusCode/>
              <effectiveTime>
                <low value="1972"/>
                <high value="2008"/>
              </effectiveTime>
            </act>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 45: Allergy Intolerance Concern example

Combination Medication

[SubstanceAdministration: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.11`]

1. **SHALL** conform to *IHE Medication* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.7`)

```
<?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>
          <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"/>
              <id root="44feb783-1435-4d35-8aa7-0daed1b3c472"/>
              <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: Combination Medication example

Comment

[Act: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.2`]

1. **SHALL** conform to *CCD Comment* template (templateId: `2.16.840.1.113883.10.20.1.40`)
2. **SHALL** contain [1..1] `statusCode/@code` = "completed" (CodeSystem: 2.16.840.1.113883.5.14 ActStatus STATIC V3NE08)
3. **SHALL** contain [1..1] `text`
4. **MAY** contain [0..1] `author`, such that it
   a. contains CDA Author
5. **SHALL** satisfy: The 'text' elements shall contain a 'reference' element pointing to the narrative where the severity is recorded, rather than duplicate text to avoid ambiguity.
   - `[OCL]: not self.text.reference.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">
  <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"/>
              <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 47: Comment example

Concern Entry

[Act: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.5.1`]

1. **SHALL** conform to *CCD Problem Act* template (templateId: `2.16.840.1.113883.10.20.1.27`)
2. **SHALL** contain [1..1] `effectiveTime`
   - The effectiveTime element records the starting and ending times during which the concern was active.
3. **SHALL** contain [1..1] `statusCode`, which **SHALL** be selected from ValueSet *ConcernEntryStatus* STATIC
4. **SHALL** satisfy: The effectiveTime 'low' element shall be present. The 'high' element shall be present for concerns in the completed or aborted state, and shall not be present otherwise.
   - `[OCL]: not self.effectiveTime.low.oclIsUndefined() and ((self.statusCode.code = 'completed' or self.statusCode.code = 'aborted') implies not self.effectiveTime.high.oclIsUndefined()) and ((self.statusCode.code <> 'completed' and self.statusCode.code <> 'aborted') implies self.effectiveTime.high.oclIsUndefined())`

5. **SHALL** satisfy: Each concern is about one or more related problems or allergies. This entry shall contain one or more problem or allergy entries that conform to the specification in section Problem Entry or Allergies and Intolerances. This is how a series of related observations can be grouped as a single concern. This SHALL be represented using entryRelationship with typeCode = 'SUBJ'.
6. **MAY** satisfy: Each concern may have 0 or more related references. These may be used to represent related statements such related visits. This may be any valid CDA clinical statement, and SHOULD be an IHE entry template. This SHALL be represented using entryRelationship with typeCode = 'REFR'.

```
<?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"/>
              <id root="bf02a090-2529-4795-be4f-6a4d3682581b"/>
              <code nullFlavor="NA"/>
              <statusCode/>
              <effectiveTime>
                <low value="1972"/>
                <high value="2008"/>
              </effectiveTime>
            </act>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 48: Concern Entry example

Conditional Dose

[SubstanceAdministration: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.10`]

1. **SHALL** conform to *IHE Medication* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.7`)

```
<?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>
          <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"/>
              <id root="e2b70278-a643-45cf-ba40-e9e3de56ce70"/>
              <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 49: Conditional Dose example

Coverage Entry

[Act: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.17`]

1. **SHALL** conform to *CCD Coverage Activity* template (templateId: `2.16.840.1.113883.10.20.1.20`)

```
<?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>
          <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"/>
              <id root="620a8746-c1d5-471e-8c5b-b9415ffe977e"/>
              <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="0555d99c-0f44-44c2-a304-c1b5279dd8d5"/>
                  <code/>
                  <statusCode code="completed"/>
                </act>
              </entryRelationship>
            </act>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 50: Coverage Entry example

Encounter Activity

[Encounter: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.14`]

1. **SHALL** conform to *CCD Encounters Activity* template (templateId: `2.16.840.1.113883.10.20.1.21`)
2. **SHALL** conform to *IHE Encounter Entry* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.14`)

```
<?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>
          <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"/>
              <id root="b1f2c231-e9d7-4baf-b72e-790b4c68c4c7"/>
              <code codeSystem="2.16.840.1.113883.5.4"
 codeSystemName="ActEncounterCode"/>
              <text/>
              <effectiveTime>
                <low value="1972"/>
                <high value="2008"/>
              </effectiveTime>
            </encounter>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 51: Encounter Activity example

Encounter Entry

[Encounter: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.14`]

1. **SHALL** conform to CDA Encounter
2. **SHALL** contain [1..1] `@classCode` = "ENC"
3. **SHOULD** contain [0..1] `code` (CodeSystem: 2.16.840.1.113883.5.4 ActEncounterCode STATIC)
   - Developers should take care to check that rational combinations of encounter.code and encounter.moodCode are used , but this profile does not restrict any combination.
4. **SHALL** contain [1..*] `id`
5. **SHALL** contain [1..1] `text`

Figure 52: Encounter Entry example

Encounter Plan Of Care

[Encounter: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.14`]

1. **SHALL** conform to *CCD Plan Of Care Activity Encounter* template (templateId: `2.16.840.1.113883.10.20.1.25`)
2. **SHALL** conform to *IHE Encounter Entry* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.14`)
3. **SHALL** satisfy: moodCodeValue
   - `[OCL]: self.moodCode = vocab::x_DocumentEncounterMood::ARQ or self.moodCode = vocab::x_DocumentEncounterMood::PRMS`

