



## **HL7 Implementation Guide for CDA® Release 2: IHE Health Story Consolidation, Release 1 (US Realm)**

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December 2011**

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# 1 INTRODUCTION

## 1.1 Audience

The audiences for this implementation guide are the architects and developers of healthcare information technology (HIT) systems in the US Realm that exchange patient clinical data. This includes those exchanges that comply to the Health Information Technology for Economic and Clinical Health (HITECH) provisions of the [American Recovery And Reinvestment Act of 2009](#), the [Final Rules for Stage 1 Meaningful Use](#), and the [45 CFR Part 170 – Health Information Technology: Initial Set of Standards, Implementation Specifications, and Certification Criteria for Electronic Health Record Technology; Final Rule](#).<sup>1</sup>

Business analysts and policy managers can also benefit from a basic understanding of the use of Clinical Document Architecture (CDA) templates across multiple implementation use cases.

## 1.2 Purpose

This guide contains a library of CDA templates, incorporating and harmonizing previous efforts from Health Level Seven (HL7), Integrating the Healthcare Enterprise (IHE), and Health Information Technology Standards Panel (HITSP). It represents harmonization of the HL7 Health Story guides, HITSP C32, related components of IHE Patient Care Coordination (IHE PCC), and Continuity of Care (CCD), and it includes all required CDA templates in [Final Rules for Stage 1 Meaningful Use](#) and [45 CFR Part 170 – Health Information Technology: Initial Set of Standards, Implementation Specifications, and Certification Criteria for Electronic Health Record Technology; Final Rule](#).

When released for publication, this guide will be the single source for implementing the following CDA documents (see the [References](#) section for complete source listings):

- Continuity of Care Document (CCD) (Release 1.1)
- Consultation Notes (Release 1.1)
- Discharge Summary (Release 1.1)
- Imaging Integration, and DICOM Diagnostic Imaging Reports (DIR) (US Realm - Release 1)
- History and Physical (H&P) (Release 1.1)
- Operative Note (Release 1.1)
- Progress Note (Release 1.1)
- Procedure Note( US Realm – Release 1)
- Unstructured Documents (Release 1.1)

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<sup>1</sup> Many aspects of this guide were designed to meet the anticipated clinical document exchange requirements of Stage 2 Meaningful Use. At the time of this publication, Stage 2 Meaningful Use has not been published.

The release 1.1 documents supersede existing release 1 publications. Procedure Note and DIR are designated as release 1 because this guide is the first US-realm release of these standards. The existing, separate Procedure Note and DIR universal-realm guides are still valid for outside the US.

## 1.3 Scope

This document is scoped by the content of the eight Health Story Guides, CCD, and additional constraints from IHE and HITSP. New conformance rules were not introduced unless an ambiguity or conflict existed among the standards.

All CDA templates required for Final Rules for Stage 1 Meaningful Use<sup>2</sup> are included in this guide. All CDA templates required for Health Story compliance to the section level are included, as well, of course, as the Health Story reuse of Stage 1 Meaningful Use templates.

This guide fully specifies a compliant CDA R2 document for each document type.

Additional optional CDA elements, not included here, can be included and the result will be compliant with the documents in this standard.

## 1.4 Approach

In the development of this specification, the Consolidation Project team reviewed the eight existing HL7 Health Story guides, CCD, and the additional constraints from IHE, HITSP and Stage 1 Meaningful Use.

The Consolidation Project team members completed the analysis by creating a fully compliant CCD document, then layering in the additional HITSP, IHE and Stage 1 Meaningful Use constraints. When a new constraint introduced an issue, conflict or ambiguity, the item was flagged for review with the full consolidation team. The full analysis covered the CDA Header, section-level and entry-level requirements sufficient for Stage 1 Meaningful Use. The Project also reviewed document and section-level requirements for the full set of document types.

All major template changes are summarized in the [Change Appendix](#). A full mapping of change is anticipated to occur after ballot.

All involved in the Consolidation Project recognize the critical need for an intrinsic tie between the human-readable conformance requirements, the computable expression of those requirements, the production of validation test suites and application interfaces to facilitate adoption. To that end, the analysis performed by the volunteers and staff of the Consolidation Project was the prelude to data entry into a set of model-based tools.

Conformance requirements and value set tables published here were output from the Template Database (Tdb), an open-source application first developed for the Centers for Disease Control and Prevention and in active use by the National Healthcare Safety Network<sup>3</sup>. Post-ballot, the Tdb will be the source for generation of platform-independent

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<sup>2</sup> <http://edocket.access.gpo.gov/2010/pdf/2010-17207.pdf>

Many aspects of this guide were designed to meet the anticipated clinical document exchange requirements of Stage 2 Meaningful Use, which had not been released when this guide was published

<sup>3</sup> <http://www.lantanagroup.com/resources/tools/>

validation rules as Schematron<sup>4</sup> (compiled XPath). The Tdb is available as the Trifolia Workbench (Consolidation Project Edition) on the HL7 website<sup>5</sup>.

The consolidation of templates developed across these organizations and their publication in catalog form driven from model-based tools is a strong step toward satisfying the full range of requirements for clinical information use and reuse through templated CDA.

## 1.5 Organization of This Guide

This guide includes a set of CDA Templates, and prescribes their use for a set of specific document types. The main chapters are:

[Chapter 2. General Header Template](#). This chapter defines a template for the header constraints that apply across all of the consolidated document types.

[Chapter 3. Document-level Templates](#). This chapter defines each of the nine document types. It defines header constraints specific to each and the section-level templates (required and optional) for each.

[Chapter 4. Section-level Templates](#). This chapter defines the section templates referenced within the document types described here. Sections are atomic units, and can be reused by future specifications.

[Chapter 5. Entry-level Templates](#). This chapter defines entry-level templates, called clinical statements. Machine processable data are sent in the entry templates. The entry templates are referenced by one or more section templates. Entry-level templates are always contained in section-level templates, and section-level templates are always contained in a document.

[Appendices](#). The Appendices include non-normative content to support implementers. It includes a [Change Appendix](#) summary of previous and updated templates.

## 1.6 Use of Templates

Template identifiers (`templateId`) are assigned at the document, section, and entry level. When valued in an instance, the template identifier signals the imposition of a set of template-defined constraints. The value of this attribute (e.g.

`@root="2.16.840.1.113883.10.20.22.4.8")` provides a unique identifier for the template in question.

If a template is a specialization of another template, its first constraint indicates the more general template. The general template is not always required. 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.

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<sup>4</sup> <http://www.schematron.com/>

<sup>5</sup> <http://www.lantanagroup.com/newsroom/press-releases/trifolia-workbench/>

You must be logged in as a member of HL7.org to access this resource:

[http://www.hl7.org/login/singlesignon.cfm?next=/documentcenter/private/standards/cda/Trifolia\\_HL7\\_Consolidation\\_20110712-dist.zip](http://www.hl7.org/login/singlesignon.cfm?next=/documentcenter/private/standards/cda/Trifolia_HL7_Consolidation_20110712-dist.zip)

### 1.6.1 Originator Responsibilities: General Case

An originator can apply a `templateId` if there is a desire 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. The implementation guide (IG) shall assert whenever `templateIds` are required for conformance.

### 1.6.2 Recipient Responsibilities: General Case

A recipient may reject an instance that does not contain a particular `templateId` (e.g., a recipient looking to receive only Procedure Note 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 `templateIds`).

## 1.7 Levels of Constraint

The CDA standard describes conformance requirements in terms of three general levels corresponding to three different, incremental types of conformance statements:

- Level 1 requirements impose constraints upon the CDA Header. The body of a Level 1 document may be XML or an alternate allowed format. If XML, it must be CDA-conformant markup.
- Level 2 requirements specify constraints at the section level of a CDA XML document: most critically, the section code and the cardinality of the sections themselves, whether optional or required.
- Level 3 requirements specify constraints at the entry level within a section. A specification is considered “Level 3” if it requires any entry-level templates.

Note that these levels are rough indications of what a recipient can expect in terms of machine-processable coding and content reuse. They do not reflect the level or type of clinical content, and many additional levels of reusability could be defined.

In this consolidated guide, Unstructured Documents, by definition, are Level 1. Stage 1 Meaningful Use of CCD requires certain entries and is therefore a Level 3 requirement. The balance of the document types can be implemented at any level.

In all cases, required clinical content must be present. For example, a CDA Procedure Note carrying the `templateId` that asserts conformance with Level 1 may use a PDF (portable document format) or HTML (hypertext markup language) format for the body of the document that contains the required clinical content. Conformance, in this case, to the clinical content requirements could not be validated without human review.

The section libraries for each document type list the required and optional sections.

## 1.8 Conformance Conventions Used in This Guide

### 1.8.1 Templates and Conformance Statements

Conformance statements within this implementation guide are presented as constraints from a Template Database (Tdb). An algorithm converts constraints recorded in a Templates Database to a printable presentation. Each constraint is uniquely identified by an identifier at or near the end of the constraint (e.g., CONF:7345). These identifiers are persistent but not sequential.

Bracketed information following each template title indicates the template type (section, observation, act, procedure, etc.), the templateId, and whether the template is [open](#) or [closed](#).

Each [section](#) and [entry](#) template in the guide includes a context table. The "Used By" column indicates which documents or sections use this template, and the "Contains Entries" column indicates any entries that the template uses. Each [entry](#) template also includes a constraint overview table to summarize the constraints following the table.

The following figure shows a typical template explanation presented in this guide. The next sections describe specific aspects of conformance statements—open vs. closed statements, conformance verbs, cardinality, vocabulary conformance, containment relationships, and null flavors.

**Figure 1: Constraints format example**

#### Severity Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.8 (open) ]

**Table xxx: Severity Observation Contexts**

Used By:	Contains Entries:
<a href="#">Reaction Observation</a>	
<a href="#">Allergy Observation</a>	

This clinical statement represents the severity of the reaction to an agent. A person may manifest many symptoms ...

**Table yyy: Severity Observation Contexts**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.8']					
	@classCode	1..1	SHALL		<a href="#">7345</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
...						

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) **STATIC** (CONF:7345).

2. **SHALL** contain exactly one [1..1] `@moodCode="EVN"` Event (CodeSystem: 2.16.840.1.113883.5.1001 ActMood) **STATIC** (CONF:7346).
3. **SHALL** contain exactly one [1..1] `templateId/@root="2.16.840.1.113883.10.20.22.4.8"` (CONF:7347).
4. **SHALL** contain exactly one [1..1] `code="SEV"` Severity Observation (CodeSystem: 2.16.840.1.113883.5.4 ActCode) **STATIC** (CONF:7349).
5. **SHOULD** contain zero or one [0..1] `text` (CONF:7350).
  - a. This text, if present, **SHOULD** contain zero or one [0..1] `reference/@value` (CONF:7351).
    - i. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:7378).
6. **SHALL** contain exactly one [1..1] `statusCode="completed"` Completed (CodeSystem: 2.16.840.1.113883.5.14 ActStatus) **STATIC** (CONF:7352).
7. **SHALL** contain exactly one [1..1] `value with @xsi:type="CD"`, where the `@code` **SHALL** be selected from ValueSet 2.16.840.1.113883.3.88.12.3221.6.8 Problem Severity **DYNAMIC** (CONF:7356).
8. **SHOULD** contain zero or more [0..\*] `interpretationCode` (CONF:9117).
  - a. Such interpretationCodes, if present, **SHOULD** contain `@code`, which **SHOULD** be selected from ValueSet 2.16.840.1.113883.1.11.78 Observation Interpretation (HL7) **DYNAMIC** (CONF:9118).

### 1.8.2 Open and Closed Templates

In open templates, all of the features of the CDA R2 base specification are allowed except as constrained by the templates. By contrast, a closed template specifies everything that is allowed and nothing further may be included.

[Estimated Date of Delivery](#) (templateId 2.16.840.1.113883.10.20.15.3.1) is an example of a closed template in this guide.

Open templates allow HL7 implementers to develop additional structured content not constrained within this guide. HL7 encourages implementers to bring their use cases forward as candidate requirements to be formalized in a subsequent version of the standard to maximize the use of shared semantics.

### 1.8.3 Conformance Verbs (Keywords)

The keywords **SHALL**, **SHOULD**, **MAY**, **NEED NOT**, **SHOULD NOT**, and **SHALL NOT** in this document are to be interpreted as described in the [HL7 Version 3 Publishing Facilitator's Guide](#) (<http://www.hl7.org/v3ballot/html/help/pfg/pfg.htm>):

- **SHALL**: an absolute requirement
- **SHALL NOT**: an absolute prohibition against inclusion
- **SHOULD/SHOULD NOT**: best practice or recommendation. There may be valid reasons to ignore an item, but the full implications must be understood and carefully weighed before choosing a different course

- **MAY/NEED NOT:** truly optional; can be included or omitted as the author decides with no implications

The keyword "**SHALL**" allows the use of nullFlavor unless the requirement is on an attribute or the use of nullFlavor is explicitly precluded.

The [Consolidated Conformance Verb Matrix](#) table represents a matrix of the conformance verbs used across the standards reviewed for the consolidation guide.

The subject of a conformance verb (keyword) in a top-level constraint is the template itself; for example, the subject of [CONF:5249](#) is the ClinicalDocument element. In nested constraints, the subject is the element in the containing constraint. Top-level constraints are those that begin with a number and are not indented.

#### 1.8.4 Cardinality

The cardinality indicator (0..1, 1..1, 1..\*, etc.) specifies the allowable occurrences within a document instance. The cardinality indicators are interpreted with the following format "m...n" where m represents the least and n the most:

- 0..1 zero or one
- 1..1 exactly one
- 1..\* at least one
- 0..\* zero or more
- 1..n at least one and not more than n

When a constraint has subordinate clauses, the scope of the cardinality of the parent constraint must be clear. In the next figure, the constraint says exactly one participant is to be present. The subordinate constraint specifies some additional characteristics of that participant.

**Figure 2: Constraints format – only one allowed**

1. **SHALL** contain exactly one [1..1] **participant** (CONF:2777).
  - a. This participant **SHALL** contain exactly one [1..1] @typeCode="LOC" (CodeSystem: 2.16.840.1.113883.5.90 HL7ParticipationType) (CONF:2230).

In the next figure, the constraint says only one participant "like this" is to be present. Other participant elements are not precluded by this constraint.

**Figure 3: Constraints format – only one like this allowed**

1. **SHALL** contain exactly one [1..1] **participant** (CONF:2777) such that it
  - a. **SHALL** contain exactly one [1..1] @typeCode="LOC" (CodeSystem: 2.16.840.1.113883.5.90 HL7ParticipationType) (CONF:2230).

### 1.8.5 Optional and Required with Cardinality

The terms *optional* and *required* describe the *lower bound* of cardinality as follows:

*Optional* means that the number of allowable occurrences of an element may be 0; the cardinality will be expressed as [0..1] or [0..\*] or similar. In these cases, the element may not be present in the instance.

*Required* means that the number of allowable occurrences of an element must be at least 1; the cardinality will be expressed as [m..n] where m >=1 and n >=1 for example [1..1] or [1..\*]. In these cases, the element must be present in the instance. If an element is required, but is not known (and would otherwise be omitted if it were optional), it must be represented by a [nullFlavor](#).

### 1.8.6 Vocabulary Conformance

The templates in this document use terms from several code systems. These vocabularies are defined in various supporting specifications and may be maintained by other bodies, as is the case for the LOINC® and SNOMED CT® vocabularies.

Note that value-set identifiers (e.g., ValueSet 2.16.840.1.113883.1.11.78 Observation Interpretation (HL7) **DYNAMIC**) do not appear in CDA submissions; they tie the conformance requirements of an implementation guide to the appropriate code system for validation.

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. Value-set constraints can be **STATIC**, meaning that they are bound to a specified version of a value set, or **DYNAMIC**, meaning that they are bound to the most current version of the value set. A simplified constraint, used when the binding is to a single code, includes the meaning of the code, as follows.

**Figure 4: Binding to a single code**

```
1. ... code/@code="11450-4" Problem List (CodeSystem: 2.16.840.1.113883.6.1 LOINC).
```

The notation conveys the actual code (11450-4), the code's displayName (Problem List), the OID of the codeSystem from which the code is drawn (2.16.840.1.113883.6.1), and the codeSystemName (LOINC).

HL7 Data Types Release 1 requires the codeSystem attribute unless the underlying data type is “Coded Simple” or “CS”, in which case it is prohibited. The displayName and the codeSystemName are optional, but recommended, in all cases.

The above example would be properly expressed as follows.

**Figure 5: XML expression of a single-code binding**

```
<code code="11450-4" codeSystem="2.16.840.1.113883.6.1"/>

<!-- or -->

<code code="11450-4" codeSystem="2.16.840.1.113883.6.1"
      displayName="Problem List"
      codeSystemName="LOINC"/>
```

A full discussion of the representation of vocabulary is outside the scope of this document; for more information, see the HL7 V3 Normative Edition 2010<sup>6</sup> sections on Abstract Data Types and XML Data Types R1.

There is a discrepancy in the implementation of translation code versus the original code between HL7 Data Types R1 and the convention agreed upon for this specification. The R1 data type requires the original code in the root. This implementation guide specifies the standard code in the root, whether it is original or a translation. This discrepancy is resolved in HL7 Data Types R2.

**Figure 6: Translation code example**

```
<code code='206525008'
      displayName='neonatal necrotizing enterocolitis'
      codeSystem='2.16.840.1.113883.6.96'
      codeSystemName='SNOMED CT'>
  <translation code='NEC-1'
    displayName='necrotizing enterocolitis'
    codeSystem='2.16.840.1.113883.19' />
</code>
```

### 1.8.7 Containment Relationships

Containment constraints between a section and its entry are indirect in this guide, meaning that where a section asserts containment of an entry, that entry can either be a direct child or a further descendent of that section.

For example, in the following constraint:

1. **SHALL** contain at least one [1..\*] **entry** (CONF:8647) such that it
  - a. **SHALL** contain exactly one [1..1] [Advance Directive Observation](#) (templateId:2.16.840.1.113883.10.20.22.4.48) (CONF:8801).

the Advance Directive Observation can be a direct child of the section (i.e., section/entry/AdvanceDirectiveObservation) or a further descendent of that section (i.e., section/entry/.../AdvanceDirectiveObservation). Either of these are conformant.

All other containment relationships are direct, for example:

---

<sup>6</sup> HL7 Version 3 Interoperability Standards, Normative Edition 2010.  
<http://www.hl7.org/memonly/downloads/v3edition.cfm> - V32010

1. **SHALL** contain exactly one [1..1]  
**templateId/@root="2.16.840.1.113883.10.20.22.2.21"** (CONF:7928).

The templateId must be a direct child of the section (i.e., section/templateId).

### 1.8.8 Null Flavor

Information technology solutions store and manage data, but sometimes data are not available: an item may be unknown, not relevant, or not computable or measureable. In HL7, a *flavor* of null, or `nullFlavor`, describes the reason for missing data.

For example, if a patient arrives at an Emergency Department unconscious and with no identification, we would use a null flavor to represent the lack of information. The patient's birth date would be represented with a null flavor of "NAV", which is the code for "temporarily unavailable". When the patient regains consciousness or a relative arrives, we expect to know the patient's birth date.

**Figure 7: nullFlavor example**

```
<birthTime nullFlavor="NAV"/>    <!--coding an unknown birthdate-->
```

Use null flavors for unknown, required, or optional attributes:

NI	No information. This is the most general and default null flavor.
NA	Not applicable. Known to have no proper value (e.g., last menstrual period for a male).
UNK	Unknown. A proper value is applicable, but is not known.
ASKU	Asked, but not known. Information was sought, but not found (e.g., the patient was asked but did not know).
NAV	Temporarily unavailable. The information is not available, but is expected to be available later.
NASK	Not asked. The patient was not asked.
MSK	There is information on this item available but it has not been provided by the sender due to security, privacy, or other reasons. There may be an alternate mechanism for gaining access to this information.

This above list contains those null flavors that are commonly used in clinical documents. For the full list and descriptions, see the `nullFlavor` vocabulary domain in the CDA normative edition<sup>7</sup>.

Any **SHALL** conformance statement may use `nullFlavor`, unless the attribute is required or the `nullFlavor` is explicitly disallowed. **SHOULD** and **MAY** conformance statement may also use `nullFlavor`.

<sup>7</sup> HL7 Clinical Document Architecture (CDA Release 2) <http://www.hl7.org/implement/standards/cda.cfm>

**Figure 8: Attribute required**

- |  |
|--|
| <ol style="list-style-type: none"><li>1. <b>SHALL</b> contain exactly one [1..1] <b>code/@code="11450-4"</b> Problem List (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7878)<br/>or</li><li>2. <b>SHALL</b> contain exactly one [1..1] <b>effectiveTime/@value</b> (CONF:5256).</li></ol> |
|--|

**Figure 9: Allowed nullFlavors when element is required (with xml examples)**

- |  |
|--|
| <ol style="list-style-type: none"><li>1. <b>SHALL</b> contain at least one [1..*] <b>id</b></li><li>2. <b>SHALL</b> contain exactly one [1..1] <b>code</b></li><li>3. <b>SHALL</b> contain exactly one [1..1] <b>effectiveTime</b></li></ol> |
|--|

```
<entry>
  <observation classCode="OBS" moodCode="EVN">
    <id nullFlavor="NI"/>
    <code nullFlavor="OTH">
      <originalText>New Grading system</originalText>
    </code>
    <statusCode code="completed"/>
    <effectiveTime nullFlavor="UNK"/>
    <value xsi:type="CD" nullFlavor="NAV">
      <originalText>Spiculated mass grade 5</originalText>
    </value>
  </observation>
</entry>
```

**Figure 10: nullFlavor explicitly disallowed**

- |  |
|--|
| <ol style="list-style-type: none"><li>1. <b>SHALL</b> contain exactly one [1..1] <b>effectiveTime</b> (CONF:5256).<ol style="list-style-type: none"><li>a. <b>SHALL NOT</b> contain [0..0] <b>nullFlavor</b> (CONF:52580).</li></ol></li></ol> |
|--|

### 1.8.9 Unknown Information

If a sender wants to state that a piece of information is unknown, the following principles apply:

1. If the sender doesn't know an attribute of an act, that attribute can be null.

**Figure 11: Unknown medication example**

```
<entry>
  <text>patient was given a medication but I do not know what it was</text>
  <substanceAdministration moodCode="EVN" classCode="SBADM">
    <consumable>
      <manufacturedProduct>
        <manufacturedLabeledDrug>
          <code nullFlavor="NI"/>
        </manufacturedLabeledDrug>
      </manufacturedProduct>
    </consumable>
  </substanceAdministration>
</entry>
```

2. If the sender doesn't know if an act occurred, the nullFlavor is on the act (detail could include specific allergy, drug, etc.).

**Figure 12: Unknown medication use of anticoagulant drug example**

```
<entry>
  <substanceAdministration moodCode="EVN" classCode="SBADM" nullFlavor="NI">
    <text>I do not know whether or not patient received an anticoagulant
      drug</text>
    <consumable>
      <manufacturedProduct>
        <manufacturedLabeledDrug>
          <code code="81839001" displayName="anticoagulant drug"
            codeSystem="2.16.840.1.113883.6.96"
            codeSystemName="SNOMED CT"/>
        </manufacturedLabeledDrug>
      </manufacturedProduct>
    </consumable>
  </substanceAdministration>
</entry>
```

3. If the sender wants to state 'no known', a negationInd can be used on the corresponding act (substanceAdministration, Procedure, etc.)

**Figure 13: No known medications example**

```
<entry>
  <substanceAdministration moodCode="EVN" classCode="SBADM" negationInd="true">
    <text>No known medications</text>
    <consumable>
      <manufacturedProduct>
        <manufacturedLabeledDrug>
          <code code="410942007" displayName="drug or medication"
            codeSystem="2.16.840.1.113883.6.96"
            codeSystemName="SNOMED CT"/>
        </manufacturedLabeledDrug>
      </manufacturedProduct>
    </consumable>
  </substanceAdministration>
</entry>
```

Previously CCD, IHE, and HITSP recommended using specific codes to assert no known content, for example 160244002 No known allergies or 160245001 No current problems or disability. Specific codes are still allowed; however, use of these codes is not recommended.

### 1.8.10 Data Types

All data types used in a CDA document are described in the CDA R2 normative edition<sup>8</sup>. All attributes of a data type are allowed unless explicitly prohibited by this specification.

---

<sup>8</sup> HL7 Clinical Document Architecture (CDA Release 2). <http://www.hl7.org/implement/standards/cda.cfm>

## 1.9 XML Conventions Used in This Guide

### 1.9.1 XPath Notation

Instead of the traditional dotted notation used by HL7 to represent Reference Information Model (RIM) classes, this document uses XML Path Language (XPath) notation<sup>9</sup> in conformance statements and elsewhere to identify the Extended Markup Language (XML) elements and attributes within the CDA document instance to which various constraints are applied. The implicit context of these expressions is the root of the document. This notation provides a mechanism that will be familiar to developers for identifying parts of an XML document.

Xpath statements appear in this document in a monospace font.

XPath syntax selects nodes from an XML document using a path containing the context of the node(s). The path is constructed from node names and attribute names (prefixed by a '@') and catenated with a '/' symbol.

**Figure 14: XML document example**

```
<author>
  <assignedAuthor>
    ...
    <code codeSystem='2.16.840.1.113883.6.96' codeSystemName='SNOMED CT'
          code='17561000' displayName='Cardiologist' />
    ...
  </assignedAuthor>
</author>
```

In the above example, the `code` attribute of the `code` could be selected with the XPath expression in the next figure.

**Figure 15: XPath expression example**

```
author/assignedAuthor/code/@code
```

### 1.9.2 XML Examples and Sample Documents

Extended Mark-up Language (XML) examples appear in figures in this document in this monospace font. Portions of the XML content may be omitted from the content for brevity, marked by an ellipsis (...) as shown in the example below.

**Figure 16: ClinicalDocument example**

```
<ClinicalDocument xmlns="urn:hl7-org:v3">
  ...
</ClinicalDocument>
```

Within the narrative, XML element (`code`, `assignedAuthor`, etc.) and attribute (`SNOMED CT`, `17561000`, etc.) names also appear in this monospace font.

<sup>9</sup> <http://www.w3.org/TR/xpath/>

This ballot package includes complete sample documents as listed in the [Content of the Package](#) table below. These documents conform to the Level 1, Level 2, and Level 3 constraints of this guide (see the [Levels of Constraint](#) section).

## 1.10 UML Diagrams

Some sections may include a Unified Modeling Language (UML) class diagram to provide further clarification. For example, a class diagram might describe the generalization-specialization hierarchy of Act classes (see the [Results section UML Diagram](#) figure.) The UML diagrams were output from the Model-Driven Health Tools (MDHT) developed under the auspices of the Veterans Administration and IBM with assistance from the ONC Standards & Interoperability Framework<sup>10</sup>.

## 1.11 Content of the Package

The following files comprise the package:

**Table 1: Content of the Package**

Filename	Description	Ballot Applicability
CDAR2_IG_IHE_CONSOL_R1_D2_2011DEC	Implementation Guide	Normative
Consults.sample.xml	Consultation Note	Informative
DIR.sample.xml	Diagnostic Imaging Report	Informative
Future_MU_CCD.sample.xml	Continuity of Care Document/C32	Informative
DS.sample.xml	Discharge Summary Report	Informative
HandP.sample.xml	History and Physical Report	Informative
OpNote.sample.xml	Operative Note	Informative
Procedure_Note.sample.xml	Procedure Note	Informative
Progress_Note.sample.xml	Progress Note	Informative
UD.sample.xml	Unstructured Document	Informative
cda.xsl	CDA stylesheet	Informative
Discharge_Summary_cda.xsl	Adds discharge disposition to cda.xsl header	Informative
Consolidated CCD template hierarchy	Hierarchy of CCD sections and entries	Informative

<sup>10</sup> <http://www.openhealthtools.org/charter/Charter-ModelingToolsForHealthcare.pdf>

## 2 GENERAL HEADER TEMPLATE

This section describes constraints that apply to the header for all documents within the scope of this implementation guide. Header constraints specific to each document type are described in the appropriate document-specific section below.

### 2.1 Document Type Codes

CDA R2 states that LOINC is the preferred vocabulary for document type codes, which specify the type of document being exchanged (e.g., History and Physical). Each document type in this guide recommends a single preferred clinicalDocument/code, with further specification provided by author or performer, setting, or specialty..

### 2.2 US Realm Header

[ClinicalDocument: templateId 2.16.840.1.113883.10.20.22.1.1(open) ]

1. **SHALL** contain exactly one [1..1] **realmCode/@code="US"** (CONF:5249).
2. **SHALL** contain exactly one [1..1] **typeId** (CONF:5361).
  - a. This typeId **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.1.3"** (CONF:5250).
  - b. This typeId **SHALL** contain exactly one [1..1] **@extension="POCD\_HD000040"** (CONF:5251).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:5252) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.1.1"** (CONF:10036).
4. **SHALL** contain exactly one [1..1] **id** (CONF:5363).
  - a. This id SHALL be a globally unique identifier for the document (CONF:9991).
5. **SHALL** contain exactly one [1..1] **code** (CONF:5253).
  - a. This code SHALL specify the particular kind of document (e.g. History and Physical, Discharge Summary, Progress Note) (CONF:9992).
6. **SHALL** contain exactly one [1..1] **title** (CONF:5254).
  - a. can either be a locally defined name or the display name corresponding to clinicalDocument/code (CONF:5255).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:5256).
  - a. Signifies the document creation time, when the document first came into being. Where the CDA document is a transform from an original document in some other format, the ClinicalDocument.effectiveTime is the time the original document is created. The time when the transform occurred is not currently represented in CDA (CONF:9995).
  - b. This effectiveTime **SHALL** contain exactly one [1..1] **US Realm Date and Time (DT.US.FIELDED)** (2.16.840.1.113883.10.20.22.5.3) (CONF:5257).

8. **SHALL** contain exactly one [1..1] **confidentialityCode**, which **SHOULD** be selected from ValueSet HL7 BasicConfidentialityKind 2.16.840.1.113883.1.11.16926 **STATIC** 2010-04-21 (CONF:5259).
9. **SHALL** contain exactly one [1..1] **languageCode** which **SHALL** be selected from ValueSet Language 2.16.840.1.113883.1.11.11526 **DYNAMIC** (CONF:5372).
10. **MAY** contain zero or one [0..1] **setId** (CONF:5261).
  - a. If setId is present versionNumber **SHALL** be present. (CONF:6380).<sup>11</sup>
11. **MAY** contain zero or one [0..1] **versionNumber** (CONF:5264).
  - a. If versionNumber is present setId **SHALL** be present. (CONF:6387).<sup>12</sup>

**Table 2: Basic Confidentiality Kind Value Set**

Value Set: HL7 BasicConfidentialityKind 2.16.840.1.113883.1.11.16926 STATIC 2010-04-21 Code System(s): Confidentiality Code 2.16.840.1.113883.5.25		
Code	Code System	Print Name
N	Confidentiality Code	Normal
R	Confidentiality Code	Restricted
V	Confidentiality Code	Very Restricted

**Table 3: Language Value Set (excerpt)**

Value Set: Language 2.16.840.1.113883.1.11.11526 DYNAMIC Code System(s): Internet Society Language 2.16.840.1.113883.1.11.11526		
Description: A value set of codes defined by Internet RFC 4646 (replacing RFC 3066). Please see ISO 639 language code set maintained by Library of Congress for enumeration of language codes <a href="http://www.ietf.org/rfc/rfc4646.txt">http://www.ietf.org/rfc/rfc4646.txt</a>		
Code	Code System	Print Name
en	Internet Society Language	english
fr	Internet Society Language	french
ar	Internet Society Language	arabic
en-US	Internet Society Language	English, US
es-US	Internet Society Language	Spanish, US
...		

<sup>11</sup> From CDA Normative Web edition: 4.2.1.7 ClinicalDocument.setId - Represents an identifier that is common across all document revisions and “Document Identification, Revisions, and Addenda” under 4.2.3.1 ParentDocument

<sup>12</sup> From CDA Normative Web edition: 4.2.1.8 ClinicalDocument.versionNumber An integer value used to version successive replacement documents

**Figure 17: US realm header example**

```

<realmCode code="US"/>
<typeId root="2.16.840.1.113883.1.3" extension="POCD_HD000040"/>
<!-- US General Header Template -->
<templateId root="2.16.840.1.113883.10.20.22.1.1"/>

<!-- History and Physical Template -->
<templateId root="2.16.840.1.113883.10.20.22.1.3"/>

<id extension="999021" root="2.16.840.1.113883.19"/>

<code codeSystem="2.16.840.1.113883.6.1"
      codeSystemName="LOINC" code="34117-2"
      displayName="History and Physical Note"/>

<title>Good Health History & Physical</title>

<effectiveTime value="20050329171504+0500"/>
<confidentialityCode code="N" codeSystem="2.16.840.1.113883.5.25"/>
<languageCode code="en-US"
               displayName="English, US"
               codeSystem="2.16.840.1.113883.1.11.11526"
               codeSystemName="Internet Society Language"/>
<setId extension="111199021" root="2.16.840.1.113883.19"/>
<versionNumber value="1"/>
```

**Figure 18: effectiveTime with timezone example**

```

<!-- the syntax is "YYYYMMDDHHMMSS.UUUU[+|-ZZZZ]" where digits can be omitted
     the right side to express less precision. -->
<effectiveTime value="201107061227-08"/>
<!-- July 6, 2011, 12:27, 8 hours before UTC -->
```

### 2.2.1 RecordTarget

The recordTarget records the patient whose health information is described by the clinical document; it must contain at least one patientRole element.

12. **SHALL** contain at least one [1..\*] **recordTarget** (CONF:5266).

- a. Such recordTargets **SHALL** contain exactly one [1..1] **patientRole** (CONF:5267).
  - i. This patientRole **SHALL** contain at least one [1..\*] **id** (CONF:5268)
  - ii. This patientRole **SHALL** contain at least one [1..\*] **addr** (CONF:5271).
    - 1. The content of addr **SHALL** be a conformant [US Realm Address \(AD.US.FIELDDED\)](#) (2.16.840.1.113883.10.20.22.5.2) (CONF:10412).
  - iii. This patientRole **SHALL** contain at least one [1..\*] **telecom** (CONF:5280).

- Such telecoms **SHOULD** contain **@use**, which **SHALL** be selected from ValueSet Telecom Use (US Realm Header)  
2.16.840.1.113883.11.20.9.20 **DYNAMIC** (CONF:5375).

#### 2.2.1.1 Patient

- This patientRole **SHALL** contain exactly one [1..1] **patient** (CONF:5283).
  - This patient **SHALL** contain exactly one [1..1] **name** (CONF:5284).
    - The content of name **SHALL** be a conformant [US Realm Patient Name \(PTN.US.FIELDDED\)](#) (2.16.840.1.113883.10.20.22.5.1) (CONF:10411).
  - This patient **SHALL** contain exactly one [1..1] **administrativeGenderCode**, which **SHALL** be selected from ValueSet Administrative Gender (HL7 V3) 2.16.840.1.113883.1.11.1 **DYNAMIC** (CONF:6394).
  - This patient **SHALL** contain exactly one [1..1] **birthTime** (CONF:5298).
    - SHALL** be precise to year (CONF:5299).
    - SHOULD** be precise to day (CONF:5300).
  - This patient **SHOULD** contain zero or one [0..1] **maritalStatusCode**, which **SHALL** be selected from ValueSet HL7 Marital Status 2.16.840.1.113883.1.11.12212 **DYNAMIC** (CONF:5303).
  - This patient **MAY** contain zero or one [0..1] **religiousAffiliationCode**, which **SHALL** be selected from ValueSet HL7 Religious Affiliation 2.16.840.1.113883.1.11.19185 **DYNAMIC** (CONF:5317).
  - This patient **MAY** contain zero or one [0..1] **raceCode**, which **SHALL** be selected from ValueSet Race 2.16.840.1.113883.1.11.14914 **DYNAMIC** (CONF:5322).
  - This patient **MAY** contain zero or more [0..\*] [sdtc:raceCode](#), which **SHALL** be selected from ValueSet Race 2.16.840.1.113883.1.11.14914 **DYNAMIC** (CONF:7263).
  - This patient **MAY** contain zero or one [0..1] **ethnicGroupCode**, which **SHALL** be selected from ValueSet HITSP Ethnicity Value Set 2.16.840.1.113883.1.11.15836 **DYNAMIC** (CONF:5323).

#### 2.2.1.2 Guardian

- This patient **MAY** contain zero or more [0..\*] **guardian** (CONF:5325).
  - Such guardians, if present, **SHOULD** contain zero or one [0..1] **code**, which **SHALL** be selected from ValueSet Personal Relationship Role Type

- 2.16.840.1.113883.1.11.19563 **DYNAMIC**  
 (CONF:5326).
- b. Such guardians, if present, **SHOULD** contain zero or more [0..\*] **addr** (CONF:5359).
    - i. The content of **addr** **SHALL** be a conformant [US Realm Address \(AD.US.FIELDDED\)](#)  
 (2.16.840.1.113883.10.20.22.5.2)  
 (CONF:10413).
  - c. Such guardians, if present, **MAY** contain zero or more [0..\*] **telecom** (CONF:5382).
    - i. Such telecoms, if present, **SHOULD** contain **@use**, which **SHALL** be selected from ValueSet Telecom Use (US Realm Header)  
 2.16.840.1.113883.11.20.9.20 **DYNAMIC**  
 (CONF:7993).
  - d. Such guardians, if present, **SHALL** contain exactly one [1..1] **guardianPerson** (CONF:5385).
    - i. This **guardianPerson** **SHALL** contain at least one [1..\*] **name** (CONF:5386).
      - 1. The content of **name** **SHALL** be a conformant [US Realm Patient Name \(PTN.US.FIELDDED\)](#)  
 (2.16.840.1.113883.10.20.22.5.1.1)  
 (CONF:10414).

### 2.2.1.3 Birthplace

10. This patient **MAY** contain zero or one [0..1] **birthplace** (CONF:5395).
- a. This **birthplace**, if present, **SHALL** contain exactly one [1..1] **place** (CONF:5396).
    - i. This **place** **SHALL** contain exactly one [1..1] **addr** (CONF:5397).
      - 1. If country is US, this **addr** **SHALL** contain exactly one [1..1] **state**, which **SHALL** be selected from ValueSet StateValueSet  
 2.16.840.1.113883.3.88.12.80.1 **DYNAMIC**  
 (CONF:5402).
      - 2. This **addr** **MAY** contain zero or one [0..1] **postalCode**, which **SHALL** be selected from ValueSet PostalCodeValueSet  
 2.16.840.1.113883.3.88.12.80.2 **DYNAMIC**  
 (CONF:5403).
      - 3. This **addr** **SHOULD** contain zero or one [0..1] **country**, which **SHALL** be selected from ValueSet CountryValueSet  
 2.16.840.1.113883.3.88.12.80.63 **DYNAMIC**  
 (CONF:5404).

#### 2.2.1.4 LanguageCommunication

11. This patient **SHOULD** contain zero or more [0..\*] **languageCommunication** (CONF:5406).
  - a. Such languageCommunications, if present, **SHALL** contain exactly one [1..1] **languageCode**, which **SHALL** be selected from ValueSet Language 2.16.840.1.113883.1.11.11526 **DYNAMIC** (CONF:5407).
  - b. Such languageCommunications, if present, **MAY** contain zero or one [0..1] **modeCode**, which **SHALL** be selected from ValueSet HL7 LanguageAbilityMode 2.16.840.1.113883.1.11.12249 **DYNAMIC** (CONF:5409).
  - c. Such languageCommunications, if present, **SHOULD** contain zero or one [0..1] **proficiencyLevelCode**, which **SHALL** be selected from ValueSet LanguageAbilityProficiency 2.16.840.1.113883.1.11.12199 **DYNAMIC** (CONF:9965).
  - d. Such languageCommunications, if present, **MAY** contain zero or one [0..1] **preferenceInd** (CONF:5414).

#### 2.2.1.5 ProviderOrganization

- v. This patientRole **MAY** contain zero or one [0..1] **providerOrganization** (CONF:5416).
  1. This providerOrganization, if present, **SHALL** contain one or more [1..\*] **id** (CONF:5417).
    - a. The id **SHOULD** include zero or one [0..1] id where id/@root ="2.16.840.1.113883.4.6" National Provider Identifier (CONF:9996)
  2. This providerOrganization, if present, **SHALL** contain one or more one [1..\*] **name** (CONF:5419).
  3. This providerOrganization, if present, **SHALL** contain at least one [1..\*] **telecom** (CONF:5420).
    - a. Such telecoms **SHOULD** contain **@use**, which **SHALL** be selected from ValueSet Telecom Use (US Realm Header) 2.16.840.1.113883.11.20.9.20 **DYNAMIC** (CONF:7994).
  4. This providerOrganization, if present, **SHALL** contain at least one [1..\*] **addr** (CONF:5422).
    - a. The content of addr **SHALL** be a conformant [US Realm Address \(AD.US.FIELDED\)](#) (2.16.840.1.113883.10.20.22.5.2) (CONF:10415).

### 2.2.1.6 RecordTarget Value Sets

**Table 4: Telecom Use (US Realm Header) Value Set**

Value Set: Telecom Use (US Realm Header) 2.16.840.1.113883.11.20.9.20 DYNAMIC Code System(s): AddressUse 2.16.840.1.113883.5.1119		
Code	Code System	Print Name
HP	AddressUse	primary home
WP	AddressUse	work place
MC	AddressUse	mobile contact
HV	AddressUse	vacation home

**Table 5: Administrative Gender (HL7) Value Set**

Value Set: Administrative Gender (HL7 V3) 2.16.840.1.113883.1.11.1 DYNAMIC Code System(s): AdministrativeGender 2.16.840.1.113883.5.1		
Code	Code System	Print Name
F	AdministrativeGender	Female
M	AdministrativeGender	Male
UN	AdministrativeGender	Undifferentiated

**Table 6: Marital Status Value Set**

Value Set: HL7 Marital Status 2.16.840.1.113883.1.11.12212 DYNAMIC Code System(s): MaritalStatus 2.16.840.1.113883.5.2		
Code	Code System	Print Name
A	MaritalStatus	Annulled
D	MaritalStatus	Divorced
I	MaritalStatus	Interlocutory
L	MaritalStatus	Legally Separated
M	MaritalStatus	Married
P	MaritalStatus	Polygamous
S	MaritalStatus	Never Married
T	MaritalStatus	Domestic partner
W	MaritalStatus	Widowed

**Table 7: Religious Affiliation Value Set (excerpt)**

Value Set: HL7 Religious Affiliation 2.16.840.1.113883.1.11.19185 DYNAMIC		
Code System(s): ReligiousAffiliation 2.16.840.1.113883.5.1076		
Description:	A value set of codes that reflect spiritual faith affiliation <a href="http://www.hl7.org/memonly/downloads/v3edition.cfm#V32008">http://www.hl7.org/memonly/downloads/v3edition.cfm#V32008</a>	
<b>Code</b>	<b>Code System</b>	<b>Print Name</b>
1026	ReligiousAffiliation	Judaism
1020	ReligiousAffiliation	Hinduism
1041	ReligiousAffiliation	Roman Catholic Church
...		

**Table 8: Race Value Set (excerpt)**

Value Set: Race 2.16.840.1.113883.1.11.14914 DYNAMIC		
Code System(s): Race and Ethnicity - CDC 2.16.840.1.113883.6.238		
Description:	A Value Set of codes for Classifying data based upon race. Race is always reported at the discretion of the person for whom this attribute is reported, and reporting must be completed according to Federal guidelines for race reporting. Any code descending from the Race concept (1000-9) in that terminology may be used in the exchange <a href="http://phinvads.cdc.gov/vads/ViewCodeSystemConcept.action?oid=2.16.840.1.113883.6.238&amp;code=1000-9">http://phinvads.cdc.gov/vads/ViewCodeSystemConcept.action?oid=2.16.840.1.113883.6.238&amp;code=1000-9</a>	
<b>Code</b>	<b>Code System</b>	<b>Print Name</b>
2058-6	Race and Ethnicity- CDC	African American
1004-1	Race and Ethnicity- CDC	American Indian
2101-4	Race and Ethnicity- CDC	Fijian
2106-3	Race and Ethnicity- CDC	White
...		

**Table 9: Ethnicity Value Set**

Value Set: HITSP Ethnicity Value Set 2.16.840.1.113883.1.11.15836 DYNAMIC		
Code System(s): Race and Ethnicity - CDC 2.16.840.1.113883.6.238		
<b>Code</b>	<b>Code System</b>	<b>Print Name</b>
2135-2	Race and Ethnicity Code Sets	Hispanic or Latino
2186-5	Race and Ethnicity Code Sets	Not Hispanic or Latino

**Table 10: Personal Relationship Role Type Value Set (excerpt)**

Value Set: Personal Relationship Role Type 2.16.840.1.113883.1.11.19563 DYNAMIC		
Code System(s): RoleCode 2.16.840.1.113883.5.111		
Description:	A Personal Relationship records the role of a person in relation to another person. This value set is to be used when recording the relationships between different people who are not necessarily related by family ties, but also includes family relationships.	
	<a href="http://www.hl7.org/memonly/downloads/v3edition.cfm#V32008">http://www.hl7.org/memonly/downloads/v3edition.cfm#V32008</a>	
Code	Code System	Print Name
HUSB	RoleCode	husband
WIFE	RoleCode	wife
FRND	RoleCode	friend
SISINLAW	RoleCode	sister-in-law
...		

**Table 11: State Value Set (excerpt)**

Value Set: StateValueSet 2.16.840.1.113883.3.88.12.80.1 DYNAMIC		
Code System(s): FIPS 5-2 (State) 2.16.840.1.113883.6.92		
Description:	Codes for the Identification of the States, the District of Columbia and the Outlying Areas of the United States, and Associated Areas Publication # 5-2, May, 1987	
	<a href="http://www.itl.nist.gov/fipspubs/fip5-2.htm">http://www.itl.nist.gov/fipspubs/fip5-2.htm</a>	
Code	Code System	Print Name
AL	FIPS 5-2 (State Alpha Codes)	Alabama
AK	FIPS 5-2 (State Alpha Codes)	Alaska
AZ	FIPS 5-2 (State Alpha Codes)	Arizona
AR	FIPS 5-2 (State Alpha Codes)	Arkansas
...		

**Table 12: Postal Code Value Set (excerpt)**

Value Set: PostalCodeValueSet 2.16.840.1.113883.3.88.12.80.2 DYNAMIC		
Code System(s): US Postal Codes 2.16.840.1.113883.6.231		
Description:	A value set of codes postal (ZIP) Code of an address in the United States.	
	<a href="http://zip4.usps.com/zip4/welcome.jsp">http://zip4.usps.com/zip4/welcome.jsp</a>	
Code	Code System	Print Name
19009	US Postal Codes	Bryn Athyn, PA
92869-1736	US Postal Codes	Orange, CA
32830-8413	US Postal Codes	Lake Buena Vista, FL
...		

**Table 13: Country Value Set (excerpt)**

Value Set: CountryValueSet 2.16.840.1.113883.3.88.12.80.63 DYNAMIC		
Code System(s): ISO 3166-1 Country Codes: 1.0.3166.1		
Description:	A value set of codes for the representation of names of countries, territories and areas of geographical interest. Note: This table provides the ISO 3166-1 code elements available in the alpha-2 code of ISO's country code standard <a href="http://www.iso.org/iso/country_codes/iso_3166_code_lists.htm">http://www.iso.org/iso/country_codes/iso_3166_code_lists.htm</a>	
Code	Code System	Print Name
AW	ISO 3166-1 Country Codes	Aruba
IL	ISO 3166-1 Country Codes	Israel
KZ	ISO 3166-1 Country Codes	Kazakhstan
US	ISO 3166-1 Country Codes	United States
...		

**Table 14: Language Ability Value Set**

Value Set: HL7 LanguageAbilityMode 2.16.840.1.113883.1.11.12249 DYNAMIC		
Code System(s): LanguageAbilityMode 2.16.840.1.113883.5.60		
Description:	A value representing the method of expression of the language.	
Code	Code System	Print Name
ESGN	LanguageAbilityMode	Expressed signed
ESP	LanguageAbilityMode	Expressed spoken
EWR	LanguageAbilityMode	Expressed written
RSGN	LanguageAbilityMode	Received signed
RSP	LanguageAbilityMode	Received spoken
RWR	LanguageAbilityMode	Received written

**Table 15: Language Ability Proficiency Value Set**

Value Set: LanguageAbilityProficiency 2.16.840.1.113883.1.11.12199 DYNAMIC		
Code System(s): LanguageAbilityProficiency 2.16.840.1.113883.5.61		
Description:	A value representing the level of proficiency in a language.	
Code	Code System	Print Name
E	LanguageAbilityProficiency	Excellent
F	LanguageAbilityProficiency	Fair
G	LanguageAbilityProficiency	Good
P	LanguageAbilityProficiency	Poor

### 2.2.1.7 RecordTarget Example

**Figure 19: recordTarget example**

```
<recordTarget>
  <patientRole>
    <id extension="12345" root="2.16.840.1.113883.19"/>
    <!-- Fake ID using HL7 example OID. -->
    <id extension="111-00-1234" root="2.16.840.1.113883.4.1"/>
    <!-- Fake Social Security Number using the actual SSN OID. -->
    <addr use="HP">
      <!-- HP is "primary home" from codeSystem 2.16.840.1.113883.5.1119 -->
      <streetAddressLine>17 Daws Rd.</streetAddressLine>
      <city>Blue Bell</city>
      <state>MA</state>
      <postalCode>02368</postalCode>
      <country>US</country>
      <!-- US is "United States" from ISO 3166-1 Country Codes: 1.0.3166.1 -->
    </addr>
    <telecom value="tel:(781) 555-1212" use="HP"/>
    <!-- HP is "primary home" from AddressUse 2.16.840.1.113883.5.1119 -->
    <patient>
      <name use="L">
        <!-- L is "Legal" from EntityNameUse 2.16.840.1.113883.5.45 -->
        <prefix>Mr.</prefix>
        <given>Adam</given>
        <given qualifier="CL">Frankie</given>
        <!-- CL is "Call me" from EntityNamePartQualifier
            2.16.840.1.113883.5.43 -->
        <family>Everyman</family>
      </name>
      <administrativeGenderCode code="M"
        codeSystem="2.16.840.1.113883.5.1" displayName="Male"/>
      <birthTime value="19541125"/>
      <maritalStatusCode code="M" displayName="Married"
        codeSystem="2.16.840.1.113883.5.2"
        codeSystemName="MaritalStatusCode"/>
      <religiousAffiliationCode code="1013"
        displayName="Christian (non-Catholic, non-specific)"
        codeSystemName="Religious Affiliation"
        codeSystem="2.16.840.1.113883.5.1076"/>
      <raceCode code="2106-3" displayName="White"
        codeSystem="2.16.840.1.113883.6.238"
        codeSystemName="Race & Ethnicity - CDC"/>
      <ethnicGroupCode code="2186-5"
        displayName="Not Hispanic or Latino"
        codeSystem="2.16.840.1.113883.6.238"
        codeSystemName="Race & Ethnicity - CDC"/>
    </patient>
  </patientRole>
</recordTarget>
```

```

<guardian>
  <code code="GRFTH" displayName="Grandfather"
        codeSystem="2.16.840.1.113883.5.111"
        codeSystemName="RoleCode"/>
  <addr use="HP">
    <streetAddressLine>17 Daws Rd.</streetAddressLine>
    <city>Blue Bell</city>
    <state>MA</state>
    <postalCode>02368</postalCode>
    <country>US</country>
  </addr>
  <telecom value="tel:(781) 555-1212" use="HP"/>
  <guardianPerson>
    <name>
      <given>Ralph</given>
      <family>Relative</family>
    </name>
  </guardianPerson>
</guardian>
<birthplace>
  <place>
    <addr>
      <state>MA</state>
      <postalCode>02368</postalCode>
      <country>US</country>
    </addr>
  </place>
</birthplace>
<languageCommunication>
  <languageCode code="fr-CN"/>
  <modeCode code="RWR" displayName="Receive Written"
            codeSystem="2.16.840.1.113883.5.60"
            codeSystemName="LanguageAbilityMode"/>
  <preferenceInd value="true"/>
</languageCommunication>
</patient>
<providerOrganization>
  <id root="2.16.840.1.113883.19"/>
  <name>Good Health Clinic</name>
  <telecom use="WP" value="tel:(781) 555-1212"/>
  <addr>
    <streetAddressLine>21 North Ave</streetAddressLine>
    <city>Burlington</city>
    <state>MA</state>
    <postalCode>02368</postalCode>
    <country>US</country>
  </addr>
</providerOrganization>
</patientRole>
</recordTarget>

```

## 2.2.2 Author

The author element represents the creator of the clinical document. The author may be a device, or a person.

13. **SHALL** contain at least one [1..\*] **author** (CONF:5444).

- a. Such authors **SHALL** contain exactly one [1..1] **time** (CONF:5445).
  - i. This time **SHALL** contain exactly one [1..1] [US Realm Date and Time \(DTM.US.FIELDDED\)](#) (2.16.840.1.113883.10.20.22.5.4) (CONF:5446).
- b. Such authors **SHALL** contain exactly one [1..1] **assignedAuthor** (CONF:5448).
  - i. This assignedAuthor **SHALL** contain at least one [1..\*] **id** (CONF:5449).
    1. The id **SHOULD** include zero or one [0..1] id where id/@root ="2.16.840.1.113883.4.6" National Provider Identifier (CONF:9941).
  - ii. This assignedAuthor **SHOULD** contain zero or one [0..1] code which **SHOULD** be selected from coding system NUCC Health Care Provider Taxonomy 2.16.840.1.113883.6.101 (CONF:9942).
  - iii. This assignedAuthor **SHALL** contain at least one [1..\*] **addr** (CONF:5452).
    1. The content of addr **SHALL** be a conformant [US Realm Address \(AD.US.FIELDDED\)](#) (2.16.840.1.113883.10.20.22.5.2) (CONF:10416).
  - iv. This assignedAuthor **SHALL** contain at least one [1..\*] **telecom** (CONF:5428).
    1. Such telecoms **SHOULD** contain @use, which **SHALL** be selected from ValueSet [Telecom Use \(US Realm Header\)](#) [2.16.840.1.113883.11.20.9.20 DYNAMIC](#) (CONF:7995).