```
<?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">
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.14"/>
              <templateId root="2.16.840.1.113883.10.20.1.25"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.14"/>
              <id root="9583ddca-ab45-4ba3-b085-c6a05ed03bed"/>
              <code codeSystem="2.16.840.1.113883.5.4"
 codeSystemName="ActEncounterCode"/>
              <text/>
            </encounter>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 53: Encounter Plan Of Care example

External Reference

[Act: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.4`]

1. **SHALL** conform to CDA Act
2. **SHALL** contain [1..1] `@classCode` = "ACT"
3. **SHALL** contain [1..1] `@moodCode` = "EVN"

```
<?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="1.3.6.1.4.1.19376.1.5.3.1.4.4"
 assigningAuthorityName="IHE External Reference"/>
            </act>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 54: External Reference example

Health Status Observation

[Observation: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.1.2`]

The health status observation records information about the current health status of the patient.

1. **SHALL** conform to *CCD Problem Health Status Observation* template (templateId: `2.16.840.1.113883.10.20.1.51`)

2. **SHALL** contain [1..1] `text`
3. **SHALL** contain [1..1] `value`, which **SHALL** be selected from ValueSet HealthStatusValue STATIC
4. **SHALL** satisfy: The 'text' elements shall contain a 'reference' element pointing to the narrative where the severity is recorded, rather than duplicate text to avoid ambiguity.
   - `[OCL]: not self.text.reference.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">
  <component>
    <structuredBody>
      <component>
        <section>
          <entry>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.1.57"
 assigningAuthorityName="CCD Status Observation"/>
              <templateId root="2.16.840.1.113883.10.20.1.51"
 assigningAuthorityName="CCD Problem Health Status Observation"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.1.2"
 assigningAuthorityName="IHE Health Status Observation"/>
              <code code="11323-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Health status"/>
              <text/>
              <statusCode code="completed"/>
              <value xsi:type="CE"/>
            </observation>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 55: Health Status Observation example

Immunization

[SubstanceAdministration: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.12`]

1. **SHALL** conform to *CCD Medication Activity* template (templateId: `2.16.840.1.113883.10.20.1.24`)

```
<?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"/>
              <id root="6e5c50de-bbcf-412c-a182-7da49a3415a8"/>
              <statusCode/>
              <effectiveTime/>
              <routeCode codeSystem="2.16.840.1.113883.5.112"
 codeSystemName="HL7 RouteOfAdministration"/>
              <maxDoseQuantity/>
```

```
            </substanceAdministration>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 56: Immunization example

Medication

[SubstanceAdministration: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.7`]

This content module describes the general structure for a medication. All medication administration acts will be derived from this content module.

1. **SHALL** conform to *CCD Medication Activity* template (templateId: `2.16.840.1.113883.10.20.1.24`)
2. **MAY** contain [0..*] `approachSiteCode`
   - The site where the medication is administered, usually used with IV or topical drugs.
3. **SHOULD** contain [0..1] `doseQuantity`
   - The amount of the medication given. This should be in some known and measurable unit, such as grams, milligrams, et cetera. It may be measured in "administration" units (such as tablets or each), for medications where the strength is relevant. In this case, only the unit count is specified , no units are specified. It may be a range.
4. **SHOULD** contain [0..1] `rateQuantity`
   - The rate is a measurement of how fast the dose is given to the patient over time (e.g., .5 liter / 1 hr), and is often used with IV drugs.
5. **SHOULD** contain [1..1] `routeCode`
   - The route is a coded value, and indicates how the medication is received by the patient (by mouth, intravenously, topically, et cetera).
6. **SHALL** satisfy: Contains the consumable name. If the name of the medication is unknown, the type, purpose or other description may be supplied.
   - The name of the substance or product. This should be sufficient for a provider to identify the kind of medication. It may be a trade name or a generic name. This information is required in all medication entries. If the name of the medication is unknown, the type, purpose or other description may be supplied. The name should not include packaging, strength or dosing information. Note: Due to restrictions of the CDA schema, there is no way to explicitly link the name to the narrative text.
   - `[OCL]: not self.consumable.manufacturedProduct.manufacturedLabeledDrug.name.oclIsUndefined() or not self.consumable.manufacturedProduct.manufacturedMaterial.name.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">
  <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"/>
              <id root="ac7929cb-5b74-43d9-a205-ddae67b8b159"/>
```

```
              <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 57: Medication example

Normal Dose

[SubstanceAdministration: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.7.1`]

1. **SHALL** conform to *IHE Medication* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.7`)

```
<?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>
          <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="1.3.6.1.4.1.19376.1.5.3.1.4.7.1"
 assigningAuthorityName="IHE Normal Dose"/>
              <id root="601c4268-5841-4779-9548-f79de175bdfd"/>
              <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 58: Normal Dose example

Observation Request Entry

[Observation: templateId `1.3.6.1.4.1.19376.1.5.3.1.1.20.3.1`]

1. **SHALL** conform to *CCD Plan Of Care Activity Observation* template (templateId: `2.16.840.1.113883.10.20.1.25`)

```
<?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="2.16.840.1.113883.10.20.1.25"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.20.3.1"
 assigningAuthorityName="IHE Observation Request Entry"/>
              <id root="26c42c99-9903-4f97-886b-c803fb2df2d7"/>
            </observation>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 59: Observation Request Entry example

Payer Entry

[Act: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.18`]

1. **SHALL** conform to *CCD Policy Activity* template (templateId: `2.16.840.1.113883.10.20.1.26`)

```
<?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="2.16.840.1.113883.10.20.1.26"
 assigningAuthorityName="CCD Policy Activity"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.18"
 assigningAuthorityName="IHE Payer Entry"/>
              <id root="a148ca7a-7641-48a0-93ae-754220ccfa42"/>
              <code/>
              <statusCode code="completed"/>
              <performer>
                <assignedEntity>
                  <templateId assigningAuthorityName="CCD Payer Entity"/>
                  <id root="d5e94597-1b90-40c0-8c3a-204bb4a83676"/>
                </assignedEntity>
              </performer>
              <participant>
                <participantRole>
                  <templateId assigningAuthorityName="CCD Covered Party"/>
                  <id root="761ebeda-3ced-4816-a7e7-65979791099e"/>
                  <code/>
                </participantRole>
              </participant>
            </act>
          </entry>
        </section>
```

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

Figure 60: Payer Entry example

Pregnancy Observation

[Observation: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.13.5`]

A pregnancy observation is a Simple Observation that uses a specific vocabulary to record observations about a patient's current or historical pregnancies.

1. **SHALL** conform to *IHE Simple Observation* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.13`)
2. **SHALL** contain [1..1] `code`
3. **SHALL** contain [0..0] `interpretationCode`
4. **SHALL** contain [0..0] `methodCode`
5. **SHALL** contain [0..0] `repeatNumber`
6. **SHALL** contain [0..0] `targetSiteCode`
7. **SHALL** contain [1..*] `value`
   - The value of the observation shall be recording using a data type appropriate to the coded observation according to the table provided by IHE PCC specification.

```
<?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="1.3.6.1.4.1.19376.1.5.3.1.4.13"
 assigningAuthorityName="IHE Simple Observation"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.13.5"
 assigningAuthorityName="IHE Pregnancy Observation"/>
              <id root="18a27fbe-84e3-4e00-88f2-41b8509e630d"/>
              <code/>
              <statusCode code="completed"/>
              <repeatNumber/>
              <interpretationCode/>
              <methodCode/>
              <targetSiteCode/>
            </observation>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 61: Pregnancy Observation example

Problem Concern Entry

[Act: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.5.2`]

This entry is a specialization of the Concern Entry, wherein the subject of the concern is focused on a problem.

1. **SHALL** conform to *IHE Concern Entry* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.5.1`)

2. **SHALL** contain [1..*] `entryRelationship`, such that it
   a. has @typeCode="SUBJ" *SUBJ (has subject)*
   b. contains *IHE Problem Entry* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.5`)

```
<?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>
          <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="234381b1-3672-4512-b7b9-69a72a50282a"/>
              <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"/>
                  <id root="d03fcf96-b792-4476-8eae-5b6d816e768d"/>
                  <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 62: Problem Concern Entry example

Problem Entry

[Observation: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.5`]

This section makes use of the linking, severity, clinical status and comment content specifications defined elsewhere in the technical framework. In HL7 RIM parlance, observations about a problem, complaint, symptom, finding, diagnosis, or functional limitation of a patient is the event (moodCode='EVN') of observing (<observation classCode='OBS'>) that problem. The <value> of the observation comes from a controlled vocabulary representing

such things. The <code> contained within the <observation> describes the method of determination from yet another controlled vocabulary.

The basic pattern for reporting a problem uses the CDA <observation> element, setting the classCode='OBS' to represent that this is an observation of a problem, and the moodCode='EVN', to represent that this is an observation that has in fact taken place. The negationInd attribute, if true, specifies that the problem indicated was observed to not have occurred (which is subtly but importantly different from having not been observed). The value of negationInd should not normally be set to true. Instead, to record that there is "no prior history of chicken pox", one would use a coded value indicated exactly that. However, it is not always possible to record problems in this manner, especially if using a controlled vocabulary that does not supply pre-coordinated negations , or which do not allow the negation to be recorded with post-coordinated coded terminology.