**Figure 20: Person author example**

```
<author>
  <time value="20050329224411+0500"/>
  <assignedAuthor>
    <id extension="KP00017" root="2.16.840.1.113883.19.5"/>
    <addr>
      <streetAddressLine>21 North Ave.</streetAddressLine>
      <city>Burlington</city>
      <state>MA</state>
      <postalCode>02368</postalCode>
      <country>US</country>
    </addr>
    <telecom use="WP" value="tel: (555) 555-1003"/>
    <assignedPerson>
      <name>
        <given>Henry</given>
        <family>Seven</family>
      </name>
    </assignedPerson>
  </assignedAuthor>
</author>
```

**Figure 21: Device author example**

```
<author>
  <time value="20050329224411+0500"/>
  <assignedAuthor>
    <id extension="KP00017dev" root="2.16.840.1.113883.19.5"/>
    <addr>
      <streetAddressLine>21 North Ave.</streetAddressLine>
      <city>Burlington</city>
      <state>MA</state>
      <postalCode>02368</postalCode>
      <country>US</country>
    </addr>
    <telecom use="WP" value="tel: (555) 555-1003"/>
    <assignedAuthoringDevice>
      <manufacturerModelName>Good Health Medical
        Device</manufacturerModelName >
      <softwareName>Good Health Report Generator</softwareName >
    </ assignedAuthoringDevice >
  </assignedAuthor>
</author>
```

### 2.2.3 DataEnterer

The dataEnterer element represents the person who transferred the content, written or dictated by someone else, into the clinical document. The guiding rule of thumb is that an author provides the content found within the header or body of the document, subject to their own interpretation, and the dataEnterer adds that information to the

electronic system. In other words, a **dataEnterer** transfers information from one source to another (e.g., transcription from paper form to electronic system).

14. **MAY** contain zero or one [0..1] **dataEnterer** (CONF:5441).

- a. This **dataEnterer**, if present, **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:5442).
  - i. This **assignedEntity** **SHALL** contain at least one [1..\*] **id** (CONF:5443).
    1. **SHOULD** include zero or one [0..1] **id** where **id/@root** = "2.16.840.1.113883.4.6" National Provider Identifier (CONF:9943).
  - ii. This **assignedEntity** **MAY** contain zero or one [0..1] code which **SHOULD** be selected from coding system NUCC Health Care Provider Taxonomy 2.16.840.1.113883.6.101 (CONF:9944).
  - iii. This **assignedEntity** **SHALL** contain at least one [1..\*] **addr** (CONF:5460).
    1. The content of **addr** **SHALL** be a conformant [US Realm Address \(AD.US.FIELDDED\)](#) (2.16.840.1.113883.10.20.22.5.2) (CONF:10417).
  - iv. This **assignedEntity** **SHALL** contain at least one [1..\*] **telecom** (CONF:5466).
    1. Such **telecoms** **SHOULD** contain **@use**, which **SHALL** be selected from ValueSet Telecom use (US Realm Header) 2.16.840.1.113883.11.20.9.20 **DYNAMIC** (CONF:7996).
  - v. This **assignedEntity** **SHALL** contain exactly one [1..1] **assignedPerson** (CONF:5469).
    1. This **assignedPerson** **SHALL** contain at least one [1..\*] **name** (CONF:5470).
      - a. The content of **name** **SHALL** be a conformant [US Realm Person Name \(PN.US.FIELDDED\)](#) (2.16.840.1.113883.10.20.22.5.1.1) (CONF:10418).

**Figure 22: dataEnterer example**

```
<dataEnterer>
  <assignedEntity>
    <id root="2.16.840.1.113883.19.5" extension="43252"/>
    <addr>
      <streetAddressLine>21 North Ave.</streetAddressLine>
      <city>Burlington</city>
      <state>MA</state>
      <postalCode>02368</postalCode>
      <country>US</country>
    </addr>
    <telecom use="WP" value="tel:(555) 555-1003"/>
    <assignedPerson>
      <name>
        <given>Henry</given>
        <family>Seven</family>
      </name>
    </assignedPerson>
  </assignedEntity>
</dataEnterer>
```

#### 2.2.4 Informant

The informant element describes the source of the information in a medical document.

Assigned health care providers may be a source of information when a document is created. (e.g., a nurse's aide who provides information about a recent significant health care event that occurred within an acute care facility.) In these cases, the assignedEntity element is used.

When the informant is a personal relation, that informant is represented in the relatedEntity element. The code element of the relatedEntity describes the relationship between the informant and the patient. The relationship between the informant and the patient needs to be described to help the receiver of the clinical document understand the information in the document.

15. **MAY** contain zero or more [0..\*] **informant** (CONF:8001).

- a. **SHALL** contain exactly one [1..1] assignedEntity **OR** exactly one [1..1] relatedEntity (CONF:8002).
  - i. **SHOULD** contain zero or more [0..\*] **id** (CONF:9945).
    1. If assignedEntity/id is a provider then this id, **SHOULD** include zero or one [0..1] id where id/@root="2.16.840.1.113883.4.6" National Provider Identifier (CONF:9946).
  - ii. This assignedEntity **MAY** contain zero or one [0..1] code which **SHOULD** be selected from coding system NUCC Health Care Provider Taxonomy 2.16.840.1.113883.6.101 (CONF:9947).
  - iii. **SHOULD** contain at least one [1..\*] **addr** (CONF:8220).

1. The content of addr **SHALL** be a conformant [US Realm Address \(AD.US.FIELDED\)](#)  
(2.16.840.1.113883.10.20.22.5.2) (CONF:10419).
- iv. **SHALL** contain exactly one [1..1] assignedPerson **OR** exactly one [1..1] relatedPerson (CONF:8221).
2. **SHALL** contain at least one [1..\*] **name** (CONF:8222).
  - a. The content of name **SHALL** be a conformant [US Realm Person Name \(PN.US.FIELDED\)](#)  
(2.16.840.1.113883.10.20.22.5.1.1)  
(CONF:10420).

**Figure 23: Informant with assignedEntity example**

```
<informant>
  <assignedEntity>
    <id extension="KP00017" root="2.16.840.1.113883.19.5"/>
    <addr>
      <streetAddressLine>21 North Ave.</streetAddressLine>
      <city>Burlington</city>
      <state>MA</state>
      <postalCode>02368</postalCode>
      <country>US</country>
    </addr>
    <telecom value="tel:(555) 555-1003"/>
    <assignedPerson>
      <name>
        <given>Henry</given>
        <family>Seven</family>
      </name>
    </assignedPerson>
  </assignedEntity>
</informant>
```

## 2.2.5 Custodian

The custodian element represents the organization that is in charge of maintaining the document. The custodian is the steward that is entrusted with the care of the document. Every CDA document has exactly one custodian. The custodian participation satisfies the CDA definition of Stewardship. Because CDA is an exchange standard and may not represent the original form of the authenticated document (e.g., CDA could include scanned copy of original), the custodian represents the steward of the original source document. The custodian may be the document originator, a health information exchange, or other responsible party.

16. **SHALL** contain exactly one [1..1] **custodian** (CONF:5519).
  - a. This custodian **SHALL** contain exactly one [1..1] **assignedCustodian** (CONF:5520).
    - i. This assignedCustodian **SHALL** contain exactly one [1..1] **representedCustodianOrganization** (CONF:5521).

1. This representedCustodianOrganization **SHALL** contain at least one [1..\*] **id** (CONF:5522)
  - a. The id **SHOULD** include zero or one [0..1] id where id/@root="2.16.840.1.113883.4.6" National Provider Identifier (CONF:10000).
2. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **name** (CONF:5524).
3. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **telecom** (CONF:5525).
  - a. This telecom **SHOULD** contain **@use**, which **SHALL** be selected from ValueSet [Telecom use \(US Realm Header\) 2.16.840.1.113883.11.20.9.20 DYNAMIC](#) (CONF:7998).
3. This representedCustodianOrganization **SHALL** contain at least one [1..\*] **addr** (CONF:5559).
  - b. The content of addr **SHALL** be a conformant [\*\*US Realm Address \(AD.US.FIELDED\)\*\*](#)  
(2.16.840.1.113883.10.20.22.5.2) (CONF:10421).

**Figure 24: Custodian example**

```
<custodian>
  <assignedCustodian>
    <representedCustodianOrganization>
      <id root="2.16.840.1.113883.19.5"/>
      <name>Good Health Clinic</name>
      <telecom value="tel:(555) 555-1212" use="WP"/>
      <addr use="WP">
        <streetAddressLine>17 Daws Rd.</streetAddressLine>
        <city>Blue Bell</city>
        <state>MA</state>
        <postalCode>02368</postalCode>
        <country>US</country>
      </addr>
    </representedCustodianOrganization>
  </assignedCustodian>
</custodian>
```

## 2.2.6 InformationRecipient

The informationRecipient element records the intended recipient of the information at the time the document is created. For example, in cases where the intended recipient of the document is the patient's health chart, set the receivedOrganization to be the scoping organization for that chart.

17. **MAY** contain zero or more [0..\*] **informationRecipient** (CONF:5565).

- a. Such informationRecipients, if present, **SHALL** contain exactly one [1..1] **intendedRecipient** (CONF:5566).

- i. This intendedRecipient **MAY** contain zero or one [0..1] **informationRecipient** (CONF:5567).
  - 4. This informationRecipient, if present, **SHALL** contain at least one [1..\*] **name** (CONF:5568).
    - a. The content of name **SHALL** be a conformant [US Realm Person Name \(PN.US.FIELDED\)](#)  
 (2.16.840.1.113883.10.20.22.5.1.1)  
 (CONF:10427)).
- ii. This intendedRecipient **MAY** contain zero or one [0..1] **receivedOrganization** (CONF:5577).
  - 1. This receivedOrganization, if present, **SHALL** contain exactly one [1..1] **name** (CONF:5578).

**Figure 25: informationRecipient example**

```
<informationRecipient>
  <intendedRecipient>
    <informationRecipient>
      <name>
        <given>Henry</given>
        <family>Seven</family>
      </name>
    </informationRecipient>
    <receivedOrganization>
      <name>Good Health Clinic</name>
    </receivedOrganization>
  </intendedRecipient>
</informationRecipient>
```

## 2.2.7 LegalAuthenticator

The **legalAuthenticator** identifies the single person legally responsible for the document and must be present if the document has been legally authenticated. (Note that per the following section, there may also be one or more document authenticators.)

Based on local practice, clinical documents may be released before legal authentication. This implies that a clinical document that does not contain this element has not been legally authenticated.

The act of legal authentication requires a certain privilege be granted to the legal authenticator depending upon local policy. All clinical documents have the potential for legal authentication, given the appropriate credentials.

Local policies **MAY** choose to delegate the function of legal authentication to a device or system that generates the clinical document. In these cases, the legal authenticator is a person accepting responsibility for the document, not the generating device or system.

Note that the legal authenticator, if present, must be a person.

18. **SHOULD** contain zero or one [0..1] **legalAuthenticator** (CONF:5579).

- a. The legalAuthenticator, if present, **SHALL** contain exactly one [1..1] **time** (CONF:5580).
  - i. The content of time **SHALL** be a conformant [US Realm Date and Time \(DTM.US.FIELDED\)](#) (2.16.840.1.113883.10.20.22.5.3) (CONF:5581).
- b. This legalAuthenticator, if present, **SHALL** contain exactly one [1..1] **signatureCode** (CONF:5583).
  - i. This signatureCode **SHALL** contain exactly one [1..1] @code="S" (CodeSystem: Participationsignature 2.16.840.1.113883.5.89) (CONF:5584).
- c. This legalAuthenticator, if present, **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:5585).
  - i. This assignedEntity **SHALL** contain at least one [1..\*] **id** (CONF:5586).
    - 1. **SHOULD** include zero or one [0..1] id where id/@root ="2.16.840.1.113883.4.6" National Provider Identifier (CONF:9948).
  - ii. This assignedEntity **MAY** contain zero or one [0..1] code which **SHOULD** be selected from coding system NUCC Health Care Provider Taxonomy 2.16.840.1.113883.6.101 (CONF:9949)
  - ii. This assignedEntity **SHALL** contain at least one [1..\*]**addr** (CONF:5589).
    - 1. The content of addr **SHALL** be a conformant [US Realm Address \(AD.US.FIELDED\)](#) (2.16.840.1.113883.10.20.22.5.2) (CONF:10429).
  - iii. This assignedEntity **SHALL** contain at least one [1..\*] **telecom** (CONF:5595).
    - 1. Such telecoms **SHOULD** contain @use, which **SHALL** be selected from ValueSet [Telecom use \(US Realm Header\)](#) [2.16.840.1.113883.11.20.9.20 DYNAMIC](#) (CONF:7999).
  - iv. This assignedEntity **SHALL** contain exactly one [1..1] **assignedPerson** (CONF:5597).
    - 1. This assignedPerson **SHALL** contain at least one [1..\*] **name** (CONF:5598).
      - a. The content of name **SHALL** be a conformant [US Realm Person Name \(PN.US.FIELDED\)](#) (2.16.840.1.113883.10.20.22.5.1.1) (CONF:10430).

**Figure 26: legalAuthenticator example**

```

<legalAuthenticator>
  <time value="20050329224411+0500"/>
  <signatureCode code="S"/>
  <assignedEntity>
    <id extension="KP00017" root="2.16.840.1.113883.19"/>
    <addr>
      <streetAddressLine>21 North Ave.</streetAddressLine>
      <city>Burlington</city>
      <state>MA</state>
      <postalCode>02368</postalCode>
      <country>US</country>
    </addr>
    <telecom use="WP" value="tel: (555) 555-1003"/>
    <assignedPerson>
      <name>
        <given>Henry</given>
        <family>Seven</family>
      </name>
    </assignedPerson>
  </assignedEntity>
</legalAuthenticator>

```

## 2.2.8 Authenticator

The authenticator identifies a participant or participants who attested to the accuracy of the information in the document.

19. **MAY** contain zero or more [0..\*] **authenticator** (CONF:5607).
  - a. Such authenticators, if present, **SHALL** contain exactly one [1..1] **time** (CONF:5608).
    - i. The content of time **SHALL** be a conformant [US Realm Date and Time \(DTM.US.FIELDED\)](#) (2.16.840.1.113883.10.20.22.5.4) (CONF:5634).
  - b. Such authenticators, if present, **SHALL** contain exactly one [1..1] **signatureCode** (CONF:5610).
    - i. This signatureCode **SHALL** contain exactly one [1..1] @code="S" (CodeSystem: Participationsignature 2.16.840.1.113883.5.89) (CONF:5611).
  - c. Such authenticators, if present, **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:5612).
    - i. This assignedEntity **SHALL** contain at least one [1..\*] **id** (CONF:5613).
      1. **SHOULD** include zero or one [0..1] id where id/@root ="2.16.840.1.113883.4.6" National Provider Identifier (CONF:9950).
      - ii. This assignedEntity **MAY** contain zero or one [0..1] code which **SHOULD** be selected from coding system NUCC Health Care Provider Taxonomy 2.16.840.1.113883.6.101 (CONF:9951)

- iii. This assignedEntity **SHALL** contain at least one [1..\*] **addr** (CONF:5616).
  - 1. The content of addr **SHALL** be a conformant [US Realm Address \(AD.US.FIELDED\)](#) (2.16.840.1.113883.10.20.22.5.2) (CONF:10425).
- iii. This assignedEntity **SHALL** contain at least one [1..\*] **telecom** (CONF:5622).
  - 1. Such telecoms **SHOULD** contain @use, which **SHALL** be selected from ValueSet [Telecom use \(US Realm Header\)](#) [2.16.840.1.113883.11.20.9.20 DYNAMIC](#) (CONF:8000).
- iv. This assignedEntity **SHALL** contain exactly one [1..1] **assignedPerson** (CONF:5624).
  - 1. This assignedPerson **SHALL** contain at least one [1..\*] **name** (CONF:5625).
    - a. The content of name **SHALL** be a conformant [US Realm Person Name \(PN.US.FIELDED\)](#) (2.16.840.1.113883.10.20.22.5.1.1) (CONF:10424).

**Figure 27: Authenticator example**

```

<authenticator>
  <time value="20050329224411+0500"/>
  <signatureCode code="S"/>
  <assignedEntity>
    <id extension="KP00017" root="2.16.840.1.113883.19"/>
    <addr>
      <streetAddressLine>21 North Ave.</streetAddressLine>
      <city>Burlington</city>
      <state>MA</state>
      <postalCode>02368</postalCode>
      <country>US</country>
    </addr>
    <telecom use="WP" value="tel: (555) 555-1003"/>
    <assignedPerson>
      <name>
        <given>Henry</given>
        <family>Seven</family>
      </name>
    </assignedPerson>
  </assignedEntity>
</authenticator>

```

## 2.2.9 Participant (Support)

The participant element identifies other supporting participants, including parents, relatives, caregivers, insurance policyholders, guarantors, and other participants related in some way to the patient.

A supporting person or organization is an individual or an organization with a relationship to the patient. A supporting person who is playing multiple roles would be recorded in multiple participants (e.g., emergency contact and next-of-kin)

20. **MAY** contain zero or more [0..\*] **participant** (CONF:10003).
- Such participants, if present, **MAY** contain [0..1] **time** (CONF:10004).
    - This time **SHALL** contain exactly one [1..1] [US Realm Date and Time \(DTM.US.FIELDED\)](#) (2.16.840.1.113883.10.20.22.5.4) (CONF:10005).
  - Such participants, if present, **SHALL** have an associatedPerson or scopingOrganization element under participant/associatedEntity. (CONF:10006).
  - Unless otherwise specified by the document specific header constraints, when participant/@typeCode is IND, associatedEntity/@classCode **SHALL** be selected from ValueSet [INDRoleclassCodes 2.16.840.1.113883.11.20.9.33 STATIC 2011-09-30.](#) (CONF: 10007).

**Table 16: IND Role classCode Value Set**

Value Set: INDRoleclassCodes 2.16.840.1.113883.11.20.9.33 STATIC 2011-09-30		
Code System(s): RoleClass 2.16.840.1.113883.5.110		
Code	Code System	Print Name
PRS	RoleClass	personal relationship
NOK	RoleClass	next of kin
CAREGIVER	RoleClass	caregiver
AGNT	RoleClass	agent
GUAR	RoleClass	guarantor
ECON	RoleClass	emergency contact

**Figure 28: Participant example for a supporting person**

```
<participant typeCode='IND'>
  <time xsi:type="IVL_TS">
    <low value="19590101"/>
    <high value="20111025"/>
  </time>
  <associatedEntity classCode='NOK'>
    <code code='MTH' codeSystem='2.16.840.1.113883.5.111' />
    <addr>
      <streetAddressLine>17 Daws Rd.</streetAddressLine>
      <city>Blue Bell</city>
      <state>MA</state>
      <postalCode>02368</postalCode>
      <country>US</country>
    </addr>
    <telecom value='tel:(555) 555-2006' use='WP' />
    <associatedPerson>
      <name>
        <prefix>Mrs.</prefix>
        <given>Martha</given>
        <family>Mum</family>
      </name>
    </associatedPerson>
  </associatedEntity>
</participant>
```

### 2.2.10 inFulfillmentOf

The **inFulfillmentOf** element represents orders that are fulfilled by this document.

21. **MAY** contain zero or more [0..\*] **inFulfillmentOf** (CONF:9952).

- a. Such **inFulfillmentOf** elements, if present, **SHALL** contain exactly one [1..1] **order** (CONF:9953).
  - i. This order **SHALL** contain at least one [1..\*] **id** (CONF:9954).

### 2.2.11 authorization/consent

The header can record information about the patient's consent.

The type of consent (e.g., a consent to perform the related serviceEvent) is conveyed in **consent/code**. Consents in the header have been finalized (**consent/statusCode** must equal **Completed**) and should be on file. The template is not intended for 'Privacy Consent'. This specification does not address how privacy consents are represented.

22. When consent is recorded, it **SHALL** be represented as ClinicalDocument/authorization/consent. (CONF:9960).

**Figure 29: Procedure Note consent example**

```
<authorization typeCode="AUTH">
  <consent classCode="CONS" moodCode="EVN">
    <id root="629deb70-5306-11df-9879-0800200c9a66" />
    <code codeSystem=" 2.16.840.1.113883.6.1" codeSystemName="LOINC"
          code="CONSP-X" displayName="Consent for Procedure"/>
    <statusCode code="completed"/>
  </consent>
</authorization>
```

## 2.2.12 componentOf

The componentOf element is used to wrap the encompassing encounter for this document. The encompassing encounter represents the setting of the clinical encounter during which the document act(s) or ServiceEvent occurred.

23. **MAY** contain zero or more [0..1] **componentOf** (CONF:9955)

- a. This componentOf element, if present, **SHALL** contain exactly one [1..1] **encompassingEncounter** (CONF:9956)
  - i. **SHALL** contain at least one [1..\*] **id** (CONF:9959).
  - ii. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:9958).
    1. This effectiveTime **SHALL** contain exactly one [1..1] [US Realm Date and Time \(DT.US.FIELDED\)](#) (2.16.840.1.113883.10.20.22.5.3) (CONF:10131).

## 2.3 US Realm Address (AD.US.FIELDED)

[addr: 2.16.840.1.113883.10.20.22.5.2 (open)]

The US Realm Clinical Document Address datatype flavor is used by US Realm Clinical Document Header for the patient or any other person or organization mentioned within it.

1. **SHALL NOT** have mixed content except for white space<sup>13</sup>(CONF:7296).
2. **SHOULD** contain **@use**, which **SHALL** be selected from ValueSet PostalAddressUse 2.16.840.1.113883.1.11.10637 **STATIC** 2005-05-01 (CONF:7290).
3. **SHALL** contain at least one and not more than four [1..4] **streetAddressLine** (CONF:7291).
4. **SHALL** contain exactly one [1..1] **city** (CONF:7292).
5. **SHOULD** contain exactly one [1..1] **state**, which **SHOULD** be selected from ValueSet [StateValueSet 2.16.840.1.113883.3.88.12.80.1](#) **DYNAMIC** (CONF:7293).
  - a. State is required if the country is US. If country is not specified, its assumed to be US. If country is something other than US, the state MAY be present but MAY be bound to different vocabularies(CONF:10024).

<sup>13</sup> For information on mixed content see Extensible Markup Language (XML) (<http://www.w3.org/TR/2008/REC-xml-20081126/#sec-mixed-content>).

6. **SHOULD** contain exactly one [1..1] **postalCode**, which **SHOULD** be selected from ValueSet [PostalCodeValueSet 2.16.840.1.113883.3.88.12.80.2 DYNAMIC](#) (CONF:7294).
  - a. postalCode is required if the country is US. If country is not specified, its assumed to be US. If country is something other than US, the postalCode MAY be present but MAY be bound to different vocabularies(CONF:10025).
7. **SHOULD** contain zero or one [0..1] **country**, which **SHALL** be selected from ValueSet [CountryValueSet 2.16.840.1.113883.3.88.12.80.63 DYNAMIC](#) (CONF:7295).

**Table 17: PostalAddressUse Value Set**

Value Set: PostalAddressUse 2.16.840.1.113883.1.11.10637 STATIC 2005-05-01		
Code System(s): AddressUse 2.16.840.1.113883.5.1119		
Code	Code System	Print Name
BAD	AddressUse	bad address
CONF	AddressUse	confidential
DIR	AddressUse	direct
H	AddressUse	home address
HP	AddressUse	primary home
HV	AddressUse	vacation home
PHYS	AddressUse	physical visit address
PST	AddressUse	postal address
PUB	AddressUse	public
TMP	AddressUse	temporary
WP	AddressUse	work place

## 2.4 US Realm Date and Time (DT.US.FIELDDED)

[effectiveTime: 2.16.840.1.113883.10.20.22.5.3 (open)]

The US Realm Clinical Document Date and Time datatype flavor records date and time information. If no time zone offset is provided, you can make no assumption about time, unless you have made a local exchange agreement.

This data type uses the same rules as [US Realm Date and Time \(DTM.US.FIELDDED\)](#), but is used with the effectiveTime element.

1. **SHALL** be precise to the day (CONF:10078).
2. **SHOULD** be precise to the minute (CONF:10079).
3. **MAY** be precise to the second (CONF:10080).
4. If more precise than day, **SHOULD** include time-zone offset (CONF:10081).

## 2.5 US Realm Date and Time (DT.US.FIELDDED)

[time: 2.16.840.1.113883.10.20.22.5.4 (open) ]

The US Realm Clinical Document Date and Time datatype flavor records date and time information. If no time zone offset is provided, you can make no assumption about time, unless you have made a local exchange agreement.

This data type uses the same rules as [US Realm Date and Time \(DT.US.FIELDDED\)](#), but is used with the time element.

1. **SHALL** be precise to the day (CONF:10127).
2. **SHOULD** be precise to the minute (CONF:10128).
3. **MAY** be precise to the second (CONF:10129).
4. If more precise than day, **SHOULD** include time-zone offset (CONF:10130).

## 2.6 US Realm Patient Name (PTN.US.FIELDDED)

[name: 2.16.840.1.113883.10.20.22.5.1 (open) ]

The US Realm Patient Name datatype flavor is a set of reusable constraints that can be used for the patient or any other person. It requires a first (given) and last (family) name. If a patient or person has only one name part (e.g., patient with first name only) place the name part in the field required by the organization. Use the appropriate nullFlavor, "Not Applicable" (NA), in the other field.

For information on mixed content see the Extensible Markup Language reference (<http://www.w3c.org/TR/2008/REC-xml-20081126/>).

1. **SHALL NOT** have mixed content except for white space (CONF:7278).
2. **MAY** contain @use, which **SHALL** be selected from ValueSet EntityNameUse 2.16.840.1.113883.1.11.15913 **STATIC** 2005-05-01 (CONF:7154).
3. **MAY** contain zero or more [0..\*] **prefix** (CONF:7155).
  - a. Such prefixes, if present, **MAY** contain @qualifier, which **SHALL** be selected from ValueSet EntityPersonNamePartQualifier 2.16.840.1.113883.11.20.9.26 **STATIC** 2011-09-30 (CONF:7156).
4. **SHALL** contain at least one [1..\*] **given** (CONF:7157).
  - a. The second occurrence of given (given[2]) if provided, **SHALL** include middle name or middle initial (CONF:7163).
  - b. Such givens **MAY** contain @qualifier, which **SHALL** be selected from ValueSet EntityPersonNamePartQualifier 2.16.840.1.113883.11.20.9.26 **STATIC** 2011-09-30 (CONF:7158).
5. **SHALL** contain exactly one [1..1] **family** (CONF:7159).
  - a. This family **MAY** contain @qualifier, which **SHALL** be selected from ValueSet EntityPersonNamePartQualifier 2.16.840.1.113883.11.20.9.26 **STATIC** 2011-09-30 (CONF:7160).
6. **MAY** contain zero or one [0..1] **suffix** (CONF:7161).
  - a. This suffix, if present, **MAY** contain @qualifier, which **SHALL** be selected from ValueSet EntityPersonNamePartQualifier 2.16.840.1.113883.11.20.9.26 **STATIC** 2011-09-30 (CONF:7162).

**Table 18: EntityNameUse Value Set**

Value Set: EntityNameUse 2.16.840.1.113883.1.11.15913 STATIC 2005-05-01		
Code System(s): EntityNameUse 2.16.840.1.113883.5.45		
<b>Code</b>	<b>Code System</b>	<b>Print Name</b>
A	EntityNameUse	Artist/Stage
ABC	EntityNameUse	Alphabetic
ASGN	EntityNameUse	Assigned
C	EntityNameUse	License
I	EntityNameUse	Indigenous/Tribal
IDE	EntityNameUse	Ideographic
L	EntityNameUse	Legal
P	EntityNameUse	Pseudonym
PHON	EntityNameUse	Phonetic
R	EntityNameUse	Religious
SNDX	EntityNameUse	Soundex
SRCH	EntityNameUse	Search
SYL	EntityNameUse	Syllabic

**Table 19: EntityPersonNamePartQualifier Value Set**

Value Set: EntityPersonNamePartQualifier 2.16.840.1.113883.11.20.9.26 STATIC 2011-09-30		
Code System(s): EntityNamePartQualifier 2.16.840.1.113883.5.43		
<b>Code</b>	<b>Code System</b>	<b>Print Name</b>
AC	EntityNamePartQualifier	academic
AD	EntityNamePartQualifier	adopted
BR	EntityNamePartQualifier	birth
CL	EntityNamePartQualifier	callme
IN	EntityNamePartQualifier	initial
NB	EntityNamePartQualifier	nobility
PR	EntityNamePartQualifier	professional
SP	EntityNamePartQualifier	spouse
TITLE	EntityNamePartQualifier	title
VV	EntityNamePartQualifier	voorvoegsel

## 2.7 US Realm Person Name (PN.US.FIELDED)

[name: 2.16.840.1.113883.10.20.22.5.1.1(open)]

The US Realm Clinical Document Person Name datatype flavor is a set of reusable constraints that can be used for Persons.

1. **SHALL** contain exactly one [1..1] **name** (CONF:9368).
  - a. The content of name **SHALL** be either a conformant [Patient Name \(PTN.US.FIELDED\)](#), or a string (CONF:9371).
  - b. The string **SHALL NOT** contain name parts (CONF:9372).

## 2.8 Rendering Header Information for Human Presentation

Metadata carried in the header may already be available for rendering from electronic medical records (EMRs) or other sources external to the document; therefore, there is no strict requirement to render directly from the document. An example of this would be a doctor using an EMR that already contains the patient's name, date of birth, current address, and phone number. When a CDA document is rendered within that EMR, those pieces of information may not need to be displayed since they are already known and displayed within the EMR's user interface.

Good practice would recommend that the following be present whenever the document is viewed:

- Document title and document dates
- Service and encounter types, and date ranges as appropriate
- Names of all persons along with their roles, participations, participation date ranges, identifiers, address, and telecommunications information
- Names of selected organizations along with their roles, participations, participation date ranges, identifiers, address, and telecommunications information
- Date of birth for recordTarget(s)

In Operative and Procedure Notes, the following information is typically displayed in the electronic health record (EHR) and/or rendered directly in the document:

- The performers of the surgery or procedure, including any assistants
- The surgery or procedure performed (*serviceEvent*)
- The date of the surgery or procedure

## 3 DOCUMENT-LEVEL TEMPLATES

Document-level templates describe the purpose and rules for constructing a conforming CDA document. Document templates include constraints on the CDA header and refer to section-level templates. The [Document Types and Required/Optional Sections](#) table lists the sections used by each document type.

Each document-level template contains the following information:

- Scope and intended use of the document type
- Description and explanatory narrative.
- Template metadata (e.g., templateId, etc.)
- Header constraints: this includes a reference to the US Realm Clinical Document Header template and additional constraints specific to each document type
- Required and optional section-level templates

**Table 20: Document Types and Required/Optional Sections with Structured Body**

<b>Document Type Preferred LOINC templateId</b>	<b>Required Sections</b>	<b>Optional Sections</b>
<u>CCD</u> (Summarization of Episode Note) 34133-9 (required) <sup>14</sup> 2.16.840.1.113883.10.20.22.1.2	<a href="#">Allergies</a> <a href="#">Medications</a> <a href="#">Problem List</a> <a href="#">Procedures</a> <sup>15</sup> (List of Surgeries) (History of Procedures) <a href="#">Results</a>	<a href="#">Advance Directives</a> <a href="#">Encounters</a> <a href="#">Family History</a> <a href="#">Functional Status</a> <a href="#">Immunizations</a> <a href="#">Medical Equipment</a> <a href="#">Payers</a> <a href="#">Plan of Care</a> <a href="#">Social History</a> <a href="#">Vital Signs</a>
<u>Consultation Note</u> 11488-4 2.16.840.1.113883.10.20.22.1.4	<a href="#">Assessment and Plan/Assessment/Plan of Care*</a> <a href="#">History of Present Illness</a> <a href="#">Physical Exam</a> <a href="#">Reason for Referral/Reason for Visit</a> <sup>16</sup> **	<a href="#">Allergies</a> <a href="#">Chief Complaint</a> ** <a href="#">Chief Complaint and Reason for Visit</a> ** <a href="#">Family History</a> <a href="#">General Status</a> <a href="#">History of Past Illness</a> (Past Medical History) <a href="#">Immunizations</a> <a href="#">Medications</a> <a href="#">Problem List</a> <a href="#">Procedures</a> (List of Surgeries) (History of Procedures) <a href="#">Results</a> <a href="#">Review of Systems</a> <a href="#">Social History</a> <a href="#">Vital Signs</a>

<sup>14</sup> CCD is the only document with a fixed clinicalDocument/code

<sup>15</sup> Required only for inpatient settings

<sup>16</sup> Either Reason for Referral or Reason for Visit must be present.

<b>Document Type</b> <b>Preferred LOINC</b> <b>templateId</b>	<b>Required Sections</b>	<b>Optional Sections</b>
<a href="#">Diagnostic Imaging Report</a> 18748-4 2.16.840.1.113883.10.20.22.1.5	<a href="#">DICOM Object Catalog</a> <a href="#">Findings</a> (Radiology Study Observation)	<a href="#">Addendum</a> <a href="#">Clinical Presentation</a> <a href="#">Complications</a> <a href="#">Conclusions</a> <a href="#">Current Imaging Procedure Descriptions</a> <a href="#">Document Summary</a> <a href="#">Key Images</a> <a href="#">Medical (General) History</a> <a href="#">Prior Imaging Procedure Descriptions</a> <a href="#">Radiology - Impression</a> <a href="#">Radiology Comparison Study - Observation</a> <a href="#">Radiology Reason For Study</a> <a href="#">Radiology Study - Recommendation</a> <a href="#">Requested Imaging Studies Information</a>
<a href="#">Discharge Summary</a> (Discharge Summarization Note) 18842-5 2.16.840.1.113883.10.20.22.1.8	<a href="#">Allergies</a> <a href="#">Hospital Course</a> <a href="#">Hospital Discharge Diagnosis</a> <a href="#">Hospital Discharge Medications</a> <a href="#">Plan of Care</a>	<a href="#">Chief Complaint **</a> <a href="#">Chief Complaint and Reason for Visit **</a> <a href="#">Discharge Diet</a> <a href="#">Family History</a> <a href="#">Functional Status</a> <a href="#">History of Past Illness</a> (Past Medical History) <a href="#">History of Present Illness</a> <a href="#">Hospital Admissions Diagnosis</a> <a href="#">Hospital Consultations</a> <a href="#">Hospital Discharge Instructions</a> <a href="#">Hospital Discharge Physical</a> <a href="#">Hospital Discharge Studies Summary</a> <a href="#">Immunizations</a> <a href="#">Problem List</a> <a href="#">Procedures</a> (List of Surgeries) (History of Procedures) <a href="#">Reason for Visit **</a> <a href="#">Review of Systems</a> <a href="#">Social History</a> <a href="#">Vital Signs</a>

<b>Document Type</b> <b>Preferred LOINC</b> <b>templateId</b>	<b>Required Sections</b>	<b>Optional Sections</b>
<a href="#">History &amp; Physical Note</a> 34117-2 2.16.840.1.113883.10.20.22.1.3	<a href="#">Allergies</a> <a href="#">Assessment and Plan/Assessment/Plan of Care*</a> <a href="#">Chief Complaint **</a> <a href="#">Chief Complaint and Reason for Visit **</a> <a href="#">Family History</a> <a href="#">General Status</a> <a href="#">History of Past Illness</a> (Past Medical History) <a href="#">Medications</a> <a href="#">Physical Exam</a> <a href="#">Reason for Visit **</a> <a href="#">Results</a> <a href="#">Review of Systems</a> <a href="#">Social History</a> <a href="#">Vital Signs</a>	<a href="#">History of Present Illness</a> <a href="#">Immunizations</a> <a href="#">Problem List</a> <a href="#">Procedures</a> (List of Surgeries) (History of Procedures)
<a href="#">Operative Note</a> (Surgical Operation Note) 11504-8 2.16.840.1.113883.10.20.22.1.7	<a href="#">Anesthesia</a> <a href="#">Complications</a> <a href="#">Postoperative Diagnosis</a> <a href="#">Preoperative Diagnosis</a> <a href="#">Procedure Estimated Blood Loss</a> <a href="#">Procedure Findings</a> <a href="#">Procedure Specimens Taken</a> <a href="#">Procedure Description</a>	<a href="#">Procedure Implants</a> <a href="#">Operative Note Fluids</a> <a href="#">Operative Note Surgical Procedure</a> <a href="#">Plan of Care</a> <a href="#">Planned Procedure</a> <a href="#">Procedure Disposition</a> <a href="#">Procedure Indications</a> <a href="#">Surgical Drains</a>

<b>Document Type</b> <b>Preferred LOINC</b> <b>templateId</b>	<b>Required Sections</b>	<b>Optional Sections</b>
<u><a href="#">Procedure Note</a></u> 28570-0 2.16.840.1.113883.10.20.22.1.6	<a href="#">Assessment and Plan/Assessment/Plan of Care*</a> <a href="#">Complications</a> <a href="#">Postprocedure Diagnosis</a> <a href="#">Procedure Description</a> <a href="#">Procedure Indications</a>	<a href="#">Allergies</a> <a href="#">Anesthesia</a> <a href="#">Chief Complaint **</a> <a href="#">Chief Complaint and Reason for Visit **</a> <a href="#">Family History</a> <a href="#">History of Past Illness</a> <a href="#">History of Present Illness</a> <a href="#">Medical (General) History</a> <a href="#">Medications</a> <a href="#">Medications Administered</a> <a href="#">Physical Exam</a> <a href="#">Planned Procedure</a> <a href="#">Procedure Disposition</a> <a href="#">Procedure Estimated Blood Loss</a> <a href="#">Procedure Findings</a> <a href="#">Procedure Implants</a> <a href="#">Procedure Specimens Taken</a> <a href="#">Procedures</a> (List of Surgeries) (History of Procedures) <a href="#">Reason for Visit **</a> <a href="#">Review of Systems</a> <a href="#">Social History</a>
<u><a href="#">Progress Note</a></u> (Subsequent Evaluation Note) 11506-3 2.16.840.1.113883.10.20.22.1.9	<a href="#">Assessment and Plan/Assessment/Plan of Care*</a>	<a href="#">Allergies</a> <a href="#">Chief Complaint</a> <a href="#">Interventions</a> <a href="#">Medications</a> <a href="#">Objective</a> <a href="#">Physical Exam</a> <a href="#">Problem List</a> <a href="#">Results</a> <a href="#">Review of Systems</a> <a href="#">Subjective</a> <a href="#">Vital Signs</a>
<u><a href="#">Unstructured Document</a></u> Non-preferred 2.16.840.1.113883.10.20.21.1.1 0	N/A	N/A

\* Wherever referenced, intent is that either "Assessment and Plan" is present or both "Assessment" and "Plan of Care". Only these combinations should be used.

\*\* Wherever referenced, intent is that either Chief Complaint/Reason for Visit Section is present or Chief Complaint Section and/or Reason for Visit unique Sections should be present.

## 3.1 Continuity of Care Document (CCD)/HITSP C32

[ClinicalDocument: templateId 2.16.840.1.113883.10.20.22.1.2 (open)]

This section—Continuity of Care Document (CCD) Release 1.1—describes CDA constraints in accordance with Stage 1 Meaningful Use. The CCD requirements in this guide supersede CCD Release 1; in the near future, this guide could supersede HITSP C32<sup>17</sup>.

The CCD is a core data set of the most relevant administrative, demographic, and clinical information facts about a patient's healthcare, covering one or more healthcare encounters. It provides a means for one healthcare practitioner, system, or setting to aggregate all of the pertinent data about a patient and forward it to another practitioner, system, or setting to support the continuity of care. The primary use case for the CCD is to provide a snapshot in time containing the pertinent clinical, demographic, and administrative data for a specific patient<sup>18</sup>. More specific use cases, such as a [Discharge Summary](#) or [Progress Note](#), are available as alternative documents in this guide.

### 3.1.1 Header Constraints Specific to CCD

The Continuity of Care Document must conform to the US Realm Header. The following sections include additional header constraints for conformant CCD.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:9441) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.1.1"` (CONF:10037).

#### 3.1.1.1 ClinicalDocument/templateId

Conformant documents must carry the document-level templateId asserting conformance with specific constraints of CCD as well as the templateId for the US Realm Clinical Document Header template.

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:8450) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.1.2"` (CONF:10038).

**Figure 30: CCD ClinicalDocument/templateId example**

```
<!-- indicates conformance with US Realm Clinical Document Header template -->
<templateId root="2.16.840.1.113883.10.20.22.1.1"/>
<!-- conforms to CCD requirements -->
<templateId root='2.16.840.1.113883.10.20.22.1.2'/>
```

<sup>17</sup> HITSP Summary Documents Using HL7 Continuity of Care Document (CCD) Component; (HITSP/C32); Versions 2.1, 2.2, 2.3, 2.5; December 13, 2007 - July 8, 2009

<sup>18</sup> CCD was initially scoped to reflect the ASTM E2369-05 Standard Specification for Continuity of Care Record (CCR). The requirements specified here, comply with Stage 1 Meaningful Use.

### 3.1.1.2 ClinicalDocument/code

In accordance with the CDA specification, the ClinicalDocument/code element must be present and specifies the type of the clinical document. CCD requires the document type code 34133-9 "Summarization of Episode Note".

3. **SHALL** contain exactly one [1..1] **code/@code="34133-9"** Summarization of Episode Note (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8451).

**Figure 31: CCD code example**

```
<code codeSystem="2.16.840.1.113883.6.1"
      codeSystemName="LOINC" code="34133-9"
      displayName="Summarization of Episode Note"/>
```

### 3.1.1.3 documentationOf/serviceEvent

The main activity being described by a CCD is the provision of healthcare over a period of time. This is shown by setting the value of ClinicalDocument/documentationOf/serviceEvent/@classCode to "PCPR" (care provision) and indicating the duration over which care was provided in ClinicalDocument/documentationOf/serviceEvent/effectiveTime. Additional data from outside this duration may also be included if it is relevant to care provided during that time range (e.g., reviewed during the stated time range).

**NOTE:** Implementations originating a CCD should take care to discover what the episode of care being summarized is. For example, when a patient fills out a form providing relevant health history, the episode of care being documented might be from birth to the present.

4. **SHALL** contain exactly one [1..1] **documentationOf** (CONF:8452).
  - a. This documentationOf **SHALL** contain exactly one [1..1] **serviceEvent** (CONF:8480).
    - i. This serviceEvent **SHALL** contain exactly one [1..1] **@classCode="PCPR"** Care Provision (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8453).
    - ii. This serviceEvent **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:8481).
      1. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:8454).
      2. This effectiveTime **SHALL** contain exactly one [1..1] **high** (CONF:8455).
    - iii. This serviceEvent **SHOULD** contain zero or more [0..\*] **performer** (CONF:8482).
      1. serviceEvent/performer represents the healthcare providers involved in the current or pertinent historical care of the patient. Preferably, the patient's key healthcare providers would be listed, particularly their primary physician

and any active consulting physicians, therapists, and counselors (CONF:10026).

2. Such performers **SHALL** contain exactly one [1..1] `@typeCode="PRF"` Participation physical performer (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:8458).
3. Such performers **MAY** contain zero or more [0..1] **assignedEntity** (CONF:8459).
  - a. This assignedEntity **SHALL** contain at least one [1..\*] **id** (CONF:8460).
    - i. **SHOULD** include zero or one [0..1] id where `id/@root = "2.16.840.1.113883.4.6"` National Provider Identifier (CONF:10027).
  - b. This assignedEntity **MAY** contain zero or one [0..1] **code** (CONF:8461).
    - i. The code **MAY** be the NUCC Health Care Provider Taxonomy (CodeSystem: 2.16.840.1.113883.6.101). (See <http://www.nucc.org>) (CONF:8462).

#### 3.1.1.4 Author

5. CCD **SHALL** contain at least one [1..\*] author (CONF:9442)
  - a. **SHALL** contain exactly one [1..1] assignedAuthor (CONF:9443)
    - i. **SHALL** contain exactly one [1..1] assignedPerson or exactly one one [1..1] representedOrganization. (CONF:8456).
    - ii. If assignedAuthor has an associated representedOrganization with no assignedPerson or assignedAuthoringDevice, then the value for "ClinicalDocument/author/assignedAuthor/id/@NullFlavor" **SHALL** be "NA" "Not applicable" 2.16.840.1.113883.5.1008 NullFlavor **STATIC**. (CONF:8457).

#### 3.1.2 CCD Body Constraints

The Continuity of Care Document supports both narrative sections and sections requiring coded clinical statements. The required and optional sections are listed in the [Document Types and Required/Optional Sections](#) table. The table below the constraints shows all templates including entries within each section.

1. The component/structuredBody **SHALL** conform to the section constraints below (CONF:9536).
  - a. **SHALL** contain exactly one [1..1] [Allergies Section \(entries required\)](#) (`templateId:2.16.840.1.113883.10.20.22.2.6.1`) (CONF:9445).
  - b. **SHALL** contain exactly one [1..1] [Medications Section \(entries required\)](#) (`templateId:2.16.840.1.113883.10.20.22.2.1.1`) (CONF:9447).

- c. **SHALL** contain exactly one [1..1] [Problem Section \(entries required\)](#) (templateId:2.16.840.1.113883.10.20.22.2.5.1) (CONF:9449).
- d. **SHOULD** contain exactly one [1..1] [Procedures Section \(entries required\)](#) (templateId:2.16.840.1.113883.10.20.22.2.7.1) (CONF:9451).
- e. **SHALL** contain exactly one [1..1] [Results Section \(entries required\)](#) (templateId:2.16.840.1.113883.10.20.22.2.3.1) (CONF:9453).
- f. **MAY** contain zero or one [0..1] [Advance Directives Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.21) (CONF:9455).
- g. **MAY** contain zero or one [0..1] [Encounters Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.22) (CONF:9457).
- h. **MAY** contain zero or one [0..1] [Family History Section](#) (templateId:2.16.840.1.113883.10.20.22.2.15) (CONF:9459).
- i. **MAY** contain zero or one [0..1] [Functional Status Section](#) (templateId:2.16.840.1.113883.10.20.22.2.14) (CONF:9461).
- j. **MAY** contain zero or one [0..1] [Immunizations Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.2) (CONF:9463).
- k. **MAY** contain zero or one [0..1] [Medical Equipment Section](#) (templateId:2.16.840.1.113883.10.20.22.2.23) (CONF:9466).
- l. **MAY** contain zero or one [0..1] [Payers Section](#) (templateId:2.16.840.1.113883.10.20.22.2.18) (CONF:9468).
- m. **MAY** contain zero or one [0..1] [Plan of Care Section](#) (templateId:2.16.840.1.113883.10.20.22.2.10) (CONF:9470).
- n. **MAY** contain zero or one [0..1] [Social History Section](#) (templateId:2.16.840.1.113883.10.20.22.2.17) (CONF:9472).
- o. **MAY** contain zero or one [0..1] [Vital Signs Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.4) (CONF:9474).

The following table shows relationships among the templates in the body of a CCD.

**Table 21: Template Containment for a CCD**

Template Title	Template Type	templateId
<a href="#">Continuity of Care Document (CCD)</a>	document	2.16.840.1.113883.10.20.22.1.2
<a href="#">Allergies Section (entries required)</a>	section	2.16.840.1.113883.10.20.22.2.6.1
<a href="#">Allergy Problem Act</a>	entry	2.16.840.1.113883.10.20.22.4.30
<a href="#">Allergy Observation</a>	entry	2.16.840.1.113883.10.20.22.4.7
<a href="#">Allergy Status Observation</a>	entry	2.16.840.1.113883.10.20.22.4.28
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Medications Section (entries required)</a>	section	2.16.840.1.113883.10.20.22.2.1.1
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#"><u>Precondition for Substance Administration</u></a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#"><u>Medication Dispense</u></a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#"><u>US Realm Address (AD.US.FIELDED)</u></a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Medication Supply Order</u></a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Problem Section (entries required)</u></a>	section	2.16.840.1.113883.10.20.22.2.5.1
<a href="#"><u>Problem Concern Act (Condition)</u></a>	entry	2.16.840.1.113883.10.20.22.4.3
<a href="#"><u>Problem Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.4
<a href="#"><u>Age Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#"><u>Health Status Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.5
<a href="#"><u>Problem Status</u></a>	entry	2.16.840.1.113883.10.20.22.4.6
<a href="#"><u>Procedures Section (entries required)</u></a>	section	2.16.840.1.113883.10.20.22.2.7.1
<a href="#"><u>Procedure Activity Procedure</u></a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#"><u>Indication</u></a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Activity</u></a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#"><u>Drug Vehicle</u></a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#"><u>Indication</u></a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Medication Supply Order</u></a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Reaction Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#"><u>Severity Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#"><u>Precondition for Substance Administration</u></a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#"><u>Medication Dispense</u></a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#"><u>US Realm Address (AD.US.FIELDED)</u></a>	unspecified	2.16.840.1.113883.10.20.22.5.2

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Procedure Activity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.13
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Service Delivery Location</u></a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#"><u>Procedure Activity Act</u></a>	entry	2.16.840.1.113883.10.20.22.4.12
<a href="#"><u>Indication</u></a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Activity</u></a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#"><u>Drug Vehicle</u></a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#"><u>Indication</u></a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Medication Supply Order</u></a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Reaction Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#"><u>Procedure Activity Procedure</u></a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#"><u>Indication</u></a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Product Instance</u></a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#"><u>Service Delivery Location</u></a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#"><u>Severity Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#"><u>Precondition for Substance Administration</u></a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#"><u>Medication Dispense</u></a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#"><u>US Realm Address (AD.US.FIELDDED)</u></a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Medication Supply Order</u></a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Service Delivery Location</u></a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#"><u>Results Section (entries required)</u></a>	section	2.16.840.1.113883.10.20.22.2.3.1
<a href="#"><u>Result Organizer</u></a>	entry	2.16.840.1.113883.10.20.22.4.1
<a href="#"><u>Result Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.2

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Payers Section</a>	section	2.16.840.1.113883.10.20.22.2.18
<a href="#">Coverage Activity</a>	entry	2.16.840.1.113883.10.20.22.4.60
<a href="#">Policy Activity</a>	entry	2.16.840.1.113883.10.20.22.4.61
<a href="#">US Realm Address (AD.US.FIELDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Social History Section</a>	section	2.16.840.1.113883.10.20.22.2.17
<a href="#">Social History Observation</a>	entry	2.16.840.1.113883.10.20.22.4.38
<a href="#">Pregnancy Observation</a>	entry	2.16.840.1.113883.10.20.15.3.8
<a href="#">Estimated Date of Delivery</a>	entry	2.16.840.1.113883.10.20.15.3.1
<a href="#">Medical Equipment Section</a>	section	2.16.840.1.113883.10.20.22.2.23
<a href="#">Non-Medicinal Supply Activity</a>	entry	2.16.840.1.113883.10.20.22.4.50
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Immunizations Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.2
<a href="#">Immunization Activity</a>	entry	2.16.840.1.113883.10.20.22.4.52
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Product Instance</u></a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#"><u>Service Delivery Location</u></a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#"><u>Severity Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#"><u>Precondition for Substance Administration</u></a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#"><u>Immunization Refusal Reason</u></a>	entry	2.16.840.1.113883.10.20.22.4.53
<a href="#"><u>Functional Status Section</u></a>	section	2.16.840.1.113883.10.20.22.2.14
<a href="#"><u>Problem Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.4
<a href="#"><u>Age Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#"><u>Health Status Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.5
<a href="#"><u>Problem Status</u></a>	entry	2.16.840.1.113883.10.20.22.4.6
<a href="#"><u>Result Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.2
<a href="#"><u>Family History Section</u></a>	section	2.16.840.1.113883.10.20.22.2.15
<a href="#"><u>Family History Organizer</u></a>	entry	2.16.840.1.113883.10.20.22.4.45
<a href="#"><u>Family History Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.46
<a href="#"><u>Age Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#"><u>Family History Death Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.47
<a href="#"><u>Encounters Section (entries optional)</u></a>	section	2.16.840.1.113883.10.20.22.2.22
<a href="#"><u>Encounter Activities</u></a>	entry	2.16.840.1.113883.10.20.22.4.49
<a href="#"><u>Indication</u></a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#"><u>Service Delivery Location</u></a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#"><u>Advance Directives Section (entries optional)</u></a>	section	2.16.840.1.113883.10.20.22.2.21
<a href="#"><u>Advance Directive Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.48
<a href="#"><u>Plan of Care Section</u></a>	section	2.16.840.1.113883.10.20.22.2.10
<a href="#"><u>Plan of Care Activity Act</u></a>	entry	2.16.840.1.113883.10.20.22.4.39
<a href="#"><u>Plan of Care Activity Encounter</u></a>	entry	2.16.840.1.113883.10.20.22.4.40
<a href="#"><u>Plan of Care Activity Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.44
<a href="#"><u>Plan of Care Activity Procedure</u></a>	entry	2.16.840.1.113883.10.20.22.4.41
<a href="#"><u>Plan of Care Activity Substance Administration</u></a>	entry	2.16.840.1.113883.10.20.22.4.42
<a href="#"><u>Plan of Care Activity Supply</u></a>	entry	2.16.840.1.113883.10.20.22.4.43
<a href="#"><u>Vital Signs Section (entries optional)</u></a>	section	2.16.840.1.113883.10.20.22.2.4
<a href="#"><u>Vital Signs Organizer</u></a>	entry	2.16.840.1.113883.10.20.22.4.26
<a href="#"><u>Vital Sign Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.27

## 3.2 Consultation Note

[ClinicalDocument: templateId 2.16.840.1.113883.10.20.22.1.4 (open)]

For the purpose of this Implementation Guide, a consultation visit is defined by the evaluation and management guidelines for a consultation established by the Centers for Medicare and Medicaid Services (CMS). According to those guidelines, a Consultation Note must be generated as a result of a physician or nonphysician practitioner's (NPP) request for an opinion or advice from another physician or NPP. Consultations must involve face-to-face time with the patient or fall under guidelines for telemedicine visits.

A Consultation Note must be provided to the referring physician or NPP and must include the reason for the referral, history of present illness, physical examination, and decision-making component (Assessment and Plan).

An NPP is defined as any licensed medical professional as recognized by the state in which the professional practices, including, but not limited to, physician assistants, nurse practitioners, clinical nurse specialists, social workers, registered dietitians, physical therapists, and speech therapists.

Reports on visits requested by a patient, family member, or other third party are not covered by this specification. Second opinions, sometimes called "confirmatory consultations," also are not covered here. Any question on use of the Consultation Note defined here should be resolved by reference to CMS or American Medical Association (AMA) guidelines.

### 3.2.1 Consultation Note Header Constraints

The Consultation Note must conform to the US Realm Clinical Document Header. The following sections include additional header constraints for conformant Consultation Notes.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:9477) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.1.1"` (CONF:10039)

#### 3.2.1.1 ClinicalDocument/templateId

Conformant documents must carry the document-level templateId asserting conformance with specific constraints of a Consultation Note as well as the templateId for the US Realm Clinical Document Header template.

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:8375) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.1.4"` (CONF:10040).

**Figure 32: Consultation Note ClinicalDocument/templateId example**

```
<!-- indicates conformance with US Realm Clinical Document Header template -->
<templateId root="2.16.840.1.113883.10.20.22.1.1"/>
<!-- conforms to a Consultation Note --><templateId
root="2.16.840.1.113883.10.20.22.1.4"/>
```

### 3.2.1.2 ClinicalDocument/code

The Consultation Note limits document type codes to those codes listed in the [Consultation Note LOINC Document Codes](#) table ([invalid codes](#) are listed in a separate table). Implementation may use translation elements to specify a local code that is equivalent to a document type (see the [Consultation Note translation of local code figure](#)).

The Consultation Note recommends use of a single document type code, 11488-4 "Consultation Note", with further specification provided by author or performer, setting, or specialty. The specialized codes in the [Consultation Note LOINC Document Codes](#) table are pre-coordinated with the practice setting or the training or professional level of the author. Use of these codes is not recommended, as this duplicates information that may be present in the header. When pre-coordinated codes are used, any coded values describing the author or performer of the service act or the practice setting must be consistent with the LOINC document type. For example, a Cardiology Consultation Note would not be authored by an Obstetrician.

3. **SHALL** contain exactly one [1..1] **code/@code**, which **SHALL** be selected from ValueSet ConsultDocumentType 2.16.840.1.113883.11.20.9.31 **DYNAMIC** (CONF:8376).

**Table 22: Consultation Note LOINC Document Codes**

Value Set: ConsultDocumentType 2.16.840.1.113883.11.20.9.31 DYNAMIC Code System: LOINC 2.16.840.1.113883.6.1			
<b>LOINC Code</b>	<b>Type of Service ("Component")</b>	<b>Setting ("System")</b>	<b>Specialty/ Training/ Professional Level ("Method")</b>
<b>Root Level Document Type Code</b>			
11488-4	Consultation Note		{Provider}
<b>Specialized by Setting</b>			
34100-8	Consultation Note	Critical care unit	{Provider}
34104-0	Consultation Note	Hospital	{Provider}
51845-6	Consultation Note	Outpatient	{Provider}
51853-0	Consultation Note	Inpatient	{Provider}
51846-4	Consultation Note	Emergency Dept.	{Provider}
<b>Specialized by Setting and Specialty</b>			
34101-6	Consultation Note	Outpatient	General medicine
34749-2	Consultation Note	Outpatient	Anesthesia
34102-4	Consultation Note	Hospital	Psychiatry

Value Set: ConsultDocumentType 2.16.840.1.113883.11.20.9.31 DYNAMIC Code System: LOINC 2.16.840.1.113883.6.1			
<b>LOINC Code</b>	<b>Type of Service (“Component”)</b>	<b>Setting (“System”)</b>	<b>Specialty/ Training/ Professional Level (“Method”)</b>
<b>Specialized by Specialty<sup>19</sup></b>			
34099-2	Consultation Note		Cardiology
34756-7	Consultation Note		Dentistry
34758-3	Consultation Note		Dermatology
34760-9	Consultation Note		Diabetology
34879-7	Consultation Note		Endocrinology
34761-7	Consultation Note		Gastroenterology
34764-1	Consultation Note		General medicine
34771-6	Consultation Note		General surgery
34776-5	Consultation Note		Gerontology
34777-3	Consultation Note		Gynecology
34779-9	Consultation Note		Hematology+Oncology
34781-5	Consultation Note		Infectious disease
34783-1	Consultation Note		Kinesiotherapy
34785-6	Consultation Note		Mental health
34795-5	Consultation Note		Nephrology
34797-1	Consultation Note		Neurology
34798-9	Consultation Note		Neurosurgery
34800-3	Consultation Note		Nutrition+Dietetics
34803-7	Consultation Note		Occupational health
34855-7	Consultation Note		Occupational therapy
34805-2	Consultation Note		Oncology
34807-8	Consultation Note		Ophthalmology
34810-2	Consultation Note		Optometry
34812-8	Consultation Note		Oromaxillofacial surgery
34814-4	Consultation Note		Orthopedics
34816-9	Consultation Note		Otorhinolaryngology
34820-1	Consultation Note		Pharmacy
34822-7	Consultation Note		Physical medicine and rehabilitation
34824-3	Consultation Note		Physical therapy
34826-8	Consultation Note		Plastic surgery
34828-4	Consultation Note		Podiatry
34788-0	Consultation Note		Psychiatry
34791-4	Consultation Note		Psychology

<sup>19</sup> Use of these codes is not recommended, as it duplicates information that may be present in the header

Value Set: ConsultDocumentType 2.16.840.1.113883.11.20.9.31 DYNAMIC Code System: LOINC 2.16.840.1.113883.6.1			
<b>LOINC Code</b>	<b>Type of Service (“Component”)</b>	<b>Setting (“System”)</b>	<b>Specialty/ Training/ Professional Level (“Method”)</b>
34103-2	Consultation Note		Pulmonary
34831-8	Consultation Note		Radiation oncology
34833-4	Consultation Note		Recreational therapy
34835-9	Consultation Note		Rehabilitation
34837-5	Consultation Note		Respiratory therapy
34839-1	Consultation Note		Rheumatology
34841-7	Consultation Note		Social work
34845-8	Consultation Note		Speech therapy+Audiology
34847-4	Consultation Note		Surgery
34849-0	Consultation Note		Thoracic surgery
34851-6	Consultation Note		Urology
34853-2	Consultation Note		Vascular surgery

**Table 23: Invalid Codes for Consultation Note<sup>20</sup>**

<b>LOINC Code</b>	<b>Type of Service (“Component”)</b>	<b>Setting (“System”)</b>	<b>Specialty/ Training/ Professional Level (“Method”)</b>
<del>18841-7</del>	Hospital consultations		
<del>8647-0</del>	Hospital consultations	(scale = nom)	
<del>33720-4</del>	Blood bank consult		
<del>24611-6</del>	Confirmatory consultation note	Outpatient	{Provider}
<del>47040-1</del>	Confirmatory consultation note		{Provider}
<del>47041-9</del>	Confirmatory consultation note	Inpatient	{Provider}
<del>28569-2</del>	Subsequent evaluation note		Consulting physician
<del>18763-3</del>	Initial evaluation note		Consulting physician

**Figure 33: Consultation Note ClinicalDocument/code example**

```
<code codeSystem='2.16.840.1.113883.6.1' codeSystemName='LOINC'  
code='11488-4' displayName='CONSULTATION NOTE' />
```

<sup>20</sup> The Invalid Codes for Consultation Note are from the original Consultation Note DSTU.

**Figure 34: Consultation Note translation of local code example**

```
<code code='34761-7'
      displayName='GASTROENTEROLOGY CONSULTATION NOTE'
      codeSystem='2.16.840.1.113883.6.1'
      codeSystemName='LOINC'>
  <translation code='X-GICON'
      displayName='GI CONSULTATION NOTE'
      codeSystem='2.16.840.1.113883.19' />
</code>
```

**Figure 35: Consultation Note uncoordinated document type codes example**

```
<ClinicalDocument xmlns='urn:hl7-org:v3'>
  ...
  <code codeSystem='2.16.840.1.113883.6.1' codeSystemName='LOINC'
        code='11488-4' displayName='CONSULTATION NOTE' />
  <title>Good Health Cardiology Consultation Note</title>
  ...
  <author>
    <functionCode codeSystem='2.16.840.1.113883.5.88'
                  codeSystemName='ParticipationFunction'
                  code='ATTPHYS' />
    <assignedAuthor>
      ...
      <code codeSystem='2.16.840.1.113883.6.96' codeSystemName='SNOMED CT'
            code='17561000' displayName='Cardiologist' />
      ...
    </assignedAuthor>
  </author>
  ...
  <componentOf>
    <encompassingEncounter>
      ...
      <healthCareFacility>
        <code codeSystem='2.16.840.1.113883.5.111' codeSystemName='RoleCode'
              code='HOSP' />
      </healthCareFacility>
    </encompassingEncounter>
  </componentOf>
</ClinicalDocument>
```

### 3.2.1.3 inFulfillmentOf

The **inFulfillmentOf** element describes the prior orders that are fulfilled (in whole or part) by the service events described in the Consultation Note. For example, the prior order might be for the consultation being reported in the Note.

4. **SHALL** contain at least one [1..\*] **inFulfillmentOf** (CONF:8382).
  - a. This **inFulfillmentOf** **SHOULD** contain exactly one [1..1] **order** (CONF:8385).
    - i. This **order** **SHALL** contain at least one [1..\*] **id** (CONF:9102).

**Figure 36: Consultation Note inFulfillmentOf example**

```
<inFulfillmentOf typeCode="FLFS">
  <order classCode="ACT" moodCode="RQO">
    <id root="2.16.840.1.113883.19" extension="12345-67890"/>
  </order>
</inFulfillmentOf>
```

### 3.2.1.4 componentOf

A Consultation Note is always associated with an encounter; the **componentOf** element must be present and the encounter must be identified.

CDA R2 requires **encompassingEncounter** and the **id** element of the **encompassingEncounter** is required to be present and represents the identifier for the encounter.

The **encounterParticipant** elements may be present. If present, they represent only those participants in the encounter, not necessarily the entire episode of care (see related information under [Participant](#) above).

The **responsibleParty** element may be present. If present, it represents only the party responsible for the encounter, not necessarily the entire episode of care.

5. **SHALL** contain exactly one [1..1] **componentOf** (CONF:8386).
  - a. This **componentOf** **SHALL** contain exactly one [1..1] **encompassingEncounter** (CONF:8387).
    - i. This **encompassingEncounter** **SHALL** contain exactly one [1..1] **id** (CONF:8388).
    - ii. This **encompassingEncounter** **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:8389).
      1. This **effectiveTime** **SHALL** contain exactly one [1..1] [US Realm Date and Time \(DT.US.FIELDED\)](#) (2.16.840.1.113883.10.20.22.5.3) (CONF:10132).
    - iii. This **encompassingEncounter** **MAY** contain zero or one [0..1] **responsibleParty** (CONF:8391).
      1. The **responsibleParty** element records only the party responsible for the encounter, not necessarily the entire episode of care. (CONF:8393).
      2. The **responsibleParty** element, if present, **SHALL** contain an **assignedEntity** element which **SHALL** contain an **assignedPerson** element, a **representedOrganization** element, or both. (CONF:8394).
    - iv. This **encompassingEncounter** **MAY** contain zero or more [0..\*] **encounterParticipant** (CONF:8392).
      1. The **encounterParticipant** element, if present, records only participants in the encounter, not necessarily in the entire episode of care. (CONF:8395).

2. An encounterParticipant element, if present, **SHALL** contain an assignedEntity element which **SHALL** contain an assignedPerson element, a representedOrganization element, or both. (CONF:8396).

**Figure 37: Consultation Note componentOf example**

```
<componentOf>
  <encompassingEncounter>
    <id extension='9937012' root='1.3.6.4.1.4.1.2835.12' />
    <code codeSystem='2.16.840.1.113883.6.12'
      codeSystemName='CPT-4'
      code='99213'
      displayName='Evaluation and Management' />
    ...
  </encompassingEncounter>
</componentOf>
```

### 3.2.2 Consultation Note Body Constraints

The Consultation Note supports both narrative sections and sections requiring coded clinical statements. The required and optional sections are listed in the [Document Types and Required/Optional Sections](#) table. The table below the constraints shows all templates including entries within each section.

1. **SHALL** contain exactly one [1..1] **component** (CONF:8397).
  - a. A Consultation Note can have either a structuredBody or a nonXMLBody. (CONF:8398).
    - i. A Consultation Note can conform to CDA Level 1 (nonXMLBody), CDA Level 2 (structuredBody with sections that contain a narrative block), or CDA Level 3 (structuredBody containing sections that contain a narrative block and coded entries). In this template (templateId 2.16.840.1.113883.10.20.22.1.4), coded entries are optional. (CONF:8399).
  - b. If structuredBody, the component/structuredBody **SHALL** conform to the section constraints below. (CONF:9503).
    - i. **SHALL** include an Assessment and Plan Section, or an Assessment Section and a Plan Section. (CONF:9501).
    - ii. **SHALL NOT** include an Assessment/Plan Section when an Assessment Section and a Plan of Care Section are present. (CONF:10028)
    - iii. **MAY** contain zero or one [0..1] [Assessment Section](#) (templateId:2.16.840.1.113883.10.20.22.2.8) (CONF:9487).
    - iv. **MAY** contain zero or one [0..1] [Plan of Care Section](#) (templateId:2.16.840.1.113883.10.20.22.2.10) (CONF:9489).
    - v. **MAY** contain zero or one [0..1] [Assessment and Plan Section](#) (templateId:2.16.840.1.113883.10.20.22.2.9) (CONF:9491).

- vi. **SHALL** contain exactly one [1..1] [History of Present Illness Section](#) (templateId: 1.3.6.1.4.1.19376.1.5.3.1.3.4) (CONF:9493).
- vii. **SHOULD** contain exactly one [1..1] [Physical Exam Section](#) (templateId:2.16.840.1.113883.10.20.2.10) (CONF:9495).
- viii. **SHALL** include a Reason for Referral or Reason for Visit section (CONF:9504).
- ix. **MAY** contain zero or one [0..1] [Reason for Referral Section](#) (templateId:1.3.6.1.4.1.19376.1.5.3.1.3.1) (CONF:9498).
- x. **MAY** contain zero or one [0..1] [Reason for Visit Section](#) (templateId:2.16.840.1.113883.10.20.22.2.12) (CONF:9500).
- xi. **MAY** contain zero or one [0..1] [Allergies Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.6) (CONF:9507).
- xii. **SHALL NOT** include a combined Chief Complaint and Reason for Visit Section with either a Chief Complaint Section or a Reason for Visit Section. (CONF:10029).
- xiii. **MAY** contain zero or one [0..1] [Chief Complaint Section](#) (templateId:1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1) (CONF:9509).
- xiv. **MAY** contain zero or one [0..1] [Chief Complaint and Reason for Visit Section](#) (templateId:2.16.840.1.113883.10.20.22.2.13) (CONF:9511).
- xv. **MAY** contain zero or one [0..1] [Family History Section](#) (templateId:2.16.840.1.113883.10.20.22.2.15) (CONF:9513).
- xvi. **MAY** contain zero or one [0..1] [General Status Section](#) (templateId:2.16.840.1.113883.10.20.2.5) (CONF:9515).
- xvii. **MAY** contain zero or one [0..1] [History of Past Illness Section](#) (templateId:2.16.840.1.113883.10.20.22.2.20) (CONF:9517).
- xviii. **MAY** contain zero or one [0..1] [Immunizations Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.2) (CONF:9519).
- xix. **MAY** contain zero or one [0..1] [Medications Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.1) (CONF:9521).
- xx. **MAY** contain zero or one [0..1] [Problem Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.5) (CONF:9523).
- xi. **MAY** contain zero or one [0..1] [Procedures Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.7) (CONF:9525).
- xxii. **MAY** contain zero or one [0..1] [Results Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.3) (CONF:9527).
- xxiii. **MAY** contain zero or one [0..1] [Review of Systems Section](#) (templateId:1.3.6.1.4.1.19376.1.5.3.1.3.18) (CONF:9529).

- xxiv. **MAY** contain zero or one [0..1] [Social History Section](#)  
(templateId:2.16.840.1.113883.10.20.22.2.17) (CONF:9531).
- xxv. **MAY** contain zero or one [0..1] [Vital Signs Section \(entries optional\)](#)  
(templateId:2.16.840.1.113883.10.20.22.2.4)  
(CONF:9533).

The following table shows relationships among the templates in the body of a Consultation Note.

**Table 24: Template Containment for a Consultation Note**

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Consultation Note</a>	document	2.16.840.1.113883.10.20.22.1.4
<a href="#">Assessment Section</a>	section	2.16.840.1.113883.10.20.22.2.8
<a href="#">Plan of Care Section</a>	section	2.16.840.1.113883.10.20.22.2.10
<a href="#">Plan of Care Activity Act</a>	entry	2.16.840.1.113883.10.20.22.4.39
<a href="#">Plan of Care Activity Encounter</a>	entry	2.16.840.1.113883.10.20.22.4.40
<a href="#">Plan of Care Activity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.44
<a href="#">Plan of Care Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.41
<a href="#">Plan of Care Activity Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.42
<a href="#">Plan of Care Activity Supply</a>	entry	2.16.840.1.113883.10.20.22.4.43
<a href="#">Assessment and Plan Section</a>	section	2.16.840.1.113883.10.20.22.2.9
<a href="#">Plan of Care Activity Act</a>	entry	2.16.840.1.113883.10.20.22.4.39
<a href="#">History of Present Illness Section</a>	section	1.3.6.1.4.1.19376.1.5.3.1.3.4
<a href="#">Physical Exam Section</a>	section	2.16.840.1.113883.10.20.2.10
<a href="#">Reason for Referral Section</a>	section	1.3.6.1.4.1.19376.1.5.3.1.3.1
<a href="#">Reason for Visit Section</a>	section	2.16.840.1.113883.10.20.22.2.12
<a href="#">Allergies Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.6
<a href="#">Allergy Problem Act</a>	entry	2.16.840.1.113883.10.20.22.4.30
<a href="#">Allergy Observation</a>	entry	2.16.840.1.113883.10.20.22.4.7
<a href="#">Allergy Status Observation</a>	entry	2.16.840.1.113883.10.20.22.4.28
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication</a>	entry	2.16.840.1.113883.10.20.22.4.54

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Information</a>		
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Chief Complaint Section</a>	section	1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1
<a href="#">Chief Complaint and Reason for</a>	section	2.16.840.1.113883.10.20.22.2.13

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Visit Section</a>		
<a href="#">Family History Section</a>	section	2.16.840.1.113883.10.20.22.2.15
<a href="#">Family History Organizer</a>	entry	2.16.840.1.113883.10.20.22.4.45
<a href="#">Family History Observation</a>	entry	2.16.840.1.113883.10.20.22.4.46
<a href="#">Age Observation</a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#">Family History Death Observation</a>	entry	2.16.840.1.113883.10.20.22.4.47
<a href="#">General Status Section</a>	section	2.16.840.1.113883.10.20.2.5
<a href="#">History of Past Illness Section</a>	section	2.16.840.1.113883.10.20.22.2.20
<a href="#">Problem Observation</a>	entry	2.16.840.1.113883.10.20.22.4.4
<a href="#">Age Observation</a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#">Health Status Observation</a>	entry	2.16.840.1.113883.10.20.22.4.5
<a href="#">Problem Status</a>	entry	2.16.840.1.113883.10.20.22.4.6
<a href="#">Immunizations Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2
<a href="#">Immunization Activity</a>	entry	2.16.840.1.113883.10.20.22.4.52
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Product Instance</u></a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#"><u>Service Delivery Location</u></a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#"><u>Severity Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#"><u>Precondition for Substance Administration</u></a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#"><u>Immunization Refusal Reason</u></a>	entry	2.16.840.1.113883.10.20.22.4.53
<a href="#"><u>Medications Section (entries optional)</u></a>	section	2.16.840.1.113883.10.20.22.2.1
<a href="#"><u>Medication Activity</u></a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#"><u>Drug Vehicle</u></a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#"><u>Indication</u></a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Medication Supply Order</u></a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Reaction Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#"><u>Procedure Activity Procedure</u></a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#"><u>Indication</u></a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Product Instance</u></a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#"><u>Service Delivery Location</u></a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#"><u>Severity Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#"><u>Precondition for Substance Administration</u></a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#"><u>Medication Dispense</u></a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#"><u>US Realm Address (AD.US.FIELDED)</u></a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Medication Supply Order</u></a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Problem Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.5
<a href="#">Problem Concern Act (Condition)</a>	entry	2.16.840.1.113883.10.20.22.4.3
<a href="#">Problem Observation</a>	entry	2.16.840.1.113883.10.20.22.4.4
<a href="#">Age Observation</a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#">Health Status Observation</a>	entry	2.16.840.1.113883.10.20.22.4.5
<a href="#">Problem Status</a>	entry	2.16.840.1.113883.10.20.22.4.6
<a href="#">Procedures Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.7
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Procedure Activity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.13
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Procedure Activity Act</a>	entry	2.16.840.1.113883.10.20.22.4.12
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication</a>	entry	2.16.840.1.113883.10.20.22.4.54

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Information</a>		
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Results Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.3
<a href="#">Result Organizer</a>	entry	2.16.840.1.113883.10.20.22.4.1
<a href="#">Result Observation</a>	entry	2.16.840.1.113883.10.20.22.4.2
<a href="#">Review of Systems Section</a>	section	1.3.6.1.4.1.19376.1.5.3.1.3.18
<a href="#">Social History Section</a>	section	2.16.840.1.113883.10.20.22.2.17
<a href="#">Social History Observation</a>	entry	2.16.840.1.113883.10.20.22.4.38
<a href="#">Pregnancy Observation</a>	entry	2.16.840.1.113883.10.20.15.3.8
<a href="#">Estimated Date of Delivery</a>	entry	2.16.840.1.113883.10.20.15.3.1
<a href="#">Vital Signs Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.4
<a href="#">Vital Signs Organizer</a>	entry	2.16.840.1.113883.10.20.22.4.26
<a href="#">Vital Sign Observation</a>	entry	2.16.840.1.113883.10.20.22.4.27

### 3.3 Diagnostic Imaging Report

[ClinicalDocument: templateId 2.16.840.1.113883.10.20.22.1.5 (open)]

A Diagnostic Imaging Report (DIR) is a document that contains a consulting specialist's interpretation of image data. It conveys the interpretation to the referring (ordering) physician and becomes part of the patient's medical record. It is for use in Radiology, Endoscopy, Cardiology, and other imaging specialties.

#### 3.3.1 DIR Header Constraints

The DIR must conform to the US Realm Clinical Document Header. The following sections include additional header constraints for conformant DIR Notes.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:9405) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.1.1"` (CONF:10041).

##### 3.3.1.1 ClinicalDocument/templateId

Conformant documents must carry the document-level **templateId** asserting conformance with specific constraints of a DIR as well as the **templateId** for the U.S. Realm CDA Header Constraints template.

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:8404) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.1.5"` (CONF:10042).

**Figure 38: DIR ClinicalDocument/templateId example**

```
<!-- indicates conformance with US Realm Clinical Document Header template -->
<templateId root="2.16.840.1.113883.10.20.22.1.1"/>
<!-- conforms to DIR requirements -->
<templateId root='2.16.840.1.113883.10.20.22.1.5' />
```

##### 3.3.1.2 ClinicalDocument/id

3. The ClinicalDocument/id/@root attribute **SHALL** be a syntactically correct OID, and **SHALL NOT** be a UUID. (CONF:8405).
  - a. OIDs **SHALL** be represented in dotted decimal notation, where each decimal number is either 0 or starts with a nonzero digit. More formally, an OID **SHALL** be in the form `([0-2])(.[(1-9)[0-9]*|0))+` (CONF:8406).
  - b. OIDs **SHALL** be no more than 64 characters in length. (CONF:8407).

##### 3.3.1.3 ClinicalDocument/code

Given that DIR documents may be transformed from established collections of imaging reports already stored with their own type codes, there is no static set of Document Type codes. The set of LOINC codes listed in the [DIR LOINC Document Type Codes](#) table

may be extended by additions to LOINC and supplemented by local codes as translations.

The DIR document recommends use of a single document type code, 18748-4 "Diagnostic Imaging Report", with further specification provided by author or performer, setting, or specialty. Some of these codes in the [DIR LOINC Document Type Codes](#) table are pre-coordinated with either the imaging modality, body part examined, or specific imaging method such as the view. Use of these codes is not recommended, as this duplicates information potentially present with the header. When pre-coordinated codes are used, any coded values describing the author or performer of the service act or the practice setting must be consistent with the LOINC document type. This table is drawn from LOINC Version 2.36, June 30, 2011, and consists of codes whose scale is DOC and that refer to reports for diagnostic imaging procedures.

4. **SHALL** contain exactly one [1..1] **code** (CONF:8408).

- a. This code **SHOULD** contain zero or one [0..1] @code="18748-4" Diagnostic Imaging Report (CodeSystem: LOINC2.16.840.1.113883.6.1) (CONF:8409).

**Table 25: DIR LOINC Document Type Codes**

Value Set: DIRDocumentTypeCodes 2.16.840.1.113883.11.20.9.32 DYNAMIC Code System: LOINC 2.16.840.1.113883.6.1					
LOINC Code	DIR 'Modality'	Common DIR Display Name	Type of Service 'Component'	Setting 'System'	Specialty/ Training/ Professional Level 'Method_Type'
<b>Preferred Code</b>					
18748-4	Any	Diagnostic Imaging Report	Study Report		Diagnostic Imaging
<b>Additional Codes</b>					
18747-6	Computed Tomography	CT Report	Study		CT
18755-9	Magnetic Resonance Imaging	MRI Report	Study report		MRI
18760-9	Ultrasound	Ultrasound Report	Study		US
18757-5	Nuclear Medicine	Nuclear Medicine Report	Study report		RadNuc
18758-3	Positron Emission Tomography	PET Scan Report	Study		Pet scan
18745-0	Cardiac Radiography /Fluoro-scopy	Cardiac Catheterization Report	Study report	Heart	Cardiac catheterization

Value Set: DIRDocumentTypeCodes 2.16.840.1.113883.11.20.9.32 DYNAMIC Code System: LOINC 2.16.840.1.113883.6.1					
LOINC Code	DIR 'Modality'	Common DIR Display Name	Type of Service 'Component'	Setting 'System'	Specialty/Training/Professional Level 'Method_Type'
11522-0	Cardiac Ultrasound	Echocardiography Report	Study report	Heart	Cardiac echo
18746-8	Colonoscopy	Colonoscopy Report	Study report	Lower GI tract	Colonoscopy
18751-8	Endoscopy	Endoscopy Report	Study report	Upper GI tract	Endoscopy
11525-3	Ultrasound	Obstetrical Ultrasound Report	Study report	Pelvis+Fetus	OB US

**Figure 39: DIR ClinicalDocument/code example**

```
<code code="18748-4"
      codeSystem="2.16.840.1.113883.6.1"
      codeSystemName="LOINC"
      displayName="Diagnostic Imaging Report"/>
```

**Figure 40: DIR use of the translation element to include local codes for document type**

```
<code code="18748-4"
      codeSystem="2.16.840.1.113883.6.1"
      codeSystemName="LOINC"
      displayName="Diagnostic Imaging Report">
  <translation code='XRPEDS'
    displayName='Pediatric Radiography Report'
    codeSystem='2.16.840.1.123456.78.9'>
  </code>
```

### 3.3.1.4 InformationRecipient

5. **SHALL NOT** contain [0..0] **informant** (CONF:8410).
6. **MAY** contain zero or more [0..\*] **informationRecipient** (CONF:8411).
  - a. The physician requesting the imaging procedure (ClinicalDocument/participant[@typeCode=REF]/associatedEntity), if present, **SHOULD** also be recorded as an informationRecipient, unless in the local setting another physician (such as the attending physician for an inpatient) is known to be the appropriate recipient of the report. (CONF:8412).

- b. When no referring physician is present, as in the case of self-referred screening examinations allowed by law, the intendedRecipient **MAY** be absent. The intendedRecipient **MAY** also be the health chart of the patient, in which case the receivedOrganization **SHALL** be the scoping organization of that chart. (CONF:8413).

### 3.3.1.5 Participant

7. **MAY** contain zero or one [0..1] **participant** (CONF:8414) such that it
  - a. If participant is present, the assignedEntity/assignedPerson element **SHALL** be present and **SHALL** represent the physician requesting the imaging procedure (the referring physician AssociatedEntity that is the target of ClinicalDocument/participant@typeCode=REF). (CONF:8415).
    - i. This **SHALL** contain exactly one [1..1] [US Realm Person Name \(PN.US.FIELDED\)](#) (2.16.840.1.113883.10.20.22.5) (CONF:9406).

**Figure 41: DIR participant example**

```
<participant typeCode="REF">
  <associatedEntity classCode="PROV">
    <id nullFlavor="NI"/>
    <addr nullFlavor="NI"/>
    <telecom nullFlavor="NI"/>
    <associatedPerson>
      <name>
        <given>Amanda</given>
        <family>Assigned</family>
        <suffix>MD</suffix>
      </name>
    </associatedPerson>
  </associatedEntity>
</participant>
```

### 3.3.1.6 inFulfillmentOf

An **inFulfillmentOf** element represents the Placer Order that is either a group of orders (modeled as PlacerGroup in the Placer Order RMIM of the Orders & Observations domain) or a single order item (modeled as ObservationRequest in the same RMIM). This optionality reflects two major approaches to the grouping of procedures as implemented in the installed base of imaging information systems. These approaches differ in their handling of grouped procedures and how they are mapped to identifiers in the Digital Imaging and Communications in Medicine (DICOM) image and structured reporting data. The example of a CT examination covering chest, abdomen, and pelvis will be used in the discussion below.

In the IHE Scheduled Workflow model, the Chest CT, Abdomen CT, and Pelvis CT each represent a Requested Procedure, and all three procedures are grouped under a single Filler Order. The Filler Order number maps directly to the DICOM Accession Number in the DICOM imaging and report data.

A widely deployed alternative approach maps the requested procedure identifiers directly to the DICOM Accession Number. The Requested Procedure ID in such implementations may or may not be different from the Accession Number, but is of little identifying importance because there is only one Requested Procedure per Accession Number. There is no identifier that formally connects the requested procedures ordered in this group.

In both cases, `inFulfillmentOf/order/id` is mapped to the DICOM Accession Number in the imaging data.

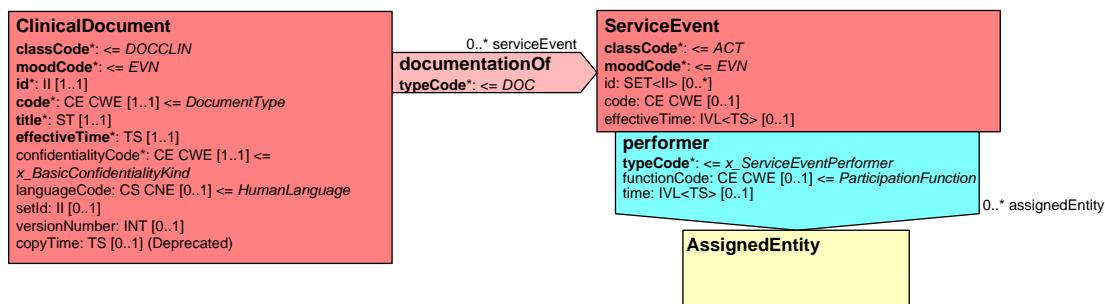
**Figure 42: DIR `inFulfillmentOf` example**

```
<inFulfillmentOf>
  <order>
    <id extension="10523475" root="2.16.840.1.113883.19.4.27"/>
    <!-- {root}.27= accession number list *-->
  </order>
</inFulfillmentOf>
```

### 3.3.1.7 documentationOf

Each `documentationOf/serviceEvent` indicates an imaging procedure that the provider describes and interprets in the content of the DIR. The main activity being described by this document is the interpretation of the imaging procedure. This is shown by setting the value of the `@classCode` attribute of the `serviceEvent` element to ACT, and indicating the duration over which care was provided in the `effectiveTime` element. Within each `documentationOf` element, there is one `serviceEvent` element. This event is the unit imaging procedure corresponding to a billable item. The type of imaging procedure may be further described in the `serviceEvent/code` element. This guide makes no specific recommendations about the vocabulary to use for describing this event.

**Figure 43: DIR procedure context (CDA Header) illustration (non-normative)**



In IHE Scheduled Workflow environments, one `serviceEvent/id` element contains the DICOM Study Instance UID from the Modality Worklist, and the second `serviceEvent/id` element contains the DICOM Requested Procedure ID from the Modality Worklist. These two ids are in a single `serviceEvent`.

The effectiveTime for the serviceEvent covers the duration of the imaging procedure being reported. This event should have one or more performers, which may participate at the same or different periods of time.

Service events map to DICOM Requested Procedures. That is, documentationOf/serviceEvent/id is the ID of the Requested Procedure.

8. **SHALL** contain exactly one [1..1] **documentationOf** (CONF:8416).
  - a. This documentationOf **SHALL** contain exactly one [1..1] **serviceEvent** (CONF:8431).
    - i. This serviceEvent **SHALL** contain exactly one [1..1] @classCode="ACT" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8430).
    - ii. This serviceEvent **SHOULD** contain zero or more [0..\*] **id** (CONF:8418).
    - iii. This serviceEvent **SHALL** contain exactly one [1..1] **code** (CONF:8419).
      1. The value of serviceEvent/code **SHALL NOT** conflict with the ClinicalDocument/code. When transforming from DICOM SR documents that do not contain a procedure code, an appropriate nullFlavor **SHALL** be used on serviceEvent/code. (CONF:8420).
    - iv. This serviceEvent **SHOULD** contain zero or more [0..\*] [Physician Reading Study Performer](#) (templateId:2.16.840.1.113883.10.20.6.2.1) (CONF:8422).

**Figure 44: DIR documentationOf example**

```
<documentationOf>
  <serviceEvent classCode="ACT">
    <id root="1.2.840.113619.2.62.994044785528.114289542805"/>
    <!-- study instance UID -->
    <id extension="123453" root="1.2.840.113619.2.62.994044785528.26"/>
    <!-- DICOM Requested Procedure ID -->
    <code code="71020"
      displayName="Radiologic examination, chest, two views,
      frontal and lateral
      codeSystem="2.16.840.1.113883.6.12"
      codeSystemName="CPT4"/>
    <effectiveTime value="20060823222400"/>
    <performer typeCode="PRF">
      <templateId root="2.16.840.1.113883.10.20.6.2.1"/>
      <assignedEntity>
        <id extension="121008" root="2.16.840.1.113883.19.5"/>
        <code code="2085R0202X" codeSystem="2.16.840.1.113883.6.101"
          codeSystemName="NUCC"
          displayName="Diagnostic Radiology"/>
        <addr nullFlavor="NI"/>
        <telecom nullFlavor="NI"/>
        <assignedPerson>
          <name>
            <given>Christine</given>
            <family>Cure</family>
            <suffix>MD</suffix>
          </name>
        </assignedPerson>
      </assignedEntity>
    </performer>
  </serviceEvent>
</documentationOf>
```

### 3.3.1.8 relatedDocument

A DIR may have three types of parent document:

- A superseded version that the present document wholly replaces (typeCode = RPLC). DIRs may go through stages of revision prior to being legally authenticated. Such early stages may be drafts from transcription, those created by residents, or other preliminary versions. Policies not covered by this specification may govern requirements for retention of such earlier versions. Except for forensic purposes, the latest version in a chain of revisions represents the complete and current report.
- An original version that the present document appends (typeCode = APND). When a DIR is legally authenticated, it can be amended by a separate addendum document that references the original.
- A source document from which the present document is transformed (typeCode = XFRM). A DIR may be created by transformation from a DICOM Structured Report (SR) document or from another DIR. An example of the latter case is the

creation of a derived document for inclusion of imaging results in a clinical document.

9. **MAY** contain zero or one [0..1] **relatedDocument** (CONF:8432) such that it
  - a. When a Diagnostic Imaging Report has been transformed from a DICOM SR document, **relatedDocument/@typeCode** **SHALL** be XFRM, and **relatedDocument/parentDocument/id** **SHALL** contain the SOP Instance UID of the original DICOM SR document. (CONF:8433).
10. The **relatedDocument/id/@root** attribute **SHALL** be a syntactically correct OID, and **SHALL NOT** be a UUID. (CONF:10030).
  - a. OIDs **SHALL** be represented in dotted decimal notation, where each decimal number is either 0 or starts with a nonzero digit. More formally, an OID **SHALL** be in the form ([0-2])(.[1-9][0-9]\*|0))+ (CONF:10031).
  - b. OIDs **SHALL** be no more than 64 characters in length. (CONF:10032).

**Figure 45: DIR relatedDocument example**

```
<!-- transformation of a DICOM SR -->
<relatedDocument typeCode="XFRM">
  <parentDocument>
    <id root="1.2.840.113619.2.62.994044785528.20060823.200608232232322.9"/>
    <!-- SOP Instance UID (0008,0018) of SR sample document-->
  </parentDocument>
</relatedDocument>
```

### 3.3.1.9 componentOf

The **id** element of the **encompassingEncounter** represents the identifier for the encounter. When the diagnostic imaging procedure is performed in the context of a hospital stay or an outpatient visit for which there is an Encounter Number, that number should be present as the ID of the **encompassingEncounter**.

The **effectiveTime** represents the time interval or point in time in which the encounter took place. The encompassing encounter might be that of the hospital or office visit in which the diagnostic imaging procedure was performed. If the effective time is unknown, a **nullFlavor** attribute can be used.

11. **MAY** contain zero or one [0..1] **componentOf** (CONF:8434).
  - a. This **componentOf**, if present, **SHALL** contain exactly one [1..1] **encompassingEncounter** (CONF:8449).
    - i. This **encompassingEncounter** **SHALL** contain at least one [1..\*] **id** (CONF:8435).
      1. In the case of transformed DICOM SR documents, an appropriate null flavor **MAY** be used if the **id** is unavailable. (CONF:8436).
    - ii. This **encompassingEncounter** **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:8437).

1. This effectiveTime **SHALL** contain exactly one [1..1] [US Realm Date and Time \(DT.US.FIELDED\)](#)  
(2.16.840.1.113883.10.20.22.5.3) (CONF:10133).
- iii. This encompassingEncounter **MAY** contain zero or more [0..1] **responsibleParty** (CONF:8438).
  1. This responsibleParty, if present, **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:9407).
    - a. **SHOULD** contain zero or one [0..1] assignedPerson **OR** contain zero or one [0..1] representedOrganization (CONF:8439).
- iv. This encompassingEncounter **SHOULD** contain zero or one [0..1] [Physician of Record Participant](#)  
(templateId:2.16.840.1.113883.10.20.6.2.2) (CONF:8448).

**Figure 46: DIR componentOf example**

```

<componentOf>
  <encompassingEncounter>
    <id extension="9937012" root="1.3.6.4.1.4.1.2835.12"/>
    <effectiveTime value="20060828170821"/>
    <encounterParticipant typeCode="ATND">
      <templateId root="2.16.840.1.113883.10.20.6.2.2"/>
      <assignedEntity>
        <id extension="4" root="2.16.840.1.113883.19"/>
        <code code="208D00000X" codeSystem="2.16.840.1.113883.6.101"
              codeSystemName="NUCC"
              displayName="General Practice"/>
        <addr nullFlavor="NI"/>
        <telecom nullFlavor="NI"/>
        <assignedPerson>
          <name>
            <prefix>Dr.</prefix>
            <given>Fay </given>
            <family>Family</family>
          </name>
        </assignedPerson>
      </assignedEntity>
    </encounterParticipant>
  </encompassingEncounter>
</componentOf>

```

### 3.3.1.10 Physician Reading Study Performer

[performer: templateId 2.16.840.1.113883.10.20.6.2.1(open)]

This participant is the Physician Reading Study Performer defined in documentationOf/serviceEvent and is usually different from the attending physician. The reading physician interprets the images and evidence of the study (DICOM Definition)

1. **SHALL** contain exactly one [1..1] @typeCode="PRF" Performer (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8424).

2. **SHALL** contain exactly one [1..1] **templateId/@root="2.16.840.1.113883.10.20.6.2.1"** (CONF:8423).
3. **MAY** contain zero or one [0..1] **time** (CONF:8425).
  - a. This time **SHALL** contain exactly one [1..1] **US Realm Date and Time (DTM.US.FIELDED)** (2.16.840.1.113883.10.20.22.5.4) (CONF:10134).
4. **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:8426).
  - a. This assignedEntity SHALL contain at least one [1..\*] id (CONF:10033).
    - i. The id SHOULD include zero or one [0..1] id where id/@root = "2.16.840.1.113883.4.6" National Provider Identifier (CONF:10034).
  - b. This assignedEntity **SHALL** contain exactly one [1..1] **code** (CONF:8427).
    - i. **SHALL** contain a valid DICOM personal identification code sequence (@codeSystem is 1.2.840.10008.2.16.4) or an appropriate national health care provider coding system (e.g., NUCC in the U.S., where @code is 2.16.840.1.113883.6.101). (CONF:8428).
  - c. Every assignedEntity element **SHALL** have at least one assignedPerson or representedOrganization. (CONF:8429).

**Figure 47: Physician reading study performer example**

```
<performer typeCode="PRF">
  <templateId root="2.16.840.1.113883.10.20.6.2.1"/>
  <assignedEntity>
    <id extension="111111111" root="2.16.840.1.113883.4.6"/>
    <code code="2085R0202X"
      codeSystem="2.16.840.1.113883.6.101"
      codeSystemName="NUCC"
      displayName="Diagnostic Radiology"/>
    <addr nullFlavor="NI"/>
    <telecom nullFlavor="NI"/>
    <assignedPerson>
      <name>
        <given>Christine</given>
        <family>Cure</family>
        <suffix>MD</suffix>
      </name>
    </assignedPerson>
  </assignedEntity>
</performer>
```

### 3.3.1.11 Physician of Record Participant

[encounterParticipant: templateId 2.16.840.1.113883.10.20.6.2.2(open)]

This encounterParticipant is the attending physician and is usually different from the Physician Reading Study Performer defined in documentationOf/serviceEvent.

1. **SHALL** contain exactly one [1..1] @typeCode="ATND" Attender (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:8881).
2. **SHALL** contain exactly one [1..1] **templateId/@root="2.16.840.1.113883.10.20.6.2.2"** (CONF:8440).

3. **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:8886).
  - a. This assignedEntity **SHALL** contain at least one [1..\*] **id** (CONF:8887).
    - i. The id **SHOULD** include zero or one [0..1] id where id/@root = "2.16.840.1.113883.4.6" National Provider Identifier (CONF:10035).
  - b. This assignedEntity **SHALL** contain exactly one [1..1] **code** (CONF:8888).
    - i. **SHALL** contain a valid DICOM Organizational Role from DICOM CID 7452<sup>21</sup> (Value Set 1.2.840.10008.6.1.516) (@codeSystem is 1.2.840.10008.2.16.4) or an appropriate national health care provider coding system (e.g., NUCC in the U.S., where @codeSystem is 2.16.840.1.113883.6.101) (CONF:8889).
  - c. This assignedEntity **SHOULD** contain zero or one [0..1] **name** (CONF:8890).

**Figure 48: Physician of record participant example**

```

<encounterParticipant typeCode="ATND">
  <templateId root="2.16.840.1.113883.10.20.6.2.2"/>
  <assignedEntity>
    <id extension="44444444" root="2.16.840.1.113883.4.6"/>
    <code code="208D00000X"
      codeSystem="2.16.840.1.113883.6.101"
      codeSystemName="NUCC"
      displayName="General Practice"/>
    <addr nullFlavor="NI"/>
    <telecom nullFlavor="NI"/>
    <assignedPerson>
      <name>
        <prefix>Dr.</prefix>
        <given>Fay</given>
        <family>Family</family>
      </name>
    </assignedPerson>
  </assignedEntity>
</encounterParticipant>

```

<sup>21</sup> DICOM Part 16 (NEMA PS3.16), page 631 in the 2011 edition. See [ftp://medical.nema.org/medical/dicom/2011/11\\_16pu.pdf](http://ftp://medical.nema.org/medical/dicom/2011/11_16pu.pdf)

### 3.3.2 DIR Body Constraints

The DIR supports both narrative sections and sections requiring coded clinical statements. The required and optional sections are listed in the [Document Types and Required/Optional Sections](#) table.

The following table shows relationships among the constrained templates in the body of a DIR report.

**Table 26: Template Containment for Constrained DIR Sections**

Template Title	Template Type	templateId
<a href="#">Diagnostic Imaging Report</a>	document	2.16.840.1.113883.10.20.22.1.5
<a href="#">Procedure Context</a>	entry	2.16.840.1.113883.10.20.6.2.5
<a href="#">Fetus Subject Context</a>	section	2.16.840.1.113883.10.20.6.2.3
<a href="#">Observer Context</a>	section	2.16.840.1.113883.10.20.6.2.4
<a href="#">Findings Section (DIR)</a>	section	2.16.840.1.113883.10.20.6.1.2
<a href="#">DICOM Object Catalog Section - DCM 121181</a>	section	2.16.840.1.113883.10.20.6.1.1
<a href="#">Study Act</a>	entry	2.16.840.1.113883.10.20.6.2.6
<a href="#">Series Act</a>	entry	2.16.840.1.113883.10.20.22.4.63
<a href="#">Sop Instance Observation</a>	entry	2.16.840.1.113883.10.20.6.2.8
<a href="#">Purpose of Reference Observation</a>	entry	2.16.840.1.113883.10.20.6.2.9
<a href="#">Referenced Frames Observation</a>	entry	2.16.840.1.113883.10.20.6.2.10
<a href="#">Boundary Observation</a>	entry	2.16.840.1.113883.10.20.6.2.11

#### 3.3.2.1 DIR Section Constraints

The Section Type codes used by DIR are described below in the [DIR Section Type Codes](#) table. All section codes shown in this table describe narrative document sections<sup>22</sup>. The column headings of this table are:

DCM Code:	The code of the section in DICOM (Context Group CID 7001)
DCM Code Meaning:	The display name of the section in DICOM (Context Group CID 7001)
LOINC Code:	The code of the section in LOINC
LOINC Component Name:	The display name of the section in LOINC

<sup>22</sup> SCALE\_TYP = 'NAR' in the LOINC tables.

Use:

The use column indicates that a section in a Diagnostic Imaging Report is:

- R -required
- C -conditionally required
- O -optional

**Table 27: DIR Section Type Codes**

DICOM Code	DICOM Code Meaning	LOINC Code	LOINC Code Meaning	Use
121181	<a href="#">DICOM Object Catalog</a>	N/A	N/A	C
121060	History	11329-0	HISTORY GENERAL	O
121062	Request	55115-0	REQUESTED IMAGING STUDIES INFORMATION	O
121064	Current Procedure Descriptions	55111-9	CURRENT IMAGING PROCEDURE DESCRIPTIONS	O
121066	Prior Procedure Descriptions	55114-3	PRIOR IMAGING PROCEDURE DESCRIPTIONS	O
121068	Previous Findings	18834-2	RADIOLOGY COMPARISON STUDY - OBSERVATION	O
121070	Findings (DIR)	18782-3	RADIOLOGY STUDY OBSERVATION	R
121072	Impressions	19005-8	RADIOLOGY - IMPRESSION	O
121074	Recommendations	18783-1	RADIOLOGY STUDY - RECOMMENDATION	O
121076	Conclusions	55110-1	CONCLUSIONS	O
121078	Addendum	55107-7	ADDENDUM	O
121109	Indications for Procedure	18785-6	RADIOLOGY REASON FOR STUDY	O
121110	Patient Presentation	55108-5	CLINICAL PRESENTATION	O
121113	Complications	55109-3	COMPLICATIONS	O
121111	Summary	55112-7	DOCUMENT SUMMARY	O
121180	Key Images	55113-5	KEY IMAGES	O

For Level 2 conformance, all section elements that are present in the Body of the document must have a code and some nonblank text or one or more subsections, even if the purpose of the text is only to indicate that information is unknown.

There is no equivalent to section/title in DICOM SR, so for a CDA to SR transformation, the section/code will be transferred and the title element will be dropped.

1. The DICOM Object Catalog section (templateId 2.16.840.1.113883.10.20.6.1.1), if present, **SHALL** be the first section in the document Body ([CONF:9408](#)).
2. **SHALL** contain exactly one [1..1] [Findings Section \(DIR\)](#) (templateId:2.16.840.1.113883.10.20.6.1.2) ([CONF:8776](#)).

3. With the exception of the DICOM Object Catalog (templateId 2.16.840.1.113883.10.20.6.1.1), all sections within the Diagnostic Imaging Report content **SHOULD** contain a title element (CONF:9409).
4. The section/code **SHOULD** be selected from LOINC or DICOM for sections not listed in the DIR Section Type Codes table (CONF:9410).
  - a. Descriptions for sections is under development in DICOM in cooperation with the RSNA reporting initiative (CONF:9423).
5. All sections defined in the DIR Section Type Codes table **SHALL** be top-level sections (CONF:9411).
6. A section element **SHALL** have a code element which **SHALL** contain a LOINC code or DCM code for sections which have no LOINC equivalent. This only applies to sections described in the DIR Section Type Codes table (CONF:9412).
7. Apart from the DICOM Object Catalog (templateId 2.16.840.1.113883.10.20.6.1.1), all other instances of section **SHALL** contain at least one text element or one or more component elements (CONF:9413).
8. All text or component elements **SHALL** contain content. text elements **SHALL** contain PCDATA or child elements, and component elements **SHALL** contain child elements (CONF:9414).
9. The text elements (and their children) **MAY** contain Web Access to DICOM Persistent Object (WADO) references to DICOM objects by including a linkHtml element where @href is a valid WADO URL and the text content of linkHtml is the visible text of the hyperlink (CONF:9415).
10. If clinical statements are present, the section/text **SHALL** represent faithfully all such statements and **MAY** contain additional text (CONF:9416).
11. **MAY** contain zero or more [0..\*] [Procedure Context](#) (templateId:2.16.840.1.113883.10.20.6.2.5) (CONF:9417).
  - a. If the service context of a section is different from the value specified in documentationOf/serviceEvent, then the section **SHALL** contain one or more entries containing Procedure Context (templateId 2.16.840.1.113883.10.20.6.2.5), which will reset the context for any clinical statements nested within those elements (CONF:9418).
12. **MAY** contain zero or more [0..\*] [Fetus Subject Context](#) (templateId:2.16.840.1.113883.10.20.6.2.3) (CONF:9419).
  - a. If the subject of a section is a fetus, the section **SHALL** contain a subject element containing a Fetus Subject Context (templateId 2.16.840.1.113883.10.20.6.2.3) (CONF:9420).
13. **MAY** contain zero or more [0..\*] [Observer Context](#) (templateId:2.16.840.1.113883.10.20.6.2.4) (CONF:9421).
  - a. : If the author of a section is different from the author(s) listed in the Header, an author element **SHALL** be present containing Observer Context (templateId 2.16.840.1.113883.10.20.6.2.4) (CONF:9422).

**Figure 49: WADO reference using linkHtml example**

```
<text>
  ...
  <paragraph>
    <caption>Source of Measurement</caption>
    <linkHtml
      href="http://www.example.org/wado?requestType=WADO&studyUID=1.2.840.113619.
      2.62.994044785528.114289542805&seriesUID=1.2.840.113619.2.62.994044785528.2
      0060823223142485051&objectUID=1.2.840.113619.2.62.994044785528.20060823.200
      608232232322.3&contentType=application/dicom">Chest_PA</linkHtml>
  </paragraph>
  ...
</text>
```

### 3.3.2.2 Fetus Subject Context

[relatedSubject: templateId 2.16.840.1.113883.10.20.6.2.3 (open) ]

For reports on mothers and their fetus(es), information on a mother is mapped to recordTarget, PatientRole, and Patient. Information on the fetus is mapped to subject, relatedSubject, and SubjectPerson at the CDA section level. Both context information on the mother and fetus must be included in the document if observations on fetus(es) are contained in the document.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:9189) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.6.2.3"` (CONF:10535).
2. **SHALL** contain exactly one [1..1] **code**=`"121026"` (CodeSystem: DCM 1.2.840.10008.2.16.4) (CONF:9190).
3. **SHALL** contain exactly one [1..1] **subject** (CONF:9191).
4. **SHALL** contain exactly one [1..1] **name** (CONF:9192).
  - a. The name element is used to store the DICOM fetus ID, typically a pseudonym such as fetus\_1 (CONF:9193).

**Figure 50: Fetus subject context example**

```
<relatedSubject>
  <templateId root="2.16.840.1.113883.10.20.6.2.3"/>
  <code code="121026"
    codeSystem="1.2.840.10008.2.16.4"
    displayName="Fetus"/>
  <subject>
    <name>fetus_1</name>
  </subject>
</relatedSubject>
```

### 3.3.2.3 Observer Context

[assignedAuthor: templateId 2.16.840.1.113883.10.20.6.2.4(open) ]

The Observer Context is used to override the author specified in the CDA Header. It is valid as a direct child element of a section.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:9194) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.6.2.4"` (CONF:10536).
2. **SHALL** contain exactly one [1..1] **assignedAuthor** (CONF:9195).
3. **SHALL** contain at least one [1..\*] **id** (CONF:9196).
  - a. The id element contains the author's id or the DICOM device observer UID (CONF:9197).
4. Either assignedPerson or assignedAuthoringDevice **SHALL** be present (CONF:9198).

**Figure 51: Observer context example**

```
<assignedAuthor>
  <templateId root="2.16.840.1.113883.10.20.6.2.4"/>
  <id extension="121008" root="2.16.840.1.113883.19.5"/>
  <assignedPerson>
    <name>
      <given>Richard</given>
      <family>Blitz</family>
      <suffix>MD</suffix>
    </name>
  </assignedPerson>
</assignedAuthor>
```

### 3.3.2.4 DIR Clinical Statements

A Diagnostic Imaging Report may contain CDA entries that represent, in coded form findings, image references, annotation, and numeric measurements based on DICOM Basic Diagnostic Imaging Report (Template 2000) and Transcribed Diagnostic Imaging Report (Template 2005). Most of the constraints for this document have been inherited from the DICOM PS 3.20 “Transformation of DICOM to and from HL7 Standards”.

This document type and the companion DICOM PS 3.20 “Transformation of DICOM to and from HL7 Standards *guide* further constrain the transformation because image Spatial Coordinates region of interest (SCOORD) for linear, area, and volume measurements are not encoded in the CDA document. If it is desired to show images with such graphical annotations, the annotations should be encoded in DICOM Softcopy Presentation State objects that reference the image. Report applications that display referenced images and annotation should retrieve a rendered image using a WADO reference, including the image and Presentation State, or other DICOM retrieval and rendering methods. This approach avoids the risks of errors in registering a region of interest annotation with DICOM images.

DICOM Template 2000 defines imaging report documents that are comprised of a number of optional sections, including those defined above in [DIR Section Type Codes](#). Each section contains:

- [Text Observations](#) (Text Elements in DICOM SR), optionally inferred from Quantity Measurement Observation or Image references
- [Code Observations](#) (Code Elements in DICOM SR), optionally inferred from Quantity Measurement Observation or Image references
- [Quantity Measurement Observation](#) (Numeric Elements in DICOM SR) with a coded measurement type, optionally inferred from an image reference
- [Service Object Pair \(SOP\) Instance Observations](#) containing image references

The number or order of the observations and image references in the above bullet points are not constrained in a section.