1. **SHALL** conform to *CCD Problem Observation* template (templateId: `2.16.840.1.113883.10.20.1.28`)
2. **SHOULD** contain [1..1] `code`, which **SHOULD** be selected from ValueSet 2.16.840.1.113883.3.88.12.3221.7.2 Problem Type Value Set STATIC 1
   - The <code> describes the process of establishing a problem. The code element should be used, as the process of determining the value is important to clinicians (e.g., a diagnosis is a more advanced statement than a symptom). When a physical exam observation is being recorded the code used should be "Finding." When a review of systems observation is being recorded the code used should be "Symptom." The recommended vocabulary for describing problems is specified as a value set. Subclasses of this content module may specify other vocabularies.
3. **SHOULD** contain [1..1] `effectiveTime`
   - The <effectiveTime> of this <observation> is the time interval over which the <observation> is known to be true. The <low> and <high> values should be no more precise than known, but as precise as possible. While CDA allows for multiple mechanisms to record this time interval (e.g., by low and high values, low and width, high and width, or center point and width), we are constraining Medical summaries to use only the low/high form. The <low> value is the earliest point for which the condition is known to have existed. The <high> value, when present, indicates the time at which the observation was no longer known to be true. Thus, the implication is made that if the <high> value is specified, that the observation was no longer seen after this time, and it thus represents the date of resolution of the problem. Similarly, the <low> value may seem to represent onset of the problem. Neither of these statements is necessarily precise, as the <low> and <high> values may represent only an approximation of the true onset and resolution (respectively) times. For example, it may be the case that onset occurred prior to the <low> value, but no observation may have been possible before that time to discern whether the condition existed prior to that time. The <low> value should normally be present. There are exceptions, such as for the case where the patient may be able to report that they had chicken pox, but are unsure when. In this case, the <effectiveTime> element shall have a <low> element with a nullFlavor attribute set to 'UNK'. The <high> value need not be present when the observation is about a state of the patient that is unlikely to change (e.g., the diagnosis of an incurable disease).
4. **SHALL** contain [1..*] `id`
   - The specific observation being recorded must have an identifier (<id>) that shall be provided for tracking purposes. If the source EMR does not or cannot supply an intrinsic identifier, then a GUID shall be provided as the root, with no extension (e.g., <id root='CE1215CD-69EC-4C7B-805F-569233C5E159'/>). At least one identifier must be present, more than one may appear.
5. **SHALL** contain [1..1] `text`
   - The <text> element is required and points to the text describing the problem being recorded; including any dates, comments, et cetera. The <reference> contains a URI in value attribute. This URI points to the free text description of the problem in the document that is being described.
6. **SHALL** contain [1..1] `value`, where its data type is CD
   - The <value> is the condition that was found. This element is required. While the value may be a coded or an un-coded string, the type is always a coded value (xsi:type='CD'). If coded, the code and codeSystem attributes shall be present. The codeSystem should reference a controlled vocabulary describing problems, complaints, symptoms, findings, diagnoses, or functional limitations, e.g., ICD-9, SNOMED-CT or MEDCIN, or others.

     It is recommended that the codeSystemName associated with the codeSystem, and the displayName for the code also be provided for diagnostic and human readability purposes, but this is not required by this profile.

If uncoded, all attributes other than xsi:type='CD' must be absent.

The <value> contains a <reference> to the <originalText> in order to link the coded value to the problem narrative text (minus any dates, comments, et cetera). The <reference> contains a URI in value attribute. This URI points to the free text description of the problem in the document that is being described.

7. **MAY** contain [0..1] `entryRelationship`, such that it
   a. contains *IHE Severity* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.1`)
8. **MAY** contain [0..1] `entryRelationship`, such that it
   a. has @typeCode="REFR" *REFR (refers to)*
   b. contains *IHE Problem Status Observation* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.1.1`)
9. **MAY** contain [0..1] `entryRelationship`, such that it
   a. has @typeCode="REFR" *REFR (refers to)*
   b. contains *IHE Health Status Observation* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.1.2`)
10. **MAY** contain [0..*] `entryRelationship`, such that it
    a. has @typeCode="SUBJ" *SUBJ (has subject)*
    b. contains *IHE Comment* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.2`)
11. **SHALL** satisfy: The problem name SHALL be recorded in the entry by recording a <reference> where the value attribute points to the narrative text containing the name of the problem.
    - `[OCL]: not self.text.reference.oclIsUndefined()`
12. **SHALL** satisfy: If entryRelationship / Comment is present, then entryRelationship inversionInd = 'true'.
    - `[OCL]: self.entryRelationship->forAll(rel : cda::EntryRelationship | (not rel.act.oclIsUndefined() and rel.act.oclIsKindOf(ihe::Comment)) implies rel.inversionInd='true')`

```
<?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"/>
              <id root="9cce5ca8-4dbc-4d75-8b88-471dcde512f6"/>
              <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"/>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.1.55"
 assigningAuthorityName="CCD Severity Observation"/>
                  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.1"
 assigningAuthorityName="IHE Severity"/>
                  <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
 codeSystemName="ActCode" displayName="Severity observation"/>
                  <text/>
                  <statusCode code="completed"/>
```

```
                  <value xsi:type="CD"/>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.1.57"
 assigningAuthorityName="CCD Status Observation"/>
                  <templateId root="2.16.840.1.113883.10.20.1.50"
 assigningAuthorityName="CCD Problem Status Observation"/>
                  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.1.1"
 assigningAuthorityName="IHE Problem Status Observation"/>
                  <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Status"/>
                  <text/>
                  <statusCode code="completed"/>
                  <value xsi:type="CE"/>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.1.57"
 assigningAuthorityName="CCD Status Observation"/>
                  <templateId root="2.16.840.1.113883.10.20.1.51"
 assigningAuthorityName="CCD Problem Health Status Observation"/>
                  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.1.2"
 assigningAuthorityName="IHE Health Status Observation"/>
                  <code code="11323-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Health status"/>
                  <text/>
                  <statusCode code="completed"/>
                  <value xsi:type="CE"/>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <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"/>
                  <code code="48767-8" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Annotation comment"/>
                  <text/>
                  <statusCode code="completed"/>
                </act>
              </entryRelationship>
            </observation>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 63: Problem Entry example

Problem Status Observation

[Observation: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.1.1`]

Any problem or allergy observation may reference a problem status observation. The clinical status observation records information about the current status of the problem or allergy, for example, whether it is active, in remission, resolved, et cetera.

1. **SHALL** conform to *CCD Problem Status Observation* template (templateId: `2.16.840.1.113883.10.20.1.50`)
2. **SHALL** contain [1..1] `text`
3. **SHALL** contain [1..1] `value`, which **SHALL** be selected from ValueSet ProblemStatusValue STATIC
4. **SHALL** satisfy: The 'text' elements shall contain a 'reference' element pointing to the narrative where the severity is recorded, rather than duplicate text to avoid ambiguity.
   - `[OCL]: not self.text.reference.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">
  <component>
    <structuredBody>
      <component>
        <section>
          <entry>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.1.57"
 assigningAuthorityName="CCD Status Observation"/>
              <templateId root="2.16.840.1.113883.10.20.1.50"
 assigningAuthorityName="CCD Problem Status Observation"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.1.1"
 assigningAuthorityName="IHE Problem Status Observation"/>
              <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Status"/>
              <text/>
              <statusCode code="completed"/>
              <value xsi:type="CE"/>
            </observation>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 64: Problem Status Observation example

Procedure Entry Plan Of Care Activity Procedure

[Procedure: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.19`]

1. **SHALL** conform to *CCD Plan Of Care Activity Procedure* template (templateId: `2.16.840.1.113883.10.20.1.25`)
2. **SHALL** conform to *IHE Procedure 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>
            <procedure>
              <templateId root="2.16.840.1.113883.10.20.1.25"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.19"/>
              <id root="38a8763a-d972-482d-bc24-d4b929fb88bc"/>
            </procedure>
          </entry>
        </section>
      </component>
```