## 3.4 Discharge Summary

[ClinicalDocument: templateId 2.16.840.1.113883.10.20.22.1.8 (open)]

The Discharge Summary is a document that is a synopsis of a patient's admission to a hospital; it provides pertinent information for the continuation of care following discharge. The Joint Commission requires the following information to be included in the Discharge Summary<sup>23</sup>:

- The reason for hospitalization
- The procedures performed
- The care, treatment, and services provided
- The patient's condition and disposition at discharge
- Information provided to the patient and family
- Provisions for follow-up care

### 3.4.1 Discharge Summary Header Constraints

The Discharge Summary must conform to the US Realm Clinical Document Header. The following sections include additional header constraints for conformant Discharge Summaries.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:9479) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.1.1"** (CONF:10043).

---

<sup>23</sup> Joint Commission Requirements for Discharge Summary (JCAHO IM.6.10 EP7). See [http://www.jointcommission.org/NR/rdonlyres/C9298DD0-6726-4105-A007-FE2C65F77075/0/CMS\\_New\\_Revised\\_HAP\\_FINAL\\_withScoring.pdf](http://www.jointcommission.org/NR/rdonlyres/C9298DD0-6726-4105-A007-FE2C65F77075/0/CMS_New_Revised_HAP_FINAL_withScoring.pdf) (page 26).

### 3.4.1.1 ClinicalDocument/templateId

Conformant documents must carry the document-level templateId asserting conformance with specific constraints of a Discharge Summary as well as the templateId for the US Realm Clinical Document Header template.

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:8463) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.1.8"` (CONF:10044).

**Figure 52: Discharge Summary ClinicalDocument/templateId example**

```
<!-- indicates conformance with Clinical Document Header Constraints -->
<templateId root="2.16.840.1.113883.10.20.3"/>
<!--indicates conformance to Discharge Summary -->
<templateId root="2.16.840.1.113883.10.20.22.1.8"/>
```

### 3.4.1.2 ClinicalDocument/code

The [Discharge Summary LOINC Document Codes](#) table shows the LOINC codes suitable for Discharge Summary, as of publication of this implementation guide. This is a dynamic value set meaning that these codes may be added to or deprecated by LOINC.

The Discharge Summary recommends use of a single document type code, 18842-5 "Discharge Summarization Note", with further specification provided by author or performer, setting, or specialty. Some of the LOINC codes listed here pre-coordinate the practice setting or the training or professional level of the author. Use of these codes is not recommended, as this duplicates information that may be present in the header. If used, the pre-coordinated codes must be consistent with the LOINC document type code.

3. **SHALL** contain exactly one [1..1] **code/@code**, which **SHALL** be selected from ValueSet DischargeSummaryDocumentTypeCode 2.16.840.1.113883.11.20.4.1 **DYNAMIC** (CONF:8466).

**Table 28: Discharge Summary LOINC Document Codes**

Value Set: DischargeSummaryDocumentTypeCode 2.16.840.1.113883.11.20.4.1 DYNAMIC Code System: LOINC 2.16.840.1.113883.6.1			
LOINC Code	Type of Service 'Component'	Setting 'System'	Specialty/Training/Professional Level 'Method_Type'
<b>Preferred Code</b>			
18842-5	Discharge summarization note	{Setting}	{Provider}
<b>Additional Codes</b>			
11490-0	Discharge summarization note	{Setting}	Physician
28655-9	Discharge summarization note	{Setting}	Attending physician
29761-4	Discharge summarization note	{Setting}	Dentistry
34745-0	Discharge summarization note	{Setting}	Nursing
34105-7	Discharge summarization note	Hospital	{Provider}
34106-5	Discharge summarization note	Hospital	Physician

**Figure 53: Discharge Summary ClinicalDocument/code example**

```
<code codeSystem="2.16.840.1.113883.6.1"
      codeSystemName="LOINC" code="18842-5"
      displayName="DISCHARGE SUMMARIZATION NOTE"/>
```

#### 3.4.1.3 Participant

The participant element in the Discharge Summary header follows the General Header Constraints for participants. Discharge Summary does not specify any use for functionCode for participants. Local policies will determine how this element should be used in implementations.

#### 3.4.1.4 componentOf

The Discharge Summary is always associated with a Hospital Admission using the encompassingEncounter element in the header.

The dischargeDispositionCode records the disposition of the patient at time of discharge. Access to the National Uniform Billing Committee (NUBC) code system requires a membership. The following conformance statement aligns with HITSP C80 requirements.

The responsibleParty element represents only the party responsible for the encounter, not necessarily the entire episode of care.

The encounterParticipant elements represent only those participants in the encounter, not necessarily the entire episode of care.

The admission date is recorded in the componentOf/encompassingEncounter/effectiveTime/low.

4. **SHALL** contain exactly one [1..1] **componentof** (CONF:8471).
  - a. This componentOf **SHALL** contain exactly one [1..1] **encompassingEncounter** (CONF:8472).
    - i. This encompassingEncounter **SHALL** contain exactly one [1..1] **effectiveTime/low** (CONF:8473).
    - ii. This encompassingEncounter **SHALL** contain exactly one [1..1] **effectiveTime/high** (CONF:8475).
    - iii. The dischargeDispositionCode **SHALL** be present where the value of code **SHOULD** be selected from ValueSet NUBC UB-04 FL17-Patient Status 2.16.840.1.113883.3.88.12.80.33 **DYNAMIC** (<http://www.nubc.org>) (CONF:8476).
      1. The dischargeDispositionCode, @displayName, or NUBC UB-04 Print Name, **SHALL** be displayed when the document is rendered. (CONF:8477).
    - iv. The responsibleParty element **MAY** be present. If present, the responsibleParty/assignedEntity element **SHALL** have at least one assignedPerson or representedOrganization element present. (CONF:8479).
    - v. The encounterParticipant elements **MAY** be present. If present, the encounterParticipant/assignedEntity element **SHALL** have at least one assignedPerson or representedOrganization element present. (CONF:8478).

**Table 29: HL7 Discharge Disposition Codes**

Code System: HL7 Discharge Disposition 2.16.840.1.113883.12.112	
<b>Code</b>	<b>Print Name</b>
01	Discharged to home or self care (routine discharge)
02	Discharged/transferred to another short-term general hospital for inpatient care
03	Discharged/transferred to skilled nursing facility (SNF)
04	Discharged/transferred to an intermediate-care facility (ICF)
05	Discharged/transferred to another type of institution for inpatient care or referred for outpatient services to another institution
06	Discharged/transferred to home under care of organized home health service organization
07	Left against medical advice or discontinued care
08	Discharged/transferred to home under care of Home IV provider
09	Admitted as an inpatient to this hospital
10 ...19	Discharge to be defined at state level, if necessary
20	Expired (i.e., dead)
21 ... 29	Expired to be defined at state level, if necessary
30	Still patient or expected to return for outpatient services (i.e., still a patient)
31 ... 39	Still patient to be defined at state level, if necessary (i.e., still a patient)
40	Expired (i.e., died) at home
41	Expired (i.e., died) in a medical facility; e.g., hospital, SNF, ICF, or free-standing hospice
42	Expired (i.e., died) - place unknown

**Figure 54: Discharge Summary componentOf example**

```
<componentOf>
  <encompassingEncounter>
    <id extension="9937012" root="2.16.840.1.113883.19"/>
    <effectiveTime>
      <low value="20050329"/>
      <high value="20050329"/>
    </effectiveTime>
    <dischargeDispositionCode code="01"
      codeSystem="2.16.840.1.113883.12.112"
      displayName="Routine Discharge"
      codeSystemName="HL7 Discharge Disposition"/>
  </encompassingEncounter>
</componentOf>
```

### 3.4.2 Discharge Summary Body Constraints

The Discharge Summary supports both narrative sections and sections requiring code clinical statements. The required and optional sections are listed in the [Document Types and Required/Optional Sections](#) table. The table below the constraints shows all templates including entries within each section.

1. **SHALL** contain exactly one [1..1] **component** (CONF:9539).
  - a. A Discharge Summary can have either a structuredBody or a nonXMLBody. (CONF:9537).
    - i. A Discharge Summary can conform to CDA Level 1 (nonXMLBody), CDA Level 2 (structuredBody with sections that contain a narrative block), or CDA Level 3 (structuredBody containing sections that contain a narrative block and coded entries). In this template (templateId 2.16.840.1.113883.10.20.22.1.8), coded entries are optional. (CONF:9538).
  - b. If structuredBody, the component/structuredBody **SHALL** conform to the section constraints below. (CONF:9540).
    - i. **SHALL** contain exactly one [1..1] [Allergies Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.6) (CONF:9542).
    - ii. **SHALL** contain exactly one [1..1] [Hospital Course Section](#) (templateId:1.3.6.1.4.1.19376.1.5.3.1.3.5) (CONF:9544).
    - iii. **SHALL** contain exactly one [1..1] [Hospital Discharge Diagnosis Section](#) (templateId:2.16.840.1.113883.10.20.22.2.24) (CONF:9546).
    - iv. **SHALL** contain exactly one [1..1] [Hospital Discharge Medications Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.11) (CONF:9548).
    - v. **SHALL** contain exactly one [1..1] [Plan of Care Section](#) (templateId:2.16.840.1.113883.10.20.22.2.10) (CONF:9550).
    - vi. **SHALL NOT** include a Chief Complaint and Reason for Visit Section with either a Chief Complaint Section or a Reason for Visit Section. (CONF:10055)
    - vii. **MAY** contain zero or one [0..1] [Chief Complaint Section](#) (templateId:1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1) (CONF:9554).
    - viii. **MAY** contain zero or one [0..1] [Chief Complaint and Reason for Visit Section](#) (templateId:2.16.840.1.113883.10.20.22.2.13) (CONF:9556).
    - ix. **MAY** contain zero or one [0..1] [Discharge Diet Section](#) (templateId:1.3.6.1.4.1.19376.1.5.3.1.3.33) (CONF:9558).
    - x. **MAY** contain zero or one [0..1] [Family History Section](#) (templateId:2.16.840.1.113883.10.20.22.2.15) (CONF:9560).
    - xi. **MAY** contain zero or one [0..1] [Functional Status Section](#) (templateId:2.16.840.1.113883.10.20.22.2.14) (CONF:9562).

- xii. **MAY** contain zero or one [0..1] [History of Past Illness Section](#)  
(templateId:2.16.840.1.113883.10.20.22.2.20) (CONF:9564).
- xiii. **MAY** contain zero or one [0..1] [History of Present Illness Section](#)  
(templateId: 1.3.6.1.4.1.19376.1.5.3.1.3.4)  
(CONF:9566).
- xiv. **MAY** contain zero or one [0..1] [Hospital Admission Diagnosis Section](#)  
(templateId:2.16.840.1.113883.10.20.22.2.43)  
(CONF:9928).
- xv. **MAY** contain zero or one [0..1] [Hospital Admission Medications Section \(entries optional\)](#)  
(2.16.840.1.113883.10.20.22.2.44) (CONF:10111).
- xvi. **MAY** contain zero or one [0..1] [Hospital Consultations Section](#)  
(templateId:2.16.840.1.113883.10.20.22.2.42) (CONF:9924).
- xvii. **MAY** contain zero or one [0..1] [Hospital Discharge Instructions Section](#)  
(templateId:2.16.840.1.113883.10.20.22.2.41)  
(CONF:9926).
- xviii. **MAY** contain zero or one [0..1] [Hospital Discharge Physical Section](#)  
(templateId:1.3.6.1.4.1.19376.1.5.3.1.3.26)  
(CONF:9568).
- xix. **MAY** contain zero or one [0..1] [Hospital Discharge Studies Summary Section](#)  
(templateId:2.16.840.1.113883.10.20.22.2.16) (CONF:9570).
- xx. **MAY** contain zero or one [0..1] [Immunizations Section \(entries optional\)](#)  
(templateId:2.16.840.1.113883.10.20.22.2.2)  
(CONF:9572).
- xxi. **MAY** contain zero or one [0..1] [Problem Section \(entries optional\)](#)  
(templateId:2.16.840.1.113883.10.20.22.2.5)  
(CONF:9574).
- xxii. **MAY** contain zero or one [0..1] [Procedures Section \(entries optional\)](#)  
(templateId:2.16.840.1.113883.10.20.22.2.7)  
(CONF:9576).
- xxiii. **MAY** contain zero or one [0..1] [Reason for Visit Section](#)  
(templateId:2.16.840.1.113883.10.20.22.2.12) (CONF:9578).
- xxiv. **MAY** contain zero or one [0..1] [Review of Systems Section](#)  
(templateId:1.3.6.1.4.1.19376.1.5.3.1.3.18) (CONF:9580).
- xxv. **MAY** contain zero or one [0..1] [Social History Section](#)  
(templateId:2.16.840.1.113883.10.20.22.2.17) (CONF:9582).
- xxvi. **MAY** contain zero or one [0..1] [Vital Signs Section \(entries optional\)](#)  
(templateId:2.16.840.1.113883.10.20.22.2.4)  
(CONF:9584).

The following table shows relationships among the templates in the body of a Discharge Summary.

**Table 30: Template Containment for a Discharge Summary**

Template Title	Template Type	templateId
<a href="#">Discharge Summary</a>	document	2.16.840.1.113883.10.20.22.1.8
<a href="#">Allergies Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.6
<a href="#">Allergy Problem Act</a>	entry	2.16.840.1.113883.10.20.22.4.30
<a href="#">Allergy Observation</a>	entry	2.16.840.1.113883.10.20.22.4.7
<a href="#">Allergy Status Observation</a>	entry	2.16.840.1.113883.10.20.22.4.28
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Hospital Course Section</a>	section	1.3.6.1.4.1.19376.1.5.3.1.3.5
<a href="#">Hospital Discharge Diagnosis Section</a>	section	2.16.840.1.113883.10.20.22.2.24
<a href="#">Hospital Discharge Diagnosis</a>	entry	2.16.840.1.113883.10.20.22.4.33
<a href="#">Problem Observation</a>	entry	2.16.840.1.113883.10.20.22.4.4
<a href="#">Age Observation</a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#">Health Status Observation</a>	entry	2.16.840.1.113883.10.20.22.4.5
<a href="#">Problem Status</a>	entry	2.16.840.1.113883.10.20.22.4.6
<a href="#">Hospital Discharge Medications Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.11
<a href="#">Discharge Medication</a>	entry	2.16.840.1.113883.10.20.22.4.35
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Plan of Care Section</a>	section	2.16.840.1.113883.10.20.22.2.10
<a href="#">Plan of Care Activity Act</a>	entry	2.16.840.1.113883.10.20.22.4.39
<a href="#">Plan of Care Activity Encounter</a>	entry	2.16.840.1.113883.10.20.22.4.40
<a href="#">Plan of Care Activity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.44
<a href="#">Plan of Care Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.41
<a href="#">Plan of Care Activity Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.42
<a href="#">Plan of Care Activity Supply</a>	entry	2.16.840.1.113883.10.20.22.4.43
<a href="#">Chief Complaint Section</a>	section	1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1
<a href="#">Chief Complaint and Reason for Visit Section</a>	section	2.16.840.1.113883.10.20.22.2.13
<a href="#">Discharge Diet Section</a>	section	1.3.6.1.4.1.19376.1.5.3.1.3.33
<a href="#">Family History Section</a>	section	2.16.840.1.113883.10.20.22.2.15
<a href="#">Family History Organizer</a>	entry	2.16.840.1.113883.10.20.22.4.45
<a href="#">Family History Observation</a>	entry	2.16.840.1.113883.10.20.22.4.46
<a href="#">Age Observation</a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#">Family History Death Observation</a>	entry	2.16.840.1.113883.10.20.22.4.47
<a href="#">Functional Status Section</a>	section	2.16.840.1.113883.10.20.22.2.14

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Problem Observation</a>	entry	2.16.840.1.113883.10.20.22.4.4
<a href="#">Age Observation</a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#">Health Status Observation</a>	entry	2.16.840.1.113883.10.20.22.4.5
<a href="#">Problem Status</a>	entry	2.16.840.1.113883.10.20.22.4.6
<a href="#">Result Observation</a>	entry	2.16.840.1.113883.10.20.22.4.2
<a href="#">History of Past Illness Section</a>	section	2.16.840.1.113883.10.20.22.2.20
<a href="#">Problem Observation</a>	entry	2.16.840.1.113883.10.20.22.4.4
<a href="#">Age Observation</a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#">Health Status Observation</a>	entry	2.16.840.1.113883.10.20.22.4.5
<a href="#">Problem Status</a>	entry	2.16.840.1.113883.10.20.22.4.6
<a href="#">History of Present Illness Section</a>	section	1.3.6.1.4.1.19376.1.5.3.1.3.4
<a href="#">Hospital Discharge Physical Section</a>	section	1.3.6.1.4.1.19376.1.5.3.1.3.26
<a href="#">Hospital Discharge Studies Summary Section</a>	section	2.16.840.1.113883.10.20.22.2.16
<a href="#">Immunizations Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.2
<a href="#">Immunization Activity</a>	entry	2.16.840.1.113883.10.20.22.4.52
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Product Instance</u></a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#"><u>Service Delivery Location</u></a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#"><u>Severity Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#"><u>Precondition for Substance Administration</u></a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#"><u>Immunization Refusal Reason</u></a>	entry	2.16.840.1.113883.10.20.22.4.53
<a href="#"><u>Problem Section (entries optional)</u></a>	section	2.16.840.1.113883.10.20.22.2.5
<a href="#"><u>Problem Concern Act (Condition)</u></a>	entry	2.16.840.1.113883.10.20.22.4.3
<a href="#"><u>Problem Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.4
<a href="#"><u>Age Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#"><u>Health Status Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.5
<a href="#"><u>Problem Status</u></a>	entry	2.16.840.1.113883.10.20.22.4.6
<a href="#"><u>Procedures Section (entries optional)</u></a>	section	2.16.840.1.113883.10.20.22.2.7
<a href="#"><u>Procedure Activity Procedure</u></a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#"><u>Indication</u></a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Activity</u></a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#"><u>Drug Vehicle</u></a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#"><u>Indication</u></a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Medication Supply Order</u></a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Reaction Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#"><u>Severity Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#"><u>Precondition for Substance Administration</u></a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#"><u>Medication Dispense</u></a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#"><u>US Realm Address (AD.US.FIELDED)</u></a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Procedure Activity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.13
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
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<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Procedure Activity Act</a>	entry	2.16.840.1.113883.10.20.22.4.12
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Reason for Visit Section</a>	section	2.16.840.1.113883.10.20.22.2.12
<a href="#">Review of Systems Section</a>	section	1.3.6.1.4.1.19376.1.5.3.1.3.18
<a href="#">Social History Section</a>	section	2.16.840.1.113883.10.20.22.2.17
<a href="#">Social History Observation</a>	entry	2.16.840.1.113883.10.20.22.4.38
<a href="#">Pregnancy Observation</a>	entry	2.16.840.1.113883.10.20.15.3.8

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Estimated Date of Delivery</a>	entry	2.16.840.1.113883.10.20.15.3.1
<a href="#">Vital Signs Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.4
<a href="#">Vital Signs Organizer</a>	entry	2.16.840.1.113883.10.20.22.4.26
<a href="#">Vital Sign Observation</a>	entry	2.16.840.1.113883.10.20.22.4.27
<a href="#">Hospital Consultations Section</a>	section	2.16.840.1.113883.10.20.22.2.42
<a href="#">Hospital Discharge Instructions Section</a>	section	2.16.840.1.113883.10.20.22.2.41
<a href="#">Hospital Admission Diagnosis Section</a>	section	2.16.840.1.113883.10.20.22.2.43
<a href="#">Hospital Admission Diagnosis</a>	entry	2.16.840.1.113883.10.20.22.4.34
<a href="#">Problem Observation</a>	entry	2.16.840.1.113883.10.20.22.4.4
<a href="#">Age Observation</a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#">Health Status Observation</a>	entry	2.16.840.1.113883.10.20.22.4.5
<a href="#">Problem Status</a>	entry	2.16.840.1.113883.10.20.22.4.6
<a href="#">Hospital Admission Medications Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.44
<a href="#">Admission Medication</a>	entry	2.16.840.1.113883.10.20.22.4.36
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23

### 3.5 History and Physical (H&P) Note

[ClinicalDocument: templateId 2.16.840.1.113883.10.20.22.1.3 (open)]

A History and Physical (H&P) Note is a medical report that documents the current and past conditions of the patient. It contains essential information that helps determine an individual's health status.

The first portion of the report is a current collection of organized information unique to an individual, typically supplied by the patient or their caregiver, about the current medical problem or the reason for the patient encounter. This information is followed by a description of any past or ongoing medical issues, including current medications and allergies. Information is also obtained about the patient's lifestyle, habits, and diseases among family members.

The next portion of the report contains information obtained by physically examining the patient and gathering diagnostic information in the form of laboratory tests, imaging, or other diagnostic procedures.

The report ends with the clinician's assessment of the patient's situation and the intended plan to address those issues.

A History and Physical Examination is required upon hospital admission as well as before operative procedures. An initial evaluation in an ambulatory setting is often documented in the form of an H&P Note.

#### 3.5.1 H&P Note Header Constraints

The H&P Note must conform to the US Realm Clinical Document Header. The following sections include additional header constraints for conformant H&P Notes.

1. **SHALL** contain exactly one [1..1] **templateId**(CONF:9968) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.1.1"** (CONF:10045).

##### 3.5.1.1 ClinicalDocument/templateId

Conformant documents must carry the document-level templateId asserting conformance with specific constraints of a H&P Note as well as the templateId for the US Realm Clinical Document Header template.

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:8283) such that it

- a. **SHALL** contain exactly one [1..1]  
@root="2.16.840.1.113883.10.20.22.1.3" History and Physical Note  
(CONF:10046).

**Figure 55: H&P ClinicalDocument/templateId example**

```
<!-- indicates conformance with US Realm Clinical Document Header template -->
<templateId root="2.16.840.1.113883.10.20.22.1.1"/>
<!-- conforms to a H&P Note -->
<templateId root="2.16.840.1.113883.10.20.22.1.3"/>
```

### 3.5.1.2 ClinicalDocument/code

At publication time for this guide, H&P Note limits the ClinicalDocument/code to those codes shown in the [H&P LOINC Document Type Codes](#) table. Valid codes are those whose scale is DOC and whose type of service is some variation of History and Physical.

The H&P Note recommends use of a single document type code, 34117-2 "History & Physical", with further specification provided by author or performer, setting, or specialty. Some codes in the [H&P LOINC Document Type Codes](#) table are pre-coordinated with the practice setting or the training or professional level of the author. Use of these codes is not recommended, as this duplicates information potentially present with the header. When pre-coordinated codes are used, any coded values describing the author or performer of the service act or the practice setting must be consistent with the LOINC document type.

3. **SHALL** contain exactly one [1..1] **code/@code**, which **SHALL** be selected from ValueSet HPDocumentType 2.16.840.1.113883.1.11.20.22 **DYNAMIC** (CONF:8335).

**Table 31: H&P LOINC Document Type Codes**

Value Set: HPDocumentType 2.16.840.1.113883.1.11.20.22 DYNAMIC Code System: LOINC 2.16.840.1.113883.6.1			
LOINC Code	Type of Service 'Component'	Setting 'System'	Specialty/Training/ Professional Level 'Method_Type'
<b>Preferred Code</b>			
34117-2	History & Physical		
<b>Additional Codes</b>			
11492-6	History & Physical	Hospital	
28626-0	History & Physical		Physician
34774-0	History & Physical		General surgery
34115-6	History & Physical	Hospital	Medical Student
34116-4	History & Physical	Nursing home	Physician
34095-0	Comprehensive History & Physical		
34096-8	Comprehensive History & Physical	Nursing home	
51849-8	Admission History & Physical		
47039-3	Admission History & Physical	Inpatient	
34763-3	Admission History & Physical		General medicine
34094-3	Admission History & Physical	Hospital	Cardiology
34138-8	Targeted History & Physical		

**Figure 56: H&P ClinicalDocument/code example**

```
<code codeSystem='2.16.840.1.113883.6.1'  
      codeSystemName='LOINC'  
      code='34117-2'  
      displayName='HISTORY and PHYSICAL' />
```

**Figure 57: H&P use of translation to include local equivalents for document type**

```
<code code='34117-2'  
      displayName='HISTORY and PHYSICAL'  
      codeSystem='2.16.840.1.113883.6.1'  
      codeSystemName='LOINC'>  
  <translation code='X-GISOE'  
    displayName='GI HISTORY and PHYSICAL'  
    codeSystem='2.16.840.1.113883.19' />  
</code>
```

### 3.5.1.3 participant

The participant element in the H&P header follows the General Header Constraints for participants. H&P Note does not specify any use for functionCode for participants. Local policies will determine how this element should be used in implementations.

### 3.5.1.4 inFulfillmentOf

inFulfillmentOf elements describe the prior orders that are fulfilled (in whole or part) by the service events described in this document. For example, the prior order might be a referral and the H&P Note may be in partial fulfillment of that referral.

4. **MAY** contain zero or more [0..\*] **inFulfillmentOf** (CONF:8336).
  - a. An inFulfillmentOf element records the prior orders that are fulfilled (in whole or part) by the service events described in this document. For example, the prior order might be a referral and this H&P Note may be in partial fulfillment of that referral. (CONF:8337).

### 3.5.1.5 componentOf

The H&P Note is always associated with an encounter.

The effectiveTime represents the time interval or point in time in which the encounter took place.

The encounterParticipant elements represent only those participants in the encounter, not necessarily the entire episode of care.

The responsibleParty element represents only the party responsible for the encounter, not necessarily the entire episode of care.

5. **SHALL** contain exactly one [1..1] **componentOf** (CONF:8338).
  - a. This componentOf **SHALL** contain exactly one [1..1] **encompassingEncounter** (CONF:8339).
    - i. This encompassingEncounter **SHALL** contain exactly one [1..1] **id** (CONF:8340).
    - ii. This encompassingEncounter **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:8341).
      1. This effectiveTime **SHALL** contain exactly one [1..1] [US Realm Date and Time \(DT.US.FIELDED\)](#) (2.16.840.1.113883.10.20.22.5.3) (CONF:10135).
    - iii. This encompassingEncounter **MAY** contain zero or one [0..1] **location** (CONF:8344).
    - iv. This encompassingEncounter **MAY** contain zero or one [0..1] **responsibleParty** (CONF:8345).
      1. The responsibleParty element records only the party responsible for the encounter, not necessarily the entire episode of care. (CONF:8347).

- 2. The responsibleParty element, if present, **SHALL** contain an assignedEntity element which **SHALL** contain an assignedPerson element, a representedOrganization element, or both. (CONF:8348).
- v. This encompassingEncounter **MAY** contain zero or more [0..\*] **encounterParticipant** (CONF:8342).
  - 1. The encounterParticipant element, if present, records only participants in the encounter, not necessarily in the entire episode of care. (CONF:8346).
  - 2. An encounterParticipant element, if present, **SHALL** contain an assignedEntity element which **SHALL** contain an assignedPerson element, a representedOrganization element, or both. (CONF:8343).

**Figure 58: H&P componentOf example**

```
<componentOf>
  <encompassingEncounter>
    <id extension='9937012' root='2.16.840.1.113883.19' />
    <code codeSystem='2.16.840.1.113883.6.12' codeSystemName='CPT-4'
          code='99213' displayName='Evaluation and Management' />
    <effectiveTime>
      <low value='20050329' />
      <high value='20050329' />
    </effectiveTime>
  </encompassingEncounter>
</componentOf>
```

### 3.5.2 H&P Note Body Constraints

The H&P Note supports both narrative sections and sections requiring code clinical statements. The required and optional sections are listed in the [Document Types and Required/Optional Sections](#) table. The table below the constraints shows all templates including entries within each section.

1. **SHALL** contain exactly one [1..1] **component** (CONF:8349).
  - a. A History and Physical document can have either a structuredBody or a nonXMLBody. (CONF:8350).
    - i. A History and Physical document can conform to CDA Level 1 (nonXMLBody), CDA Level 2 (structuredBody with sections that contain a narrative block), or CDA Level 3 (structuredBody containing sections that contain a narrative block and coded entries). In this template (templateId 2.16.840.1.113883.10.20.22.1.3), coded entries are optional. (CONF:8352).
  - b. If structuredBody, the component/structuredBody **SHALL** conform to the section constraints below (CONF:9597).
    - i. This section **SHALL** contain exactly one [1..1] [Allergies Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.6) (CONF:9602).

- ii. **SHALL** include an Assessment and Plan Section, or an Assessment Section and a Plan Section. (CONF:9986).
- iii. **SHALL NOT** include an Assessment/Plan Section when an Assessment Section and a Plan of Care Section are present. (CONF:10056)
- iv. **MAY** contain zero or one [0..1] [Assessment Section](#) (templateId:2.16.840.1.113883.10.20.22.2.8) (CONF:9605).
- v. **MAY** contain zero or one [0..1] [Plan of Care Section](#) (templateId:2.16.840.1.113883.10.20.22.2.10) (CONF:9607).
- vi. **MAY** contain zero or one [0..1] [Assessment and Plan Section](#) (templateId:2.16.840.1.113883.10.20.22.2.9) (CONF:9987).
- vii. **SHALL** include a Chief Complaint and Reason for Visit Section, Chief Complaint Section, or a Reason for Visit Section. (CONF:9642).
- viii. **SHALL NOT** include a Chief Complaint and Reason for Visit Section with either a Chief Complaint Section or a Reason for Visit Section. (CONF:10057)
- ix. **MAY** contain zero or one [0..1] [Chief Complaint Section](#) (templateId:1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1) (CONF:9611).
- x. **MAY** contain zero or one [0..1] [Chief Complaint and Reason for Visit Section](#) (templateId:2.16.840.1.113883.10.20.22.2.13) (CONF:9613).
- xi. **SHALL** contain exactly one [1..1] [Family History Section](#) (templateId:2.16.840.1.113883.10.20.22.2.15) (CONF:9615).
- xii. **SHALL** contain exactly one [1..1] [General Status Section](#) (templateId:2.16.840.1.113883.10.20.2.5) (CONF:9617).
- xiii. **SHALL** contain exactly one [1..1] [History of Past Illness Section](#) (templateId:2.16.840.1.113883.10.20.22.2.20) (CONF:9619).
- xiv. **SHALL** contain exactly one [1..1] [Medications Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.1) (CONF:9623).
- xv. **SHALL** contain exactly one [1..1] [Physical Exam Section](#) (templateId:2.16.840.1.113883.10.20.2.10) (CONF:9625).
- xvi. **SHALL** contain exactly one [1..1] [Reason for Visit Section](#) (templateId:2.16.840.1.113883.10.20.22.2.12) (CONF:9627).
- xvii. **SHALL** contain exactly one [1..1] [Results Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.3) (CONF:9629).
- xviii. **SHALL** contain exactly one [1..1] [Review of Systems Section](#) (templateId:1.3.6.1.4.1.19376.1.5.3.1.3.18) (CONF:9631).
- xix. **SHALL** contain exactly one [1..1] [Social History Section](#) (templateId:2.16.840.1.113883.10.20.22.2.17) (CONF:9633).
- xx. **SHALL** contain exactly one [1..1] [Vital Signs Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.4) (CONF:9635).

- xxi. **SHOULD** contain exactly one [1..1] [History of Present Illness Section](#) (templateId: 1.3.6.1.4.1.19376.1.5.3.1.3.4) (CONF:9621).
- xxii. **MAY** contain zero or one [0..1] [Immunizations Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.2) (CONF:9637).
- xxiii. **MAY** contain zero or one [0..1] [Problem Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.5) (CONF:9639).
- xxiv. **MAY** contain zero or one [0..1] [Procedures Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.7) (CONF:9641).

The following table shows relationships among the templates in the body of an H&P Note.

**Table 32: Template Containment for an H&P Note**

Template Title	Template Type	templateId
<a href="#">History and Physical</a>	document	2.16.840.1.113883.10.20.22.1.3
<a href="#">Allergies Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.6
<a href="#">Allergy Problem Act</a>	entry	2.16.840.1.113883.10.20.22.4.30
<a href="#">Allergy Observation</a>	entry	2.16.840.1.113883.10.20.22.4.7
<a href="#">Allergy Status Observation</a>	entry	2.16.840.1.113883.10.20.22.4.28
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Assessment Section</a>	section	2.16.840.1.113883.10.20.22.2.8
<a href="#">Plan of Care Section</a>	section	2.16.840.1.113883.10.20.22.2.10
<a href="#">Plan of Care Activity Act</a>	entry	2.16.840.1.113883.10.20.22.4.39
<a href="#">Plan of Care Activity Encounter</a>	entry	2.16.840.1.113883.10.20.22.4.40
<a href="#">Plan of Care Activity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.44
<a href="#">Plan of Care Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.41
<a href="#">Plan of Care Activity Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.42
<a href="#">Plan of Care Activity Supply</a>	entry	2.16.840.1.113883.10.20.22.4.43
<a href="#">Chief Complaint Section</a>	section	1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1
<a href="#">Chief Complaint and Reason for Visit Section</a>	section	2.16.840.1.113883.10.20.22.2.13
<a href="#">Family History Section</a>	section	2.16.840.1.113883.10.20.22.2.15
<a href="#">Family History Organizer</a>	entry	2.16.840.1.113883.10.20.22.4.45
<a href="#">Family History Observation</a>	entry	2.16.840.1.113883.10.20.22.4.46
<a href="#">Age Observation</a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#">Family History Death Observation</a>	entry	2.16.840.1.113883.10.20.22.4.47
<a href="#">General Status Section</a>	section	2.16.840.1.113883.10.20.2.5

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">History of Past Illness Section</a>	section	2.16.840.1.113883.10.20.22.2.20
<a href="#">Problem Observation</a>	entry	2.16.840.1.113883.10.20.22.4.4
<a href="#">Age Observation</a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#">Health Status Observation</a>	entry	2.16.840.1.113883.10.20.22.4.5
<a href="#">Problem Status</a>	entry	2.16.840.1.113883.10.20.22.4.6
<a href="#">History of Present Illness Section</a>	section	1.3.6.1.4.1.19376.1.5.3.1.3.4
<a href="#">Medications Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.1
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Physical Exam Section</a>	section	2.16.840.1.113883.10.20.2.10
<a href="#">Reason for Visit Section</a>	section	2.16.840.1.113883.10.20.22.2.12
<a href="#">Results Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.3

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#"><u>Result Organizer</u></a>	entry	2.16.840.1.113883.10.20.22.4.1
<a href="#"><u>Result Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.2
<a href="#"><u>Review of Systems Section</u></a>	section	1.3.6.1.4.1.19376.1.5.3.1.3.18
<a href="#"><u>Social History Section</u></a>	section	2.16.840.1.113883.10.20.22.2.17
<a href="#"><u>Social History Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.38
<a href="#"><u>Pregnancy Observation</u></a>	entry	2.16.840.1.113883.10.20.15.3.8
<a href="#"><u>Estimated Date of Delivery</u></a>	entry	2.16.840.1.113883.10.20.15.3.1
<a href="#"><u>Vital Signs Section (entries optional)</u></a>	section	2.16.840.1.113883.10.20.22.2.4
<a href="#"><u>Vital Signs Organizer</u></a>	entry	2.16.840.1.113883.10.20.22.4.26
<a href="#"><u>Vital Sign Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.27
<a href="#"><u>Assessment and Plan Section</u></a>	section	2.16.840.1.113883.10.20.22.2.9
<a href="#"><u>Plan of Care Activity Act</u></a>	entry	2.16.840.1.113883.10.20.22.4.39
<a href="#"><u>Immunizations Section (entries optional)</u></a>	section	2.16.840.1.113883.10.20.22.2.2
<a href="#"><u>Immunization Activity</u></a>	entry	2.16.840.1.113883.10.20.22.4.52
<a href="#"><u>Drug Vehicle</u></a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Indication</u></a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Supply Order</u></a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Medication Dispense</u></a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#"><u>US Realm Address (AD.US.FIELDED)</u></a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Medication Supply Order</u></a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Reaction Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#"><u>Medication Activity</u></a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#"><u>Drug Vehicle</u></a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#"><u>Indication</u></a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Product Instance</u></a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#"><u>Service Delivery Location</u></a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#"><u>Severity Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#"><u>Precondition for Substance Administration</u></a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#"><u>Immunization Refusal Reason</u></a>	entry	2.16.840.1.113883.10.20.22.4.53
<a href="#"><u>Problem Section (entries optional)</u></a>	section	2.16.840.1.113883.10.20.22.2.5
<a href="#"><u>Problem Concern Act (Condition)</u></a>	entry	2.16.840.1.113883.10.20.22.4.3
<a href="#"><u>Problem Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.4
<a href="#"><u>Age Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#"><u>Health Status Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.5
<a href="#"><u>Problem Status</u></a>	entry	2.16.840.1.113883.10.20.22.4.6
<a href="#"><u>Procedures Section (entries optional)</u></a>	section	2.16.840.1.113883.10.20.22.2.7
<a href="#"><u>Procedure Activity Procedure</u></a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#"><u>Indication</u></a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Activity</u></a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#"><u>Drug Vehicle</u></a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#"><u>Indication</u></a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Medication Supply Order</u></a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Reaction Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#"><u>Severity Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#"><u>Precondition for Substance Administration</u></a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#"><u>Medication Dispense</u></a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#"><u>US Realm Address (AD.US.FIELDED)</u></a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Procedure Activity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.13
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Procedure Activity Act</a>	entry	2.16.840.1.113883.10.20.22.4.12
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32

## 3.6 Operative Note

[ClinicalDocument: templateId 2.16.840.1.113883.10.20.22.1.7 (open)]

The Operative Note is a frequently used type of procedure note with specific requirements set forth by regulatory agencies.

The Operative Note is created immediately following a surgical procedure and records the pre- and post-surgical diagnosis, pertinent events of the procedure, as well as the condition of the patient following the procedure. The report should be sufficiently detailed to support the diagnoses, justify the treatment, document the course of the procedure, and provide continuity of care.<sup>24</sup>

### 3.6.1 Operative Note Header Constraints

The Operative Note must conform to the US Realm Clinical Document Header. The following sections include additional header constraints for conformant Operative Notes.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:9914) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.1.1"` (CONF:10047).

#### 3.6.1.1 ClinicalDocument/templateId

Conformant documents must carry the document-level templateId asserting conformance with specific constraints of an Operative Note as well as the templateId for the US Realm Clinical Document Header template.

The following asserts conformance to an Operative Note.

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:8483) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.1.7"` (CONF:10048).

**Figure 59: Operative Note ClinicalDocument/templateId example**

```
<!-- indicates conformance with US Realm Clinical Document Header template -->
<templateId root="2.16.840.1.113883.10.20.22.1.1"/>
<!-- conforms to the Operative Note requirements -->
<templateId root='2.16.840.1.113883.10.20.22.1.7'>
```

#### 3.6.1.2 ClinicalDocument/code

The [Surgical Operation Note LOINC Document Codes](#) table shows the LOINC codes suitable for Discharge Summary, as of publication of this implementation guide. This is a dynamic value set meaning that these codes may be added to or deprecated by LOINC.

<sup>24</sup>

[http://www.jointcommission.org/mobile/standards\\_information/jcfaqdetails.aspx?StandardsFAQId=215&StandardsFAQChapterId=13](http://www.jointcommission.org/mobile/standards_information/jcfaqdetails.aspx?StandardsFAQId=215&StandardsFAQChapterId=13)

The Operative Note recommends use of a single document type code, 11504-8 "Surgical Operation Note", with further specification provided by author or performer, setting, or specialty. Some of the LOINC codes in the [Surgical Operation Note LOINC Document Codes](#) table are pre-coordinated with the practice setting or the training or professional level of the author. Use of pre-coordinated codes is not recommended because of potential conflict with other information in the header. When these codes are used, any coded values describing the author or performer of the service act or the practice setting must be consistent with the LOINC document type.

3. **SHALL** contain exactly one [1..1] **code/@code**, which **SHALL** be selected from ValueSet SurgicalOperationNoteDocumentTypeCode 2.16.840.1.113883.11.20.1.1 **DYNAMIC** (CONF:8484).

**Table 33: Surgical Operation Note LOINC Document Codes**

Value Set: SurgicalOperationNoteDocumentTypeCode 2.16.840.1.113883.11.20.1.1 DYNAMIC Code System: LOINC 2.16.840.1.113883.6.1			
LOINC Code	Type of Service 'Component'	Setting 'System'	Specialty/Training/Professional Level 'Method_Type'
<b>Preferred Code</b>			
11504-8	Surgical operation note	{Setting}	{Provider}
<b>Additional Codes</b>			
34137-0	Surgical operation note	Outpatient	{Provider}
28583-3	Surgical operation note	{Setting}	Dentistry
28624-5	Surgical operation note	{Setting}	Podiatry
28573-4	Surgical operation note	{Setting}	Physician
34877-1	Surgical operation note	{Setting}	Urology
34874-8	Surgical operation note	{Setting}	Surgery
34870-6	Surgical operation note	{Setting}	Plastic surgery
34868-0	Surgical operation note	{Setting}	Orthopedics
34818-5	Surgical operation note	{Setting}	Otorhinolaryngology
<b>The following code should not be used; it is a duplicate</b>			
34871-4	Surgical operation note	{Setting}	Podiatry

**Figure 60: Operative Note ClinicalDocument/code example**

```
<code codeSystem="2.16.840.1.113883.6.1"
      codeSystemName="LOINC" code="11504-8"
      displayName="SURGICAL OPERATION NOTE"/>
```

### 3.6.1.3 documentationOf

A serviceEvent represents the main act, such as a colonoscopy or an appendectomy, being documented. A serviceEvent can further specialize the act inherent in the

ClinicalDocument/code, such as where the ClinicalDocument/code is simply "Surgical Operation Note" and the procedure is "Appendectomy." serviceEvent is required in the Operative Note and it must be equivalent to or further specialize the value inherent in the ClinicalDocument/code; it shall not conflict with the value inherent in the ClinicalDocument/code, as such a conflict would create ambiguity. serviceEvent/effectiveTime can be used to indicate the time the actual event (as opposed to the encounter surrounding the event) took place.

If the date and the duration of the procedure is known, serviceEvent/effectiveTime/low is used with a width element that describes the duration; no high element is used. However, if only the date is known, the date is placed in both the low and high elements.

4. **SHALL** contain at least one [1..\*] **documentationOf** (CONF:8486).

- a. Such documentationOf **SHALL** contain exactly one [1..1] **serviceEvent** (CONF:8493).

- i. The value of Clinical Document /documentationOf/serviceEvent/code **SHALL** be from ICD9 CM Procedures (CodeSystem 2.16.840.1.113883.6.104), CPT-4 (CodeSystem 2.16.840.1.113883.6.12), or values descending from 71388002 (Procedure) from the SNOMED CT (CodeSystem 2.16.840.1.113883.6.96) ValueSet Procedure 2.16.840.1.113883.3.88.12.80.28 **DYNAMIC**. (CONF:8487).

- ii. This serviceEvent **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:8494).

1. This effectiveTime **SHALL** contain exactly one [1..1] [US Realm Date and Time \(DT.US.FIELDDED\)](#) (2.16.840.1.113883.10.20.22.5.3) (CONF:10136).
    2. The serviceEvent/effectiveTime **SHALL** be present with effectiveTime/low (CONF:8488).
    3. If a width is not present, the serviceEvent/effectiveTime **SHALL** include effectiveTime/high. (CONF:10058)
    4. When only the date and the length of the procedure are known a width element **SHALL** be present and the serviceEvent/effectiveTime/high **SHALL** not be present. (CONF:10060).

The performer represents clinicians who actually and principally carry out the serviceEvent. Typically, these are clinicians who have surgical privileges in their institutions such as Surgeons, Obstetrician/Gynecologists, and Family Practice Physicians. The performer may also be Nonphysician Providers (NPP) who have surgical privileges. There may be more than one primary performer in the case of complicated surgeries. There are occasionally co-surgeons. Usually they will be billing separately and will each dictate their own notes. An example may be spinal surgery , where a general surgeon and an orthopaedic surgeon both are present and billing off the same Current Procedural Terminology (CPT) codes. Typically two Operative Notes are generated; however, each will list the other as a co-surgeon.

- iii. This serviceEvent **SHALL** contain exactly one [1..1] **performer** (CONF:8489) such that it

1. **SHALL** contain exactly one [1..1] @typeCode="PPRF" Primary performer (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:8495).
2. **SHALL** contain exactly one [1..1] **code** (CONF:8490).
  - a. This code **SHOULD** contain @code, which **SHOULD** be selected from ValueSet Provider Type 2.16.840.1.113883.3.88.12.3221.4 **DYNAMIC** (CONF:8491).
  - b. Any assistants **SHALL** be identified and **SHALL** be identified as secondary performers (SPRF). (CONF:8512).

**Table 34: Provider Type Value Set (excerpt)**

Value Set: Provider Type 2.16.840.1.113883.3.88.12.3221.4 DYNAMIC		
Code System(s):	NUCC Health Care Provider Taxonomy 2.16.840.1.113883.6.101	
Description:	The Provider type vocabulary classifies providers according to the type of license or accreditation they hold or the service they provide. <a href="http://www.nucc.org/index.php?option=com_content&amp;task=view&amp;id=14&amp;Itemid=40">http://www.nucc.org/index.php?option=com_content&amp;task=view&amp;id=14&amp;Itemid=40</a>	
Code	Code System	Print Name
207L00000X	NUCC Health Care Provider Taxonomy	Anesthesiology
207X00000X	NUCC Health Care Provider Taxonomy	Orthopaedic Surgery
207VG0400X	NUCC Health Care Provider Taxonomy	Gynecology
...		

**Table 35: Procedure Codes from SNOMED CT**

Value Set: Procedure 2.16.840.1.113883.3.88.12.80.28 DYNAMIC		
Code System(s):	SNOMED CT 2.16.840.1.113883.6.96	
Description:	SNOMED CT Procedure codes. Any code descending from 71388002 (Procedure) inclusive. <a href="https://uts.nlm.nih.gov/snomedctBrowser.html">https://uts.nlm.nih.gov/snomedctBrowser.html</a> (requires sign-up)	
Code	Code System	Print Name
408816000	SNOMED CT	Artificial rupture of membranes
20050329	SNOMED CT	Laparoscopic Appendectomy
62013009	SNOMED CT	Ambulating patient
...		

**Figure 61: Operative Note serviceEvent example**

```
<serviceEvent classCode="PROC">
  <code code="801460020"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="Laparoscopic Appendectomy"/>
  <effectiveTime value="20050329"/>
  ...
</serviceEvent>
```

**Figure 62: Operative Note performer example**

```
<performer typeCode="PPRF">
  <assignedEntity>
    <id extension="1" root="2.16.840.1.113883.19"/>
    <code code="2086S0120X" codeSystem="2.16.840.1.113883.6.101"
      codeSystemName="NUCC" displayName="Pediatric Surgeon"/>
    <addr>
      <streetAddressLine>1013 Healthcare Drive</streetAddressLine>
      <city>Ann Arbor</city>
      <state>MI</state>
      <postalCode>99999</postalCode>
      <country>US</country>
    </addr>
    <telecom value="tel:(555) 555-1013"/>
    <assignedPerson>
      <name>
        <prefix>Dr.</prefix>
        <given>Carl</given>
        <family>Cutter</family>
      </name>
    </assignedPerson>
  </assignedEntity>
</performer>
```

### 3.6.2 Operative Note Body Constraints

The Operative Note supports both narrative sections and sections requiring code clinical statements. The required and optional sections are listed in the [Document Types and Required/Optional Sections](#) table. The table below the constraints shows all templates including entries within each section.

1. **SHALL** contain exactly one [1..1] **component** (CONF:9585).
  - a. An Operative Note can have either a structuredBody or a nonXMLBody (CONF:9586).
    - i. An Operative Note can conform to CDA Level 1 (nonXMLBody), CDA Level 2 (structuredBody with sections that contain a narrative block), or CDA Level 3 (structuredBody containing sections that contain a narrative block and coded entries). In this template (templateId

- 2.16.840.1.113883.10.20.22.1.7), coded entries are optional. (CONF:9587).
- b. If structuredBody, the component/structuredBody **SHALL** conform to the section constraints below (CONF:9596).
- i. **SHALL** contain exactly one [1..1] [Anesthesia Section](#) (2.16.840.1.113883.10.20.22.2.25) (CONF:9883).
  - ii. **SHALL** contain exactly one [1..1] [Complications Section](#) (2.16.840.1.113883.10.20.22.2.37) (CONF:9885).
  - iii. **SHALL** contain exactly one [1..1] [Postoperative Diagnosis Section](#) (2.16.840.1.113883.10.20.22.2.35) (CONF:9913).
  - iv. **SHALL** contain exactly one [1..1] [Preoperative Diagnosis Section](#) (2.16.840.1.113883.10.20.22.2.34) (CONF:9888).
  - v. **SHALL** contain exactly one [1..1] [Procedure Estimated Blood Loss Section](#) (2.16.840.1.113883.10.20.18.2.9) (CONF:9890).
  - vi. **SHALL** contain exactly one [1..1] [Procedure Findings Section](#) (2.16.840.1.113883.10.20.22.2.28) (CONF:9892).
  - vii. **SHALL** contain exactly one [1..1] [Procedure Specimens Taken Section](#) (2.16.840.1.113883.10.20.22.2.31) (CONF:9894).
  - viii. **SHALL** contain exactly one [1..1] [Procedure Description Section](#) (2.16.840.1.113883.10.20.22.2.27) (CONF:9896).
  - ix. **MAY** contain zero or one [0..1] [Procedure Implants Section](#) (2.16.840.1.113883.10.20.22.2.40) (CONF:9898).
  - x. **MAY** contain zero or one [0..1] [Operative Note Fluids Section](#) (2.16.840.1.113883.10.20.7.12) (CONF:9900).
  - xi. **MAY** contain zero or one [0..1] [Operative Note Surgical Procedure Section](#) (2.16.840.1.113883.10.20.7.14) (CONF:9902).
  - xii. **MAY** contain zero or one [0..1] [Plan of Care Section](#) (2.16.840.1.113883.10.20.22.2.10) (CONF:9904).
  - xiii. **MAY** contain zero or one [0..1] [Planned Procedure Section](#) (2.16.840.1.113883.10.20.22.2.30) (CONF:9906).
  - xiv. **MAY** contain zero or one [0..1] [Procedure Disposition Section](#) (2.16.840.1.113883.10.20.18.2.12) (CONF:9908).
  - xv. **MAY** contain zero or one [0..1] [Procedure Indications Section](#) (2.16.840.1.113883.10.20.22.2.29) (CONF:9910).
  - xvi. **MAY** contain zero or one [0..1] [Surgical Drains Section](#) (2.16.840.1.113883.10.20.7.13) (CONF:9912).

The following table shows relationships among the templates in the body of an Operative Note.

**Table 36: Template Containment for an Operative Note**

Template Title	Template Type	templateId
<a href="#">Operative Note</a>	document	2.16.840.1.113883.10.20.22.1.7
<a href="#">Anesthesia Section</a>	section	2.16.840.1.113883.10.20.22.2.25
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Complications Section</a>	section	2.16.840.1.113883.10.20.22.2.37
<a href="#">Problem Observation</a>	entry	2.16.840.1.113883.10.20.22.4.4
<a href="#">Age Observation</a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#">Health Status Observation</a>	entry	2.16.840.1.113883.10.20.22.4.5
<a href="#">Problem Status</a>	entry	2.16.840.1.113883.10.20.22.4.6
<a href="#">Preoperative Diagnosis Section</a>	section	2.16.840.1.113883.10.20.22.2.34
<a href="#">Preoperative Diagnosis</a>	entry	2.16.840.1.113883.10.20.22.4.65
<a href="#">Problem Observation</a>	entry	2.16.840.1.113883.10.20.22.4.4
<a href="#">Age Observation</a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#">Health Status Observation</a>	entry	2.16.840.1.113883.10.20.22.4.5
<a href="#">Problem Status</a>	entry	2.16.840.1.113883.10.20.22.4.6
<a href="#">Procedure Estimated Blood Loss Section</a>	section	2.16.840.1.113883.10.20.18.2.9
<a href="#">Procedure Findings Section</a>	section	2.16.840.1.113883.10.20.22.2.28
<a href="#">Problem Observation</a>	entry	2.16.840.1.113883.10.20.22.4.4

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Age Observation</a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#">Health Status Observation</a>	entry	2.16.840.1.113883.10.20.22.4.5
<a href="#">Problem Status</a>	entry	2.16.840.1.113883.10.20.22.4.6
<a href="#">Procedure Specimens Taken Section</a>	section	2.16.840.1.113883.10.20.22.2.31
<a href="#">Procedure Description Section</a>	section	2.16.840.1.113883.10.20.22.2.27
<a href="#">Procedure Implants Section</a>	section	2.16.840.1.113883.10.20.22.2.40
<a href="#">Operative Note Fluids Section</a>	section	2.16.840.1.113883.10.20.7.12
<a href="#">Operative Note Surgical Procedure Section</a>	section	2.16.840.1.113883.10.20.7.14
<a href="#">Plan of Care Section</a>	section	2.16.840.1.113883.10.20.22.2.10
<a href="#">Plan of Care Activity Act</a>	entry	2.16.840.1.113883.10.20.22.4.39
<a href="#">Plan of Care Activity Encounter</a>	entry	2.16.840.1.113883.10.20.22.4.40
<a href="#">Plan of Care Activity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.44
<a href="#">Plan of Care Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.41
<a href="#">Plan of Care Activity Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.42
<a href="#">Plan of Care Activity Supply</a>	entry	2.16.840.1.113883.10.20.22.4.43
<a href="#">Planned Procedure Section</a>	section	2.16.840.1.113883.10.20.22.2.30
<a href="#">Plan of Care Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.41
<a href="#">Procedure Disposition Section</a>	section	2.16.840.1.113883.10.20.18.2.12
<a href="#">Procedure Indications Section</a>	section	2.16.840.1.113883.10.20.22.2.29
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Surgical Drains Section</a>	section	2.16.840.1.113883.10.20.7.13
<a href="#">Postoperative Diagnosis Section</a>	section	2.16.840.1.113883.10.20.22.2.35

### 3.7 Procedure Note

[ClinicalDocument: templateId 2.16.840.1.113883.10.20.22.1.6 (open) ]

Procedure Note is a broad term that encompasses many specific types of non-operative procedures including interventional cardiology, interventional radiology, gastrointestinal endoscopy, osteopathic manipulation, and many other specialty fields. Procedure Notes are documents that are differentiated from Operative Notes in that the procedures documented do not involve incision or excision as the primary act.

The Procedure Note is created immediately following a non-operative procedure and records the indications for the procedure and, when applicable, post-procedure diagnosis, pertinent events of the procedure, and the patient's tolerance of the procedure. The document should be sufficiently detailed to justify the procedure, describe the course of the procedure, and provide continuity of care.

### 3.7.1 Procedure Note Header Constraints

The Procedure Note must conform to the US Realm Clinical Document Header. The following sections include additional header constraints for conformant Procedure Notes

1. **SHALL** contain exactly one [1..1] **templateId** / (CONF:9969) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.1.1"` (CONF:10049).

#### 3.7.1.1 ClinicalDocument/templateId

Conformant documents must carry the document-level templateId asserting conformance with specific constraints of a Procedure Note as well as the templateId for the US Realm Clinical Document Header template.

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:8496) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.1.6"` (CONF:10050).

**Figure 63: Procedure Note ClinicalDocument/templateId category I example**

```
<!-- indicates conformance with US Realm Clinical Document Header template -->
<templateId root="2.16.840.1.113883.10.20.22.1.1"/>
<templateId root= "2.16.840.1.113883.10.20.22.1.6"/>
<!-- conforms to the Procedure Note constraints -->
```

#### 3.7.1.2 ClinicalDocument/code

The Procedure Note limits document type codes to those codes listed in the [LOINC Codes for Procedure Note Documents](#). The tables lists all codes having the scale DOC (document) and a 'component' referring to a non-operative procedure, whether or not the text string "Procedure" is present.

The Procedure Note recommends use of a single document type code, 28570-0 "Procedure Note", with further specification provided by author or performer, setting, or specialty. Some of the LOINC codes in the [LOINC Codes for Procedure Note Documents](#) table are pre-coordinated with the practice setting or the training or professional level of the author. Use of pre-coordinated codes is not recommended because of potential conflict with other information in the header. When these codes are used, any coded values describing the author or performer of the service act or the practice setting must be consistent with the LOINC document type.

3. **SHOULD** contain exactly one [1..1] **code/@code** which **SHALL** be selected from ValueSet ProcedureNoteDocumentTypeCodes 2.16.840.1.113883.11.20.6.1 **DYNAMIC** (CONF:8497).

**Table 37: Procedure Note LOINC Document Type Codes**

Value Set: ProcedureNoteDocumentTypeCodes 2.16.840.1.113883.11.20.6.1 DYNAMIC Code System: LOINC 2.16.840.1.113883.6.1			
<b>LOINC Code</b>	<b>Type of Service 'Component'</b>	<b>Setting 'System'</b>	<b>Specialty/Training/Professional Level 'Method_Type'</b>
<b>Preferred Code</b>			
28570-0	Procedure note	{Setting}	{Provider}
<b>Additional Codes</b>			
11505-5	Procedure note	{Setting}	Physician
18744-3	Study report	Respiratory system	Bronchoscopy
18745-0	Study report	Heart	Cardiac catheterization
18746-8	Study report	Lower GI tract	Colonoscopy
18751-8	Study report	Upper GI tract	Endoscopy
18753-4	Study report	Lower GI tract	Flexible sigmoidoscopy
18836-7	Procedure	Cardiac stress study	*
28577-5	Procedure note	{Setting}	Dentistry
28625-2	Procedure note	{Setting}	Podiatry
29757-2	Study report	Cvx/Vag	Colposcopy
33721-2	Bone marrow biopsy report	Bone mar	
34121-4	Interventional procedure note	{Setting}	
34896-1	Interventional procedure note	{Setting}	Cardiology
34899-5	Interventional procedure note	{Setting}	Gastroenterology
47048-4	Diagnostic interventional study report	{Setting}	Interventional radiology
48807-2	Bone marrow aspiration report	Bone mar	

**Figure 64: Procedure Note ClinicalDocument/code example**

```
<code codeSystem="2.16.840.1.113883.6.1"
      codeSystemName="LOINC"
      code="28570-0"
      displayName="PROCEDURE NOTE"/>
```

### 3.7.1.3 componentOf

4. **SHOULD** contain zero or one [0..1] **componentOf/encompassingEncounter** (CONF:8499).
  - a. This componentOf/encompassingEncounter **SHALL** contain exactly one [1..1] **code** (CONF:8501).
  - b. This componentOf/encompassingEncounter **SHALL** contain at least one [1..\*] **location/healthCareFacility/id** (CONF:8500).
  - c. This componentOf/encompassingEncounter **MAY** contain zero or one [0..1] **encounterParticipant** (CONF:8502) such that it
    - i. **SHALL** contain exactly one [1..1] **@typeCode="REF"** Referrer (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:8503).

### 3.7.1.4 Generic Participant: Primary Care Provider

The participant element in the Procedure Note header follows the General Header Constraints for participants. The [Participant Scenarios](#) table shows a number of scenarios and the values for various participants.

5. **MAY** contain zero or more [0..\*] **participant** (CONF:8504) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode="IND"** Individual (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:8505).
  - b. **SHALL** contain exactly one [1..1] **functionCode="PCP"** Primary Care Physician (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:8506).
  - c. **SHALL** contain exactly one [1..1] **associatedEntity/@classCode="PROV"** Provider (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:8507).
    - i. This associatedEntity/@classCode **SHALL** contain exactly one [1..1] **associatedPerson** (CONF:8508).

### 3.7.1.5 Participant Scenarios

**Table 38: Participant Scenario**

Scenario	Author	Custodian	Data Enterer	Encompassing Encounter/Encounter Participant	Legal Authenticator	Participant	Service Event/Performer
<b>Colonoscopy Participant Scenario:</b> A surgeon refers a patient to an endoscopist. A colonoscopy is performed at an outpatient surgery center. The endoscopist inputs information into an EHR. The outpatient surgery center EHR generates a Procedure Note to send to the Hospital EHR.							
Endoscopic CDA Procedure Note	Endoscopist	Out-patient surgery center	None	Surgeon [REF (referrer)]	Endoscopist	None	Endoscopist
<b>Office Removal of Wart Participation Scenario:</b> A wart is removed during an office visit. The PCP dictates the procedure into the local transcription system. The transcription system generates a CDA Procedure Note to the EHR.							
CDA Procedure Note	PCP	PCP office	Transcriptionist	None	PCP	None	PCP
<b>Dental Procedure Participation Scenario:</b> Dentist extracts a tooth after the patient has a cleaning by the hygenist. He enters the information into his Dental EHR.							
Procedure input to EHR	Dentist	Dentist office	Varies	None	Dentist	None	Dentist Hygenist
<b>Transjugular Intrahepatic Portosystemic Shunt (TIPS) Procedure (Interventional Radiology) Participant Scenario:</b> At a university hospital, a TIPS procedure is performed by the interventional radiology fellow, with the help of an interventional radiology nurse, under the supervision of an attending interventional radiologist. The radiology technician enters the data into the EMR. The patient was referred to the university hospital by his oncologist. The patient is insured by Cigna.							
Procedure Note is input in EHR	Interventional radiology fellow	Good Health Hospital	Interventional radiology technician	REF (referrer) Oncologist	Attending interventional radiologist	Cigna	Interventional radiology fellow Nurse Attending interventional radiologist

Scenario	Author	Custodian	Data Enterer	Encompassing Encounter/ Encounter Participant	Legal Authenticator	Participant	Service Event/ Performer
<b>Lumbar Puncture (spinal tap) Procedure Participant Scenario:</b> At a university hospital, a lumbar puncture is performed by a medical student, with the help of an intern, under the supervisory authority of an attending neurologist. The student performs the procedure and dictates the note. The note is signed by the intern and attending. The patient has a family doctor that is not participating in the procedure, did not refer the patient, and does not have privileges at the providing organization but is recorded in the note.							
Procedure Note is dictated by the medical student	Medical student	Good Health Hospital	Transcriptionist	None	Neurology attending (Intern is authenticator)	Family doctor	Medical student Intern

### 3.7.1.6 serviceEvent

A serviceEvent is required in the Procedure Note to represent the main act, such as a colonoscopy or a cardiac stress study, being documented. It must be equivalent to or further specialize the value inherent in the ClinicalDocument/@code (such as where the ClinicalDocument/@code is simply "Procedure Note" and the procedure is "colonoscopy"), and it shall not conflict with the value inherent in the ClinicalDocument/@code, as such a conflict would create ambiguity. A serviceEvent/effectiveTime element indicates the time the actual event (as opposed to the encounter surrounding the event) took place.

serviceEvent/effectiveTime may be represented two different ways in the Procedure Note. For accuracy to the second, the best method is effectiveTime/low together with effectiveTime/high. If a more general time, such as minutes or hours, is acceptable OR if the duration is unknown, an effectiveTime/low with a width element may be used. If the duration is unknown, the appropriate HL7 null value such as "NI" or "NA" must be used for the width element.

- 6. **SHALL** contain at least one [1..\*] documentationOf (CONF:8510).
  - a. Such documentationOf **SHALL** contain exactly one [1..1] serviceEvent (CONF:10061).
    - i. The value of Clinical Document /documentationOf/serviceEvent/code **SHALL** be from ICD9 CM Procedures (codeSystem 2.16.840.1.113883.6.104), CPT-4 (codeSystem 2.16.840.1.113883.6.12), or values descending from 71388002 (Procedure) from the SNOMED CT (codeSystem 2.16.840.1.113883.6.96) ValueSet [Procedure 2.16.840.1.113883.3.88.12.80.28 DYNAMIC](#). (CONF:8511).
    - ii. This serviceEvent **SHALL** contain exactly one [1..1] effectiveTime (CONF:10062).

1. This effectiveTime **SHALL** contain exactly one [1..1] [US Realm Date and Time \(DT.US.FIELDED\)](#)  
(2.16.840.1.113883.10.20.22.5.3) (CONF:10063)
2. The serviceEvent/effectiveTime **SHALL** be present with effectiveTime/low (CONF:8513).
3. If a width is not present, the serviceEvent/effectiveTime **SHALL** include effectiveTime/high. (CONF:8514)
4. When only the date and the length of the procedure are known a width element **SHALL** be present and the serviceEvent/effectiveTime/high **SHALL** not be present. (CONF:8515).

The performer participant represents clinicians who actually and principally carry out the serviceEvent. Typically, these are clinicians who have the appropriate privileges in their institutions such as gastroenterologists, interventional radiologists, and family practice physicians. Performers may also be non-physician providers (NPPs) who have other significant roles in the procedure such as a radiology technician, dental assistant, or nurse.

- b. **SHALL** contain exactly one [1..1] **performer** (CONF:8520) such that it
  - i. **SHALL** contain exactly one [1..1] @typeCode="PPRF" Primary Performer (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:8521).
  - ii. **SHOULD** contain zero or one [0..1] **code** (CONF:8522).
    1. This code **SHOULD** contain @code, which **SHALL** be selected from ValueSet Healthcare Provider Taxonomy (NUCC - HIPAA) 2.16.840.1.114222.4.11.1066 **DYNAMIC** (CONF:8523).
- c. Any assistants **SHALL** be identified and **SHALL** be identified as secondary performers (SPRF). (CONF:8524).

**Table 39: Healthcare Provider Taxonomy Value Set**

Value Set: Healthcare Provider Taxonomy (NUCC - HIPAA) 2.16.840.1.114222.4.11.1066 <b>DYNAMIC</b>		
Code System(s): NUCC Health Care Provider Taxonomy 2.16.840.1.113883.6.101		
<b>Code</b>	<b>Code System</b>	<b>Print Name</b>
122300000X	NUCC Health Care Provider Taxonomy	Dentist
124Q00000X	NUCC Health Care Provider Taxonomy	Dental Hygienist
126800000X	NUCC Health Care Provider Taxonomy	Dental Assistant/Tech
133V00000X	NUCC Health Care Provider Taxonomy	Dietitian, Registered
146L00000X	NUCC Health Care Provider Taxonomy	EMT/Paramedic
163W00000X	NUCC Health Care Provider Taxonomy	Registered Nurse
163WI0500X	NUCC Health Care Provider Taxonomy	IVT Team Staff
163WI0600X	NUCC Health Care Provider Taxonomy	Infection Control Professional
163WX0106X	NUCC Health Care Provider Taxonomy	Occupational Health Professional

Value Set: Healthcare Provider Taxonomy (NUCC - HIPAA) 2.16.840.1.114222.4.11.1066 DYNAMIC		
Code System(s): NUCC Health Care Provider Taxonomy 2.16.840.1.113883.6.101		
Code	Code System	Print Name
164W00000X	NUCC Health Care Provider Taxonomy	Licensed Practical Nurse
167G00000X	NUCC Health Care Provider Taxonomy	Psychiatric Technician
183500000X	NUCC Health Care Provider Taxonomy	Pharmacist
207PE0004X	NUCC Health Care Provider Taxonomy	Other First Responder
227800000X	NUCC Health Care Provider Taxonomy	Respiratory Therapist/Tech
227900000X	NUCC Health Care Provider Taxonomy	Other Student
246QM0706X	NUCC Health Care Provider Taxonomy	Medical Technologist
246RP1900X	NUCC Health Care Provider Taxonomy	Phlebotomist/IV Team
247100000X	NUCC Health Care Provider Taxonomy	Radiologic Technologist
261QD0000X	NUCC Health Care Provider Taxonomy	Other Dental Worker
261QP2000X	NUCC Health Care Provider Taxonomy	Physical Therapist
261QR1100X	NUCC Health Care Provider Taxonomy	Researcher
332B00000X	NUCC Health Care Provider Taxonomy	Central Supply
363A00000X	NUCC Health Care Provider Taxonomy	Physician Assistant
363L00000X	NUCC Health Care Provider Taxonomy	Nurse Practitioner
364SC1501X	NUCC Health Care Provider Taxonomy	Public Health Worker
367500000X	NUCC Health Care Provider Taxonomy	Nurse Anesthetist
367A00000X	NUCC Health Care Provider Taxonomy	Nurse Midwife
3747A0650X	NUCC Health Care Provider Taxonomy	Attendant/orderly
376K00000X	NUCC Health Care Provider Taxonomy	Nursing Assistant

**Figure 65: Procedure Note serviceEvent example**

```

<serviceEvent classCode="PROC">
  <code code="118155006" codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="Gastrointestinal tract endoscopy"/>
  <effectiveTime>
    <low value="201003292240" />
    <width value="15" unit="m"/>
  </effectiveTime>
  ...
</serviceEvent>

```

**Figure 66: Procedure Note serviceEvent example with null value in width element**

```
<serviceEvent classCode="PROC">
  <code code="118155006" codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="Gastrointestinal tract endoscopy"/>
  <effectiveTime>
    <low value="201003292240" />
    <width nullFlavor="NI"/>
  </effectiveTime>
  ...
</serviceEvent>
```

**Figure 67: Procedure Note performer example**

```
<performer typeCode="PPRF">
  <assignedEntity>
    <id extension="IO00017" root="2.16.840.1.113883.19.5" />
    <code code="207RG0100X"
      codeSystem="2.16.840.1.113883.6.96"
      codeSystemName="NUCC"
      displayName="Gastroenterologist" />
    <addr>
      <streetAddressLine>1001 Hospital Lane</streetAddressLine>
      <city>Ann Arbor</city>
      <state>MI</state>
      <postalCode>99999</postalCode>
      <country>US</country>
    </addr>
    <telecom value="tel:(999) 555-1212" />
    <assignedPerson>
      <name>
        <prefix>Dr.</prefix>
        <given>Tony</given>
        <family>Tum</family>
      </name>
    </assignedPerson>
  </assignedEntity>
</performer>
```

### 3.7.2 Procedure Note Body Constraints

The Procedure Note supports both narrative sections and sections requiring code clinical statements. The required and optional sections are listed in the [Document Types and Required/Optional Sections](#) table. The table below the constraints shows all templates including entries within each section.

1. **SHALL** contain exactly one [1..1] **component** (CONF:9588).
  - a. A Procedure Note can have either a structuredBody or a nonXMLBody (CONF:9589).
    - i. A Procedure Note can conform to CDA Level 1 (nonXMLBody), CDA Level 2 (structuredBody with sections that contain a narrative block), or CDA Level 3 (structuredBody containing sections that contain a

narrative block and coded entries). In this template (templateId 2.16.840.1.113883.10.20.22.1.6), coded entries are optional. (CONF:9590).

- b. If structuredBody, the component/structuredBody **SHALL** conform to the section constraints below (CONF:9595).
- i. Each **section** **SHALL** have a **title** and the **title** **SHALL NOT** be empty (CONF:9937).
  - ii. **SHALL** include an Assessment and Plan Section, or an Assessment Section and a Plan Section. (CONF:9643).
  - iii. **SHALL NOT** include an Assessment/Plan Section when an Assessment Section and a Plan of Care Section are present. (CONF:10064)
  - iv. **MAY** contain zero or one [0..1] [Assessment Section](#) (templateId:2.16.840.1.113883.10.20.22.2.8) (CONF:9645).
  - v. **MAY** contain zero or one [0..1] [Plan of Care Section](#) (templateId:2.16.840.1.113883.10.20.22.2.10) (CONF:9647).
  - vi. **MAY** contain zero or one [0..1] [Assessment and Plan Section](#) (templateId:2.16.840.1.113883.10.20.22.2.9) (CONF:9649).
  - vii. **SHALL** contain exactly one [1..1] [Complications Section](#) (templateId:2.16.840.1.113883.10.20.22.2.37) (CONF:9802).
  - viii. **SHALL** contain exactly one [1..1] [Postprocedure Diagnosis Section](#) (templateId:2.16.840.1.113883.10.20.22.2.36) (CONF:9850).
  - ix. **SHALL** contain exactly one [1..1] [Procedure Description Section](#) (templateId:2.16.840.1.113883.10.20.22.2.27) (CONF:9805).
  - x. **SHALL** contain exactly one [1..1] [Procedure Indications Section](#) (templateId:2.16.840.1.113883.10.20.22.2.29) (CONF:9807).
  - xi. **MAY** contain zero or one [0..1] [Allergies Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.6) (CONF:9809).
  - xii. **MAY** contain zero or one [0..1] [Anesthesia Section](#) (templateId:2.16.840.1.113883.10.20.22.2.25) (CONF:9811).
  - xiii. **SHALL NOT** include a Chief Complaint and Reason for Visit Section with either a Chief Complaint Section or a Reason for Visit Section. (CONF:10065)
  - xiv. **MAY** contain zero or one [0..1] [Chief Complaint Section](#) (templateId:1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1) (CONF:9813).
  - xv. **MAY** contain zero or one [0..1] [Chief Complaint and Reason for Visit Section](#) (templateId:2.16.840.1.113883.10.20.22.2.13) (CONF:9815).
  - xvi. **MAY** contain zero or one [0..1] [Family History Section](#) (templateId:2.16.840.1.113883.10.20.22.2.15) (CONF:9817).
  - xvii. **MAY** contain zero or one [0..1] [History of Past Illness Section](#) (templateId:2.16.840.1.113883.10.20.22.2.20) (CONF:9819).

- xviii. **MAY** contain zero or one [0..1] [History of Present Illness Section](#) (templateId: 1.3.6.1.4.1.19376.1.5.3.1.3.4) (CONF:9821).
- xix. **MAY** contain zero or one [0..1] [Medical \(General\) History Section](#) (templateId:2.16.840.1.113883.10.20.22.2.39) (CONF:9823).
- xx. **MAY** contain zero or one [0..1] [Medications Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.1) (CONF:9825).
- xxi. **MAY** contain zero or one [0..1] [Medications Administered Section](#) (templateId:2.16.840.1.113883.10.20.22.2.38) (CONF:9827).
- xxii. **MAY** contain zero or one [0..1] [Physical Exam Section](#) (templateId:2.16.840.1.113883.10.20.2.10) (CONF:9829).
- xxiii. **MAY** contain zero or one [0..1] [Planned Procedure Section](#) (templateId:2.16.840.1.113883.10.20.22.2.30) (CONF:9831).
- xxiv. **MAY** contain zero or one [0..1] [Procedure Disposition Section](#) (templateId:2.16.840.1.113883.10.20.18.2.12) (CONF:9833).
- xxv. **MAY** contain zero or one [0..1] [Procedure Estimated Blood Loss Section](#) (templateId:2.16.840.1.113883.10.20.18.2.9) (CONF:9835).
- xxvi. **MAY** contain zero or one [0..1] [Procedure Findings Section](#) (templateId:2.16.840.1.113883.10.20.22.2.28) (CONF:9837).
- xxvii. **MAY** contain zero or one [0..1] [Procedure Implants Section](#) (templateId:2.16.840.1.113883.10.20.22.2.40) (CONF:9839).
- xxviii. **MAY** contain zero or one [0..1] [Procedure Specimens Taken Section](#) (templateId:2.16.840.1.113883.10.20.22.2.31) (CONF:9841).
- xxix. **MAY** contain zero or one [0..1] [Procedures Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.7) (CONF:9843).
- xxx. **MAY** contain zero or one [0..1] [Reason for Visit Section](#) (templateId:2.16.840.1.113883.10.20.22.2.12) (CONF:9845).
- xxxi. **MAY** contain zero or one [0..1] [Review of Systems Section](#) (templateId:1.3.6.1.4.1.19376.1.5.3.1.3.18) (CONF:9847).
- xxxii. **MAY** contain zero or one [0..1] [Social History Section](#) (templateId:2.16.840.1.113883.10.20.22.2.17) (CONF:9849).

The following table shows relationships among the templates in the body of a Procedure Note.

**Table 40: Template Containment for a Procedure Note**

Template Title	Template Type	templateId
<a href="#">Procedure Note</a>	document	2.16.840.1.113883.10.20.22.1.6
<a href="#">Assessment Section</a>	section	2.16.840.1.113883.10.20.22.2.8
<a href="#">Plan of Care Section</a>	section	2.16.840.1.113883.10.20.22.2.10
<a href="#">Plan of Care Activity Act</a>	entry	2.16.840.1.113883.10.20.22.4.39
<a href="#">Plan of Care Activity Encounter</a>	entry	2.16.840.1.113883.10.20.22.4.40
<a href="#">Plan of Care Activity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.44
<a href="#">Plan of Care Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.41
<a href="#">Plan of Care Activity Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.42
<a href="#">Plan of Care Activity Supply</a>	entry	2.16.840.1.113883.10.20.22.4.43
<a href="#">Assessment and Plan Section</a>	section	2.16.840.1.113883.10.20.22.2.9
<a href="#">Plan of Care Activity Act</a>	entry	2.16.840.1.113883.10.20.22.4.39
<a href="#">Complications Section</a>	section	2.16.840.1.113883.10.20.22.2.37
<a href="#">Problem Observation</a>	entry	2.16.840.1.113883.10.20.22.4.4
<a href="#">Age Observation</a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#">Health Status Observation</a>	entry	2.16.840.1.113883.10.20.22.4.5
<a href="#">Problem Status</a>	entry	2.16.840.1.113883.10.20.22.4.6
<a href="#">Procedure Description Section</a>	section	2.16.840.1.113883.10.20.22.2.27
<a href="#">Procedure Indications Section</a>	section	2.16.840.1.113883.10.20.22.2.29
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Allergies Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.6
<a href="#">Allergy Problem Act</a>	entry	2.16.840.1.113883.10.20.22.4.30
<a href="#">Allergy Observation</a>	entry	2.16.840.1.113883.10.20.22.4.7
<a href="#">Allergy Status Observation</a>	entry	2.16.840.1.113883.10.20.22.4.28
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#"><u>Precondition for Substance Administration</u></a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#"><u>Medication Dispense</u></a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#"><u>US Realm Address (AD.US.FIELDDED)</u></a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Medication Supply Order</u></a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Procedure Activity Procedure</u></a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#"><u>Indication</u></a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Activity</u></a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#"><u>Drug Vehicle</u></a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#"><u>Indication</u></a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Medication Supply Order</u></a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Precondition for Substance Administration</u></a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#"><u>Medication Dispense</u></a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#"><u>US Realm Address (AD.US.FIELDDED)</u></a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Medication Supply Order</u></a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Product Instance</u></a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#"><u>Service Delivery Location</u></a>	entry	2.16.840.1.113883.10.20.22.4.32

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Anesthesia Section</a>	section	2.16.840.1.113883.10.20.22.2.25
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Chief Complaint Section</a>	section	1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1
<a href="#">Chief Complaint and Reason for Visit Section</a>	section	2.16.840.1.113883.10.20.22.2.13
<a href="#">Family History Section</a>	section	2.16.840.1.113883.10.20.22.2.15
<a href="#">Family History Organizer</a>	entry	2.16.840.1.113883.10.20.22.4.45
<a href="#">Family History Observation</a>	entry	2.16.840.1.113883.10.20.22.4.46
<a href="#">Age Observation</a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#">Family History Death Observation</a>	entry	2.16.840.1.113883.10.20.22.4.47
<a href="#">History of Past Illness Section</a>	section	2.16.840.1.113883.10.20.22.2.20
<a href="#">Problem Observation</a>	entry	2.16.840.1.113883.10.20.22.4.4
<a href="#">Age Observation</a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#">Health Status Observation</a>	entry	2.16.840.1.113883.10.20.22.4.5
<a href="#">Problem Status</a>	entry	2.16.840.1.113883.10.20.22.4.6
<a href="#">History of Present Illness Section</a>	section	1.3.6.1.4.1.19376.1.5.3.1.3.4
<a href="#">Medical (General) History Section</a>	section	2.16.840.1.113883.10.20.22.2.39
<a href="#">Medications Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.1
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medications Administered Section</a>	section	2.16.840.1.113883.10.20.22.2.38
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Physical Exam Section</a>	section	2.16.840.1.113883.10.20.2.10
<a href="#">Planned Procedure Section</a>	section	2.16.840.1.113883.10.20.22.2.30
<a href="#">Plan of Care Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.41
<a href="#">Procedure Disposition Section</a>	section	2.16.840.1.113883.10.20.18.2.12
<a href="#">Procedure Estimated Blood Loss Section</a>	section	2.16.840.1.113883.10.20.18.2.9
<a href="#">Procedure Findings Section</a>	section	2.16.840.1.113883.10.20.22.2.28
<a href="#">Problem Observation</a>	entry	2.16.840.1.113883.10.20.22.4.4
<a href="#">Age Observation</a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#">Health Status Observation</a>	entry	2.16.840.1.113883.10.20.22.4.5
<a href="#">Problem Status</a>	entry	2.16.840.1.113883.10.20.22.4.6
<a href="#">Procedure Implants Section</a>	section	2.16.840.1.113883.10.20.22.2.40
<a href="#">Procedure Specimens Taken Section</a>	section	2.16.840.1.113883.10.20.22.2.31
<a href="#">Procedures Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.7
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Procedure Activity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.13
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#"><u>US Realm Address (AD.US.FIELDDED)</u></a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Medication Supply Order</u></a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Service Delivery Location</u></a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#"><u>Procedure Activity Act</u></a>	entry	2.16.840.1.113883.10.20.22.4.12
<a href="#"><u>Indication</u></a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Activity</u></a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#"><u>Drug Vehicle</u></a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#"><u>Indication</u></a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Medication Supply Order</u></a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Reaction Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#"><u>Procedure Activity Procedure</u></a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#"><u>Indication</u></a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Product Instance</u></a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#"><u>Service Delivery Location</u></a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#"><u>Severity Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#"><u>Precondition for Substance Administration</u></a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#"><u>Medication Dispense</u></a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#"><u>US Realm Address (AD.US.FIELDDED)</u></a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Medication Supply Order</u></a>	entry	2.16.840.1.113883.10.20.22.4.17

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Service Delivery Location</u></a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#"><u>Reason for Visit Section</u></a>	section	2.16.840.1.113883.10.20.22.2.12
<a href="#"><u>Review of Systems Section</u></a>	section	1.3.6.1.4.1.19376.1.5.3.1.3.18
<a href="#"><u>Social History Section</u></a>	section	2.16.840.1.113883.10.20.22.2.17
<a href="#"><u>Social History Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.38
<a href="#"><u>Pregnancy Observation</u></a>	entry	2.16.840.1.113883.10.20.15.3.8
<a href="#"><u>Estimated Date of Delivery</u></a>	entry	2.16.840.1.113883.10.20.15.3.1
<a href="#"><u>Postprocedure Diagnosis Section</u></a>	section	2.16.840.1.113883.10.20.22.2.36
<a href="#"><u>Postprocedure Diagnosis</u></a>	entry	2.16.840.1.113883.10.20.22.4.51
<a href="#"><u>Problem Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.4
<a href="#"><u>Age Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#"><u>Health Status Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.5
<a href="#"><u>Problem Status</u></a>	entry	2.16.840.1.113883.10.20.22.4.6

## 3.8 Progress Note

[ClinicalDocument: templateId 2.16.840.1.113883.10.20.22.1.9 (open)]

A Progress Note documents a patient's clinical status during a hospitalization or outpatient visit; thus, it is associated with an encounter.

Taber's<sup>25</sup> medical dictionary defines a Progress Note as "An ongoing record of a patient's illness and treatment. Physicians, nurses, consultants, and therapists record their notes concerning the progress or lack of progress made by the patient between the time of the previous note and the most recent note."

Mosby's<sup>26</sup> medical dictionary defines a Progress Note as "Notes made by a nurse, physician, social worker, physical therapist, and other health care professionals that describe the patient's condition and the treatment given or planned."

A Progress Note is not a re-evaluation note. A Progress Note is not intended to be a Progress Report for Medicare. Medicare B Section 1833(e) defines the requirements of a Medicare Progress Report.

### 3.8.1 Progress Note Header Constraints

The Progress Note must conform to the US Realm Clinical Document Header. The following sections include additional header constraints for conformant Progress Notes.

<sup>25</sup> Taber's Cyclopedic Medical Dictionary, 21st Edition, F.A. Davis Company. <http://www.tabers.com>

<sup>26</sup> Mosby's Medical Dictionary, 8th edition. © 2009, Elsevier.

1. **SHALL** contain exactly one [1..1] **templateId** / (CONF:9483) such that it
  - a. **SHALL** contain exactly one [1..1]  
**templateId/@root="2.16.840.1.113883.10.20.22.1.1"** (CONF:10051).

### 3.8.1.1 ClinicalDocument/templateId

Conformant documents must carry the document-level templateId asserting conformance with specific constraints of a Progress Note as well as the templateId for the US Realm Clinical Document Header template.

The following asserts conformance to a Progress Note.

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:7588) such that it
  - a. **SHALL** contain exactly one [1..1]  
**@root="2.16.840.1.113883.10.20.22.1.9"** (CONF:10052).

**Figure 68: Progress Note ClinicalDocument/templateId example**

```
<!-- indicates conformance with US Realm Clinical Document Header template -->
<templateId root="2.16.840.1.113883.10.20.22.1.1"/>
<!-- conforms to the Progress Note -->
<templateId root="2.16.840.1.113883.10.20.22.1.9"/>
```

### 3.8.1.2 ClinicalDocument/code

The Progress Note limits document type codes to those codes listed in the [Progress Note LOINC Document Codes](#), as of publication of this implementation guide. This is a dynamic value set meaning that these codes may be added to or deprecated by LOINC. The table lists all codes that have the scale DOC (document) and a ‘component’ referring to “subsequent evaluation notes”.

The Progress Note recommends use of a single document type code, 11506-3 "Subsequent evaluation note", with further specification provided by author or performer, setting, or specialty. Some of the LOINC codes in the [Progress Note LOINC Document Codes](#) table are pre-coordinated with the practice setting or the training or professional level of the author. Use of pre-coordinated codes is not recommended because of potential conflict with other information in the header. When these pre-coordinated codes are used, any coded values describing the author or performer of the service act or the practice setting must be consistent with the LOINC document type. Note: The LOINC display name "Subsequent evaluation note" is equivalent to Progress Note.

3. **SHALL** contain exactly one [1..1] **code/@code**, which **SHALL** be selected from ValueSet **ProgressNoteDocumentTypeCode** 2.16.840.1.113883.11.20.8.1 **DYNAMIC** (CONF:7589).

**Table 41: Progress Note LOINC Document Codes**

Value Set: ProgressNoteDocumentTypeCode 2.16.840.1.113883.11.20.8.1 DYNAMIC Code System: LOINC 2.16.840.1.113883.6.1			
LOINC Code	Type of Service 'Component'	Setting 'System'	Specialty/Training/Professional Level 'Method_Type'
<b>Preferred Code</b>			
11506-3	Subsequent evaluation note	{Setting}	{Provider}
<b>Additional Codes</b>			
18733-6	Subsequent evaluation note	{Setting}	Attending physician
18762-5	Subsequent evaluation note	{Setting}	Chiropractor
28569-2	Subsequent evaluation note	{Setting}	Consulting physician
28617-9	Subsequent evaluation note	{Setting}	Dentistry
34900-1	Subsequent evaluation note	{Setting}	General medicine
34904-3	Subsequent evaluation note	{Setting}	Mental health
18764-1	Subsequent evaluation note	{Setting}	Nurse practitioner
28623-7	Subsequent evaluation note	{Setting}	Nursing
11507-1	Subsequent evaluation note	{Setting}	Occupational therapy
11508-9	Subsequent evaluation note	{Setting}	Physical therapy
11509-7	Subsequent evaluation note	{Setting}	Podiatry
28627-8	Subsequent evaluation note	{Setting}	Psychiatry
11510-5	Subsequent evaluation note	{Setting}	Psychology
28656-7	Subsequent evaluation note	{Setting}	Social service
11512-1	Subsequent evaluation note	{Setting}	Speech therapy
34126-3	Subsequent evaluation note	Critical care unit	{Provider}
15507-7	Subsequent evaluation note	Emergency ...	{Provider}
34129-7	Subsequent evaluation note	Home health	{Provider}
34125-5	Subsequent evaluation note	Home health care	Case manager
34130-5	Subsequent evaluation note	Hospital	{Provider}
34131-3	Subsequent evaluation note	Outpatient	{Provider}
34124-8	Subsequent evaluation note	Outpatient	Cardiology
34127-1	Subsequent evaluation note	Outpatient	Dental hygienist
34128-9	Subsequent evaluation note	Outpatient	Dentistry
34901-9	Subsequent evaluation note	Outpatient	General medicine
34132-1	Subsequent evaluation note	Outpatient	Pharmacy

**Figure 69: Progress Note ClinicalDocument/code example**

```
<code codeSystem="2.16.840.1.113883.6.1"
      codeSystemName="LOINC" code="11056-3"
      displayName="Subsequent evaluation note"/>
<title>Progress Note</title>
```

### 3.8.1.3 documentationOf

A documentationOf can contain a serviceEvent to further specialize the act inherent in the ClinicalDocument/code.

In a Progress Note, a serviceEvent can represent the event of writing the Progress Note. The serviceEvent/effectiveTime is the time period the note documents.

4. **SHOULD** contain zero or one [0..1] **documentationOf** (CONF:7603).
  - a. **SHALL** contain exactly one [1..1] **serviceEvent/@classCode="PCPR"** (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7604).
    - i. **SHALL** contain exactly one [1..1] **templateId** (CONF:9480) such that it
      1. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.21.3.1"** (CONF:10068).
    - ii. **SHOULD** contain exactly one [1..1] **effectiveTime** (CONF:9481).
      1. The serviceEvent/effectiveTime **SHALL** contain exactly one [1..1] **US Realm Date and Time (DT.US.FIELDED)** (2.16.840.1.113883.10.20.22.5.3) (CONF:10137)
      2. The serviceEvent/effectiveTime element **SHOULD** be present with effectiveTime/low element (CONF:9482).
      3. If a width element is not present, the serviceEvent **SHALL** include effectiveTime/high (CONF:10066).

**Figure 70: Progress Note serviceEvent example**

```
<documentationOf>
  <serviceEvent classCode="PCPR">
    <templateId root="2.16.840.1.113883.10.20.21.3.1"/>
    <effectiveTime>
      <low value="200503291200"/>
      <high value="200503291400"/>
    </effectiveTime>
    ...
  </serviceEvent>
</documentationOf>
```

### 3.8.1.4 componentOf

The Progress Note is always associated with an encounter by the componentOf/encompassingEncounter element in the header.

The effectiveTime element for an encompassingEncounter represents the time or time interval in which the encounter took place. A single encounter may contain multiple Progress Notes; hence the effectiveTime elements for a Progress Note (recorded in serviceEvent) and for an encounter (recorded in encompassingEncounter) represent different time intervals.

All visits take place at a specific location. When available, the location ID is included in the encompassingEncounter/location/healthCareFacility/id element.

5. **SHALL** contain exactly one [1..1] **componentOf** (CONF:7595).
- This componentOf **SHALL** contain exactly one [1..1] **encompassingEncounter** (CONF:7596).
    - This encompassingEncounter **SHALL** contain at least [1..\*] **id** (CONF:7597).
    - This encompassingEncounter **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:7598).
      - This effectiveTime **SHALL** contain exactly one [1..1] [US Realm Date and Time \(DT.US.FIELDDED\)](#) (2.16.840.1.113883.10.20.22.5.3) (CONF:10138).
      - This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:7599).
    - This encompassingEncounter **SHALL** contain exactly one [1..1] **location/healthCareFacility/id** (CONF:7611).

**Figure 71: Progress Note componentOf example**

```
<componentOf>
  <encompassingEncounter>
    <id extension="9937012" root="2.16.840.1.113883.19"/>
    <effectiveTime>
      <low value="20050329"/>
      <high value="20050329"/>
    </effectiveTime>
    <location>
      <healthCareFacility>
        <id root="2.16.540.1.113883.19.2"/>
      </healthCareFacility>
    </location>
  </encompassingEncounter>
</componentOf>
```

### 3.8.2 Progress Note Body Constraints

The Progress Note supports both narrative sections and sections requiring code clinical statements. The sections are listed in the table below and in the [Document Types and Required/Optional Sections](#) table. The table below the constraints shows all templates including entries within each section.

- SHALL** contain exactly one [1..1] **component** (CONF:9591).
  - A Progress Note can have either a structuredBody or a nonXMLBody (CONF:9592).
    - A Progress Note can conform to CDA Level 1 (nonXMLBody), CDA Level 2 (structuredBody with sections that contain a narrative block), or CDA Level 3 (structuredBody containing sections that contain a narrative block and coded entries). In this template (templateId 2.16.840.1.113883.10.20.22.1.9), coded entries are optional (CONF:9593).

- b. If structuredBody, the component/structuredBody **SHALL** conform to the section constraints below (CONF:9594).
- i. **SHALL** include an Assessment and Plan Section, or an Assessment Section and a Plan Section. (CONF:8704).
  - ii. **SHALL NOT** include an Assessment/Plan Section when an Assessment Section and a Plan of Care Section are present. (CONF:10069)
  - iii. **MAY** contain zero or one [0..1] [Assessment Section](#) (templateId:2.16.840.1.113883.10.20.22.2.8) (CONF:8776).
  - iv. **MAY** contain zero or one [0..1] [Plan of Care Section](#) (templateId:2.16.840.1.113883.10.20.22.2.10) (CONF:8775). **MAY** contain zero or one [0..1] [Assessment and Plan Section](#) (templateId:2.16.840.1.113883.10.20.22.2.9) (CONF:8774).
  - v. **MAY** contain zero or one [0..1] [Allergies Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.6) (CONF:8773).
  - vi. **MAY** contain zero or one [0..1] [Chief Complaint Section](#) (templateId:1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1) (CONF:8772).
  - vii. **MAY** contain zero or one [0..1] [Interventions Section](#) (templateId:2.16.840.1.113883.10.20.21.2.3) (CONF:8778).
  - viii. **MAY** contain zero or one [0..1] [Medications Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.1) (CONF:8771).
  - ix. **MAY** contain zero or one [0..1] [Objective Section](#) (templateId:2.16.840.1.113883.10.20.21.2.1) (CONF:8770).
  - x. **MAY** contain zero or one [0..1] [Physical Exam Section](#) (templateId:2.16.840.1.113883.10.20.2.10) (CONF:8780).
  - xi. **MAY** contain zero or one [0..1] [Problem Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.5) (CONF:8786).
  - xii. **MAY** contain zero or one [0..1] [Results Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.3) (CONF:8782).
  - xiii. **MAY** contain zero or one [0..1] [Review of Systems Section](#) (templateId:1.3.6.1.4.1.19376.1.5.3.1.3.18) (CONF:8788).
  - xiv. **MAY** contain zero or one [0..1] [Subjective Section](#) (templateId:2.16.840.1.113883.10.20.21.2.2) (CONF:8790).
  - xv. **MAY** contain zero or one [0..1] [Vital Signs Section \(entries optional\)](#) (templateId:2.16.840.1.113883.10.20.22.2.4) (CONF:8784).

The following table shows relationships among the templates in the body of a Progress Note.

**Table 42: Template Containment for a Progress Note**

Template Title	Template Type	templateId
<a href="#">Progress Note</a>	document	2.16.840.1.113883.10.20.22.1.9
<a href="#">Objective Section</a>	section	2.16.840.1.113883.10.20.21.2.1
<a href="#">Medications Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.1
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Chief Complaint Section</a>	section	1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1
<a href="#">Allergies Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.6
<a href="#">Allergy Problem Act</a>	entry	2.16.840.1.113883.10.20.22.4.30

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Allergy Observation</a>	entry	2.16.840.1.113883.10.20.22.4.7
<a href="#">Allergy Status Observation</a>	entry	2.16.840.1.113883.10.20.22.4.28
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Activity</a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#">Drug Vehicle</a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#">Indication</a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Medication Dispense</a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#">US Realm Address (AD.US.FIELDDED)</a>	unspecified	2.16.840.1.113883.10.20.22.5.2
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Medication Supply Order</a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#">Immunization Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#">Instructions</a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#">Medication Information</a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Assessment and Plan Section</a>	section	2.16.840.1.113883.10.20.22.2.9
<a href="#">Plan of Care Activity Act</a>	entry	2.16.840.1.113883.10.20.22.4.39
<a href="#">Plan of Care Section</a>	section	2.16.840.1.113883.10.20.22.2.10
<a href="#">Plan of Care Activity Act</a>	entry	2.16.840.1.113883.10.20.22.4.39
<a href="#">Plan of Care Activity Encounter</a>	entry	2.16.840.1.113883.10.20.22.4.40
<a href="#">Plan of Care Activity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.44
<a href="#">Plan of Care Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.41
<a href="#">Plan of Care Activity Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.42
<a href="#">Plan of Care Activity Supply</a>	entry	2.16.840.1.113883.10.20.22.4.43
<a href="#">Assessment Section</a>	section	2.16.840.1.113883.10.20.22.2.8
<a href="#">Interventions Section</a>	section	2.16.840.1.113883.10.20.21.2.3
<a href="#">Physical Exam Section</a>	section	2.16.840.1.113883.10.20.2.10
<a href="#">Results Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.3
<a href="#">Result Organizer</a>	entry	2.16.840.1.113883.10.20.22.4.1
<a href="#">Result Observation</a>	entry	2.16.840.1.113883.10.20.22.4.2
<a href="#">Vital Signs Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.4
<a href="#">Vital Signs Organizer</a>	entry	2.16.840.1.113883.10.20.22.4.26
<a href="#">Vital Sign Observation</a>	entry	2.16.840.1.113883.10.20.22.4.27
<a href="#">Problem Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.5
<a href="#">Problem Concern Act (Condition)</a>	entry	2.16.840.1.113883.10.20.22.4.3
<a href="#">Problem Observation</a>	entry	2.16.840.1.113883.10.20.22.4.4
<a href="#">Age Observation</a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#">Health Status Observation</a>	entry	2.16.840.1.113883.10.20.22.4.5
<a href="#">Problem Status</a>	entry	2.16.840.1.113883.10.20.22.4.6

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Review of Systems Section</a>	section	1.3.6.1.4.1.19376.1.5.3.1.3.18
<a href="#">Subjective Section</a>	section	2.16.840.1.113883.10.20.21.2.2

## 3.9 Unstructured Document

[ClinicalDocument: templateId 2.16.840.1.113883.10.20.21.1.10 (open)]

An unstructured document is a document which is used when the patient record is captured in an unstructured format that is encapsulated within an image file or as unstructured text in an electronic file such as a word processing or Portable Document Format (PDF) document.

There is a need to raise the level of interoperability for these documents to provide full access to the longitudinal patient record across a continuum of care. Until this gap is addressed, image and multi-media files will continue to be a portion of the patient record that remains difficult to access and share with all participants in a patient's care. The Unstructured Document type addresses this gap by providing consistent guidance on the use of CDA for such documents.

An Unstructured Document (UD) document type can (1) include unstructured content, such as a graphic, directly in a text element with a `mediaType` attribute, or (2) reference a single document file, such as a word-processing document, using a `text/reference` element.

For guidance on how to handle multiple files, on the selection of media types for this IG, and on the identification of external files, see the subsections which follow the constraints below.

IHE's XDS-SD (Cross-Transaction Specifications and Content Specifications, Scanned Documents Module) profile addresses a similar, more restricted use case, specifically for scanned documents or documents electronically created from existing text sources, and limits content to PDF-A or text. This Unstructured Documents implementation guide is applicable not only for scanned documents in non-PDF formats, but also for clinical documents produced through word processing applications, etc.

For conformance with both specifications, please review the appendix on [XDS-SD and US Realm Clinical Document Header Comparison](#) and ensure that your documents at a minimum conform to all the **SHALL** constraints from either specification<sup>27</sup>.

### 3.9.1 Unstructured Document Header Constraints

An Unstructured Document must conform to the US Realm Clinical Document Header. The following sections include additional header constraints for conformant Unstructured Documents.

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<sup>27</sup> Note that the Consolidation Project is providing a number of change requests to IHE. One of those recommendations should be the elimination of these discrepancies so that the IHE profile is a proper subset of this guide.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:9970) such that it
  - a. **SHALL** contain exactly one [1..1]  
**templateId/@root="2.16.840.1.113883.10.20.22.1.1"** (CONF:10053).

### 3.9.1.1 ClinicalDocument/templateId

Conformant Unstructured Documents must carry the document-level templateId asserting conformance with this guide.

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:7710) such that it
  - a. **SHALL** contain exactly one [1..1]  
**@root="2.16.840.1.113883.10.20.22.1.10"** (CONF:10054).

### 3.9.1.2 recordTarget

The recordTarget element records the patient or patients whose health information is recorded in the Unstructured Documents instance. The following constraint is an addition to those in the US Realm Clinical Document Header.

3. **SHALL** contain exactly one [1..1] **recordTarget/patientRole/id** (CONF:7643).

### 3.9.1.3 Author

The author represents the person who created the original document.

If the referenced document is a scan, the person who did the scan must be recorded in dataEnterer.

The following constraints are in addition to those in the US Realm Clinical Document Header.

4. **SHALL** contain exactly one [1..1] **author/assignedAuthor** (CONF:7640).
  - a. This author/assignedAuthor **SHALL** contain exactly one [1..1] **addr** (CONF:7641).
  - b. This author/assignedAuthor **SHALL** contain exactly one [1..1] **telecom** (CONF:7642).

### 3.9.1.4 Custodian

The following constraints are in addition to those in the US Realm Header.

5. **SHALL** contain exactly one [1..1]  
**custodian/assignedCustodian/representedCustodianOrganization** (CONF:7645).
  - a. This custodian/assignedCustodian/representedCustodianOrganization **SHALL** contain exactly one [1..1] **id** (CONF:7648).
  - b. This custodian/assignedCustodian/representedCustodianOrganization **SHALL** contain exactly one [1..1] **name** (CONF:7649).
  - c. This custodian/assignedCustodian/representedCustodianOrganization **SHALL** contain exactly one [1..1] **telecom** (CONF:7650).

- d. This custodian/assignedCustodian/representedCustodianOrganization **SHALL** contain exactly one [1..1] **addr** (CONF:7651).

### 3.9.2 Unstructured Document Body Constraints

An Unstructured Document must include a **nonXMLBody** component with a single **text** element. The **text** element can reference an external file using a **reference** element, or include unstructured content directly with a **mediaType** attribute.

The **nonXMLBody/text** element also has a "compression" attribute that can be used to indicate that the unstructured content was compressed before being Base64Encoded. At a minimum, a compression value of "DF" for the deflate compression algorithm (RFC 1951 [<http://www.ietf.org/rfc/rfc1951.txt>]) must be supported although it is not required that content be compressed.

- 6. **SHALL** contain exactly one [1..1] **component/nonXMLBody** (CONF:7620).
  - a. This component/nonXMLBody **SHALL** contain exactly one [1..1] **text** (CONF:7622).
    - i. The **text** element **SHALL** either contain a **reference** element with a **value** attribute, or have a representation attribute with the value of B64, a **mediaType** attribute, and contain the media content. (CONF:7623).
      - 1. The value of @**mediaType**, if present, **SHALL** be drawn from the value set 2.16.840.1.113883.11.20.7.1 SupportedFileFormats **STATIC** 20100512. (CONF:7624).

**Table 43: Supported File Formats Value Set (Unstructured Documents)**

Value Set: SupportedFileFormats 2.16.840.1.113883.11.20.7.1 STATIC 20100512	
Word Processing/Narrative Formats	Code
MSWord	application/msword*
PDF	application/pdf
Plain Text	text/plain
RTF Text	text/rtf
HTML	text/html
Graphic Formats	Code
GIF Image	image/gif
TIF Image	image/tiff
JPEG Image	image/jpeg
PNG Image	image/png

\* The developers explicitly excluded newer versions of MSWord because they are well-formed, structured XML documents, which are not appropriate in an Unstructured Document. MSWord versions after 2007 have media type: application/vnd.openxmlformats-officedocument.wordprocessingml.document.

**Figure 72: nonXMLBody example with embedded content**

```
<component>
  <nonXMLBody>
    <text mediaType="text/rtf" representation="B64">e1xydGY...</text>
  </nonXMLBody>
</component>
```

**Figure 73: nonXMLBody example with referenced content**

```
<component>
  <nonXMLBody>
    <text>
      <reference value="UD_sample.pdf"/>
    </text>
  </nonXMLBody>
</component>
```

**Figure 74: nonXMLBody example with compressed content**

```
<component>
  <nonXMLBody>
    <text mediaType="text/rtf" representation="B64"
          compression="DF">dhUhkasd437hbjfQS7...</text>
  </nonXMLBody>
</component>
```

### 3.9.2.1 Multiple Files and File Packaging

If multiple files, such as several scanned files, constitute a single document, options include: use a CDA document type that has a `structuredBody`, use a multi-page/graphic file type such as PDF, or stitch the separate images into a single image.

For guidance on how to package a CDA Unstructured Document together with an unstructured document it references, see the [MIME Multipart/Related Messages](#) appendix.

### 3.9.2.2 Media Types Supported

The Unstructured Document model does not support all possible file formats and it excludes structured formats such as generic XML. The media types supported are commonly used within a healthcare setting as part of the patient record.

The CDA Data Types specification<sup>28</sup> provides an extensible value set of MIME (Multipurpose Internet Mail Extensions) media types that are supported by base CDA. Exclusions from and extensions to that list are discussed below.

**Media type exclusions.** This guide restricts usage of media types listed in the CDA Data Types specification. In the absence of a use case for a video format as part of the patient record, video formats are not included. However, an unstructured document can link to a video or other file format; for example, a Microsoft Word file can contain a link to a video.

**Media type extensions.** Although the CDA Data Types specification indicates that ‘application/msword’ should not be used, that format is very common in use cases that apply to Unstructured Documents, and this guide allows it. The usage applies only to documents in binary format; it is not appropriate for rich text format (RTF) which has a separate MIME type, or the .docx format, which is not currently recommended for use in an Unstructured Document.

**Local policy.** Some content formats—in particular, tagged-image file format (TIFF)—entail further complexity. While this guide allows TIFF because it is in common use, its variants introduce profound interoperability issues: local implementations would establish policy to ensure appropriate interoperability. Microsoft Word binary formats entail similar issues.

### 3.9.2.3 Identification of Referenced Files

The example code in this section and in the sample file use simple filenames with relative paths because they are easy to read as examples. However, simple filenames and relative paths can cause problems when files are moved among systems.

The hazard to be avoided can be illustrated as follows: Suppose an Unstructured Document that references a file "ekg.pdf" is transmitted to a receiver who places that Unstructured Document in a directory that already contains an Unstructured Document for another patient, which also references a file "ekg.pdf". Now the patient header information for the transmitted document is associated with the ekg.pdf of the

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<sup>28</sup> <http://www.hl7.org/v3ballot/html/infrastructure/datatypes/datatypes.htm>

previously-existing document. Thus, the use of relative paths and simple filenames can pose a danger to patient safety.

The alternative of providing an absolute URL (Uniform Resource Locator) will fail if the URL is inaccessible; even within a single organization, machine identifiers may be mapped differently at different locations.

Therefore this guide, while it cannot specify business practices, recommends the use of unique names for referenced files.

One approach to generating a unique name is to construct it from the globally-unique document id (root and extension) concatenated to a locally unique reference for the external file. The following figure illustrates this technique used with a CDA document that has an id root 2.16.840.1.113883.19 and extension 999021.

**Figure 75: Unique file reference example**

```
<reference value="ref-2.16.840.1.113883.19-999021-ekg-1.pdf"/>
```

## 4 SECTION-LEVEL TEMPLATES

This section contains the section-level templates referenced by one or more of the document types of this consolidated guide. These templates describe the purpose of each section and the section-level constraints.

Section-level templates are always included in a document.

Each section-level template contains the following:

- Template metadata (e.g., templateId, etc.)
- Description and explanatory narrative
- LOINC section code
- Section title
- Requirements for a text element
- Entry-level template names and Ids for referenced templates (required and optional)

### Narrative Text

The text element within the section stores the narrative to be rendered, as described in the CDA R2 specification<sup>29</sup>, and is referred to as the CDA narrative block.

The content model of the CDA narrative block schema is hand crafted to meet requirements of human readability and rendering. The schema is registered as a MIME type (text/x-hl7-text+xml), which is the fixed media type for the text element.

As noted in the CDA R2 specification, the document originator is responsible for ensuring that the narrative block contains the complete, human readable, attested content of the section. Structured entries support computer processing and computation and are not a replacement for the attestable, human-readable content of the CDA narrative block. The special case of structured entries with an entry relationship of "DRIV" (is derived from) indicates to the receiving application that the source of the narrative block is the structured entries, and that the contents of the two are clinically equivalent.

As for all CDA documents—even when a report consisting entirely of structured entries is transformed into CDA—the encoding application must ensure that the authenticated content (narrative plus multimedia) is a faithful and complete rendering of the clinical content of the structured source data. As a general guideline, a generated narrative block should include the same human readable content that would be available to users viewing that content in the originating system. Although content formatting in the narrative block need not be identical to that in the originating system, the narrative block should use elements from the CDA narrative block schema to provide sufficient formatting to support human readability when rendered according to the rules defined in Section Narrative Block (§ 4.3.5 ) of the CDA R2 specification.

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<sup>29</sup> HL7 Clinical Document Architecture, Release 2.0.

<http://www.hl7.org/v3ballot/html/infrastructure/cda/cda.htm>

By definition, a receiving application cannot assume that all clinical content in a section (i.e., in the narrative block and multimedia) is contained in the structured entries unless the entries in the section have an entry relationship of "DRIV".