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

Figure 65: Procedure Entry Plan Of Care Activity Procedure example

Procedure Entry Procedure Activity Procedure

[Procedure: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.19`]

1. **SHALL** conform to *CCD Procedure Activity Procedure* template (templateId: `2.16.840.1.113883.10.20.1.29`)
2. **SHALL** conform to *IHE Procedure Entry*
3. **MAY** contain [0..*] `approachSiteCode`
   - This element may be present to indicate the procedure approach.
4. **SHALL** contain [1..1] `code`
   - Contains a code describing the type of procedure.
5. **SHOULD** contain [1..1] `effectiveTime`
6. **SHALL** contain [1..*] `id`
7. **SHALL** contain [1..1] `statusCode`
   - The <statusCode> element shall be present when used to describe a procedure event. It shall have the value 'completed' for procedures that have been completed, and 'active' for procedures that are still in progress. Procedures that were stopped prior to completion shall use the value 'aborted', and procedures that were cancelled before being started shall use the value 'cancelled'.
8. **MAY** contain [0..*] `targetSiteCode`
   - This element may be present to indicate the target site of the procedure.
9. **SHALL** contain [1..1] `text`
10. **SHALL** satisfy: The <text> element shall contain a reference to the narrative text describing the procedure.
    - `[OCL]: not self.text.reference.oclIsUndefined()`
11. **MAY** satisfy: entryRelationship with typeCode='COMP' may be present to point to the encounter in which the procedure was performed, and shall contain an internal reference to the encounter.
12. **MAY** satisfy: entryRelationship with typeCode='RSON' may be present. A <procedure> act may indicate one or more reasons for the procedure. These reasons identify the concern that was the reason for the procedure via an Internal Reference to the concern. The extension and root of each observation present must match the identifier of a concern entry contained elsewhere within the CDA document.

```
<?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"/>
              <id root="fbe1479a-8cc8-4456-878a-01a8e019ee7a"/>
              <code/>
              <text/>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="1972"/>
                <high value="2008"/>
              </effectiveTime>
              <approachSiteCode/>
              <targetSiteCode/>
```

```
            </procedure>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 66: Procedure Entry Procedure Activity Procedure example

Severity

[Observation: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.1`]

This specification models a severity observation as a separate observation from the condition. While this model is different from work presently underway by various organizations (i.e., SNOMED, HL7, TermInfo), it is not wholly incompatible with that work. In that work, qualifiers may be used to identify severity in the coded condition observation, and a separate severity observation is no longer necessary. The use of qualifiers is not precluded by this specification. However, to support semantic interoperability between EMR systems using different vocabularies, this specification does require that severity information also be provided in a separate observation. This ensures that all EMR systems have equal access to the information, regardless of the vocabularies they support.

1. **SHALL** conform to *CCD Severity Observation* template (templateId: `2.16.840.1.113883.10.20.1.55`)
2. **SHALL** contain [1..1] `text`
3. **SHALL** contain [1..1] `value`, which **SHALL** be selected from ValueSet SeverityObservation STATIC, where its data type is CD
   - Value code representing high, moderate and low severity depending upon whether the severity is life threatening, presents noticeable adverse consequences, or is unlikely substantially effect the situation of the subject.
4. **SHALL** satisfy: The 'text' elements shall contain a 'reference' element pointing to the narrative where the severity is recorded, rather than duplicate text to avoid ambiguity.
   - `[OCL]: not self.text.reference.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">
  <component>
    <structuredBody>
      <component>
        <section>
          <entry>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.1.55"
 assigningAuthorityName="CCD Severity Observation"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.1"
 assigningAuthorityName="IHE Severity"/>
              <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
 codeSystemName="ActCode" displayName="Severity observation"/>
              <text/>
              <statusCode code="completed"/>
              <value xsi:type="CD"/>
            </observation>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 67: Severity example

Simple Observation

[Observation: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.13`]

The simple observation entry is meant to be an abstract representation of many of the observations used in this specification. It can be made concrete by the specification of a few additional constraints, namely the vocabulary used for codes, and the value representation. A simple observation may also inherit constraints from other specifications (e.g., ASTM/HL7 Continuity of Care Document).

1. **SHALL** conform to CDA Observation
2. **SHALL** contain [1..*] `id`
3. **SHALL** contain [1..1] `statusCode/@code` = "completed" (CodeSystem: 2.16.840.1.113883.5.14 ActStatus STATIC V3NE08)

Figure 68: Simple Observation example

Split Dose

[SubstanceAdministration: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.9`]

1. **SHALL** conform to *IHE Medication* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.7`)