Additional specification information for the CDA narrative block can be found in the CDA R2 specification in sections 1.2.1, 1.2.3, 1.3, 1.3.1, 1.3.2, 4.3.4.2, and 6.

### **Required and Optional Sections**

The table on [Sections and Required/Optional Document Types](#) summarizes the use and reuse of section-level templates across the document types. Note that the constraints for the entry templates themselves are contained in the [entry-level templates](#) section of this guide. The templates required for the Final Rules on Stage 1 Meaningful Use are noted by an "R" in the last column of the table.

**Table 44: Sections and Required/Optional Document Types with Structured Body**

Section Name	LOINC	templateId Coded Entries Required Coded Entries Optional	CCD	Consultation Note	Diagnostic Imaging Report	Discharge Summary	H&P Note	Operative Note	Procedure Note	Progress Note	Unstructured Document	Stage 1 Meaningful Use
<a href="#">Advance Directives</a>	42348-3	— 2.16.840.1.113883.10.20.22.2.21	O		-	-	-	-	-	-	*	
Addendum	55107-7	—	-	-	O	-	-	-	-	-	*	
<a href="#">Allergies</a>	48765-2	2.16.840.1.113883.10.20.22.2.6.1 2.16.840.1.113883.10.20.22.2.6	R	O	-	R	R	-	O	O	*	R
<a href="#">Anesthesia</a>	59774-0	— 2.16.840.1.113883.10.20.22.2.25	-	-	-	-	-	R	O	-	*	
<a href="#">Assessment **</a>	51848-0	— 2.16.840.1.113883.10.20.22.2.8	-	R	-	-	R	-	R	-	*	
<a href="#">Assessment and Plan**</a>	51847-2	— 2.16.840.1.113883.10.20.22.2.9	-	R	-	-	R	-	R	R	*	
<a href="#">Chief Complaint***</a>	10154-3	1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1		O		O	R		O	O		
<a href="#">Chief Complaint and Reason for Visit***</a>	46239-0	— 2.16.840.1.113883.10.20.22.2.13	-	R	-	O	R	-	O	-	*	
Clinical Presentation	55108-5	—	-	-	O	-	-	-	-	-	*	

<b>Section Name</b>	<b>LOINC</b>	<b>templateId</b> <b>Coded Entries Required</b> <b>Coded Entries Optional</b>	<b>CCD</b>	<b>Consultation Note</b>	<b>Diagnostic Imaging Report</b>	<b>Discharge Summary</b>	<b>H&amp;P Note</b>	<b>Operative Note</b>	<b>Procedure Note</b>	<b>Progress Note</b>	<b>Unstructured Document</b>	<b>Stage 1 Meaningful Use</b>
<a href="#">Complications</a>	55109-3	— 2.16.840.1.113883.10.20.22.2.37	—	— O	—	— R	R	—	*			
Conclusions	55110-1	—	—	— O	—	— —	—	—	—	*		
Current Imaging Procedure Descriptions	55111-9	—	—	— O	—	— —	—	—	—	*		
<a href="#">DICOM Object Catalog</a>	121181 (DCM)	2.16.840.1.113883.10.20.6.1.1 —	—	— R	—	— —	—	—	—			
<a href="#">Discharge Diet</a>	42344-2	— 1.3.6.1.4.1.19376.1.5.3.1.3.33	—	— —	O	—	—	—	—	*		
Document Summary	55112-7	—	—	— O	—	— —	—	—	—	*		
<a href="#">Encounters</a>	46240-8	— 2.16.840.1.113883.10.20.22.2.22	O	— —	—	— —	—	—	—	*		
<a href="#">Family History</a>	10157-6	— 2.16.840.1.113883.10.20.22.2.15	O	O —	O	R	—	O	—	*		
<a href="#">Findings (Radiology Study - Observation)</a>	18782-3	— 2.16.840.1.113883.10.20.6.1.2	—	— R	—	— —	—	—	—	*		
<a href="#">Functional Status</a>	47420-5	— 2.16.840.1.113883.10.20.22.2.14	O	— —	O	—	—	—	—	*		
<a href="#">General Status</a>	10210-3	— 2.16.840.1.113883.10.20.2.5	—	O —	—	R	—	—	—			
<a href="#">History of Past Illness (Past Medical History)</a>	11348-0	— 2.16.840.1.113883.10.20.22.2.20	—	O —	O	O	—	O	—	*		
<a href="#">History of Present Illness</a>	10164-2	— 1.3.6.1.4.1.19376.1.5.3.1.3.4	—	R —	O	O	—	O	—	*		

<b>Section Name</b>	<b>LOINC</b>	<b>templateId Coded Entries Required Coded Entries Optional</b>	<b>CCD</b>	<b>Consultation Note</b>	<b>Diagnostic Imaging Report</b>	<b>Discharge Summary</b>	<b>H&amp;P Note</b>	<b>Operative Note</b>	<b>Procedure Note</b>	<b>Progress Note</b>	<b>Unstructured Document</b>	<b>Stage 1 Meaningful Use</b>
<a href="#">Hospital Admission Diagnosis</a>	46241-6	— 2.16.840.1.113883.10.20.22.2.43			O							
<a href="#">Hospital Consultation</a>	18841-7	— 2.16.840.1.113883.10.20.22.2.42			O							
<a href="#">Hospital Course</a>	8648-8	— 1.3.6.1.4.1.19376.1.5.3.1.3.5	—	—	R	—	—	—	—	*		
<a href="#">Hospital Discharge Diagnosis</a>	11535-2	— 2.16.840.1.113883.10.20.22.2.24	—	—	R	—	—	—	—	*		
<a href="#">Hospital Discharge Instructions</a>	8653-8	— 2.16.840.1.113883.10.20.22.2.41			O							
<a href="#">Hospital Discharge Medications</a>	10183-2	2.16.840.1.113883.10.20.22.2.11.1 2.16.840.1.113883.10.20.22.2.11	—	—	R	—	—	—	—	*		
<a href="#">Hospital Discharge Physical</a>	10184-0	— 1.3.6.1.4.1.19376.1.5.3.1.3.26	—	—	O	—	—	—	—	*		
<a href="#">Hospital Discharge Studies Summary</a>	11493-4	— 2.16.840.1.113883.10.20.22.2.16	—	—	O	—	—	—	—	*		
<a href="#">Immunizations</a>	11369-6	2.16.840.1.113883.10.20.22.2.2.1 2.16.840.1.113883.10.20.22.2.2	O	O	—	O	O	—	—	*		
<a href="#">Interventions</a>	62387-6	— 2.16.840.1.113883.10.20.21.2.3	—	—	—	—	—	—	—	O	*	
Key Images	55113-5		—	—	O	—	—	—	—	—	*	
<a href="#">Medical Equipment</a>	46264-8	— 2.16.840.1.113883.10.20.22.2.23	O	—	—	—	—	—	—	—	*	
<a href="#">Medical (General) History</a>	11329-0	2.16.840.1.113883.10.20.22.2.39	—	—	O	—	—	—	O	—	*	
<a href="#">Medications</a>	10160-0	2.16.840.1.113883.10.20.22.2.1.1 2.16.840.1.113883.10.20.22.2.1	R	O	—	—	R	—	O	O	*	R

<b>Section Name</b>	<b>LOINC</b>	<b>templateId Coded Entries Required Coded Entries Optional</b>	<b>CCD</b>	<b>Consultation Note</b>	<b>Diagnostic Imaging Report</b>	<b>Discharge Summary</b>	<b>H&amp;P Note</b>	<b>Operative Note</b>	<b>Procedure Note</b>	<b>Progress Note</b>	<b>Unstructured Document</b>	<b>Stage 1 Meaningful Use</b>
<a href="#">Medications Administered</a>	29549-3	— 2.16.840.1.113883.10.20.22.2.38	—	—	—	—	—	O	—	*		
<a href="#">Objective</a>	61149-1	— 2.16.840.1.113883.10.20.21.2.1	—	—	—	—	—	—	O	*		
<a href="#">Operative Note Fluids</a>	10216-0	— 2.16.840.1.113883.10.20.7.12	—	—	—	—	—	O	—	—	*	
<a href="#">Operative Note Surgical Procedure</a>	10223-6	— 2.16.840.1.113883.10.20.7.14	—	—	—	—	—	O	—	—	*	
<a href="#">Payers</a>	48768-6	— 2.16.840.1.113883.10.20.22.2.18	O	—	—	—	—	—	—	—	*	
<a href="#">Physical Exam</a>	29545-1	— 2.16.840.1.113883.10.20.2.10	—	R	—	—	R	—	O	O	*	
<a href="#">Plan of Care**</a>	18776-5	— 2.16.840.1.113883.10.20.22.2.10	O	R	—	R	R	O	R	—	*	
<a href="#">Planned Procedure</a>	59772-4	— 2.16.840.1.113883.10.20.22.2.30	—	—	—	—	—	O	O	—	*	
<a href="#">Post-operative Diagnosis</a>	10218-6	— 2.16.840.1.113883.10.20.22.2.35	—	—	—	—	—	R	—	—	*	
<a href="#">Post-procedure Diagnosis</a>	59769-0	— 2.16.840.1.113883.10.20.22.2.36	—	—	—	—	—	—	R	—	*	
<a href="#">Preoperative Diagnosis</a>	10219-4	— 2.16.840.1.113883.10.20.22.2.34	—	—	—	—	—	R	—	—	*	
Prior Imaging Procedure Descriptions	55114-3	—	—	O	—	—	—	—	—	—	*	
<a href="#">Problem</a>	11450-4	2.16.840.1.113883.10.20.22.2.5.1 2.16.840.1.113883.10.20.22.2.5	R	O	—	O	O	—	—	O	*	R
<a href="#">Procedure Description</a>	29554-3	— 2.16.840.1.113883.10.20.22.2.27	—	—	—	—	—	R	R	—	*	
<a href="#">Procedure Disposition</a>	59775-7	— 2.16.840.1.113883.10.20.18.2.12	—	—	—	—	—	O	R	—	*	

<b>Section Name</b>	<b>LOINC</b>	<b>templateId</b> <b>Coded Entries Required</b> <b>Coded Entries Optional</b>	<b>CCD</b>	<b>Consultation Note</b>	<b>Diagnostic Imaging Report</b>	<b>Discharge Summary</b>	<b>H&amp;P Note</b>	<b>Operative Note</b>	<b>Procedure Note</b>	<b>Progress Note</b>	<b>Unstructured Document</b>	<b>Stage 1 Meaningful Use</b>
<u>Procedure Estimated Blood Loss</u>	59770-8	— 2.16.840.1.113883.10.20.18.2.9	—	—	—	—	R	O	—	*		
<u>Procedure Findings</u>	59776-5	— 2.16.840.1.113883.10.20.22.2.28	—	—	—	—	R	O	—	*		
<u>Procedure Implants</u>	59771-6	— 2.16.840.1.113883.10.20.22.2.40	—	—	—	—	—	O	O	—	*	
<u>Procedure Indications</u>	59768-2	— 2.16.840.1.113883.10.20.22.2.29	—	—	—	—	O	R	—	*		
<u>Procedure Specimens Taken</u>	59773-2	— 2.16.840.1.113883.10.20.22.2.31	—	—	—	—	R	O	—	*		
<u>Procedures</u> List of Surgeries (History of Procedures)	47519-4	2.16.840.1.113883.10.20.22.2.7.1 2.16.840.1.113883.10.20.22.2.7	O	O	—	O	O	—	O	—	*	R <sup>30</sup>
Radiology Comparison Study – Observation	18834-2	—	—	—	O	—	—	—	—	—	*	
Radiology – Impression	19005-8	—	—	—	O	—	—	—	—	—	*	
Radiology Study – Recommendations	18783-1	—	—	—	O	—	—	—	—	—	*	
Radiology Reason for Study	18785-6	—	—	—	O	—	—	—	—	—	*	
<u>Reason for Referral</u> ****	42349-1	— 1.3.6.1.4.1.19376.1.5.3.1.3.1	—	R	—	—	—	—	—	—	*	
<u>Reason for Visit</u> ***	29299-5	2.16.840.1.113883.10.20.22.2.12		R		O	R		O			

<sup>30</sup> Required only for inpatient settings

<b>Section Name</b>	<b>LOINC</b>	<b>templateId</b> <b>Coded Entries Required</b> <b>Coded Entries Optional</b>	<b>CCD</b>	<b>Consultation Note</b>	<b>Diagnostic Imaging Report</b>	<b>Discharge Summary</b>	<b>H&amp;P Note</b>	<b>Operative Note</b>	<b>Procedure Note</b>	<b>Progress Note</b>	<b>Unstructured Document</b>	<b>Stage 1 Meaningful Use</b>
Requested Imaging Studies Information	55115-0	—	—	—	O	—	—	—	—	—	*	
<a href="#">Results</a>	30954-2	2.16.840.1.113883.10.20.22.2.3.1 2.16.840.1.113883.10.20.22.2.3	R	O	—	—	R	—	—	O	*	R
<a href="#">Review of Systems</a>	10187-3	— 1.3.6.1.4.1.19376.1.5.3.1.3.18	—	O	—	O	R	—	O	O	*	
<a href="#">Social History</a>	29762-2	— 2.16.840.1.113883.10.20.22.2.17	O	O	—	O	R	—	O	—	*	
<a href="#">Subjective</a>	61150-9	— 2.16.840.1.113883.10.20.21.2.2	—	—	—	—	—	—	—	O	*	
<a href="#">Surgical Drains</a>	11537-8	— 2.16.840.1.113883.10.20.7.13	—	—	—	—	—	O	—	—	*	
<a href="#">Vital Signs</a>	8716-3	2.16.840.1.113883.10.20.22.2.4.1 2.16.840.1.113883.10.20.22.2.4	O	O	—	O	R	—	—	O	*	

\* content could be present and is unstructured

\*\* wherever referenced, intent is that either “Assessment and Plan” is present or both “Assessment” and “Plan of Care”. Only these combinations should be used.

\*\*\* wherever referenced, intent is that either “Chief Complaint/Reason for Visit” is present or “Chief Complaint”, and/or “Reason for Visit”. Only these combinations should be used.

\*\*\*\*In Consultation Note, either “Reason for Referral”, “Reason for Visit”, or “Chief Complaint/Reason for Visit” must be present.

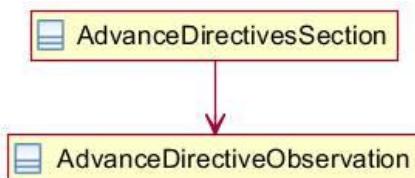
## 4.1 Advance Directives Section 42348-3

[section: templateId 2.16.840.1.113883.10.20.22.2.21 (open)]

**Table 45: Advance Directives Section Contexts**

Used By:	Contains Entries:
<b>Coded entries optional:</b> <a href="#">Continuity of Care Document (CCD)</a> (optional)	<a href="#">Advance Directive Observation</a>
<b>Coded entries required:</b> ---	

**Figure 76: Advance directives section UML diagram**



This section contains data defining the patient's advance directives and any reference to supporting documentation. The most recent and up-to-date directives are required, if known, and should be listed in as much detail as possible. This section contains data such as the existence of living wills, healthcare proxies, and CPR and resuscitation status. If referenced documents are available, they can be included in the CCD exchange package.

**NOTE:** The descriptions in this section differentiate between “advance directives” and “advance directive documents”. The former are the directions whereas the latter are legal documents containing those directions. Thus, an advance directive might be “no cardiopulmonary resuscitation”, and this directive might be stated in a legal advance directive document.

### Advance Directives Section with Coded Entries Optional

[section: templateId 2.16.840.1.113883.10.20.22.2.21 (open)]

The following constraints apply to an Advance Directive section in which entries are not required.

24. **SHALL** contain exactly one [1..1] **templateId** (CONF:7928) such that it

- a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.2.21"` (CONF:10376).

25. **SHALL** contain exactly one [1..1] **code/@code="42348-3"** Advance Directives  
(CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7929).

26. **SHALL** contain exactly one [1..1] **title** (CONF:7930).

27. **SHALL** contain exactly one [1..1] **text** (CONF:7931).

28. **MAY** contain zero or more [0..\*] **entry** (CONF:7957) such that it

- a. **SHALL** contain exactly one [1..1] [Advance Directive Observation](#) (2.16.840.1.113883.10.20.22.4.48) (CONF:8800).

#### **Advance Directives Section with Coded Entries Required**

[section: templateId 2.16.840.1.113883.10.20.22.2.21.1(open) ]

The following constraints apply to an Advance Directive section in which entries are required.

1. Conforms to [Advance Directives Section \(entries optional\)](#) template (2.16.840.1.113883.10.20.22.2.21).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:8643) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.21.1" (CONF:10377).
3. **SHALL** contain exactly one [1..1] **code/@code="42348-3"** Advance Directives (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8644).
4. **SHALL** contain exactly one [1..1] **title** (CONF:8645).
5. **SHALL** contain exactly one [1..1] **text** (CONF:8646).
6. **SHALL** contain at least one [1..\*] **entry** (CONF:8647) such that it
  - a. **SHALL** contain exactly one [1..1] [Advance Directive Observation](#) (2.16.840.1.113883.10.20.22.4.48) (CONF:8801).

**Figure 77: Advance directives section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.21.1"/>
  <!-- Template with coded entries required. -->
  <code code="42348-3" codeSystem="2.16.840.1.113883.6.1"/>
  <title>Advance Directives</title>
  <text>
    ...
  </text>
  <entry>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.48"/>
      ...
    </observation>
  </entry>
</section>
```

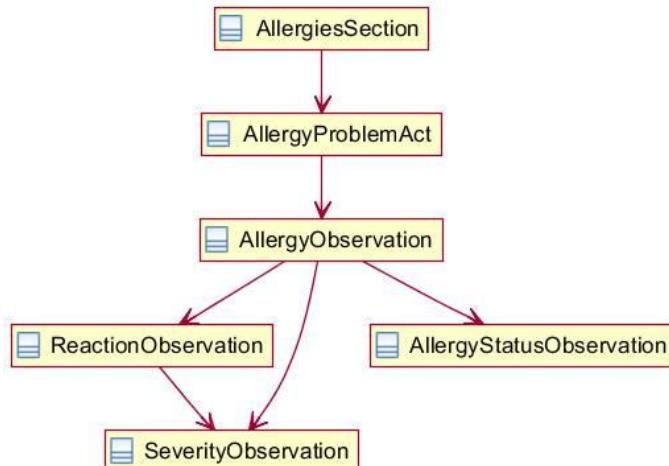
## 4.2 Allergies Section 48765-2

**Table 46: Allergies Section Contexts**

Used By:	Contains Entries:
<b>Coded entries optional:</b> <a href="#">Progress Note</a> (optional) <a href="#">Consultation Note</a> (optional) <a href="#">Discharge Summary</a> (required) <a href="#">History and Physical</a> (required) <a href="#">Procedure Note</a> (optional)	<a href="#">Allergy Problem Act</a>

**Coded entries required:**  
[Continuity of Care Document \(CCD\)](#) (required)

**Figure 78: Allergies section UML diagram**



This section lists and describes any medication allergies, adverse reactions, idiosyncratic reactions, anaphylaxis/anaphylactoid reactions to food items, and metabolic variations or adverse reactions/allergies to other substances (such as latex, iodine, tape adhesives) used to assure the safety of health care delivery. At a minimum, it should list currently active and any relevant historical allergies and adverse reactions.

### Allergies Section with Coded Entries Optional

[section: templateId 2.16.840.1.113883.10.20.22.2.6 (open)]

The following constraints apply to an Allergies section in which entries are not required.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7800) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.2.6"** (CONF:10378).
2. **SHALL** contain exactly one [1..1] **code/@code="48765-2"** Allergies, adverse reactions, alerts (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7801).

3. **SHALL** contain exactly one [1..1] **title** (CONF:7802).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7803).
5. **SHOULD** contain zero or more [0..\*] **entry** (CONF:7804) such that it
  - a. **SHALL** contain exactly one [1..1] [Allergy Problem Act](#) (2.16.840.1.113883.10.20.22.4.30) (CONF:7805)

#### Allergies Section with Coded Entries Required

[section: templateId 2.16.840.1.113883.10.20.22.2.6.1(open)]

The following constraints apply to an Allergies section in which entries are required.

1. Conforms to [Allergies Section \(entries optional\)](#) template (2.16.840.1.113883.10.20.22.2.6).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:7527) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.6.1" (CONF:10379).
3. **SHALL** contain exactly one [1..1] **code/@code="48765-2"** Allergies, adverse reactions, alerts (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7528).
4. **SHALL** contain exactly one [1..1] **title** (CONF:7534).
5. **SHALL** contain exactly one [1..1] **text** (CONF:7530).
6. **SHALL** contain at least one [1..\*] **entry** (CONF:7531) such that it
  - a. **SHALL** contain exactly one [1..1] [Allergy Problem Act](#) (2.16.840.1.113883.10.20.22.4.30) (CONF:7532).

**Figure 79: Allergies section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.1.2"/>
  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.13"/>
  <templateId root="2.16.840.1.113883.10.20.22.2.6"/>
  <code code="48765-2"
        displayName="Allergies, adverse reactions, alerts"
        codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
  <title>Allergies</title>
  <text>
    ...
  </text>
  <entry typeCode="DRIV">
    <act classCode="ACT" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.30"/>
      <!--  Allergy Problem Act template  -->
      ...
    </act>
  </entry>
</section>
```

## 4.3 Anesthesia Section 59774-0

[section: templateId 2.16.840.1.113883.10.20.22.2.25 (open) ]

**Table 47: Anesthesia Section Contexts**

Used By:	Contains Entries:
<a href="#">Procedure Note</a> (optional) <a href="#">Operative Note</a> (required)	<a href="#">Medication Activity</a> <a href="#">Procedure Activity Procedure</a>

The Anesthesia section briefly records the type of anesthesia (e.g., general or local) and may state the actual agent used. This may or may not be a subsection of the Procedure Description section. The full details of anesthesia are usually found in a separate Anesthesia Note.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:8066) such that it
  - a. **SHALL** contain exactly one [1..1]  
    @root="2.16.840.1.113883.10.20.22.2.25" (CONF:10380).
2. **SHALL** contain exactly one [1..1] **code/@code="59774-0"** Anesthesia (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8067).
3. **SHALL** contain exactly one [1..1] **title** (CONF:8068).
4. **SHALL** contain exactly one [1..1] **text** (CONF:8069).
5. **MAY** contain zero or more [0..\*] **entry** (CONF:8092) such that it
  - a. **SHALL** contain exactly one [1..1] [Procedure Activity Procedure](#) (2.16.840.1.113883.10.20.22.4.14) (CONF:8093).
6. **MAY** contain zero or more [0..\*] **entry** (CONF:8094) such that it
  - a. **SHALL** contain exactly one [1..1] [Medication Activity](#) (2.16.840.1.113883.10.20.22.4.16) (CONF:8095).

**Figure 80: Anesthesia section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.18.2.7"/>
  <templateId root="2.16.840.1.113883.10.20.22.2.25"/>
  <code code="59774-0"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="PROCEDURE ANESTHESIA"/>
  <title>Procedure Anesthesia</title>
  <text> Conscious sedation with propofol 200 mg IV </text>
  <entry>
    <procedure classCode="PROC" moodCode="EVN">
      <!-- Procedure activity procedure template -->
      <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
      ...
    </procedure>
  </entry>
  <entry>
    <substanceAdministration classCode="SBADM" moodCode="EVN">
      <!-- Medication activity template -->
      <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
      ...
    </substanceAdministration>
  </entry>
</section>
```

#### 4.4 Assessment and Plan Section 51847-2

[section: templateId 2.16.840.1.113883.10.20.22.2.9 (open)]

**Table 48: Assessment and Plan Section Contexts**

Used By:	Contains Entries:
<a href="#">Progress Note</a> (optional) <a href="#">Consultation Note</a> (optional) <a href="#">Procedure Note</a> (optional) <a href="#">History and Physical</a> (optional)	<a href="#">Plan of Care Activity Act</a>

The Assessment and Plan sections may be combined or separated to meet local policy requirements.

The Assessment and Plan section represents both the clinician's conclusions and working assumptions that will guide treatment of the patient (see Assessment Section above) and pending orders, interventions, encounters, services, and procedures for the patient (see Plan of Care Section below).

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7705) such that it
  - a. **SHALL** contain exactly one [1..1]  
    @root="2.16.840.1.113883.10.20.22.2.9" (CONF:10381).

2. **SHALL** contain exactly one [1..1] **code/@code**="51847-2" Assessment and Plan (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7706).
3. **SHALL** contain exactly one [1..1] **text** (CONF:7707).
4. **MAY** contain zero or more [0..\*] **entry** (CONF:7708) such that it
  - a. **SHALL** contain exactly one [1..1] **Plan of Care Activity Act** (2.16.840.1.113883.10.20.22.4.39) (CONF:8798).

**Figure 81: Assessment and plan section example**

```

<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.9"/>
  <code codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC" code="51847-2"
    displayName="ASSESSMENT AND PLAN"/>
  <title>ASSESSMENT AND PLAN</title>
  <text>
    ...
  </text>
  <entry>
    <act moodCode="RQO" classCode="ACT">
      <templateId root="2.16.840.1.113883.10.20.22.4.39"/>
      <!-- Plan of Care Activity Act -->
      ...
    </act>
  </entry>
</section>

```

## 4.5 Assessment Section 51848-0

[section: templateId 2.16.840.1.113883.10.20.22.2.8 (open)]

**Table 49: Assessment Section Contexts**

Used By:	Contains Entries:
<a href="#">Progress Note</a> (optional) <a href="#">Consultation Note</a> (optional) <a href="#">History and Physical</a> (optional) <a href="#">Procedure Note</a> (optional)	

The Assessment section (also called impression or diagnoses) represents the clinician's conclusions and working assumptions that will guide treatment of the patient. The assessment formulates a specific plan or set of recommendations. The assessment may be a list of specific disease entities or a narrative block.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7711) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.2.8" (CONF:10382).
2. **SHALL** contain exactly one [1..1] **code/@code**="51848-0" Assessments (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:7712).

3. **SHALL** contain exactly one [1..1] **text** (CONF:7713).

**Figure 82: Assessment section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.8"/>
  <code codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC" code="51848-0"
    displayName="ASSESSMENTS"/>
  <title>ASSESSMENTS</title>
  <text>
    ...
  </text>
</section>
```

## 4.6 Chief Complaint and Reason for Visit Section 46239-0

[section: templateId 2.16.840.1.113883.10.20.22.2.13(open)]

**Table 50: Chief Complaint and Reason for Visit Section Contexts**

Used By:	Contains Entries:
<a href="#">Consultation Note</a> (optional) <a href="#">Discharge Summary</a> (optional) <a href="#">History and Physical</a> (optional) <a href="#">Procedure Note</a> (optional)	

This section records the patient's chief complaint (the patient's own description) and/or the reason for the patient's visit (the provider's description of the reason for visit). Local policy determines whether the information is divided into two sections or recorded in one section serving both purposes.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7840) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.2.13"** (CONF:10383).
2. **SHALL** contain exactly one [1..1] **code/@code="46239-0"** Chief Complaint and Reason for Visit (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:7841).
3. **SHALL** contain exactly one [1..1] **title** (CONF:7842).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7843).

**Figure 83: Chief complaint and reason for visit section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.13"/>
  <code code="46239-0"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="CHIEF COMPLAINT AND REASON FOR VISIT"/>
  <title> CHIEF COMPLAINT</title>
  <text>Back Pain</text>
</section>
```

## 4.7 Chief Complaint Section 10154-3

[section: templateId 1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1(open) ]

**Table 51: Chief Complaint Section Contexts**

Used By:	Contains Entries:
<a href="#">Progress Note</a> (optional) <a href="#">Consultation Note</a> (optional) <a href="#">Discharge Summary</a> (optional) <a href="#">History and Physical</a> (optional) <a href="#">Procedure Note</a> (optional)	

This section records the patient's chief complaint (the patient's own description).

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7832) such that it
  - a. **SHALL** contain exactly one [1..1]  
    @root="1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1" (CONF:10453).
2. **SHALL** contain exactly one [1..1] **code/@code="10154-3"** Chief Complaint (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:7833).
3. **SHALL** contain exactly one [1..1] **title** (CONF:7834).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7835).

**Figure 84: Chief complaint section example**

```
<section>
  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1"/>
  <code code="10154-3"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="CHIEF COMPLAINT"/>
  <title> CHIEF COMPLAINT</title>
  <text>Back Pain</text>
</section>
```

## 4.8 Complications Section 55109-3

[section: templateId 2.16.840.1.113883.10.20.22.2.37(open)]

**Table 52: Complications Section Contexts**

Used By:	Contains Entries:
<a href="#">Procedure Note</a> (required) <a href="#">Operative Note</a> (required)	<a href="#">Problem Observation</a>

The Complications section records problems that occurred during the procedure or other activity. The complications may have been known risks or unanticipated problems.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:8174) such that it
  - a. **SHALL** contain exactly one [1..1]  
@root="2.16.840.1.113883.10.20.22.2.37" (CONF:10384).
2. **SHALL** contain exactly one [1..1] **code/@code="55109-3"** Complications (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8175).
3. **SHALL** contain exactly one [1..1] **title** (CONF:8176).
4. **SHALL** contain exactly one [1..1] **text** (CONF:8177).
5. There **SHALL** be a statement providing details of the complication(s) or it **SHALL** explicitly state there were no complications. (CONF:8797).
6. **MAY** contain zero or more [0..\*] **entry** (CONF:8795) such that it
  - a. **SHALL** contain exactly one [1..1] [Problem Observation](#) (2.16.840.1.113883.10.20.22.4.4) (CONF:8796).

**Figure 85: Complications section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.37"/>
  <code code="55109-3" codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="Complications"/>
  <title>Complications</title>
  <text>Asthmatic symptoms while under general anesthesia.</text>
  <entry>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
      <!-- Problem Observation -->
      ...
    </observation>
  </entry>
</section>
```

## 4.9 DICOM Object Catalog Section - DCM 121181

[section: templateId 2.16.840.1.113883.10.20.6.1.1 (open) ]

**Table 53: DICOM Object Catalog Section - DCM 121181 Contexts**

Used By:	Contains Entries:
<a href="#">Diagnostic Imaging Report</a>	<a href="#">Study Act</a>

DICOM Object Catalog lists all referenced objects and their parent Series and Studies, plus other DICOM attributes required for retrieving the objects.

DICOM Object Catalog sections are not intended for viewing and contain empty section text.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:8525) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.6.1.1" (CONF:10454).
2. A DICOM Object Catalog **SHALL** be present if the document contains references to DICOM Images. If present, it **SHALL** be the first section in the document. (CONF:8527).
3. **SHALL** contain exactly one [1..1] **code/@code="121181"** Dicom Object Catalog (CodeSystem: 1.2.840.10008.2.16.4 DCM) (CONF:8526).
4. **SHALL** contain at least one [1..\*] **entry** (CONF:8530)
  - a. **SHALL** contain exactly one [1..1] [Study Act](#) (2.16.840.1.113883.10.20.6.2.6) (CONF:10501)

**Figure 86: DICOM object catalog section example**

```
<section classCode="DOCSECT" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.6.1.1"/>
  <code code="121181" codeSystem="1.2.840.10008.2.16.4"
        codeSystemName="DCM" displayName="DICOM Object Catalog"/>
  <entry>

    <!-- **** Study Act *** -->
    <act classCode="ACT" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.6.2.6"/>
      <id root="1.2.840.113619.2.62.994044785528.114289542805"/>
      <code code="113014" codeSystem="1.2.840.10008.2.16.4"
            codeSystemName="DCM" displayName="Study"/>

    <!-- **** Series Act****-->
    <entryRelationship typeCode="COMP">
      <act classCode="ACT" moodCode="EVN">
        <id root="1.2.840.113619.2.62.994044785528.20060823223142485051"/>
        <code code="113015" codeSystem="1.2.840.10008.2.16.4"
              codeSystemName="DCM" displayName="Series">
          ...
        </code>

      <!-- **** SOP Instance UID *** -->
      <!-- 2 References -->
      <entryRelationship typeCode="COMP">
        <observation classCode="DGIMG" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.6.2.8"/>
          ...
        </observation>
      </entryRelationship>
      <entryRelationship typeCode="COMP">
        <observation classCode="DGIMG" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.6.2.8"/>
          ...
        </observation>
      </entryRelationship>
    </act>
  </entry>
</section>
```

## 4.10 Discharge Diet Section 42344-2

[section: templateId 1.3.6.1.4.1.19376.1.5.3.1.3.33 (open)]

**Table 54: Discharge Diet Section Contexts**

Used By:	Contains Entries:
<a href="#">Discharge Summary</a> (optional)	

This section records a narrative description of the expectations for diet and nutrition, including nutrition prescription, proposals, goals, and order requests for monitoring, tracking, or improving the nutritional status of the patient, used in a discharge from a facility such as an emergency department, hospital, or nursing home.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7975) such that it
  - a. **SHALL** contain exactly one [1..1] @root="1.3.6.1.4.1.19376.1.5.3.1.3.33" (CONF:10455).
2. **SHALL** contain exactly one [1..1] **code/@code="42344-2"** Discharge Diet (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7976).
3. **SHALL** contain exactly one [1..1] **title** (CONF:7977).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7978).

**Figure 87: Discharge diet section example**

```
<section>
  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.33"/>
  <code code="42344-2"
    displayName="DISCHARGE DIET"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"/>
  <title>Discharge Diet</title>
  <text> Low-fat, low-salt, cardiac diet </text>
</section>
```

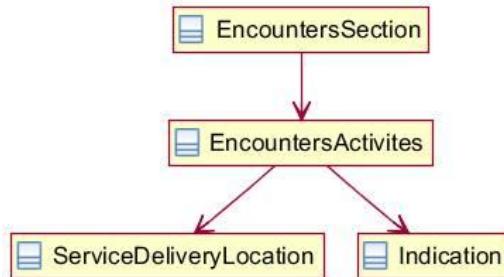
## 4.11 Encounters Section 46240-8

[section: templateId 2.16.840.1.113883.10.20.22.2.22 (open)]

**Table 55: Encounters Section Contexts**

Used By:	Contains Entries:
<b>Coded entries optional:</b> <a href="#">Continuity of Care Document (CCD)</a> (optional)	<a href="#">Encounter Activities</a>
<b>Coded entries required:</b> ---	

**Figure 88: Encounters section UML diagram**



This section lists and describes any healthcare encounters pertinent to the patient's current health status or historical health history. An Encounter is an interaction, regardless of the setting, between a patient and a practitioner who is vested with primary responsibility for diagnosing, evaluating, or treating the patient's condition. It may include visits, appointments, as well as non face-to-face interactions. It is also a contact between a patient and a practitioner who has primary responsibility for assessing and treating the patient at a given contact, exercising independent judgment. This section may contain all encounters for the time period being summarized, but should include notable encounters.

### **Encounters Section with Coded Entries Optional**

[section: templateId 2.16.840.1.113883.10.20.22.2.22 (open) ]

The following constraints apply to an Encounters section in which entries are not required.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7940) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.2.22"` (CONF:10386).
2. **SHALL** contain exactly one [1..1] **code/@code="46240-8"** Encounters (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7941).
3. **SHALL** contain exactly one [1..1] **title** (CONF:7942).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7943).
5. **SHOULD** contain zero or more [0..\*] **entry** (CONF:7951) such that it
  - a. **SHALL** contain exactly one [1..1] **Encounter Activities** (2.16.840.1.113883.10.20.22.4.49) (CONF:8802).

### **Encounters Section with Coded Entries Required**

[section: templateId 2.16.840.1.113883.10.20.22.2.22.1 (open) ]

The following constraints apply to an Encounters section in which entries are required.

1. Conforms to **Encounters Section (entries optional)** template (2.16.840.1.113883.10.20.22.2.22) .
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:8705) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.2.22.1"` (CONF:10387).

3. **SHALL** contain exactly one [1..1] **code/@code="46240-8"** Encounters (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8706).
4. **SHALL** contain exactly one [1..1] **title** (CONF:8707).
5. **SHALL** contain exactly one [1..1] **text** (CONF:8708).
6. **SHALL** contain at least one [1..\*] **entry** (CONF:8709) such that it
  - a. **SHALL** contain exactly one [1..1] [Encounter Activities](#) (2.16.840.1.113883.10.20.22.4.49) (CONF:8803).

**Figure 89: Encounters section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.22"/>
  <!-- Encounters Section - Entries optional -->
  <code code="46240-8" codeSystem="2.16.840.1.113883.6.1"
        codeSystemName="LOINC" displayName="History of encounters"/>
  <title>Encounters</title>
  <text>
    ...
  </text>
  <entry typeCode="DRIV">
    <encounter classCode="ENC" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.49"/>
      <!-- Encounter Activities -->
      ...
    </encounter>
  </entry>
</section>
```

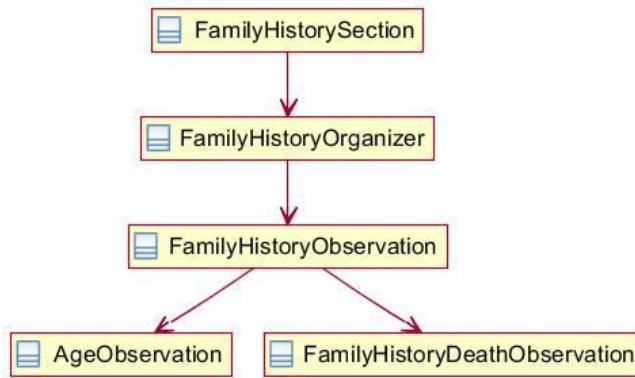
## 4.12 Family History Section 10157-6

[section: templateId 2.16.840.1.113883.10.20.22.2.15(open)]

**Table 56: Family History Section Contexts**

Used By:	Contains Entries:
<a href="#">Consultation Note</a> (optional) <a href="#">Discharge Summary</a> (optional) <a href="#">History and Physical</a> (required) <a href="#">Procedure Note</a> (optional) <a href="#">Continuity of Care Document (CCD)</a> (optional)	<a href="#">Family History Organizer</a>

**Figure 90: Family history section UML diagram**



This section contains data defining the patient's genetic relatives in terms of possible or relevant health risk factors that have a potential impact on the patient's healthcare risk profile.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7932) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.15" (CONF:10388).
2. **SHALL** contain exactly one [1..1] **code/@code="10157-6"** Family History (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7933).
3. **SHALL** contain exactly one [1..1] **title** (CONF:7934).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7935).
5. **MAY** contain zero or more [0..\*] **entry** (CONF:7955) such that it
  - a. **SHALL** contain exactly one [1..1] [Family History Organizer](#) (2.16.840.1.113883.10.20.22.4.45) (CONF:8799).

**Figure 91: Family history section example**

```

<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.15"/>
  <!-- Family history section template -->
  <code code="10157-6" codeSystem="2.16.840.1.113883.6.1"/>
  <title>Family history</title>
  <text>
    ...
  </text>
  <entry typeCode="DRIV">
    <organizer moodCode="EVN" classCode="CLUSTER">
      <templateId root="2.16.840.1.113883.10.20.22.4.45"/>
      <!-- Family history organizer template -->
      ...
    </organizer>
  </entry>
</section>
  
```

## 4.13 Findings Section (DIR) 18782-3

[section: templateId 2.16.840.1.113883.10.20.6.1.2 (open)]

**Table 57: Findings Section Contexts**

Used By:	Contains Entries:
<a href="#">Diagnostic Imaging Report</a> (required)	

The Findings section contains the main narrative body of the report. While not an absolute requirement for transformed DICOM SR reports, it is suggested that Diagnostic Imaging Reports authored in CDA follow Term Info guidelines<sup>31</sup> for the codes in the various observations and procedures recorded in this section.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:8531) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.6.1.2"` (CONF:10456).
2. This section **SHOULD** contain only the direct observations in the report, with topics such as Reason for Study, History, and Impression placed in separate sections. However, in cases where the source of report content provides a single block of text not separated into these sections, that text **SHALL** be placed in the Findings section. (CONF:8532).

**Figure 92: Findings section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.6.1.2"/>
  <code code="121070"
    codeSystem="1.2.840.10008.2.16.4"
    codeSystemName="DCM"
    displayName="Findings"/>
  <title>Findings</title>
  <text>
    <paragraph>
      <caption>Finding</caption>
      <content ID="Fndng2">The cardiomeastinum is . </content>
    </paragraph>
    <paragraph>
      <caption>Diameter</caption>
      <content ID="Diam2">45mm</content>
    </paragraph>
    ...
  </text>
  <entry>
    <templateId root="2.16.840.1.113883.10.20.6.2.12"/>
    ...
  </entry>
</section>
```

<sup>31</sup> <http://www.hl7.org/special/committees/terminfo/index.cfm>

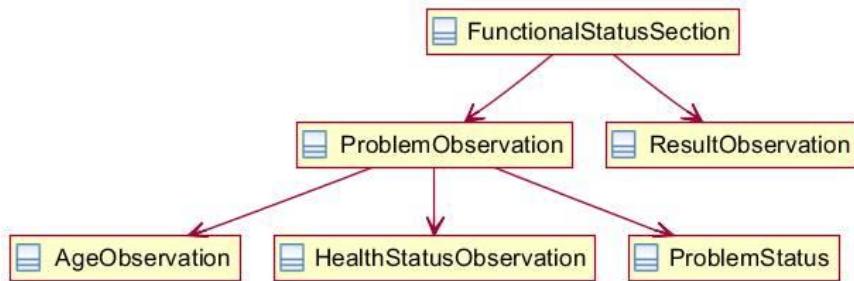
## 4.14 Functional Status Section 47420-5

[section: templateId 2.16.840.1.113883.10.20.22.2.14 (open)]

**Table 58: Functional Status Section Contexts**

Used By:	Contains Entries:
<a href="#">Discharge Summary</a> (optional) <a href="#">Continuity of Care Document (CCD)</a> (optional)	<a href="#">Problem Observation</a> <a href="#">Result Observation</a>

**Figure 93: Functional status section UML diagram**



The Functional Status section describes the patient's status of normal functioning at the time the Care Record was created. Functional statuses include information regarding the patient relative to:

- Ambulatory ability
- Mental status or competency
- Activities of Daily Living (ADLs), including bathing, dressing, feeding, grooming
- Home / living situation having an effect on the health status of the patient
- Ability to care for self
- Social activity, including issues with social cognition, participation with friends and acquaintances other than family members
- Occupation activity, including activities partly or directly related to working, housework or volunteering, family and home responsibilities or activities related to home and family
- Communication ability, including issues with speech, writing or cognition required for communication
- Perception, including sight, hearing, taste, skin sensation, kinesthetic sense, proprioception, or balance

Any deviation from normal function that the patient displays and is recorded in the record should be included. Of particular interest are those limitations that would in any way interfere with self care or the medical therapeutic process. In addition, an improvement, any change in or noting that the patient has normal functioning status is also valid for inclusion.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7920) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.2.14"` (CONF:10389).
2. **SHALL** contain exactly one [1..1] **code/@code="47420-5"** Functional Status  
 (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7921).
3. **SHALL** contain exactly one [1..1] **title** (CONF:7922).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7923).
5. **MAY** contain zero or more [0..\*] **entry** (CONF:7961) such that it
  - a. **SHALL** contain exactly one [1..1] **Problem Observation**  
`(2.16.840.1.113883.10.20.22.4.4)` (CONF:9080).
6. **MAY** contain zero or more [0..\*] **entry** (CONF:9081) such that it
  - a. **SHALL** contain exactly one [1..1] **Result Observation**  
`(2.16.840.1.113883.10.20.22.4.2)` (CONF:9082).

**Figure 94: Functional status section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.14"/>
  <!-- **** Functional status section template **** -->
  <code code="47420-5" codeSystem="2.16.840.1.113883.6.1"/>
  <title>Functional Status</title>
  <text>
    <table border="1" width="100%">
      <thead>
        <tr>
          <th>Functional Condition</th>
          <th>Effective Dates</th>
          <th>Condition Status</th>
        </tr>
      </thead>
      <tbody>
        <tr>
          <td>Dependence on cane</td>
          <td>1999</td>
          <td>Active</td>
        </tr>
        <tr>
          <td>Memory impairment</td>
          <td>1998</td>
          <td>Active</td>
        </tr>
      </tbody>
    </table>
  </text>
  <entry typeCode="DRIV">
    <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
    <!-- **** Problem observation template **** -->
    ...
  </entry>
  ...
</section>
```

## 4.15 General Status Section 10210-3

[section: templateId 2.16.840.1.113883.10.20.2.5 (open)]

**Table 59: General Status Section Contexts**

Used By:	Contains Entries:
<a href="#">Consultation Note</a> (optional) <a href="#">History and Physical</a> (required)	

The General Status section describes general observations and readily observable attributes of the patient, including affect and demeanor, apparent age compared to actual age, gender, ethnicity, nutritional status based on appearance, body build and habitus (e.g., muscular, cachectic, obese), developmental or other deformities, gait and mobility, personal hygiene, evidence of distress, and voice quality and speech.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7985) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.2.5" (CONF:10457).
2. **SHALL** contain exactly one [1..1] **code/@code="10210-3"** General Status (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7986).
3. **SHALL** contain exactly one [1..1] **title** (CONF:7987).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7988).

**Figure 95: General status section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.2.5" />
  <code code="10210-3"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="GENERAL STATUS" />
  <title>GENERAL STATUS</title>
  <text>
    <paragraph>Alert and in good spirits, no acute distress.
    </paragraph>
  </text>
</section>
```

## 4.16 History of Past Illness Section 11348-0

[section: templateId 2.16.840.1.113883.10.20.22.2.20 (open)]

**Table 60: History of Past Illness Section Contexts**

Used By:	Contains Entries:
<a href="#">Consultation Note</a> (optional) <a href="#">Discharge Summary</a> (optional) <a href="#">History and Physical</a> (required) <a href="#">Procedure Note</a> (optional)	<a href="#">Problem Observation</a>

This section describes the history related to the patient's current complaints, problems, or diagnoses. It records the historical details leading up to and pertaining to the patient's current complaint or reason for seeking medical care.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7828) such that it
  - a. **SHALL** contain exactly one [1..1]  
@root="2.16.840.1.113883.10.20.22.2.20" (CONF:10390).
2. **SHALL** contain exactly one [1..1] **code/@code="11348-0"** History of Past Illness (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7829).
3. **SHALL** contain exactly one [1..1] **title** (CONF:7830).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7831).
5. **MAY** contain zero or more [0..\*] **entry** (CONF:8791) such that it
  - a. **SHALL** contain exactly one [1..1] [Problem Observation](#) (2.16.840.1.113883.10.20.22.4.4) (CONF:8792).

**Figure 96: History of past illness section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.20"/>
  <!-- ** History of Past Illness Section ** -->
  <code codeSystem="2.16.840.1.113883.6.1"
        codeSystemName="LOINC" code="11348-0"
        displayName="HISTORY OF PAST ILLNESS"/>
  <title>PAST MEDICAL HISTORY</title>
  <text>
    <paragraph>Patient has had ..... </paragraph>
  </text>
  <entry>
    <!-- Sample With Problem Observation. -->
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
      <!-- Problem Observation -->
      ...
    </observation>
  </entry>
</section>
```

## 4.17 History of Present Illness Section 10164-2

[section: templateId 1.3.6.1.4.1.19376.1.5.3.1.3.4 (open)]

**Table 61: History of Present Illness Section Contexts**

Used By:	Contains Entries:
<a href="#">Consultation Note</a> (required) <a href="#">Discharge Summary</a> (optional) <a href="#">History and Physical</a> (optional) <a href="#">Procedure Note</a> (optional)	

The History of Present Illness section describes the history related to the reason for the encounter. It contains the historical details leading up to and pertaining to the patient's current complaint or reason for seeking medical care.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7848) such that it
  - a. **SHALL** contain exactly one [1..1] @root="1.3.6.1.4.1.19376.1.5.3.1.3.4" (CONF:10458).
2. **SHALL** contain exactly one [1..1] **code/@code="10164-2"** History of Present Illness (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7849).
3. **SHALL** contain exactly one [1..1] **title** (CONF:7850).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7851).

**Figure 97: History of present illness section example**

```
<section>
  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.4"/>
  <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
        code="10164-2"
        displayName="HISTORY OF PRESENT ILLNESS"/>
  <title>HISTORY OF PRESENT ILLNESS</title>
  <text>
    <paragraph>This patient was only recently discharged for a recurrent
      GI bleed as described below.</paragraph>
    <paragraph>He presented to the ER today c/o a dark stool yesterday
      but a normal brown stool today. On exam he was hypotensive in the
      80?S resolved after .... .... ....</paragraph>
    <paragraph>Lab at discharge: Glucose 112, BUN 16, creatinine 1.1,
      electrolytes normal. H. pylori antibody pending. Admission
      hematocrit 16%, discharge hematocrit 29%. WBC 7300, platelet
      count 256,000. Urinalysis normal. Urine culture: No growth. INR
      1.1, PTT 40.</paragraph>
    <paragraph>He was transfused with 6 units of packed red blood cells
      with .... .... ....</paragraph>
    <paragraph>GI evaluation 12 September: Colonoscopy showed single red
      clot in .... .... ....</paragraph>
  </text>
</section>
```

## 4.18 Hospital Admission Diagnosis Section 46241-6

[section: templateId 2.16.840.1.113883.10.20.22.2.43 (open)]

**Table 62: Hospital Admission Diagnosis Section Contexts**

Used By:	Contains Entries:
<a href="#">Discharge Summary</a> (optional)	<a href="#">Hospital Admission Diagnosis</a>

The Hospital Admitting Diagnosis section contains a narrative description of the primary reason for admission to a hospital facility. The section includes an optional entry to record patient conditions.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:9930) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.2.43"` (CONF:10391).
2. **SHALL** contain exactly one [1..1] **code/@code="46241-6"** Hospital Admission Diagnosis (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:9931).
3. **SHALL** contain exactly one [1..1] **title** (CONF:9932).
4. **SHALL** contain exactly one [1..1] **text** (CONF:9933).
5. **SHOULD** contain zero or one [0..1] **entry** (CONF:9934).
  - a. **SHALL** contain exactly one [1..1] [Hospital Admission Diagnosis](#) (2.16.840.1.113883.10.20.22.4.34) (CONF:9935).

**Figure 98: Hospital admission diagnosis section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.43"/>
  <code code="46241-6" codeSystem="2.16.840.1.113883.6.1"
        codeSystemName="LOINC"
        displayName="Hospital Admission Diagnosis"/>
  <title>HOSPITAL ADMISSION DIAGNOSIS</title>
  <text>Appendicitis</text>
  <entry>
    <act classCode="ACT" moodCode="EVN">
      <!--Hospital Admission Diagnosis template -->
      <templateId root="2.16.840.1.113883.10.20.22.4.34"/>
      ...
    </entry>
  </section>
```

## 4.19 Hospital Admission Medications Section (entries optional)

[section: templateId 2.16.840.1.113883.10.20.22.2.44 (open)]

**Table 63: Hospital Admission Medications Section Contexts**

Used By:	Contains Entries:
<a href="#">Discharge Summary</a> (optional)	<a href="#">Admission Medication</a>

The Hospital Admission Medications section defines the relevant medications administered prior to admission to the facility. The currently active medications must be listed.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:10098) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.2.44"` (CONF:10392).
2. **SHALL** contain exactly one [1..1] **code/@code="42346-7"** Medications on Admission (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:10099).
3. **SHALL** contain exactly one [1..1] **title** (CONF:10100).
4. **SHALL** contain exactly one [1..1] **text** (CONF:10101).
5. **SHOULD** contain zero or more [0..\*] **entry** (CONF:10102) such that it
  - a. **SHALL** contain exactly one [1..1] [Admission Medication](#) (2.16.840.1.113883.10.20.22.4.36) (CONF:10110).

**Figure 99: Hospital admission medications section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.44"/>
  <code code="42346-7"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="ADMISSION MEDICATIONS"/>
  <title>Hospital Admission Medications</title>
  <text>
    ...
  </text>
  <entry typeCode="DRIV">
    <act classCode="ACT" moodCode="EVN">
      <!-- Admission Medication Entry -->
      <templateId root="2.16.840.1.113883.10.20.22.4.36"/>
      ...
    </act>
  </entry>
  ...
</section>
```

## 4.20 Hospital Consultations Section 18841-7

[section: templateId 2.16.840.1.113883.10.20.22.2.42 (open)]

**Table 64: Hospital Consultations Section Contexts**

Used By:	Contains Entries:
<a href="#">Discharge Summary</a> (optional)	

The Hospital Consultations section records consultations that occurred during the admission.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:9915) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.2.42"` (CONF:10393).
2. **SHALL** contain exactly one [1..1] **code/@code="18841-7"** Hospital Consultations Section (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:9916).
3. **SHALL** contain exactly one [1..1] **title** (CONF:9917).
4. **SHALL** contain exactly one [1..1] **text** (CONF:9918).

**Figure 100: Hospital consultations section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.42"/>
  <code code="18841-7" codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="Hospital Consultations Section"/>
  <title>HOSPITAL CONSULTATIONS</title>
  <text>
    <list listType="ordered">
      <item>Gastroenterology</item>
      <item>Cardiology</item>
      <item>Dietitian</item>
    </list>
  </text>
</section>
```

## 4.21 Hospital Course Section 8648-8

[section: templateId 1.3.6.1.4.1.19376.1.5.3.1.3.5 (open)]

**Table 65: Hospital Course Section Contexts**

Used By:	Contains Entries:
<a href="#">Discharge Summary</a> (required)	

The Hospital Course section describes the sequence of events from admission to discharge in a hospital facility.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7852) such that it

- a. **SHALL** contain exactly one [1..1]  
`@root="1.3.6.1.4.1.19376.1.5.3.1.3.5" (CONF:10459)`
- 2. **SHALL** contain exactly one [1..1] **code/@code="8648-8"** Hospital Course  
`(CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7853)`
- 3. **SHALL** contain exactly one [1..1] **title** (CONF:7854)
- 4. **SHALL** contain exactly one [1..1] **text** (CONF:7855)

**Figure 101: Hospital course section example**

```
<section>
  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.5"/>
  <code code="8648-8"
    displayName="HOSPITAL COURSE"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"/>
  <title>Hospital Course</title>
  <text> The patient was admitted and started on Lovenox and
        nitroglycerin paste. The patient had ... </text>
</section>
```

## 4.22 Hospital Discharge Diagnosis Section 11535-2

[section: templateId 2.16.840.1.113883.10.20.22.2.24 (open)]

**Table 66: Hospital Discharge Diagnosis Section Contexts**

Used By:	Contains Entries:
<a href="#">Discharge Summary</a> (required)	<a href="#">Hospital Discharge Diagnosis</a>

The Hospital Discharge Diagnosis section describes the relevant problems or diagnoses at the time of discharge that occurred during the hospitalization or that need to be followed after hospitalization. This section includes an optional entry to record patient conditions.