```
<?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>
          <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="1.3.6.1.4.1.19376.1.5.3.1.4.9"
 assigningAuthorityName="IHE Split Dose"/>
              <id root="4d918346-32a9-4cd4-88f7-a431485334ed"/>
              <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 69: Split Dose example

Supply Entry

[Supply: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.7.3`]

1. **SHALL** conform to *CCD Supply Activity* template (templateId: `2.16.840.1.113883.10.20.1.34`)

```
<?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>
            <supply classCode="SPLY">
              <templateId root="2.16.840.1.113883.10.20.1.34"
 assigningAuthorityName="CCD Supply Activity"/>
              <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.7.3"
 assigningAuthorityName="IHE Supply Entry"/>
              <id root="513019ed-34b1-46e5-aba0-32fca32f38b6"/>
              <statusCode/>
              <effectiveTime/>
              <repeatNumber/>
              <quantity/>
            </supply>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 70: Supply Entry example

Tapered Dose

[SubstanceAdministration: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.8`]

This template identifier is used to identify medication administration events that require special processing to handle tapered dosing. The parent template is 1.3.6.1.4.1.19376.1.5.3.1.4.7. A tapered dose is often used for certain medications where abrupt termination of the medication can have negative consequences. Tapered dosages may be done by adjusting the dose frequency, the dose amount, or both.

When merely the dose frequency is adjusted, (e.g., Prednisone 5mg b.i.d. for three days, then 5mg. daily for three days, and then 5mg every other day), then only one medication entry is needed, multiple frequency specifications recorded in <effectiveTime> elements. When the dose varies (eg. Prednisone 15mg daily for three days, then 10 mg daily for three days, the 5 mg daily for three days), subordinate medication entries should be created for each distinct dosage.

1. **SHALL** conform to *IHE Medication* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.7`)

```
<?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>
          <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="1.3.6.1.4.1.19376.1.5.3.1.4.8"
 assigningAuthorityName="IHE Tapered Dose"/>
              <id root="aba72837-6a2b-4938-943e-114a3d68ae38"/>
```

```
              <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 71: Tapered Dose example

Vital Sign Observation

[Observation: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.13.2`]

A vital signs observation is a simple observation that uses a specific vocabulary, and inherits constraints from CCD.

1. **SHALL** conform to *CCD Result Observation* template (templateId: `2.16.840.1.113883.10.20.1.31`) (6.3.4.22.2)
2. **SHALL** conform to *IHE Simple Observation* template (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.13`) (6.3.4.22.2)
3. **SHALL** contain [1..1] `code` (CodeSystem: 2.16.840.1.113883.6.1 LOINC STATIC) (6.3.4.22.3)
4. **MAY** contain [0..*] `interpretationCode` (6.3.4.22.5)
   - The interpretation code may be present to provide an interpretation of the vital signs measure (e.g., High, Normal, Low, et cetera).
5. **MAY** contain [0..1] `methodCode` (6.3.4.22.6)
   - The method code element may be present to indicate the method used to obtain the measure. Note that method used is distinct from, but possibly related to the target site.
6. **MAY** contain [0..*] `targetSiteCode` (6.3.4.22.7)
   - The target site of the measure may be identified in the targetSiteCode element (e.g., Left arm [blood pressure], oral [temperature], et cetera).
7. **SHALL** contain [1..1] `value`, where its data type is PQ (6.3.4.22.4)

```
<?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>
            <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"/>
              <id root="49e71929-f3e8-4fbf-be41-f1ff4b5ce198"/>
              <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 72: Vital Sign Observation example

Vital Signs Organizer

[Organizer: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.13.1`]

A vital signs organizer collects vital signs observations.

1. **SHALL** conform to *CCD Vital Signs Organizer* template (templateId: `2.16.840.1.113883.10.20.1.35`) (6.3.4.21.3)
2. **SHALL** contain [1..1] `@classCode` = "CLUSTER" (6.3.4.21.2)
   - The vital signs organizer is a cluster of vital signs observations.
3. **SHALL** contain [1..1] `code/@code` = "46680005" *Vital signs* (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT STATIC) (6.3.4.21.5)
4. **SHALL** contain [1..1] `effectiveTime` (6.3.4.21.7)
   - The effective time element shall be present to indicate when the measurement was taken.
5. **SHALL** contain [1..1] `statusCode/@code` = "completed" (CodeSystem: 2.16.840.1.113883.5.14 ActStatus STATIC V3NE08) (6.3.4.21.6)
   - The observations have all been completed.
6. **SHALL** contain [1..*] `component`, such that it
   a. contains *IHE Vital Sign Observation* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.4.13.2`) (6.3.4.21.9)
7. **SHALL** contain [1..1] `author`, such that it
   a. contains CDA Author (6.3.4.21.8)
8. **SHALL** contain [1..1] `id` (6.3.4.21.4)
   - The organizer shall have an <id> element.
9. **SHALL** satisfy: ccd::ResultOrganizer template ID (2.16.840.1.113883.10.20.1.32) is included (6.3.4.21.3)
   - `[OCL]: self.templateId->exists(id : datatypes::II | id.root ='2.16.840.1.113883.10.20.1.32')`

```
<?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>
            <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="b039399c-e072-4281-b7aa-063e730a721e"/>
              <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>
              <component>
                <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"/>
                  <id root="6dff5221-0d43-4a0d-89d4-3d2f35f32003"/>
                  <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>
              </component>
              <component>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.1.31"
 assigningAuthorityName="CCD Result Observation"/>
                  <id root="66f9a255-a0e7-43c0-8aa9-9aa6a5cfafab"/>
                  <code/>
                  <statusCode/>
                  <effectiveTime>
                    <low value="1972"/>
                    <high value="2008"/>
                  </effectiveTime>
                  <interpretationCode/>
                  <methodCode/>
                </observation>
              </component>
            </organizer>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Figure 73: Vital Signs Organizer 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 Providers Pharmacies

[Performer1: templateId `1.3.6.1.4.1.19376.1.5.3.1.2.3`]

1. **SHALL** conform to CDA Performer1

Figure 74: Healthcare Providers Pharmacies example

Language Communication

[LanguageCommunication: templateId `1.3.6.1.4.1.19376.1.5.3.1.2.1`]

1. **SHALL** conform to CDA Language Communication

Figure 75: Language Communication example

Patient Contact

1. **SHALL** conform to *CCD Support*

Figure 76: Patient Contact example

Patient Contact Guardian

[Guardian: templateId `1.3.6.1.4.1.19376.1.5.3.1.2.4`]

1. **SHALL** conform to *CCD Support Guardian*
2. **SHALL** conform to *IHE Patient Contact*
3. **SHALL** contain [1..1] `@classCode` = "GUAR"
4. **SHOULD** contain [0..*] `addr`
5. **SHALL** contain [0..1] `code` (CodeSystem: 2.16.840.1.113883.5.111 RoleCode STATIC)
6. **SHOULD** contain [0..*] `telecom`

Figure 77: Patient Contact Guardian example

Patient Contact Participant

[Participant1: templateId `1.3.6.1.4.1.19376.1.5.3.1.2.4`]

1. **SHALL** conform to *CCD Support Participant*
2. **SHALL** conform to *IHE Patient Contact*
3. **SHALL** contain [1..1] `@typeCode` = "IND"
4. **MAY** contain [0..1] `time`
   - Indicates the time of the participation.

Figure 78: Patient Contact Participant example

Procedure Entry

1.

Figure 79: Procedure Entry example

Product Entry

[ManufacturedProduct: templateId `1.3.6.1.4.1.19376.1.5.3.1.4.7.2`]

1. **SHALL** conform to *CCD Product* template (templateId: `2.16.840.1.113883.10.20.1.53`)

Figure 80: Product Entry example

Scan Data Enterer

[DataEnterer: templateId `1.3.6.1.4.1.19376.1.2.20.3`]

Represents the scanner operator who produced the scanned content.

1. **SHALL** conform to CDA Data Enterer
2. **SHALL** contain [1..1] `time`
   - Denotes the time at which the original content was scanned.
3. **SHALL** satisfy: The time shall be equal to that of ClinicalDocument/effectiveTime. At a minimum, the time shall be precise to the day and shall include the time zone offset from GMT.
   - `[OCL]: self.time.value = self.getClinicalDocument().effectiveTime.value`
4. **SHALL** satisfy: The assignedEntity/id element has both the root and the extension attributes. The root shall be the oid of the scanning facility and the extension shall be an appropriately assigned, facility unique id of the operator.
   - ```
     [OCL]: self.assignedEntity.id->forAll(ident : datatypes::II | not
      ident.root.oclIsUndefined() and not ident.extension.oclIsUndefined())
     ```

Figure 81: Scan Data Enterer example

Scan Original Author

[Author: templateId `1.3.6.1.4.1.19376.1.2.20.1`]

Represents the author of the original content. It additionally can encode the original author?s institution in the subelement representedOrganization. Information regarding the original author and his/her institution shall be included, if it is known. In many cases this will have to be supplied by the operator.

1. **SHALL** conform to CDA Author
2. Contains [1..1] `time`
   - Represents the day and time of the authoring of the original content. This value is not restricted beyond statements made in the HL7 CDA R2 documentation.
3. **SHOULD** satisfy: The assignedAuthor/id element if known shall include both the root and the extension attributes. Refer to PCC TF-2: 4.1.1 for more details.
   - ```
     [OCL]: self.assignedAuthor.id->forAll(ident : datatypes::II |
        not ident.root.oclIsUndefined() and not
      ident.extension.oclIsUndefined())
     ```