- 1. **SHALL** contain exactly one [1..1]  
`templateId/@root="2.16.840.1.113883.10.20.22.2.24" (CONF:7979).`
- 2. **SHALL** contain exactly one [1..1] **code/@code="11535-2"** Hospital Discharge Diagnosis (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:7980).
- 3. **SHALL** contain exactly one [1..1] **title** (CONF:7981).
- 4. **SHALL** contain exactly one [1..1] **text** (CONF:7982).
- 5. **SHOULD** contain zero or one [0..1] **entry** (CONF:7983).
  - a. This entry, if present, **SHALL** contain exactly one [1..1] [Hospital Discharge Diagnosis](#) (templateId:2.16.840.1.113883.10.20.22.4.33) (CONF:7984).

**Figure 102: Hospital discharge diagnosis section example**

```

<section>
    <!-- Discharge Summary Hospital Discharge Diagnosis Template Id -->
    <templateId root="2.16.840.1.113883.10.20.22.2.24"/>
    <id extension="9937012" root="2.16.840.1.113883.19"/>
    <code code="11535-2" displayName="Hospital Discharge Diagnosis"
          codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
    <title>Hospital Discharge Diagnosis</title>
    <text>Diverticula of intestine</text>
    <entry>
        <act classCode="ACT" moodCode="EVN">
            <!--Hospital discharge Diagnosis act -->
            <templateId root="2.16.840.1.113883.10.20.22.4.33"/>
            ...
        </act>
    </entry>
</section>

```

## 4.23 Hospital Discharge Instructions Section

[section: templateId 2.16.840.1.113883.10.20.22.2.41 (open)]

**Table 67: Hospital Discharge Instructions Section Contexts**

Used By:	Contains Entries:
<a href="#">Discharge Summary</a> (optional)	

The Hospital Discharge Instructions section records instructions at discharge.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:9919) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.2.41"** (CONF:10395).
2. **SHALL** contain exactly one [1..1] **code/@code="8653-8" HOSPITAL DISCHARGE INSTRUCTIONS** (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:9920).
3. **SHALL** contain exactly one [1..1] **title** (CONF:9921).
4. **SHALL** contain exactly one [1..1] **text** (CONF:9922).

**Figure 103: Hospital discharge instructions section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.41"/>
  <code code="8653-8" codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="HOSPITAL DISCHARGE INSTRUCTIONS"/>
  <title>HOSPITAL DISCHARGE INSTRUCTIONS</title>
  <text>
    <list listType="ordered">
      <item>Take all of your prescription medication as directed.</item>
      <item>Make an appointment with your doctor to be seen two weeks from the
        date of your procedure.</item>
      <item>You may feel slightly bloated after the procedure because of air
        that was introduced during the examination.</item>
      <item>Call your physician if you notice:<br/>
        Bleeding or black stools.<br/>
        Abdominal pain.<br/>
        Fever or chills.<br/>
        Nausea or vomiting.<br/>
        Any unusual pain or problem.<br/>
        Pain or redness at the site where the intravenous needle was
        placed.<br/>
      </item>
      <item>Do not drink alcohol for 24 hours. Alcohol amplifies the effect of
        the sedatives given.</item>
      <item>Do not drive or operate machinery for 24 hours.</item>
    </list>
  </text>
</section>
```

## 4.24 Hospital Discharge Medications Section 10183-2

**Table 68: Hospital Discharge Medications Section Contexts**

Used By:	Contains Entries:
<b>Coded entries optional:</b> <a href="#">Discharge Summary</a> (required)	<a href="#">Discharge Medication</a>
<b>Coded entries required:</b> ---	

The Hospital Discharge Medications section defines the medications that the patient is intended to take (or stop) after discharge. The currently active medications must be listed. The section may also include a patient's prescription history and indicate the source of the medication list, for example, from a pharmacy system versus from the patient.

## **Hospital Discharge Medications Section with Coded Entries Optional**

[section: templateId 2.16.840.1.113883.10.20.22.2.11(open)]

The following constraints apply to a Hospital Discharge Medications section in which entries are not required.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7816) such that it
  - a. **SHALL** contain exactly one [1..1]  
@root="2.16.840.1.113883.10.20.22.2.11" (CONF:10396).
2. **SHALL** contain exactly one [1..1] **code/@code**="10183-2" Hospital Discharge Medications (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7817)
3. **SHALL** contain exactly one [1..1] **title** (CONF:7818).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7819).
5. **SHOULD** contain zero or more [0..\*] **entry** (CONF:7820) such that it
  - a. **SHALL** contain exactly one [1..1] **Discharge Medication** (2.16.840.1.113883.10.20.22.4.35) (CONF:7883).

## **Hospital Discharge Medications Section with Coded Entries Required**

[section: templateId 2.16.840.1.113883.10.20.22.2.11.1(open)]

The following constraints apply to a Hospital Discharge Medications section in which entries are required.

1. Conforms to [Hospital Discharge Medications Section \(entries optional\)](#) template (2.16.840.1.113883.10.20.22.2.11).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:7822) such that it
  - a. **SHALL** contain exactly one [1..1]  
@root="2.16.840.1.113883.10.20.22.2.11.1" (CONF:10397).
3. **SHALL** contain exactly one [1..1] **code/@code**="10183-2" Hospital Discharge Medications (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7823).
4. **SHALL** contain exactly one [1..1] **title** (CONF:7824).
5. **SHALL** contain exactly one [1..1] **text** (CONF:7825).
6. **SHALL** contain at least one [1..\*] **entry** (CONF:7826) such that it
  - a. **SHALL** contain exactly one [1..1] **Discharge Medication** (2.16.840.1.113883.10.20.22.4.35) (CONF:7827).

**Figure 104: Hospital discharge medications section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.11"/>
  <code code="10183-2"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName=" HOSPITAL DISCHARGE MEDICATIONS"/>
  <title>Hospital Discharge Medications</title>
  <text>
    ...
  </text>
  <entry typeCode="DRIV">
    <act classCode="ACT" moodCode="EVN">
      <!-- Discharge Medication Entry -->
      <templateId root="2.16.840.1.113883.10.20.22.4.35"/>
      ...
    </act>
  </entry>
  ...
</section>
```

## 4.25 Hospital Discharge Physical Section 10184-0

[section: templateId 1.3.6.1.4.1.19376.1.5.3.1.3.26(open) ]

**Table 69: Hospital Discharge Physical Section Contexts**

Used By:	Contains Entries:
<a href="#">Discharge Summary</a> (optional)	

The Hospital Discharge Physical section records a narrative description of the patient's physical findings.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7971) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="1.3.6.1.4.1.19376.1.5.3.1.3.26"` (CONF:10460)
2. **SHALL** contain exactly one [1..1] **code/@code="10184-0"** Hospital Discharge Physical (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7972).
3. **SHALL** contain exactly one [1..1] **title** (CONF:7973).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7974).

**Figure 105: Hospital discharge physical section example**

```
<section>
  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.26"/>
  <code code="10184-0"
    displayName="HOSPITAL DISCHARGE PHYSICAL"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"/>
  <title>Hospital Discharge Physical</title>
  <text>GENERAL: Well-developed, slightly obese man. <br/>
  NECK: Supple, with no jugular venous distension. <br/>
  HEART: Intermittent tachycardia without murmurs or gallops.<br/>
  PULMONARY: Decreased breath sounds, but no clear-cut rales or
  wheezes. <br/>
  EXTREMITIES: Free of edema.</text>
</section>
```

## 4.26 Hospital Discharge Studies Summary Section 11493-4

[section: templateId 2.16.840.1.113883.10.20.22.2.16(open)]

**Table 70: Hospital Discharge Studies Summary Section Contexts**

Used By:	Contains Entries:
<a href="#">Discharge Summary</a> (optional)	

This section records the results of observations generated by laboratories, imaging procedures, and other procedures. The scope includes hematology, chemistry, serology, virology, toxicology, microbiology, plain x-ray, ultrasound, CT, MRI, angiography, echocardiography, nuclear medicine, pathology, and procedure observations. This section often includes notable results such as abnormal values or relevant trends, and could record all results for the period of time being documented.

Laboratory results are typically generated by laboratories providing analytic services in areas such as chemistry, hematology, serology, histology, cytology, anatomic pathology, microbiology, and/or virology. These observations are based on analysis of specimens obtained from the patient and submitted to the laboratory.

Imaging results are typically generated by a clinician reviewing the output of an imaging procedure, such as where a cardiologist reports the left ventricular ejection fraction based on the review of an echocardiogram.

Procedure results are typically generated by a clinician wanting to provide more granular information about component observations made during the performance of a procedure, such as when a gastroenterologist reports the size of a polyp observed during a colonoscopy.

Note that there are discrepancies between CCD and the lab domain model, such as the effectiveTime in specimen collection.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7910) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.2.16"** (CONF:10398).
2. **SHALL** contain exactly one [1..1] **code/@code="11493-4"** Hospital Discharge Studies Summary (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7911).
3. **SHALL** contain exactly one [1..1] **title** (CONF:7912).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7913).

**Figure 106: Hospital discharge studies summary section example**

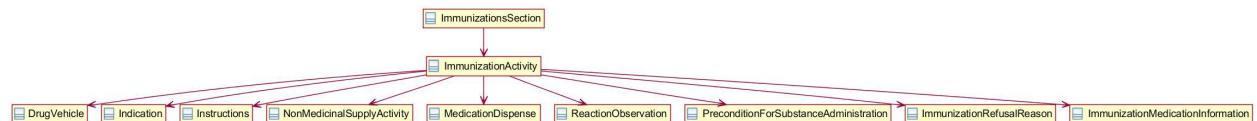
```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.16"/>
  <code code="11493-4"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="HOSPITAL DISCHARGE STUDIES SUMMARY"/>
  <title>Hospital Discharge Studies Summary</title>
  <text>
    ...
  </text>
</section>
```

## 4.27 Immunizations Section 11369-6

**Table 71: Immunizations Section Contexts**

Used By:	Contains Entries:
<b>Coded entries optional:</b> <a href="#">Consultation Note</a> (optional) <a href="#">Discharge Summary</a> (optional) <a href="#">Continuity of Care Document (CCD)</a> (optional) <a href="#">History and Physical</a> (optional)	<a href="#">Immunization Activity</a>
<b>Coded entries required:</b> ---	

**Figure 107: Immunization section\* UML diagram**



\* [Appendix L](#) provides a larger version of this diagram

The Immunizations section defines a patient's current immunization status and pertinent immunization history. The primary use case for the Immunization section is to enable communication of a patient's immunization status. The section should

include current immunization status, and may contain the entire immunization history that is relevant to the period of time being summarized.

### **Immunizations Section with Coded Entries Optional**

[section: templateId 2.16.840.1.113883.10.20.22.2.2(open) ]

The following constraints apply to an Immunization section in which entries are not required.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7965) such that it
  - a. **SHALL** contain exactly one [1..1]  
@root="2.16.840.1.113883.10.20.22.2.2" (CONF:10399).
2. **SHALL** contain exactly one [1..1] **code/@code="11369-6"** Immunizations (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7966).
3. **SHALL** contain exactly one [1..1] **title** (CONF:7967).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7968).
5. **SHOULD** contain zero or more [0..\*] **entry** (CONF:7969) such that it
  - a. **SHALL** contain exactly one [1..1] Immunization Activity (2.16.840.1.113883.10.20.22.4.52) (CONF:7970).

### **ImmunizationsSection with Coded Entries Required**

[section: templateId 2.16.840.1.113883.10.20.22.2.2.1(open) ]

The following constraints apply to an Immunization section in which entries are required.

1. Conforms to Immunizations Section (entries optional) template (2.16.840.1.113883.10.20.22.2.2)
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:9015) such that it
  - a. **SHALL** contain exactly one [1..1]  
@root="2.16.840.1.113883.10.20.22.2.2.1" (CONF:10400)
3. **SHALL** contain exactly one [1..1] **code/@code="11369-6"** Immunizations (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:9016)
4. **SHALL** contain exactly one [1..1] **title** (CONF:9017)
5. **SHALL** contain exactly one [1..1] **text** (CONF:9018)
6. **SHALL** contain at least one [1..\*] **entry** (CONF:9019) such that it
  - a. **SHALL** contain exactly one [1..1] Immunization Activity (2.16.840.1.113883.10.20.22.4.52) (CONF:9020)

**Figure 108: Immunization section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.2"/>
  <!-- ***** Immunizations section template ***** -->
  <code code="11369-6"
        codeSystem="2.16.840.1.113883.6.1"
        codeSystemName="LOINC"
        displayName="History of immunizations"/>
```

```

<title>Immunizations</title>
<text>
  <table border="1" width="100%">
    <thead>
      <tr>
        <th>Vaccine</th>
        <th>Date</th>
        <th>Status</th>
      </tr>
    </thead>
    <tbody>
      <tr>
        <td>
          <content ID="immun1"/>Influenza virus vaccine, IM</td>
          <td>Nov 1999</td>
          <td>Completed</td>
        </td>
      </tr>
      <tr>
        <td>
          <content ID="immun2"/>Influenza virus vaccine, IM</td>
          <td>Dec 1998</td>
          <td>Completed</td>
        </td>
      </tr>
      <tr>
        <td>
          <content ID="immun3"/>
          Pneumococcal polysaccharide vaccine, IM</td>
          <td>Dec 1998</td>
          <td>Completed</td>
        </td>
      </tr>
      <tr>
        <td>
          <content ID="immun4"/>Tetanus and diphtheria toxoids, IM</td>
          <td>1997</td>
          <td>Refused</td>
        </td>
      </tr>
    </tbody>
  </table>
</text>
<entry typeCode="DRIIV">
  <substanceAdministration classCode="SBADM" moodCode="EVN">
    <negationInd="false">
      <templateId root="2.16.840.1.113883.10.20.22.4.52"/>
      <!-- **** Immunization activity template **** -->
      ...
    </substanceAdministration>
  </entry>
  ...
</section>

```

## 4.28 Instructions Section

[section: templateId 2.16.840.1.113883.10.20.22.2.45 (open)]

The Instructions section records instructions given to a patient.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:10112) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.45" (CONF:10402).
2. **SHALL** contain exactly one [1..1] **code/@code="69730-0"** Instructions (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:10113).
3. **SHALL** contain exactly one [1..1] **title** (CONF:10114).
4. **SHALL** contain exactly one [1..1] **text** (CONF:10115).
5. **SHOULD** contain zero or more [0..\*] **entry** (CONF:10116).
  - a. **SHALL** contain exactly one [1..1] **Instructions** (2.16.840.1.113883.10.20.22.4.20) (CONF:10117).

**Figure 109: Instructions section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.21.2.45"/>
  <code code="69730-0" codeSystem="2.16.840.1.113883.6.1"
        codeSystemName="LOINC"
        displayName="INSTRUCTIONS"/>
  <title>INSTRUCTIONS</title>
  <text>
    Patient may have low grade fever, mild joint pain and injection area
    tenderness
  </text>
  <entry typeCode="DRIV">
    <act classCode="ACT" moodCode="INT">
      <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
      <!-- *** Instructions template *** -->
      ...
    </supply>
  </act>
</section>
```

## 4.29 Interventions Section 62387-6

[section: templateId 2.16.840.1.113883.10.20.21.2.3 (open)]

**Table 72: Interventions Section Contexts**

Used By:	Contains Entries:
<a href="#">Progress Note (optional)</a>	

The Interventions section contains information about the specific interventions provided during the healthcare visit. Depending on the type of intervention(s) provided (procedural, education, application of assistive equipment, etc.), the details will vary but may include specification of frequency, intensity, and duration.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:8680) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.21.2.3"** (CONF:10461).
2. **SHALL** contain exactly one [1..1] **code/@code="62387-6"** Interventions Provided (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8681).
3. **SHALL** contain exactly one [1..1] **title** (CONF:8682).
4. **SHALL** contain exactly one [1..1] **text** (CONF:8683).

**Figure 110: Interventions section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.21.2.3"/>
  <code code="62387-6" codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="INTERVENTIONS PROVIDED"/>
  <title>INTERVENTIONS PROVIDED</title>
  <text>
    <list listType="ordered">
      <item>Therapeutic exercise intervention: knee
        extension, 3 sets, 10 repetitions, 10-lb weight. </item>
      <item>Therapeutic exercise intervention: arm curl, 3 sets, 10
        repetitions, 15-lb weight </item>
    </list>
  </text>
</section>
```

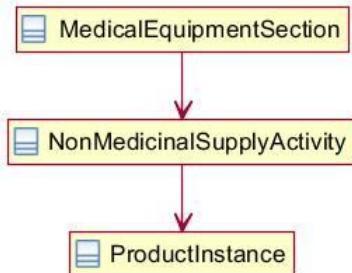
## 4.30 Medical Equipment Section 46264-8

[section: templateId 2.16.840.1.113883.10.20.22.2.23(open)]

**Table 73: Medical Equipment Section Contexts**

Used By:	Contains Entries:
<a href="#">Continuity of Care Document (CCD)</a> (optional)	<a href="#">Non-Medicinal Supply Activity</a>

**Figure 111: Medical equipment section UML diagram**



The Medical Equipment section defines a patient's implanted and external medical devices and equipment that their health status depends on, as well as any pertinent

equipment or device history. This section is also used to itemize any pertinent current or historical durable medical equipment (DME) used to help maintain the patient's health status. All pertinent equipment relevant to the diagnosis, care, and treatment of a patient should be included.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7944) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.23" (CONF:10404).
2. **SHALL** contain exactly one [1..1] **code/@code="46264-8"** Medical Equipment (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7945).
3. **SHALL** contain exactly one [1..1] **title** (CONF:7946).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7947).
5. **SHOULD** contain zero or more [0..\*] **entry** (CONF:7948) such that it
  - a. **SHALL** contain exactly one [1..1] [Non-Medicinal Supply Activity](#) (2.16.840.1.113883.10.20.22.4.50) (CONF:8755).

**Figure 112: Medical equipment section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.23"/>
  <!-- *** Medical equipment section template *** -->
  <code code="46264-8" codeSystem="2.16.840.1.113883.6.1"/>
  <title>Medical Equipment</title>
  <text>
    ...
  </text>
  <entry typeCode="DRIV">
    <supply classCode="SPLY" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.50"/>
      <!-- *** Non-medicinal supply activity template *** -->
      ...
    </supply>
  </entry>
</section>
```

### 4.31 Medical (General) History Section 11329-0

[section: templateId 2.16.840.1.113883.10.20.22.2.39 (open)]

**Table 74: Medical (General) History Section Contexts**

Used By:	Contains Entries:
<a href="#">Procedure Note</a> (optional)	

The Medical History section describes all aspects of the medical history of the patient even if not pertinent to the current procedure, and may include chief complaint, past medical history, social history, family history, surgical or procedure history, medication history, and other history information. The history may be limited to information pertinent to the current procedure or may be more comprehensive. The history may be

reported as a collection of random clinical statements or it may be reported categorically. Categorical report formats may be divided into multiple subsections including Past Medical History, Social History.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:8160) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.2.39"` (CONF:10403).
2. **SHALL** contain exactly one [1..1] **code/@code="11329-0"** Medical (General) History (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8161).
3. **SHALL** contain exactly one [1..1] **title** (CONF:8162).
4. **SHALL** contain exactly one [1..1] **text** (CONF:8163).

**Figure 113: Medical (general) history section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.39"/>
  <code code="11329-0" codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="MEDICAL (GENERAL) HISTORY"/>
  <title>MEDICAL (GENERAL) HISTORY</title>
  <text>
    <list listType="ordered">
      <item>Patient has had recent issue with acne that does not seem to
          be related to any particular cause.</item>
      <item>Previous concerns of oral cancer was actually irritated gums
          as a result of mild food allergy.</item>
      <item>Patient had recent weight gain due to sedentary lifestyle and
          new job.</item>
    </list>
  </text>
</section>
```

## 4.32 Medications Administered Section 29549-3

[section: templateId 2.16.840.1.113883.10.20.22.2.38 (open)]

**Table 75: Medications Administered Section Contexts**

Used By:	Contains Entries:
<a href="#">Procedure Note</a> (optional)	<a href="#">Medication Activity</a>

The Medications Administered section defines medications and fluids administered during the procedure, encounter, or other activity excluding anesthetic medications. This guide recommends anesthesia medications be documented as described in the section on [Anesthesia](#).

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:8152) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.2.38"` (CONF:10405).

2. **SHALL** contain exactly one [1..1] **code/@code="29549-3"** Medications Administered (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8153).
3. **SHALL** contain exactly one [1..1] **title** (CONF:8154).
4. **SHALL** contain exactly one [1..1] **text** (CONF:8155).
5. **MAY** contain zero or more [0..\*] **entry** (CONF:8156).
  - a. **SHALL** contain exactly one [1..1] **Medication Activity** (2.16.840.1.113883.10.20.22.4.16) (CONF:8157).

**Figure 114: Medications administered section example**

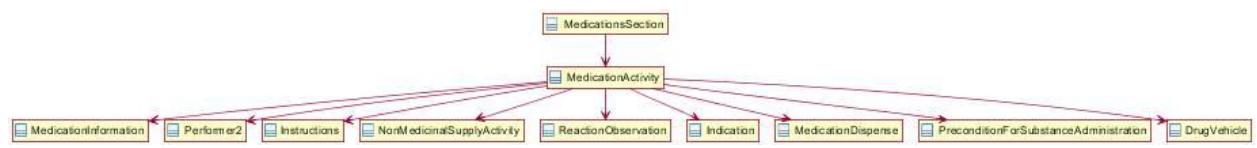
```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.38" />
  <code code="29549-3"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="MEDICATIONS ADMINISTERED" />
  <title>Medications Administered</title>
  <text>Secretin 100 IU administered IV</text>
  <entry>
    <substanceAdministration classCode="SBADM" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
      <!-- Medication Activity template -->
      ...
    </entry>
  </section>
```

## 4.33 Medications Section 10160-0

**Table 76: Medications Section Contexts**

Used By:	Contains Entries:
<b>Coded entries optional:</b> <a href="#">Progress Note</a> (optional) <a href="#">Consultation Note</a> (optional) <a href="#">History and Physical</a> (required) <a href="#">Procedure Note</a> (optional)	<a href="#"><u>Medication Activity</u></a>
<b>Coded entries required:</b> <a href="#">Continuity of Care Document (CCD)</a> (required)	

**Figure 115: Medications section UML diagram**



\* [Appendix L](#) provides a larger version of this diagram

The Medications section defines a patient's current medications and pertinent medication history. At a minimum, the currently active medications are to be listed, with an entire medication history as an option. The section may also include a patient's prescription and dispense history.

This section requires that there be either an entry indicating the subject is not known to be on any medications, or that there be entries summarizing the subject's medications.

### **Medications Section With Coded Entries Optional**

[section: templateId 2.16.840.1.113883.10.20.22.2.1 (open)]

The following constraints apply to a Medications section in which entries are not required.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7791) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.2.1"` (CONF:10432).
2. **SHALL** contain exactly one [1..1] `@code="10160-0"` History of medication use (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7792).
3. **SHALL** contain exactly one [1..1] **title**="Medications" (CONF:7793).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7794).
5. **SHOULD** contain zero or more [0..\*] **entry** (CONF:7795) such that it
  - a. **SHALL** contain exactly one [1..1] **Medication Activity** (2.16.840.1.113883.10.20.22.4.16) (CONF:7796).
  - b. If medication use is unknown, the appropriate nullFlavor **MAY** be present (see unknown information in Section 1) (CONF:10076).

### **Medications Section With Coded Entries Required**

[section: templateId 2.16.840.1.113883.10.20.22.2.1.1 (open)]

The following constraints apply to a Medications section in which entries are required.

1. Conforms to **Medications Section (entries optional)** template (2.16.840.1.113883.10.20.22.2.1).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:7568) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.2.1.1"` (CONF:10433).
3. **SHALL** contain exactly one [1..1] `@code="10160-0"` History of medication use (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7569).
4. **SHALL** contain exactly one [1..1] **title**="Medications" (CONF:7570).
5. **SHALL** contain exactly one [1..1] **text** (CONF:7571).
6. **SHALL** contain at least one [1..\*] **entry** (CONF:7572) such that it
  - a. **SHALL** contain exactly one [1..1] **Medication Activity** (2.16.840.1.113883.10.20.22.4.16) (CONF:7573).
  - b. If medication use is unknown, the appropriate nullFlavor **MAY** be present (see unknown information in Section 1) (CONF:10077).

**Figure 116: Medications section entries example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.1"/>
  <code code="10160-0"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="HISTORY OF MEDICATION USE"/>
  <title>MEDICATIONS</title>
  <text>
    ...
  </text>
  <entry typeCode="DRIV">
    <substanceAdministration classCode="SBADM" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
      <!-- Medication Activity template -->
      ...
    </substanceAdministration>
  </entry>
</section>
```

## 4.34 Objective Section 61149-1

[section: templateId 2.16.840.1.113883.10.20.21.2.1 (open)]

**Table 77: Objective Section Contexts**

Used By:	Contains Entries:
<a href="#">Progress Note (optional)</a>	

The Objective section contains data about the patient gathered through tests, measures, or observations that produce a quantified or categorized result. It includes important and relevant positive and negative test results, physical findings, review of systems, and other measurements and observations.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7869) such that it
  - a. **SHALL** contain exactly one [1..1]  
**@root="2.16.840.1.113883.10.20.21.2.1"** (CONF:10462).
2. **SHALL** contain exactly one [1..1] **code/@code="61149-1"** Objective (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7870).
3. **SHALL** contain exactly one [1..1] **title** (CONF:7871).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7872).

**Figure 117: Objective section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.21.2.1"/>
  <code code="61149-1" codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="OBJECTIVE DATA"/>
  <title>OBJECTIVE DATA</title>
  <text>
    <list listType="ordered">
      <item>Chest: clear to ausc. No rales, normal breath sounds</item>
      <item>Heart: RR, PMI in normal location and no heave or evidence of
        cardiomegaly,normal heart sounds, no murmur or gallop</item>
    </list>
  </text>
</section>
```

## 4.35 Operative Note Fluid Section 10216-0

[section: templateId 2.16.840.1.113883.10.20.7.12 (open)]

**Table 78: Operative Note Fluids Section Contexts**

Used By:	Contains Entries:
<a href="#">Operative Note</a> (optional)	

The Operative Note Fluids section may be used to record fluids administered during the surgical procedure.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:8030) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.7.12" (CONF:10463).
2. **SHALL** contain exactly one [1..1] **code/@code="10216-0"** Operative Note Fluids (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8031).
3. **SHALL** contain exactly one [1..1] **title** (CONF:8032).
4. **SHALL** contain exactly one [1..1] **text** (CONF:8033).
5. If the Operative Note Fluids section is present, there **SHALL** be a statement providing details of the fluids administered or **SHALL** explicitly state there were no fluids administered (CONF:8052).

**Figure 118: Operative Note fluid section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.7.12"/>
  <code code="10216-0"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="SURGICAL OPERATION NOTE FLUIDS"/>
  <title>Operative Note Fluids</title>
  <text>250 ML Ringers Lactate</text>
</section>
```

## 4.36 Operative Note Surgical Procedure Section 10223-6

[section: templateId 2.16.840.1.113883.10.20.7.14 (open)]

**Table 79: Operative Note Surgical Procedure Section Contexts**

Used By:	Contains Entries:
<a href="#">Operative Note</a> (optional)	

The Operative Note Surgical Procedure section can be used to restate the procedures performed if appropriate for an enterprise workflow. The procedure(s) performed associated with the Operative Note are formally modeled in the header using serviceEvent.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:8034) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.7.14" (CONF:10464).
2. **SHALL** contain exactly one [1..1] **code/@code="10223-6"** Operative Note Surgical Procedure (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8035).
3. **SHALL** contain exactly one [1..1] **title** (CONF:8036).
4. **SHALL** contain exactly one [1..1] **text** (CONF:8037).
5. If the surgical procedure section is present there **SHALL** be text indicating the procedure performed (CONF:8054).

**Figure 119: Operative Note surgical procedure section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.7.14"/>
  <code code="10223-6"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="SURGICAL OPERATION NOTE SURGICAL PROCEDURE"/>
  <title>Surgical Procedure</title>
  <text>Laparoscopic Appendectomy</text>
</section>
```

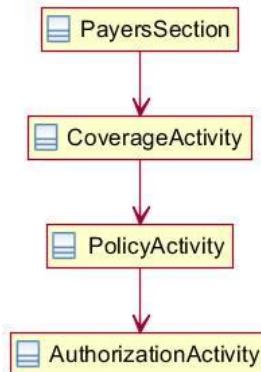
## 4.37 Payers Section 48768-6

[section: templateId 2.16.840.1.113883.10.20.22.2.18 (open)]

**Table 80: Payers Section Contexts**

Used By:	Contains Entries:
<a href="#">Continuity of Care Document (CCD) (optional)</a>	<a href="#">Coverage Activity</a>

**Figure 120: Payers section UML diagram**



The Payers section contains data on the patient's payers, whether a 'third party' insurance, self-pay, other payer or guarantor, or some combination of payers, and is used to define which entity is the responsible fiduciary for the financial aspects of a patient's care.

Each unique instance of a payer and all the pertinent data needed to contact, bill to, and collect from that payer should be included. Authorization information that can be used to define pertinent referral, authorization tracking number, procedure, therapy, intervention, device, or similar authorizations for the patient or provider, or both should be included. At a minimum, the patient's pertinent current payment sources should be listed.

The sources of payment are represented as a Coverage Activity, which identifies all of the insurance policies or government or other programs that cover some or all of the patient's healthcare expenses. The policies or programs are sequenced by preference. The Coverage Activity has a sequence number that represents the preference order. Each policy or program identifies the covered party with respect to the payer, so that the identifiers can be recorded.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7924) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.2.18"** (CONF:10434).
2. **SHALL** contain exactly one [1..1] **code/@code="48768-6"** Payers (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7925).
3. **SHALL** contain exactly one [1..1] **title** (CONF:7926).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7927).

5. **SHOULD** contain zero or more [0..\*] **entry** (CONF:7959) such that it
- SHALL** contain exactly one [1..1] Coverage Activity (2.16.840.1.113883.10.20.22.4.60) (CONF:8905).

**Figure 121: Payers section example**

```

<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.18"/>
  <!-- ***** Payers section template ***** -->
  <code code="48768-6" codeSystem="2.16.840.1.113883.6.1"
        codeSystemName="LOINC" displayName="Payments"/>
  <title>Insurance Providers</title>
  <text>
    <table border="1" width="100%">
      <thead>
        <tr>
          <th>Payer name</th>
          <th>Policy type / Coverage type</th>
          <th>Policy ID</th>
          <th>Covered party ID</th>
          <th>Policy Holder</th>
        </tr>
      </thead>
      <tbody>
        <tr>
          <td>Good Health Insurance</td>
          <td>Extended healthcare / Family</td>
          <td>Contract Number</td>
          <td>1138345</td>
          <td>Patient's Mother</td>
        </tr>
      </tbody>
    </table>
  </text>
  <entry typeCode="DRIV">
    <act classCode="ACT" moodCode="DEF">
      <templateId root="2.16.840.1.113883.10.20.22.4.60"/>
      <!-- **** Coverage entry template **** -->
      ...
    </act>
  </entry>
</section>

```

## 4.38 Physical Exam Section 29545-1

[section: templateId 2.16.840.1.113883.10.20.2.10 (open)]

**Table 81: Physical Exam Section Contexts**

Used By:	Contains Entries:
<a href="#">Progress Note</a> (optional) <a href="#">Consultation Note</a> (optional) <a href="#">History and Physical</a> (required) <a href="#">Procedure Note</a> (optional)	

The Physical Exam section includes direct observations made by the clinician. The examination may include the use of simple instruments and may also describe simple maneuvers performed directly on the patient's body. This section includes only observations made by the examining clinician using inspection, palpation, auscultation, and percussion; it does not include laboratory or imaging findings. The exam may be limited to pertinent body systems based on the patient's chief complaint or it may include a comprehensive examination. The examination may be reported as a collection of random clinical statements or it may be reported categorically.

The Physical Exam section may contain multiple nested subsections: [Vital Signs](#), [General Status](#), and those listed in the [Additional Physical Examination Subsections](#) appendix.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7806) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.2.10" (CONF:10465).
2. **SHALL** contain exactly one [1..1] **code/@code="29545-1"** Physical Findings (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7807).
3. **SHALL** contain exactly one [1..1] **title** (CONF:7808).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7809).

**Figure 122: Physical exam section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.2.10"/>
  <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
        code="29545-1" displayName="PHYSICAL FINDINGS"/>
  <title>PHYSICAL EXAMINATION</title>
  <text>
    <paragraph>All normal to examination.</paragraph>
  </text>
</section>
```

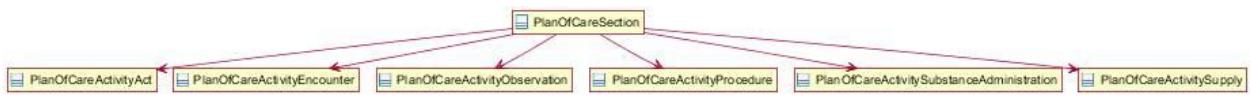
## 4.39 Plan of Care Section 18776-5

[section: templateId 2.16.840.1.113883.10.20.22.2.10(open)]

**Table 82: Plan of Care Section Contexts**

Used By:	Contains Entries:
<a href="#">Progress Note</a> (optional) <a href="#">Consultation Note</a> (optional) <a href="#">Discharge Summary</a> (required) <a href="#">History and Physical</a> (optional) <a href="#">Procedure Note</a> (optional) <a href="#">Operative Note</a> (optional) <a href="#">Continuity of Care Document (CCD)</a> (optional)	<a href="#">Plan of Care Activity Act</a> <a href="#">Plan of Care Activity Encounter</a> <a href="#">Plan of Care Activity Observation</a> <a href="#">Plan of Care Activity Procedure</a> <a href="#">Plan of Care Activity Substance Administration</a> <a href="#">Plan of Care Activity Supply</a>

**Figure 123: Plan of care section UML diagram**



\* [Appendix L](#) provides a larger version of this diagram

The Plan of Care section contains data that defines pending orders, interventions, encounters, services, and procedures for the patient. It is limited to prospective, unfulfilled, or incomplete orders and requests only, which are indicated by the @moodCode of the entries within this section. All active, incomplete, or pending orders, appointments, referrals, procedures, services, or any other pending event of clinical significance to the current care of the patient should be listed unless constrained due to privacy issues. The plan may also contain information about ongoing care of the patient and information regarding goals and clinical reminders. Clinical reminders are placed here to provide prompts for disease prevention and management, patient safety, and health-care quality improvements, including widely accepted performance measures. The plan may also indicate that patient education was given or will be provided.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7723) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.2.10"** (CONF:10435).
2. **SHALL** contain exactly one [1..1] **code/@code="18776-5"** Plan of Care (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7724).
3. **SHALL** contain exactly one [1..1] **text** (CONF:7725).
4. **MAY** contain zero or more [0..\*] **entry** (CONF:7726) such that it
  - a. **SHALL** contain exactly one [1..1] [Plan of Care Activity Act](#) (2.16.840.1.113883.10.20.22.4.39) (CONF:8804).
5. **MAY** contain zero or more [0..\*] **entry** (CONF:8805) such that it
  - a. **SHALL** contain exactly one [1..1] [Plan of Care Activity Encounter](#) (2.16.840.1.113883.10.20.22.4.40) (CONF:8806).
6. **MAY** contain zero or more [0..\*] **entry** (CONF:8807) such that it

- a. **SHALL** contain exactly one [1..1] [Plan of Care Activity Observation](#) (2.16.840.1.113883.10.20.22.4.44) (CONF:8808).
- 7. **MAY** contain zero or more [0..\*] **entry** (CONF:8809) such that it
  - a. **SHALL** contain exactly one [1..1] [Plan of Care Activity Procedure](#) (2.16.840.1.113883.10.20.22.4.41) (CONF:8810).
- 8. **MAY** contain zero or more [0..\*] **entry** (CONF:8811) such that it
  - a. **SHALL** contain exactly one [1..1] [Plan of Care Activity Substance Administration](#) (2.16.840.1.113883.10.20.22.4.42) (CONF:8812).
- 9. **MAY** contain zero or more [0..\*] **entry** (CONF:8813) such that it
  - a. **SHALL** contain exactly one [1..1] [Plan of Care Activity Supply](#) (2.16.840.1.113883.10.20.22.4.43) (CONF:8814).

**Figure 124: Plan of care section example**

```

<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.10" />
  <!-- **** Plan of Care section template **** -->
  <code code="18776-5" codeSystem="2.16.840.1.113883.6.1"
        codeSystemName="LOINC" displayName="Treatment plan"/>
  <title>Plan of Care</title>
  <text>
    ...
  </text>
  <entry typeCode="DRIV">
    <observation classCode="OBS" moodCode="RQO">
      <templateId root="2.16.840.1.113883.10.20.22.4.44"/>
      <!-- **** Plan of Care Activity Observation template **** -->
      ...
    </observation>
  </entry>
  <entry>
    <act moodCode="RQO" classCode="ACT">
      <templateId root="2.16.840.1.113883.10.20.22.4.39"/>
      <!-- **** Plan of Care Activity Act template **** -->
      ...
    </act>
  </entry>
  <entry>
    <encounter moodCode="INT" classCode="ENC">
      <templateId root="2.16.840.1.113883.10.20.22.4.40"/>
      <!-- **** Plan of Care Activity Encounter template **** -->
      ...
    </encounter>
  </entry>
  <entry>
    <procedure moodCode="RQO" classCode="PROC">
      <templateId root="2.16.840.1.113883.10.20.22.4.41"/>
      <!-- **** Plan of Care Activity Procedure Template **** -->
      ...
    </procedure>
  </entry>
</section>
```

```

<entry>
  <substanceAdministration moodCode="RQO" classCode="SBADM">
    <templateId root="2.16.840.1.113883.10.20.22.4.42"/>
    <!-- **** Plan of Care Activity Substance Administration **** -->
    ...
  </substanceAdministration>
</entry>
<entry>
  <supply moodCode="INT" classCode="SPLY">
    <templateId root="2.16.840.1.113883.10.20.22.4.43"/>
    <!-- ** Plan of Care Activity Supply ** -->
    ...
  </supply>
</entry>
</section>

```

## 4.40 Planned Procedure Section 59772-4

[section: templateId 2.16.840.1.113883.10.20.22.2.30 (open)]

**Table 83: Planned Procedure Section Contexts**

Used By:	Contains Entries:
<a href="#">Procedure Note</a> (optional) <a href="#">Operative Note</a> (optional)	<a href="#">Plan of Care Activity Procedure</a>

The Planned Procedure section records the procedure(s) that a clinician thought would need to be done based on the preoperative assessment. It may be important to record the procedure(s) that were originally planned for, consented to, and perhaps pre-approved by the payor, particularly if different from the actual procedure(s) and procedure details, to provide evidence to various stakeholders that the providers are aware of the discrepancy and the justification can be found in the procedure details.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:8082) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.2.30"** (CONF:10436).
2. **SHALL** contain exactly one [1..1] **code/@code="59772-4"** Planned Procedure (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8083).
3. **SHALL** contain exactly one [1..1] **title** (CONF:8084).
4. **SHALL** contain exactly one [1..1] **text** (CONF:8085).
5. **MAY** contain zero or more [0..\*] **entry** (CONF:8744) such that it
  - a. **SHALL** contain exactly one [1..1] [Plan of Care Activity Procedure](#) (2.16.840.1.113883.10.20.22.4.41) (CONF:8766).

**Figure 125: Planned procedure section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.30"/>
  <!-- ***** Planned Procedure Section template ***** -->
  <code code="59772-4" codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC" displayName="Planned Procedure"/>
  <title>Planned Procedure</title>
  <text>
    ...
  </text>
  <entry>
    <procedure moodCode="RQO" classCode="PROC">
      <templateId root="2.16.840.1.113883.10.20.22.4.41"/>
      <!-- ** Plan of Care Activity Procedure Template ** -->
      ...
    </procedure>
  </entry>
</section>
```

## 4.41 Postoperative Diagnosis Section 10218-6

[section: templateId 2.16.840.1.113883.10.20.22.2.35(open)]

**Table 84: Postoperative Diagnosis Section Contexts**

Used By:	Contains Entries:
<a href="#">Operative Note</a> (required)	

The Postoperative Diagnosis section records the diagnosis or diagnoses discovered or confirmed during the surgery. Often it is the same as the preoperative diagnosis.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:8101) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.35" (CONF:10437).
2. **SHALL** contain exactly one [1..1] **code/@code="10218-6"** Postoperative Diagnosis (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8102).
3. **SHALL** contain exactly one [1..1] **title** (CONF:8103).
4. **SHALL** contain exactly one [1..1] **text** (CONF:8104).

**Figure 126: Postoperative diagnosis section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.35"/>
  <code code="10218-6"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="POSTOPERATIVE DIAGNOSIS"/>
  <title>Postoperative Diagnosis</title>
  <text>Appendicitis with periappendiceal abscess</text>
</section>
```

## 4.42 Postprocedure Diagnosis Section 59769-0

[section: templateId 2.16.840.1.113883.10.20.22.2.36 (open)]

**Table 85: Postprocedure Diagnosis Section Contexts**

Used By:	Contains Entries:
<a href="#">Procedure Note</a> (required)	<a href="#">Postprocedure Diagnosis</a>

The Postprocedure Diagnosis section records the diagnosis or diagnoses discovered or confirmed during the procedure. Often it is the same as the pre-procedure diagnosis or indication.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:8167) such that it
  - a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.22.2.36"` (CONF:10438).
2. **SHALL** contain exactly one [1..1] **code/@code="59769-0"** Postprocedure Diagnosis (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8169).
3. **SHALL** contain exactly one [1..1] **title** (CONF:8170).
4. **SHALL** contain exactly one [1..1] **text** (CONF:8171).
5. **SHOULD** contain zero or one [0..1] **entry** (CONF:8762) such that it
  - a. **SHALL** contain exactly one [1..1] [Postprocedure Diagnosis](#) (2.16.840.1.113883.10.20.22.4.51) (CONF:8764).

**Figure 127: Postprocedure diagnosis section example**

```

<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.36"/>
  <code code="59769-0" codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC" displayName="POSTPROCEDURE DIAGNOSIS"/>
  <title>Postprocedure Diagnosis</title>
  <text>
    ...
  </text>
  <entry>
    <act moodCode="EVN" classCode="ACT">
      <templateId root="2.16.840.1.113883.10.20.22.4.51"/>
      <!-- ** Postprocedure Diagnosis Entry ** -->
      ...
    </act>
  </entry>
</section>

```

## 4.43 Preoperative Diagnosis Section 10219-4

[section: templateId 2.16.840.1.113883.10.20.22.2.34 (open)]

**Table 86: Preoperative Diagnosis Section Contexts**

Used By:	Contains Entries:
<a href="#">Operative Note</a> (required)	<a href="#">Preoperative Diagnosis</a>

The Preoperative Diagnosis section records the surgical diagnosis or diagnoses assigned to the patient before the surgical procedure and is the reason for the surgery. The preoperative diagnosis is, in the opinion of the surgeon, the diagnosis that will be confirmed during surgery.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:8097) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.2.34"** (CONF:10439).
2. **SHALL** contain exactly one [1..1] **code/@code="10219-4"** Preoperative Diagnosis (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8098).
3. **SHALL** contain exactly one [1..1] **title** (CONF:8099).
4. **SHALL** contain exactly one [1..1] **text** (CONF:8100).
5. **SHOULD** contain zero or one [0..1] **entry** (CONF:10096) such that it
  - a. **SHALL** contain exactly one [1..1] **Preoperative Diagnosis (2.16.840.1.113883.10.20.22.4.65)** (CONF:10097).

**Figure 128: Preoperative diagnosis section example**

```

<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.34"/>
  <code code="10219-4"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="SURGICAL OPERATION NOTE PREOPERATIVE DX"/>
  <title>Preoperative Diagnosis</title>
  <text>Appendicitis</text>
  <entry>
    <act moodCode="EVN" classCode="ACT">
      <templateId root="2.16.840.1.113883.10.20.22.4.65"/>
      <!-- ** Preoperative Diagnosis Entry ** -->
      ...
    </act>
  </entry>
</section>

```

## 4.44 Problem Section 11450-4

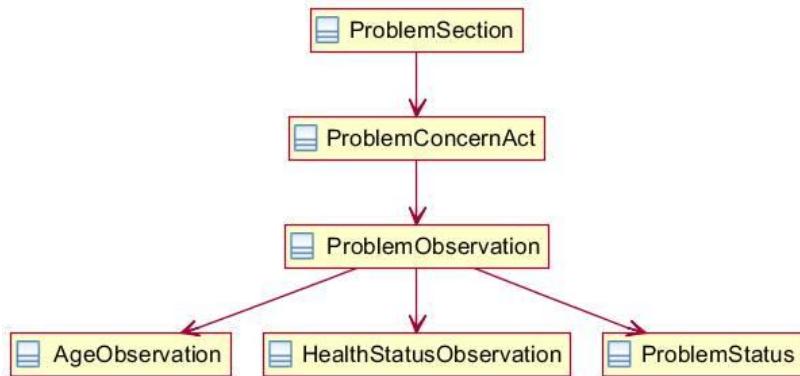
**Table 87: Problem Section Contexts**

Used By:	Contains Entries:
<b>Entries optional:</b> <a href="#">Progress Note</a> (optional) <a href="#">Consultation Note</a> (optional) <a href="#">Discharge Summary</a> (optional) <a href="#">History and Physical</a> (optional)	<a href="#">Problem Concern Act (Condition)</a>

Entries required:	
<a href="#">Continuity of Care Document (CCD)</a> (required)	

**Figure 129: Problem section UML diagram**



This section lists and describes all relevant clinical problems at the time the document is generated. At a minimum, all pertinent current and historical problems should be listed.

### **Problem Section with Coded Entries Optional**

[section: templateId 2.16.840.1.113883.10.20.22.2.5 (open)]

The following constraints apply to a Problem section in which entries are not required.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7877) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.2.5"` (CONF:10440).
2. **SHALL** contain exactly one [1..1] **code/@code="11450-4"** Problem List (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7878).
3. **SHALL** contain exactly one [1..1] **title** (CONF:7879).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7880).
5. **SHOULD** contain zero or more [0..\*] **entry** (CONF:7881).
  - a. **SHALL** contain exactly one [1..1] [Problem Concern Act \(Condition\)](#) (2.16.840.1.113883.10.20.22.4.3) (CONF:7882).

### **Problem Section with Coded Entries Required**

[section: templateId 2.16.840.1.113883.10.20.22.2.5.1 (open)]

The following constraints apply to a Problem section in which entries are required.

1. Conforms to [Problem Section \(entries optional\)](#) template (2.16.840.1.113883.10.20.22.2.5).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:9179) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.2.5.1"` (CONF:10441).
3. **SHALL** contain exactly one [1..1] **code/@code="11450-4"** Problem List (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:9180).
4. **SHALL** contain exactly one [1..1] **title** (CONF:9181).
5. **SHALL** contain exactly one [1..1] **text** (CONF:9182).
6. **SHALL** contain at least one [1..\*] **entry** (CONF:9183).
  - a. **SHALL** contain exactly one [1..1] [Problem Concern Act \(Condition\)](#) (2.16.840.1.113883.10.20.22.4.3) (CONF:9184).

**Figure 130: Problem section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.5"/>
  <code code="11450-4" codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="PROBLEM LIST"/>
  <title>PROBLEMS</title>
  <text>
    <list listType="ordered">
      <item>Pneumonia: Resolved in March 1998 </item>
      <item>...</item>
    </list>
  </text>
  <entry typeCode="DRIV">
    <act classCode="ACT" moodCode="EVN">
      <!-- Problem Concern Act (Condition) template -->
      ...
    </act>
  </entry>
</section>
```

## 4.45 Procedure Description Section 29554-3

[section: templateId 2.16.840.1.113883.10.20.22.2.27 (open)]

**Table 88: Procedure Description Section Contexts**

Used By:	Contains Entries:
<a href="#">Procedure Note</a> (required)	
<a href="#">Operative Note</a> (required)	

The Procedure Description section records the particulars of the procedure and may include procedure site preparation, surgical site preparation, pertinent details related to sedation/anesthesia, pertinent details related to measurements and markings, procedure times, medications administered, estimated blood loss, specimens removed, implants, instrumentation, sponge counts, tissue manipulation, wound closure, sutures used, vital signs and other monitoring data. Local practice often identifies the level and type of detail required based on the procedure or specialty.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:8062) such that it
  - a. **SHALL** contain exactly one [1..1]  
**@root="2.16.840.1.113883.10.20.22.2.27"** (CONF:10442).
2. **SHALL** contain exactly one [1..1] **code/@code="29554-3"** Procedure Description (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8063).
3. **SHALL** contain exactly one [1..1] **title** (CONF:8064).
4. **SHALL** contain exactly one [1..1] **text** (CONF:8065).

**Figure 131: Procedure description section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.27" />
  <code code="29554-3"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="PROCEDURE DESCRIPTION" />
  <title>Procedure Description</title>
  <text>The patient was taken to the endoscopy suite where ... </text>
</section>
```

## 4.46 Procedure Disposition Section 59775-7

[section: templateId 2.16.840.1.113883.10.20.18.2.12(open)]

**Table 89: Procedure Disposition Section Contexts**

Used By:	Contains Entries:
<a href="#">Procedure Note</a> (optional)	
<a href="#">Operative Note</a> (optional)	

The Procedure Disposition section records the status and condition of the patient at the completion of the procedure or surgery. It often also states where the patient was transferred to for the next level of care.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:8070) such that it
  - a. **SHALL** contain exactly one [1..1]  
@root="2.16.840.1.113883.10.20.18.2.12" (CONF:10466).
2. **SHALL** contain exactly one [1..1] **code/@code="59775-7"** Procedure Disposition (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8071).
3. **SHALL** contain exactly one [1..1] **title** (CONF:8072).
4. **SHALL** contain exactly one [1..1] **text** (CONF:8073).

**Figure 132: Procedure disposition section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.18.2.12"/>
  <code code="59775-7" codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="PROCEDURE DISPOSITION"/>
  <title>PROCEDURE DISPOSITION</title>
  <text>The patient was taken to the Endoscopy Recovery Unit in stable
    condition.</text>
</section>
```

## 4.47 Procedure Estimated Blood Loss Section 59770-8

[section: templateId 2.16.840.1.113883.10.20.18.2.9 (open)]

**Table 90: Procedure Estimated Blood Loss Section Contexts**

Used By:	Contains Entries:
<a href="#">Procedure Note</a> (optional) <a href="#">Operative Note</a> (required)	

The Estimated Blood Loss section may be a subsection of another section such as the Procedure Description section. The Estimated Blood Loss section records the approximate amount of blood that the patient lost during the procedure or surgery. It may be an accurate quantitative amount, e.g., 250 milliliters, or it may be descriptive, e.g., "minimal" or "none".

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:8074) such that it
  - a. **SHALL** contain exactly one [1..1]  
    @root="2.16.840.1.113883.10.20.18.2.9" (CONF:10467).
2. **SHALL** contain exactly one [1..1] **code/@code="59770-8"** Procedure Estimated Blood Loss (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8075).
3. **SHALL** contain exactly one [1..1] **title** (CONF:8076).
4. **SHALL** contain exactly one [1..1] **text** (CONF:8077).
5. The Estimated Blood Loss section **SHALL** include a statement providing an estimate of the amount of blood lost during the procedure, even if the estimate is text, such as "minimal" or "none" (CONF:8741).

**Figure 133: Procedure estimated blood loss section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.18.2.9"/>
  <code code="59770-8" codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC" displayName="PROCEDURE ESTIMATED BLOOD LOSS"/>
  <title>Procedure Estimated Blood Loss</title>
  <text>Minimal</text>
</section>
```

## 4.48 Procedure Findings Section 59776-5

[section: templateId 2.16.840.1.113883.10.20.22.2.28 (open)]

**Table 91: Procedure Findings Section Contexts**

Used By:	Contains Entries:
<a href="#">Procedure Note</a> (optional) <a href="#">Operative Note</a> (required)	<a href="#">Problem Observation</a>

The Procedure Findings section records clinically significant observations confirmed or discovered during the procedure or surgery.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:8078) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.28" (CONF:10443).
2. **SHALL** contain exactly one [1..1] **code/@code="59776-5"** Procedure Findings (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8079).
3. **SHALL** contain exactly one [1..1] **title** (CONF:8080).
4. **SHALL** contain exactly one [1..1] **text** (CONF:8081).
5. **MAY** contain zero or more [0..\*] **entry** (CONF:8090) such that it
  - a. **SHALL** contain exactly one [1..1] **Problem Observation** (2.16.840.1.113883.10.20.22.4.4) (CONF:8091).

**Figure 134: Procedure findings section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.28" />
  <code code="59776-5"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="PROCEDURE FINDINGS" />
  <title>Procedure Findings</title>
  <text>A 6 mm sessile polyp was found in the ascending colon and removed by
    snare, no cautery. Bleeding was controlled. Moderate diverticulosis
    and hemorrhoids were incidentally noted.</text>
  <entry>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
      <!-- Problem Observation -->
      ...
    </observation>
  </entry>
</section>
```

## 4.49 Procedure Implants Section 59771-6

[section: templateId 2.16.840.1.113883.10.20.22.2.40(open)]

**Table 92: Procedure Implants Section Contexts**

Used By:	Contains Entries:
<u><a href="#">Procedure Note</a></u> (optional)	
<u><a href="#">Operative Note</a></u> (optional)	

The Procedure Implants section records any materials placed during the procedure including stents, tubes, and drains.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:8178) such that it

- a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.22.2.40"` (CONF:10444).
- 2. **SHALL** contain exactly one [1..1] `code/@code="59771-6"` Procedure Implants (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8179).
- 3. **SHALL** contain exactly one [1..1] `title` (CONF:8180).
- 4. **SHALL** contain exactly one [1..1] `text` (CONF:8181).
- 5. The Implants section **SHALL** include a statement providing details of the implants placed, or assert no implants were placed (CONF:8769).

**Figure 135: Procedure implants section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.40"/>
  <code code="59771-6" codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC" displayName="PROCEDURE IMPLANTS"/>
  <title>Procedure Implants</title>
  <text>No implants were placed.</text>
</section>
```

## 4.50 Procedure Indications Section 59768-2

[section: templateId 2.16.840.1.113883.10.20.22.2.29(open)]

**Table 93: Procedure Indications Section Contexts**

Used By:	Contains Entries:
<a href="#">Procedure Note</a> (required)	<a href="#">Indication</a>
<a href="#">Operative Note</a> (optional)	

The Procedure Indications section records details about the reason for the procedure or surgery. This section may include the pre-procedure diagnosis or diagnoses as well as one or more symptoms that contribute to the reason the procedure is being performed.