4. **SHOULD** satisfy: The assignedAuthor/representedOrganization/id element if known shall include both the root and the extension attributes. Refer to PCC TF-2: 4.1.1 for more details.
   - `[OCL]: self.assignedAuthor.representedOrganization.id->forAll(ident : datatypes::II | not ident.root.oclIsUndefined() and not ident.extension.oclIsUndefined())`

Figure 82: Scan Original Author example

Scanning Device

[Author: templateId `1.3.6.1.4.1.19376.1.2.20.2`]

Represents the scanning device and software used to produce the scanned content.

1. **SHALL** conform to CDA Author
2. Contains [1..1] `time`
   - Denotes the time at which the original content was scanned.
3. **SHALL** satisfy: The time shall be equal to that of ClinicalDocument/effectiveTime. At a minimum, the time shall be precise to the day and shall include the time zone offset from GMT.
   - `[OCL]: self.time.value = self.getClinicalDocument().effectiveTime.value`
4. **SHALL** satisfy: The assignedAuthor/id element shall be at least the root oid of the scanning device.
   - `[OCL]: self.assignedAuthor.id->forAll(ident : datatypes::II | not ident.root.oclIsUndefined())`
5. **SHALL** satisfy: The assignedAuthor/assignedAuthoringDevice/code element is present. The values set here are taken from appropriate DICOM vocabulary. The value of code@codeSystem shall be set to "1.2.840.10008.2.16.4". The value of code@code shall be set to "CAPTURE" for PDF scanned content and "WSD" for plaintext. The value of code@displayName shall be set to "Image Capture" for PDF scanned content and "Workstation" for plaintext.
   - `[OCL]: self.assignedAuthor.assignedAuthoringDevice.code.codeSystem = '1.2.840.10008.2.16.4' and not self.assignedAuthor.assignedAuthoringDevice.code.code.oclIsUndefined() and not self.assignedAuthor.assignedAuthoringDevice.code.displayName.oclIsUndefined()`
6. **SHALL** satisfy: The assignedAuthor/assignedAuthoringDevice/manufacturerModelName element is present.
   - The mixed content shall contain string information that specifies the scanner product name and model number. From this information, features like bit depth and resolution can be inferred. In the case of virtually scanned documents (for example, print to PDF), the manufactureModelName referenced here refers to the makers of the technology that was used to produce the embedded content.
   - `[OCL]: not self.assignedAuthor.assignedAuthoringDevice.manufacturerModelName.oclIsUndefined()`
7. **SHALL** satisfy: The assignedAuthor/assignedAuthoringDevice/softwareName element is present.
   - The mixed content shall contain string information that specifies the scanning software name and version. In the case of virtually scanned documents, the softwareName referenced here refers to the technology that was used to produce the embedded content.
   - `[OCL]: not self.assignedAuthor.assignedAuthoringDevice.softwareName.oclIsUndefined()`
8. **SHALL** satisfy: The assignedAuthor/representedOrganization/id element is present. The root attribute shall be set to the oid of the scanning facility.
   - `[OCL]: self.assignedAuthor.representedOrganization.id->forAll(ident : datatypes::II | not ident.root.oclIsUndefined())`

Figure 83: Scanning Device example

Chapter 6

VALUE SETS

Topics:

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

Concern Entry Status

[OID `null`]

A concern in the "active" state represents one for which some ongoing clinical activity is expected, and that no activity is expected in other states. Specific uses of the suspended and aborted states are left to the implementation.

OID: null

Name: null

Code	Display Name	Code System	Code System Name
active	null		
suspended	null		
aborted	null		
completed	null		

Health Status Value

[OID `null` from code system: SNOMEDCT]

OID: null

Name: null

Code System: 2.16.840.1.113883.6.96

Code System Name: SNOMEDCT

Code	Display Name	Code System	Code System Name
81323004	Alive and well		
313386006	In remission		
162467007	Symptom free		
161901003	Chronically ill		
271593001	Severely ill		
21134002	Disabled		
161045001	Severely disabled		
419099009	Deceased		

Problem Status Value

[OID `null` from code system: SNOMEDCT]

OID: null

Name: null

Code System: 2.16.840.1.113883.6.96

Code System Name: SNOMEDCT

Code	Display Name	Code System	Code System Name
55561003	Active		
73425007	Inactive		
90734009	Chronic		
7087005	Intermittent		
255227004	Recurrent		
415684004	Rule out		
410516002	Ruled out		
413322009	Resolved		

Severity Observation

[OID `null` from code system: SeverityObservation]

OID: null

Name: null

Code System: 2.16.840.1.113883.5.1063

Code System Name: SeverityObservation

Code	Display Name	Code System	Code System Name
H	High		
M	Moderate		
L	Low		

REFERENCES

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- 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* .
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