- 1. **SHALL** contain exactly one [1..1] `templateId` (CONF:8058) such that it
  - a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.22.2.29"` (CONF:10445).
- 2. **SHALL** contain exactly one [1..1] `code/@code="59768-2"` Procedure Indications (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8059).
- 3. **SHALL** contain exactly one [1..1] `title` (CONF:8060).
- 4. **SHALL** contain exactly one [1..1] `text` (CONF:8061).
- 5. **MAY** contain zero or more [0..\*] `entry` (CONF:8743) such that it
  - a. **SHALL** contain exactly one [1..1] [Indication](#) (2.16.840.1.113883.10.20.22.4.19) (CONF:8765).

**Figure 136: Procedure indications section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.29"/>
  <code code="59768-2" codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC" displayName="PROCEDURE INDICATIONS"/>
  <title>Procedure Indications</title>
  <text>The procedure is performed for screening in a low risk individual.</text>
  <entry>
    <observation classCode="OBS" moodCode="EVN">
      <!-- Indication Entry -->
      <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
      ...
    </observation>
  </entry>
</section>
```

## 4.51 Procedure Specimens Taken Section 59773-2

[section: templateId 2.16.840.1.113883.10.20.22.2.31 (open)]

**Table 94: Procedure Specimens Taken Section Contexts**

Used By:	Contains Entries:
<a href="#">Procedure Note</a> (optional)	
<a href="#">Operative Note</a> (required)	

The Procedure Specimens Taken section records the tissues, objects, or samples taken from the patient during the procedure including biopsies, aspiration fluid, or other samples sent for pathological analysis. The narrative may include a description of the specimens.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:8086) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.2.31"` (CONF:10446).
2. **SHALL** contain exactly one [1..1] **code/@code="59773-2"** Procedure Specimens Taken (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8087).
3. **SHALL** contain exactly one [1..1] **title** (CONF:8088).
4. **SHALL** contain exactly one [1..1] **text** (CONF:8089).
5. The Procedure Specimens Taken section **SHALL** list all specimens removed or **SHALL** explicitly state that no specimens were taken (CONF:8742).

**Figure 137: Procedure specimens taken section example**

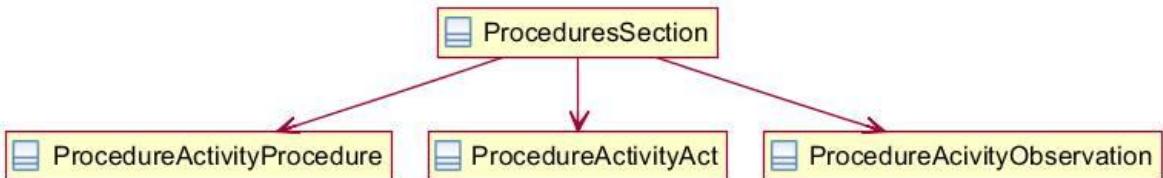
```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.31"/>
  <code code="59773-2"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="PROCEDURE SPECIMENS TAKEN"/>
  <title>Procedure Specimens Taken</title>
  <text>Ascending colon polyp</text>
</section>
```

## 4.52 Procedures Section 47519-4

**Table 95: Procedures Section Contexts**

Used By:	Contains Entries:
<b>Entries optional:</b> <a href="#">Consultation Note</a> (optional) <a href="#">Discharge Summary</a> (optional) <a href="#">Procedure Note</a> (optional) <a href="#">History and Physical</a> (optional)	<a href="#">Procedure Activity Act</a> <a href="#">Procedure Activity Observation</a> <a href="#">Procedure Activity Procedure</a>

**Figure 138: Procedures section UML diagram**



This section defines all interventional, surgical, diagnostic, or therapeutic procedures or treatments pertinent to the patient historically at the time the document is generated. The section is intended to include notable procedures, but can contain all procedures for the period of time being summarized. The common notion of "procedure" is broader than that specified by the HL7 Version 3 Reference Information Model (RIM). Therefore this section contains procedure templates represented with three RIM classes: Act, Observation, and Procedure. Procedure act is for procedures that alter the physical condition of a patient (Splenectomy). Observation act is for procedures that result in new information about a patient but do not cause physical alteration (EEG). Act is for all other types of procedures (dressing change).

The length of an encounter is documented in the documentationOf/encompassingEncounter/effectiveTime and length of service in documentationOf/ServiceEvent/effectiveTime.

### **Procedures Section with Coded Entries Optional**

[section: templateId 2.16.840.1.113883.10.20.22.2.7 (open)]

The following constraints apply to a Procedures section in which entries are not required.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:6270) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.7" (CONF:6271).
2. **SHALL** contain exactly one [1..1] **code/@code**="47519-4" *History of procedures* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:6272).
3. **SHALL** contain exactly one [1..1] **text** (CONF:6273).
4. **MAY** contain zero or more [0..\*] **entry** (CONF:6274) such that it
  - a. **SHALL** contain exactly one [1..1] Procedure Activity Procedure (templateId:2.16.840.1.113883.10.20.22.4.14) (CONF:6277).
5. **MAY** contain zero or one [0..1] **entry** (CONF:6278) such that it
  - a. **SHALL** contain exactly one [1..1] Procedure Activity Observation (templateId:2.16.840.1.113883.10.20.22.4.13) (CONF:6279).
6. **MAY** contain zero or one [0..1] **entry** (CONF:8533) such that it
  - a. **SHALL** contain exactly one [1..1] Procedure Activity Act (templateId:2.16.840.1.113883.10.20.22.4.12) (CONF:8534).

### **Procedures Section with Coded Entries Required**

[section: templateId 2.16.840.1.113883.10.20.22.2.7.1 (open)]

The following constraints apply to a Procedures section in which entries are required.

1. Conforms to Procedures Section (entries optional) template (2.16.840.1.113883.10.20.22.2.7)
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:7891) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.7.1" (CONF:10447).
3. **SHALL** contain exactly one [1..1] @code="47519-4" History of Procedures (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7892).
4. **SHALL** contain exactly one [1..1] **title**="Procedures" (CONF:7893).
5. **SHALL** contain exactly one [1..1] **text** (CONF:7894).
6. **MAY** contain zero or more [0..\*] **entry** (CONF:7895) such that it
  - a. **SHALL** contain exactly one [1..1] Procedure Activity Procedure (2.16.840.1.113883.10.20.22.4.14) (CONF:7896).
7. **MAY** contain zero or more [0..\*] **entry** (CONF:8017) such that it
  - a. **SHALL** contain exactly one [1..1] Procedure Activity Observation (2.16.840.1.113883.10.20.22.4.13) (CONF:8018).

8. **MAY** contain zero or more [0..\*] **entry** (CONF:8019) such that it
  - a. **SHALL** contain exactly one [1..1] **Procedure Activity Act** (2.16.840.1.113883.10.20.22.4.12) (CONF:8020).
9. There **SHALL** be at least one procedure, observation or act entry conformant to Procedure Activity Procedure template, Procedure Activity Observation template or Procedure Activity Act template in the Procedure Section (CONF:8021).

**Figure 139: Procedures section example**

```

<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.7"/>
  <!-- Procedures section template -->
  <code code="47519-4"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="PROCEDURES" />
  <title>Procedures</title>
  <text>
    ...
  </text>
  <entry typeCode="DRIV">
    <procedure classCode="PROC" moodCode="EVN">
      <!-- Procedure Activity Procedure template -->
      <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
      ...
    </procedure>
  </entry>
  <entry>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.13"/>
      <!-- Procedure Activity Observation template -->
      ...
    </observation>
  </entry>
  <entry>
    <act classCode="ACT" moodCode="INT">
      <templateId root="2.16.840.1.113883.10.20.22.4.12"/>
      <!-- Procedure Activity Act template -->
      ...
    </act>
  </entry>
</section>

```

## 4.53 Reason for Referral Section 42349-1

[section: templateId 1.3.6.1.4.1.19376.1.5.3.1.3.1(open)]

**Table 96: Reason for Referral Section Contexts**

Used By:	Contains Entries:
<a href="#">Consultation Note</a> (optional)	

A Reason for Referral section records the reason the patient is being referred for a consultation by a provider. An optional Chief Complaint section may capture the patient's description of the reason for the consultation.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7844) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="1.3.6.1.4.1.19376.1.5.3.1.3.1"` (CONF:10468).
2. **SHALL** contain exactly one [1..1] **code/@code="42349-1"** Reason for Referral (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7845).
3. **SHALL** contain exactly one [1..1] **title** (CONF:7846).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7847).

**Figure 140: Reason for referral section example**

```
<section>
  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.1"/>
  <!-- ** Reason for Referral Section Template ** -->
  <code codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC" code="42349-1"
    displayName="REASON FOR REFERRAL"/>
  <title>REASON FOR REFERRAL</title>
  <text>
    <paragraph>Lumbar spinal stenosis with radiculopathy.</paragraph>
  </text>
</section>
```

## 4.54 Reason for Visit Section 29299-5

[section: templateId 2.16.840.1.113883.10.20.22.2.12(open)]

**Table 97: Reason for Visit Section Contexts**

Used By:	Contains Entries:
<a href="#">Consultation Note</a> (optional) <a href="#">Discharge Summary</a> (optional) <a href="#">History and Physical</a> (required) <a href="#">Procedure Note</a> (optional)	

This section records the patient's reason for the patient's visit (as documented by the provider). Local policy determines whether Reason for Visit and Chief Complaint are in separate or combined sections.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7836) such that it
  - a. **SHALL** contain exactly one [1..1]  
    @root="2.16.840.1.113883.10.20.22.2.12" (CONF:10448).
2. **SHALL** contain exactly one [1..1] **code/@code="29299-5"** Reason for Visit  
(CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7837).
3. **SHALL** contain exactly one [1..1] **title** (CONF:7838).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7839).

**Figure 141: Reason for visit section example**

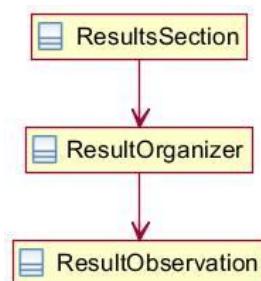
```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.12"/>
  <code code="29299-5"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="REASON FOR VISIT"/>
  <title>REASON FOR VISIT</title>
  <text>
    <paragraph>Dark stools.</paragraph>
  </text>
</section>
```

## 4.55 Results Section 30954-2

**Table 98: Results Section Contexts**

Used by:	Contains entries:
<b>Coded entries optional:</b>	<a href="#">Results Organizer</a>
<a href="#">History and Physical</a> (required)	
<a href="#">Consultation Note</a> (optional)	
<a href="#">Progress Note</a> (optional)	
<b>Coded entries required:</b>	
<a href="#">CCD</a> (required)	

**Figure 142: Results section UML diagram**



The Results section contains the results of observations generated by laboratories, imaging procedures, and other procedures. The scope includes observations such as hematology, chemistry, serology, virology, toxicology, microbiology, plain x-ray, ultrasound, CT, MRI, angiography, echocardiography, nuclear medicine, pathology, and procedure observations. The section often includes notable results such as abnormal values or relevant trends, and could contain all results for the period of time being documented.

Laboratory results are typically generated by laboratories providing analytic services in areas such as chemistry, hematology, serology, histology, cytology, anatomic pathology, microbiology, and/or virology. These observations are based on analysis of specimens obtained from the patient and submitted to the laboratory.

Imaging results are typically generated by a clinician reviewing the output of an imaging procedure, such as where a cardiologist reports the left ventricular ejection fraction based on the review of a cardiac echocardiogram.

Procedure results are typically generated by a clinician to provide more granular information about component observations made during a procedure, such as where a gastroenterologist reports the size of a polyp observed during a colonoscopy.

### **Results Section with Coded Entries Optional**

[section: templateId 2.16.840.1.113883.10.20.22.2.3 (open) ]

The following constraints apply to a Results section in which entries are not required.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7116) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.2.3"` (CONF:9136).
2. **SHALL** contain exactly one [1..1] **code/@code="30954-2"** Relevant diagnostic tests and/or laboratory data (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7117).
3. **SHALL** contain exactly one [1..1] **title** (CONF:8891).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7118).
5. **SHOULD** contain zero or more [0..\*] **entry** (CONF:7119) such that it
  - a. **SHALL** contain exactly one [1..1] **Result Organizer**  
`(2.16.840.1.113883.10.20.22.4.1)` (CONF:7120).

#### **Results Section with Coded Entries Required**

[section: templateId 2.16.840.1.113883.10.20.22.2.3.1(open)]

The following constraints apply to a Results section in which entries are required.

1. Conforms to **Results Section (entries optional)** template  
`(2.16.840.1.113883.10.20.22.2.3)`
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:7108) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.2.3.1"` (CONF:9137).
3. **SHALL** contain exactly one [1..1] **code/@code="30954-2"** Relevant diagnostic tests and/or laboratory data (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7110).
4. **SHALL** contain exactly one [1..1] **title** (CONF:8892).
5. **SHALL** contain exactly one [1..1] **text** (CONF:7111).
6. **SHALL** contain at least one [1..\*] **entry** (CONF:7112) such that it
  - a. **SHALL** contain exactly one [1..1] **Result Organizer**  
`(2.16.840.1.113883.10.20.22.4.1)` (CONF:7113).

**Figure 143: Results section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.3.1"/>
  <code code="30954-2"
    codeSystem="2.16.840.1.113883.6.1"/>
    codeSystemName="LOINC"
    displayName="RESULTS" />
  <title>Results</title>
  <text>
    ...
  </text>
  <entry typeCode="DRIV">
    <organizer classCode="BATTERY" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.1"/>
      ...
    </organizer>
  </entry>
</section>
```

## 4.56 Review of Systems Section 10187-3

[section: templateId 1.3.6.1.4.1.19376.1.5.3.1.3.18 (open)]

**Table 99: Review of Systems Section Contexts**

Used By:	Contains Entries:
<a href="#">Progress Note</a> (optional) <a href="#">Consultation Note</a> (optional) <a href="#">Discharge Summary</a> (optional) <a href="#">History and Physical</a> (required) <a href="#">Procedure Note</a> (optional)	

The Review of Systems section contains a relevant collection of symptoms and functions systematically gathered by a clinician. It includes symptoms the patient is currently experiencing, some of which were not elicited during the history of present illness, as well as a potentially large number of pertinent negatives, for example, symptoms that the patient denied experiencing.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7812) such that it
  - a. **SHALL** contain exactly one [1..1]  
  @root="1.3.6.1.4.1.19376.1.5.3.1.3.18" (CONF:10469).
2. **SHALL** contain exactly one [1..1] **code/@code="10187-3"** Review of Systems (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7813).
3. **SHALL** contain exactly one [1..1] **title** (CONF:7814).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7815).

**Figure 144: Review of systems section example**

```

<section>
  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.18"/>
  <code code="10187-3" codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="REVIEW OF SYSTEMS"/>
  <title>REVIEW OF SYSTEMS</title>
  <text>
    <paragraph>
      Patient denies recent history of fever or malaise. Positive
      For weakness and shortness of breath. One episode of melena. No recent
      headaches. Positive for osteoarthritis in hips, knees and hands.
    </paragraph>
  </text>
</section>

```

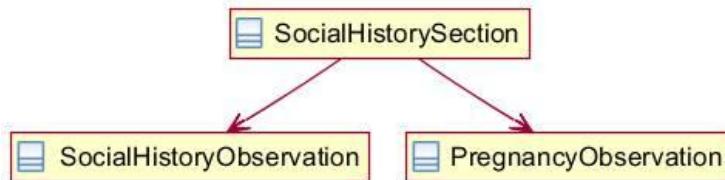
## 4.57 Social History Section 29762-2

[section: templateId 2.16.840.1.113883.10.20.22.2.17 (open)]

**Table 100: Social History Section Contexts**

Used By:	Contains Entries:
<a href="#">Consultation Note</a> (optional) <a href="#">Discharge Summary</a> (optional) <a href="#">History and Physical</a> (required) <a href="#">Procedure Note</a> (optional) <a href="#">Continuity of Care Document (CCD)</a> (optional)	<a href="#">Pregnancy Observation</a> <a href="#">Social History Observation</a>

**Figure 145: Social history section UML diagram**



This section contains data defining the patient's occupational, personal (e.g. lifestyle), social, and environmental history and health risk factors, as well as administrative data such as marital status, race, ethnicity and religious affiliation. Social history can have significant influence on a patient's physical, psychological and emotional health and wellbeing so should be considered in the development of a complete record.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7936) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.2.17"** (CONF:10449).
2. **SHALL** contain exactly one [1..1] **code/@code="29762-2"** Social History (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7937).

3. **SHALL** contain exactly one [1..1] **title** (CONF:7938).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7939).
5. **MAY** contain zero or more [0..\*] **entry** (CONF:7953) such that it
  - a. **SHALL** contain at least one [1..\*] [Social History Observation](#) (2.16.840.1.113883.10.20.22.4.38) (CONF:7954).
6. **MAY** contain zero or more [0..\*] **entry** (CONF:9132) such that it
  - a. **SHALL** contain exactly one [1..1] [Pregnancy Observation](#) (2.16.840.1.113883.10.20.15.3.8) (CONF:9133).

**Figure 146: Social history section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.17"/>
  <!-- ** Social history section template ** -->
  <code code="29762-2" codeSystem="2.16.840.1.113883.6.1"
    displayName="Social History"/>
  <title>Social History</title>
  <text>
    ...
  </text>
  <entry typeCode="DRIV">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.38"/>
      <!-- ** Social history observation template ** -->
      ...
    </observation>
  </entry>
  <entry typeCode="DRIV">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.38"/>
      <!-- ** Social history observation template ** -->
      ...
    </observation>
  </entry>
</section>
```

## 4.58 Subjective Section 61150-9

[section: templateId 2.16.840.1.113883.10.20.21.2.2 (open)]

**Table 101: Subjective Section Contexts**

Used By:	Contains Entries:
<u><a href="#">Progress Note</a></u> (optional)	

The Subjective section describes in a narrative format the patient's current condition and/or interval changes as reported by the patient or by the patient's guardian or another informant.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7873) such that it

- a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.21.2.2"` (CONF:10470).
- 2. **SHALL** contain exactly one [1..1] `code/@code="61150-9"` Subjective (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7874).
- 3. **SHALL** contain exactly one [1..1] `title` (CONF:7875).
- 4. **SHALL** contain exactly one [1..1] `text` (CONF:7876).

**Figure 147: Subjective section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.21.2.2"/>
  <code code="61150-9" codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="SUBJECTIVE"/>
  <title>SUBJECTIVE DATA</title>
  <text>
    <paragraph>
      I have used the peripheral nerve stimulator in my back for five days.
      While using it I found that I was able to do physical activity
      without pain. However, afterwards for one day, I would feel pain but
      then it would go away. I also noticed that I didn't have to take the
      Vicodin as much. I took 2 less Vicodin per day and 2 less tramadol
      everyday. I have not lain in my bed in a year and a half. I sleep in
      a recliner.
    </paragraph>
  </text>
</section>
```

## 4.59 Surgical Drains Section 11537-8

[section: templateId 2.16.840.1.113883.10.20.7.13(open)]

**Table 102: Surgical Drains Section Contexts**

Used By:	Contains Entries:
<a href="#">Operative Note</a> (optional)	

The Surgical Drains section may be used to record drains placed during the surgical procedure. Optionally, surgical drain placement may be represented with a text element in the Procedure Description Section.

- 1. **SHALL** contain exactly one [1..1] `templateId` (CONF:8038) such that it
  - a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.7.13"` (CONF:10473).
- 2. **SHALL** contain exactly one [1..1] `code/@code="11537-8"` Surgical Drains (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8039).
- 3. **SHALL** contain exactly one [1..1] `title` (CONF:8040).
- 4. **SHALL** contain exactly one [1..1] `text` (CONF:8041).

5. If the Surgical Drains section is present, there **SHALL** be a statement providing details of the drains placed or **SHALL** explicitly state there were no drains placed (CONF:8056).

**Figure 148: Surgical drains section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.7.13"/>
  <code code="11537-8"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="SURGICAL DRAINS"/>
  <title>Surgical Drains</title>
  <text>Penrose drain placed</text>
</section>
```

## 4.60 Vital Signs Section 8716-3

**Table 103: Vital Signs Section Contexts**

Used By:	Contains Entries:
<b>Entries optional:</b> <a href="#">Progress Note</a> (optional) <a href="#">Consultation Note</a> (optional) <a href="#">Discharge Summary</a> (optional) <a href="#">History and Physical</a> (required) <a href="#">Continuity of Care Document (CCD)</a> (optional)	<a href="#">Vital Signs Organizer</a>

**Figure 149: Vital signs section UML diagram**



The Vital Signs section contains relevant vital signs for the context and use case of the document type, such as blood pressure, heart rate, respiratory rate, height, weight, body mass index, head circumference, and pulse oximetry. The section should include notable vital signs such as the most recent, maximum and/or minimum, baseline, or relevant trends.

Vital signs are represented in the same way as other results, but are aggregated into their own section to follow clinical conventions.

### **Vital Signs Section with Coded Entries Optional**

[section: templateId 2.16.840.1.113883.10.20.22.2.4 (open) ]

The following constraints apply to a Vital Signs section in which entries are not required.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7268) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.2.4"` (CONF:10451).
2. **SHALL** contain exactly one [1..1] **code/@code="8716-3"** Vital Signs (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7269).
3. **SHALL** contain exactly one [1..1] **title** (CONF:9966).
4. **SHALL** contain exactly one [1..1] **text** (CONF:7270).
5. **SHOULD** contain zero or more [0..\*] **entry** (CONF:7271) such that it
  - a. **SHALL** contain exactly one [1..1] **Vital Signs Organizer**  
(2.16.840.1.113883.10.20.22.4.26) (CONF:7272).

### **Vital Signs Section with Coded Entries Required**

[section: templateId 2.16.840.1.113883.10.20.22.2.4.1 (open) ]

The following constraints apply to a Vital Signs section in which entries are required.

1. Conforms to **Vital Signs Section (entries optional)** template  
(2.16.840.1.113883.10.20.22.2.4)
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:7273) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.2.4.1"` (CONF:10452).
3. **SHALL** contain exactly one [1..1] **code/@code="8716-3"** Vital Signs (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7274).
4. **SHALL** contain exactly one [1..1] **title** (CONF:9967).
5. **SHALL** contain exactly one [1..1] **text** (CONF:7275).
6. **SHALL** contain at least one [1..\*] **entry** (CONF:7276) such that it
  - a. **SHALL** contain exactly one [1..1] **Vital Signs Organizer**  
(2.16.840.1.113883.10.20.22.4.26) (CONF:7277).

**Figure 150: Vital signs section example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.4.1"/>
  <code code="8716-3"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="VITAL SIGNS" />
  <title>Vital Signs</title>
  <text>
    ...
  </text>
  <entry typeCode="DRIV">
    <organizer classCode="CLUSTER" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.26"/>
      <!-- Vital Signs Organizer template -->
      ...
    </organizer>
  </entry>
</section>
```

## 5 ENTRY-LEVEL TEMPLATES

This part of the guide describes the clinical statement entry templates used within the sections of the consolidated documents. Entry templates contain constraints that are required for conformance. Note that the clinical statement templates are presented in alphabetical order; templates are not grouped by possible containing templates.

Entry-level templates are always allowed in sections.

Each entry-level template description contains the following information:

- Key template metadata (e.g., templateId, etc.)
- Description and explanatory narrative.
- Required CDA acts, participants and vocabularies.
- Optional CDA acts, participants and vocabularies.

Several entry-level templates require an `effectiveTime`:

The `effectiveTime` of an observation is the time interval over which the observation is known to be true. The `low` and `high` values should be as precise as possible, but no more precise than known. While CDA has 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 constrain most 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. The full description of `effectiveTime` and time intervals is contained in the CDA R2 normative edition<sup>32</sup>.

Entry-level templates may also describe an `id` element, which is an identifier for that entry. This `id` may be referenced within the document, or by the system receiving the document. The `id` assigned must be globally unique.

### 5.1 Admission Medication

[act: templateId 2.16.840.1.113883.10.20.22.4.36 (open) ]

**Table 104: Admission Medication Contexts**

Used By:	Contains Entries:
<a href="#">Hospital Admission Medications Section (entries optional)</a>	<a href="#">Medication Activity</a>

The Admission Medications entry codes medications that the patient took prior to admission.

<sup>32</sup> HL7 Clinical Document Architecture (CDA Release 2).  
<http://www.hl7.org/implement/standards/cda.cfm>

**Table 105: Admission Medication Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	act[templateId/@root = '2.16.840.1.113883.10.20.22.4.36']					
	@classCode	1..1	SHALL		<a href="#">7698</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ACT
	@moodCode	1..1	SHALL		<a href="#">7699</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	code/@code	1..1	SHALL		<a href="#">7700</a>	2.16.840.1.113883.6.1 (LOINC) = 42346-7
	entryRelationship	1..*	SHALL		<a href="#">7701</a>	
	@typeCode	1..1	SHALL		<a href="#">7702</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ

1. **SHALL** contain exactly one [1..1] `@classCode="ACT"` (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7698).
2. **SHALL** contain exactly one [1..1] `@moodCode="EVN"` (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7699).
3. **SHALL** contain exactly one [1..1] `code/@code="42346-7"` Admission medication (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7700).
4. **SHALL** contain at least one [1..\*] `entryRelationship` (CONF:7701) such that it
  - a. **SHALL** contain exactly one [1..1] `@typeCode="SUBJ"` (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7702).
  - b. **SHALL** contain exactly one [1..1] `Medication Activity` (2.16.840.1.113883.10.20.22.4.16) (CONF:7703).

**Figure 151: Admission medication entry example**

```
<entry>
  <act classCode="ACT" moodCode="EVN">
    <!-- Admission Medication Entry -->
    <templateId root="2.16.840.1.113883.10.20.22.4.36"/>
    <id root="5a784260-6856-4f38-9638-80c751aff2fb"/>
    <code code="42346-7"
      codeSystem="2.16.840.1.113883.6.1"
      codeSystemName="LOINC"
      displayName="Admission medication"/>
    <statusCode code="active"/>
    <effectiveTime>
      <low value="20903003"/>
    </effectiveTime>
    <entryRelationship typeCode="SUBJ">
      <substanceAdministration moodCode="" classCode="SBADM">
        <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
        <!-- Medication Activity -->
        ...
      </substanceAdministration>
    </entryRelationship>
  </act>
</entry>
```

## 5.2 Advance Directive Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.48 (open) ]

**Table 106: Advance Directive Observation Contexts**

Used By:	Contains Entries:
<a href="#">Advance Directives Section (entries optional)</a>	
<a href="#">Advance Directives Section (entries required)</a>	

Advance Directives Observations assert findings (e.g., “resuscitation status is Full Code”) rather than orders, and should not be considered legal documents. A legal document can be referenced using the reference/externalReference construct.

**Table 107: Advance Directive Observation Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF #	Fixed Value
	observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.48']					
	@classCode	1..1	SHALL		<a href="#">8648</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
	@moodCode	1..1	SHALL		<a href="#">8649</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET< II>	<a href="#">8655</a>	
	@root	1..1	SHALL		<a href="#">1048 5</a>	2.16.840.1.113883.10.20.22 .4.48
	id	1..*	SHALL	II	<a href="#">8654</a>	
Advance Directive Type	code	1..1	SHALL	CD	<a href="#">8651</a>	2.16.840.1.113883.1.11.20. 2 (AdvanceDirectiveTypeCode)
	statusCode	1..1	SHALL	CS	<a href="#">8652</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
effective Date	effectiveTime	1..1	SHALL	TS or IVL< TS>	<a href="#">8656</a>	
	low	1..1	SHALL	TS	<a href="#">8657</a>	
	high	1..1	SHALL	TS	<a href="#">8659</a>	
	participant	1..*	SHOULD		<a href="#">8662</a>	
	@typeCode	1..1	SHALL		<a href="#">8663</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = VRF
	templateId	1..1	SHALL	SET< II>	<a href="#">8664</a>	
	@root	1..1	SHALL		<a href="#">1048 6</a>	2.16.840.1.113883.10.20.1. 58
	time	0..1	SHOULD	IVL< TS>	<a href="#">8665</a>	
	participant Role	1..1	SHALL		<a href="#">8825</a>	

Name	XPath	Card.	Verb	Data Type	CONF #	Fixed Value
custodian of the Document	participant	1..1	SHOULD		<a href="#">8667</a>	
	@typeCode	1..1	SHALL		<a href="#">8668</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = CST
	participant Role	1..1	SHALL		<a href="#">8669</a>	
	@classCode	1..1	SHALL		<a href="#">8670</a>	2.16.840.1.113883.5.110 (RoleClass) = AGNT
	addr	0..1	SHOULD	SET<AD>	<a href="#">8671</a>	
	telecom	0..1	SHOULD	SET<TEL>	<a href="#">8672</a>	
	playingEntity	1..1	SHALL		<a href="#">8824</a>	
	name	1..1	SHALL	PN	<a href="#">8673</a>	
	reference	1..*	SHOULD		<a href="#">8692</a>	
	@typeCode	1..1	SHALL		<a href="#">8694</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
	external Document	1..1	SHALL		<a href="#">8693</a>	
	id	1..*	SHALL	II	<a href="#">8695</a>	
	text	0..1	MAY	ED	<a href="#">8696</a>	
	@mediaType	0..1	MAY		<a href="#">8703</a>	
	reference	0..1	MAY		<a href="#">8697</a>	

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8648).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:8649).
3. **SHALL** contain exactly one [1..1] templateId (CONF:8655) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.48" (CONF:10485).
4. **SHALL** contain at least one [1..\*] id (CONF:8654).
5. **SHALL** contain exactly one [1..1] code, where the @code **SHOULD** be selected from ValueSet AdvanceDirectiveTypeCode 2.16.840.1.113883.1.11.20.2 STATIC 2006-10-17 (CONF:8651).
6. **SHALL** contain exactly one [1..1] statusCode="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:8652).
7. **SHALL** contain exactly one [1..1] effectiveTime (CONF:8656).

- a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:8657).
    - i. If the starting time is unknown, the <low> element **SHALL** have the nullFlavor attribute set to UNK (CONF:8658).
  - b. This effectiveTime **SHALL** contain exactly one [1..1] **high** (CONF:8659).
    - i. If the ending time is unknown, the <high> element **SHALL** have the nullFlavor attribute set to UNK (CONF:8660).
    - ii. If the Advance Directive does not have a specified ending time, the <high> element **SHALL** have the nullFlavor attribute set to NA (CONF:8661).
8. **SHOULD** contain at least one [1..\*] **participant** (CONF:8662) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="VRF" Verifier (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:8663).
  - b. **SHALL** contain exactly one [1..1] **templateId** (CONF:8664) such that it
    - i. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.1.58" (CONF:10486).
  - c. **SHOULD** contain zero or one [0..1] **time** (CONF:8665).
    - i. The data type of Observation/participant/time in a verification **SHALL** be TS (time stamp) (CONF:8666).
  - d. **SHALL** contain exactly one [1..1] **participantRole** (CONF:8825).
9. **SHOULD** contain exactly one [1..1] **participant** (CONF:8667) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="CST" Custodian (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:8668).
  - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:8669).
    - i. This participantRole **SHALL** contain exactly one [1..1] @classCode="AGNT" Agent (CodeSystem: RoleClass 2.16.840.1.113883.5.110) (CONF:8670).
    - ii. This participantRole **SHOULD** contain zero or one [0..1] **addr** (CONF:8671).
    - iii. This participantRole **SHOULD** contain zero or one [0..1] **telecom** (CONF:8672).
    - iv. This participantRole **SHALL** contain exactly one [1..1] **playingEntity** (CONF:8824).
      - 1. This playingEntity **SHALL** contain exactly one [1..1] **name** (CONF:8673).
        - a. The name of the agent who can provide a copy of the Advance Directive **SHALL** be recorded in the <name> element inside the <playingEntity> element (CONF:8674).
10. **SHOULD** contain at least one [1..\*] **reference** (CONF:8692) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8694).
  - b. **SHALL** contain exactly one [1..1] **externalDocument** (CONF:8693).
    - i. This externalDocument **SHALL** contain at least one [1..\*] **id** (CONF:8695).

- ii. This externalDocument **MAY** contain zero or one [0..1] **text** (CONF:8696).
  - 1. The text, if present, **MAY** contain zero or one [0..1] **@mediaType** (CONF:8703).
  - 2. The text, if present, **MAY** contain zero or one [0..1] **reference** (CONF:8697).
    - a. The URL of a referenced advance directive document **MAY** be present, and **SHALL** be represented in Observation/reference/ExternalDocument/text/reference (CONF:8698).
    - b. If a URL is referenced, then it **SHOULD** have a corresponding linkHTML element in narrative block (CONF:8699).

**Table 108: Advance Directive Type Code Value Set**

Value Set: AdvanceDirectiveTypeCode 2.16.840.1.113883.1.11.20.2 STATIC 2006-10-17		
Code System(s): SNOMED CT 2.16.840.1.113883.6.96		
Code	Code System	Print Name
52765003	SNOMED CT	Intubation
61420007	SNOMED CT	Tube Feedings
71388002	SNOMED CT	Other Directive
78823007	SNOMED CT	Life Support
89666000	SNOMED CT	CPR
225204009	SNOMED CT	IV Fluid and Support
281789004	SNOMED CT	Antibiotics
304251008	SNOMED CT	Resuscitation

**Figure 152: Advance directive observation example**

```

<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.48"/>
  <id root="9b54c3c9-1673-49c7-aef9-b037ed72ed27"/>
  <code code="304251008"
    codeSystem="2.16.840.1.113883.6.96" displayName="Resuscitation"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="20110213"/>
    <high nullFlavor="NA"/>
  </effectiveTime>
  <value xsi:type="CD" code="304253006"
    codeSystem="2.16.840.1.113883.6.96"
    displayName="Do not resuscitate">
    <originalText>
      <reference value="#AD1"/>
    </originalText>
  </value>

```

```

<participant typeCode="VRF">
    <templateId root="2.16.840.1.113883.10.20.1.58"/>
    <time value="201102013"/>
    <participantRole>
        <id root="20cf14fb-b65c-4c8c-a54d-b0cca834c18c"/>
        <playingEntity>
            <name>
                <prefix>Dr.</prefix>
                <family>Dolin</family>
                <given>Robert</given>
            </name>
        </playingEntity>
    </participantRole>
</participant>
<participant typeCode="CST">
    <participantRole classCode="AGNT">
        <addr>
            <streetAddressLine>21 North Ave.</streetAddressLine>
            <city>Burlington</city>
            <state>MA</state>
            <postalCode>02368</postalCode>
            <country>US</country>
        </addr>
        <telecom value="tel: (555) 555-1003"/>
        <playingEntity>
            <name>
                <prefix>Dr.</prefix>
                <family>Dolin</family>
                <given>Robert</given>
            </name>
        </playingEntity>
    </participantRole>
</participant>
<reference typeCode="REFR">
    <seperatableInd value="false"/>
    <externalDocument>
        <id root="b50b7910-7ffb-4f4c-bbe4-177ed68cbbf3"/>
        <text mediaType="application/pdf">
            <reference
                value="AdvanceDirective.b50b7910-7ffb-4f4c-bbe4-177ed68cbbf3.pdf"/>
        </text>
    </externalDocument>
</reference>
</observation>

```

## 5.3 Age Observation

[Observation: templateId 2.16.840.1.113883.10.20.22.4.31 (open) ]

**Table 109: Age Observation Contexts**

Used By:	Contains Entries:
<a href="#">Family History Observation</a> <a href="#">Problem Observation</a>	

This Age Observation represents the subject's age at onset of an event or observation. The age of a relative in a Family History Observation at the time of that observation could also be inferred by comparing RelatedSubject/subject/birthTime with Observation/effectiveTime. However, a common scenario is that a patient will know the age of a relative when the relative had a certain condition or when the relative died, but will not know the actual year (e.g., "grandpa died of a heart attack at the age of 50"). Often times, neither precise dates nor ages are known (e.g. "cousin died of congenital heart disease as an infant").

**Table 110: Age Observation Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.31']						
	@classCode	1..1	SHALL		<a href="#">7613</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
	@moodCode	1..1	SHALL		<a href="#">7614</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET<II>	<a href="#">7899</a>	
	@root	1..1	SHALL		<a href="#">10487</a>	2.16.840.1.113883.10.20.22.4.31
	code	1..1	SHALL	CD	<a href="#">7615</a>	2.16.840.1.113883.6.96 (SNOMEDCT) = 445518008
	statusCode	1..1	SHALL	CS	<a href="#">7616</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
	value	1..1	SHALL	PQ	<a href="#">7617</a>	
	@unit	1..1	SHALL		<a href="#">7618</a>	2.16.840.1.113883.11.20.9.21 (AgePQ_UCUM)

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7613).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7614).
3. **SHALL** contain exactly one [1..1] templateId (CONF:7899) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.31" (CONF:10487).
4. **SHALL** contain exactly one [1..1] code="445518008" Age At Onset (CodeSystem: SNOMEDCT 2.16.840.1.113883.6.96) (CONF:7615).

5. **SHALL** contain exactly one [1..1] **statusCode**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:7616).
6. **SHALL** contain exactly one [1..1] **value** with @xsi:type="PQ" (CONF:7617).
  - a. This value **SHALL** contain exactly one [1..1] **unit**, which **SHALL** be selected from ValueSet AgePQ\_UCUM 2.16.840.1.113883.11.20.9.21 **DYNAMIC** (CONF:7618).

**Table 111: AgePQ\_UCUM Value Set**

Value Set: AgePQ_UCUM 2.16.840.1.113883.11.20.9.21 DYNAMIC		
Code System(s): Unified Code for Units of Measure (UCUM) 2.16.840.1.113883.6.8		
Description:	A valueSet of UCUM codes for representing age value units	
Code	Code System	Print Name
min	UCUM	Minute
h	UCUM	Hour
d	UCUM	Day
wk	UCUM	Week
mo	UCUM	Month
a	UCUM	Year

**Figure 153: Age observation example**

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.31"/>
  <!--  Age observation template  -->
  <code code="397659008" codeSystem="2.16.840.1.113883.6.96"
        displayName="Age"/>
  <statusCode code="completed"/>
  <value xsi:type="PQ" value="57" unit="a"/>
</observation>
```

## 5.4 Allergy Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.7 (open)]

**Table 112: Allergy Observation Contexts**

Used By:	Contains Entries:
<a href="#">Allergy Problem Act</a>	<a href="#">Allergy Status Observation</a> <a href="#">Reaction Observation</a> <a href="#">Severity Observation</a>

This clinical statement represents that an allergy or adverse reaction exists or does not exist. The agent that is the cause of the allergy or adverse reaction is represented as a manufactured material participant playing entity in the allergy observation. While the agent is often implicit in the alert observation (e.g. "allergy to penicillin"), it should also

be asserted explicitly as an entity. The manufactured material participant is used to represent natural and non-natural occurring substances.

NOTE: The agent responsible for an allergy or adverse reaction is not always a manufactured material (for example, food allergies), nor is it necessarily consumed. The following constraints reflect limitations in the base CDA R2 specification, and should be used to represent any type of responsible agent.

**Table 113: Allergy Observation Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF #	Fixed Value
observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.7']						
	@classCode	1..1	SHALL		<a href="#">7379</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
	@moodCode	1..1	SHALL		<a href="#">7380</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET<II>	<a href="#">7381</a>	
	@root	1..1	SHALL		<a href="#">1048_8</a>	2.16.840.1.113883.10.20.22.4 .7
	id	1..*	SHALL	II	<a href="#">7382</a>	
	code/@code	1..1	SHALL		<a href="#">7383</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
	statusCode	1..1	SHALL	CS	<a href="#">7386</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
adverse Event Date	effectiveTime	1..1	SHALL	TS or IVL<T S>	<a href="#">7387</a>	
	value	1..1	SHALL	CD	<a href="#">7390</a>	
adverse Event Type	code	1..1	SHALL		<a href="#">9139</a>	2.16.840.1.113883.3.88.12.32 21.6.2 (Allergy/Adverse Event Type)
	originalText	0..1	SHOULD	ED	<a href="#">7422</a>	
	reference /@value	0..1	SHOULD		<a href="#">7400</a>	
product	participant	0..1	SHOULD		<a href="#">7402</a>	
	@typeCode	1..1	SHALL		<a href="#">7403</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM

Name	XPath	Card.	Verb	Data Type	CONF #	Fixed Value
product Detail	participant Role	1..1	SHALL		<a href="#">7404</a>	
	@classCode	1..1	SHALL		<a href="#">7405</a>	2.16.840.1.113883.5.110 (RoleClass) = MANU
	playing Entity	1..1	SHALL		<a href="#">7406</a>	
	@classCode	1..1	SHALL		<a href="#">7407</a>	2.16.840.1.113883.5.41 (EntityClass) = MMAT
product Coded	code	1..1	SHALL	CE	<a href="#">7419</a>	
product FreeText	original Text	0..1	SHOULD	ED	<a href="#">7424</a>	
	reference	0..1	SHOULD		<a href="#">7425</a>	
	translation	0..*	MAY	SET<P QR>	<a href="#">7431</a>	
	entry Relationship	0..1	MAY		<a href="#">7440</a>	
	@typeCode	1..1	SHALL		<a href="#">7906</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
	@inversionInd	1..1	SHALL		<a href="#">7446</a>	true
reaction	entry Relationship	0..*	SHOULD		<a href="#">7447</a>	
	@typeCode	1..1	SHALL		<a href="#">7907</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = MFST
	@inversionInd	1..1	SHALL		<a href="#">7449</a>	true
severity	entry Relationship	0..1	SHALL		<a href="#">9961</a>	
	@typeCode	1..1	SHALL		<a href="#">9962</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
	@inversion Ind	1..1	SHALL		<a href="#">9964</a>	true

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7379).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7380).
3. **SHALL** contain exactly one [1..1] templateId (CONF:7381) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.7" (CONF:10488).
4. **SHALL** contain at least one [1..\*] id (CONF:7382).

5. **SHALL** contain exactly one [1..1] **code/@code="ASSERTION"** Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4) (CONF:7383).
6. **SHALL** contain exactly one [1..1] **statusCode="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:7386).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:7387).
  - a. If it is unknown when the allergy began, this effectiveTime **SHALL** contain low/@nullFlavor="UNK" (CONF:9103).
  - b. If the allergy is no longer a concern, this effectiveTime **MAY** contain zero or one [0..1] high (CONF:10082).
8. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:7390).
  - a. This value **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet Allergy/Adverse Event Type 2.16.840.1.113883.3.88.12.3221.6.2 **DYNAMIC** (CONF:9139).
  - b. This value **SHOULD** contain zero or one [0..1] **originalText** (CONF:7422).
    - i. The originalText, if present, **SHOULD** contain zero or one [0..1] **reference/@value** (CONF:7400).
      1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:7401).
9. **SHOULD** contain zero or one [0..1] **participant** (CONF:7402) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode="CSM"** Consumable (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:7403).
  - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:7404).
    - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode="MANU"** Manufactured Product (CodeSystem: RoleClass 2.16.840.1.113883.5.110) (CONF:7405).
    - ii. This participantRole **SHALL** contain exactly one [1..1] **playingEntity** (CONF:7406).
      1. This playingEntity **SHALL** contain exactly one [1..1] **@classCode="MMAT"** Manufactured Material (CodeSystem: EntityClass 2.16.840.1.113883.5.41) (CONF:7407).
      2. This playingEntity **SHALL** contain exactly one [1..1] **code** (CONF:7419).
        - a. In an allergy to a specific medication the code **SHALL** be selected from the ValueSet 2.16.840.1.113883.3.88.12.80.16 Medication Brand Name **DYNAMIC** or the ValueSet 2.16.840.1.113883.3.88.12.80.17 Medication Clinical Drug **DYNAMIC** (CONF:7421).
        - b. In an allergy to a class of medications the code **SHALL** be selected from the ValueSet 2.16.840.1.113883.3.88.12.80.18 Medication Drug Class **DYNAMIC** (CONF:10083).

- c. In an allergy to a food or other substance the code **SHALL** be selected from the ValueSet 2.16.840.1.113883.3.88.12.80.20 Ingredient Name **DYNAMIC** (CONF:10084).
  - d. This code **SHOULD** contain zero or one [0..1] **originalText** (CONF:7424).
    - i. The originalText, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:7425).
      - 1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:7426).
    - e. This code **MAY** contain zero or more [0..\*] **translation** (CONF:7431).
10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:7440) such that it
- a. **SHALL** contain exactly one [1..1] @**typeCode**="SUBJ" Has subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7906).
  - b. **SHALL** contain exactly one [1..1] @**inversionInd**="true" True (CONF:7446).
  - c. **SHALL** contain exactly one [1..1] Allergy Status Observation (2.16.840.1.113883.10.20.22.4.28) (CONF:7441).
11. **SHOULD** contain zero or more [0..\*] **entryRelationship** (CONF:7447) such that it
- a. **SHALL** contain exactly one [1..1] @**typeCode**="MFST" Is Manifestation of (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7907).
  - b. **SHALL** contain exactly one [1..1] @**inversionInd**="true" True (CONF:7449).
  - c. **SHALL** contain exactly one [1..1] Reaction Observation (2.16.840.1.113883.10.20.22.4.9) (CONF:7450).
12. **SHALL** contain zero or one [0..1] **entryRelationship** (CONF:9961) such that it
- a. **SHALL** contain exactly one [1..1] @**typeCode**="SUBJ" Has Subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:9962).
  - b. **SHALL** contain exactly one [1..1] @**inversionInd**="true" True (CONF:9964).
  - c. **SHALL** contain exactly one [1..1] Severity Observation (2.16.840.1.113883.10.20.22.4.8) (CONF:9963).

**Table 114: Allergy/Adverse Event Type Value Set**

Value Set: Allergy/Adverse Event Type 2.16.840.1.113883.3.88.12.3221.6.2 DYNAMIC		
Code System(s):	SNOMED CT 2.16.840.1.113883.6.96	
Description:	This describes the type of product and intolerance suffered by the patient <a href="http://phinvads.cdc.gov/vads/ViewValueSet.action?id=7AFDBFB5-A277-DE11-9B52-0015173D1785">http://phinvads.cdc.gov/vads/ViewValueSet.action?id=7AFDBFB5-A277-DE11-9B52-0015173D1785</a>	
Code	Code System	Print Name
420134006	SNOMED CT	Propensity to adverse reactions (disorder)
418038007	SNOMED CT	Propensity to adverse reactions to substance (disorder)
419511003	SNOMED CT	Propensity to adverse reactions to drug (disorder)
418471000	SNOMED CT	Propensity to adverse reactions to food (disorder)
419199007	SNOMED CT	Allergy to substance (disorder)
416098002	SNOMED CT	Drug allergy (disorder)
414285001	SNOMED CT	Food allergy (disorder)
59037007	SNOMED CT	Drug intolerance (disorder)
235719002	SNOMED CT	Food intolerance (disorder)

**Table 115: Medication Brand Name Value Set (excerpt)**

Value Set: Medication Brand Name 2.16.840.1.113883.3.88.12.80.16 DYNAMIC		
Code System(s):	RxNorm 2.16.840.1.113883.6.88	
Description:	Brand names <a href="http://phinvads.cdc.gov/vads/ViewValueSet.action?id=229BEF3E-971C-DF11-B334-0015173D1785">http://phinvads.cdc.gov/vads/ViewValueSet.action?id=229BEF3E-971C-DF11-B334-0015173D1785</a>	
Code	Code System	Print Name
205734	RxNorm	Amoxicillin 25 MG/ML Oral Suspension [Amoxil]
856537	RxNorm	24 HR Propranolol Hydrochloride 60 MG Extended Release Capsule [Inderal]
104700	RxNorm	Diazepam 5 MG Oral Tablet [Valium]
...		

**Table 116: Medication Clinical Drug Value Set (excerpt)**

Value Set: Medication Clinical Drug 2.16.840.1.113883.3.88.12.80.17 DYNAMIC		
Code System(s):	RxNorm 2.16.840.1.113883.6.88	
Description:	Clinical drug names <a href="http://phinvads.cdc.gov/vads/ViewValueSet.action?id=239BEF3E-971C-DF11-B334-0015173D1785">http://phinvads.cdc.gov/vads/ViewValueSet.action?id=239BEF3E-971C-DF11-B334-0015173D1785</a>	
Code	Code System	Print Name
313850	RxNorm	Amoxicillin 40 MG/ML Oral Suspension
856448	RxNorm	Propranolol Hydrochloride 10 MG Oral Tablet
197589	RxNorm	Diazepam 10 MG Oral Tablet
...		

**Table 117: Medication Drug Class Value Set (excerpt)**

Value Set: Medication Drug Class 2.16.840.1.113883.3.88.12.80.18 DYNAMIC		
Code System(s):	NDF-RT 2.16.840.1.113883.3.26.1.5	
Description:	This identifies the pharmacological drug class, such as Cephalosporins. Shall contain a value descending from the NDF-RT concept types of "Mechanism of Action - N0000000223", "Physiologic Effect - N0000009802" or "Chemical Structure - N0000000002". NUI will be used as the concept code. <a href="http://phinvads.cdc.gov/vads/ViewValueSet.action?id=77FDBFB5-A277-DE11-9B52-0015173D1785">http://phinvads.cdc.gov/vads/ViewValueSet.action?id=77FDBFB5-A277-DE11-9B52-0015173D1785</a>	
Code	Code System	Print Name
N0000011161	NDF-RT	Cephalosporins
N0000005909	NDF-RT	2-Propanol
N0000006629	NDF-RT	Filgrastim
...		

**Table 118: Ingredient Name Value Set (excerpt)**

Value Set: Ingredient Name 2.16.840.1.113883.3.88.12.80.20 DYNAMIC		
Code System(s):	Unique Ingredient Identifier (UNII) 2.16.840.1.113883.4.9	
Description:	Unique ingredient identifiers (UNIIs) for substances in drugs, biologics, foods, and devices. <a href="http://www.fda.gov/ForIndustry/DataStandards/StructuredProductLabeling/ucm162523.htm">http://www.fda.gov/ForIndustry/DataStandards/StructuredProductLabeling/ucm162523.htm</a>	
<b>Code</b>		
OLT4M28U3Z	UNII	((3-TRIFLUOROMETHYL)PHENYL)METHYL-PHOSPHONIC ACID
L0VRY82PKO	UNII	CYCLOHEXENE, 4-[(1Z)-1,5-DIMETHYL-1,4-HEXADIEN-1-YL]-1-METHYL-
62H4W26906	UNII	BISNAFIDE
QE1QX6B99R	UNII	PEANUT
...		

**Figure 154: Allergy observation example**

```
<observation classCode="OBS" moodCode="EVN">
    <!-- allergy observation template -->
    <templateId root="2.16.840.1.113883.10.20.22.4.7"/>
    <id root="4adc1020-7b14-11db-9fe1-0800200c9a66"/>
    <code code="416098002" displayName="drug allergy"
        codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"/>
    <statusCode code="completed"/>

    <effectiveTime>
        <low value="20110215"/>
    </effectiveTime>

    <value xsi:type="CD" code="282100009"
        displayName="Adverse reaction to substance"
        codeSystem="2.16.840.1.113883.6.96"
        codeSystemName="SNOMED CT">
        <originalText>
            <reference value="" />
        </originalText>
    </value>

    <participant typeCode="CSM">
        <participantRole classCode="MANU">
            <playingEntity classCode="MMAT">
                <code code="314422" displayName="ALLERGENIC EXTRACT, PENICILLIN"
                    codeSystem="2.16.840.1.113883.6.88" codeSystemName="RxNorm">
                    <originalText>
                        <reference value="" />
                    </originalText>
                </code>
                <name>Penicillin</name>
            </playingEntity>
        </participantRole>
    </participant>
</observation>
```

## 5.5 Allergy Problem Act

[act: templateId 2.16.840.1.113883.10.20.22.4.30 (open)]

**Table 119: Allergy Problem Act Contexts**

Used By:	Contains Entries:
<a href="#">Allergies Section (entries required)</a>	<a href="#">Allergy Observation</a>
<a href="#">Allergies Section (entries optional)</a>	

This clinical statement act represents a concern relating to a patient's allergies or adverse events. A concern is a term used when referring to patient's problems that are related to one another. Observations of problems or other clinical statements captured at a point in time are wrapped in a Allergy Problem Act, or "Concern" act, which

represents the ongoing process tracked over time. This outer Allergy Problem Act (representing the "Concern") can contain nested problem observations or other nested clinical statements relevant to the allergy concern.

**Table 120: Allergy Problem Act Constraints Overview**

Name	XPath	Card .	Verb	Data Type	CONF #	Fixed Value
act[templateId/@root = '2.16.840.1.113883.10.20.22.4.30']						
	@classCode	1..1	SHALL		<a href="#">7469</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ACT
	@moodCode	1..1	SHALL		<a href="#">7470</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET<II>	<a href="#">7471</a>	
	@root	1..1	SHALL		<a href="#">10489</a>	2.16.840.1.113883.10.20.22.4.30
	id	1..*	SHALL	II	<a href="#">7472</a>	
	code	1..1	SHALL	CD	<a href="#">7477</a>	2.16.840.1.113883.6.1 (LOINC) = 48765-2
	statusCode	1..1	SHALL	CS	<a href="#">7485</a>	2.16.840.1.113883.3.88.12.80.68 (HITSPProblemStatus)
	effectiveTime	1..1	SHALL	TS or IVL<TS>	<a href="#">7498</a>	
	entryRelationship	1..*	SHALL		<a href="#">7509</a>	
	@typeCode	1..1	SHALL		<a href="#">7915</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ

1. **SHALL** contain exactly one [1..1] **@classCode="ACT"** (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7469).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7470).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:7471) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.30"** (CONF:10489).
4. **SHALL** contain at least one [1..\*] **id** (CONF:7472).
5. **SHALL** contain exactly one [1..1] **code="48765-2"** Allergies, adverse reactions, alerts (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7477).
6. **SHALL** contain exactly one [1..1] **statusCode**, where the **@code** **SHALL** be selected from ValueSet HITSPProblemStatus 2.16.840.1.113883.3.88.12.80.68 **DYNAMIC** (CONF:7485).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:7498).

- a. If statusCode = "55561003" Active, then effectiveTime **SHALL** contain [1..1] low (CONF:7504).
  - b. If statusCode="413322009" Resolved, then effectiveTime **SHALL** contain [1..1] high (CONF:10085).
8. **SHALL** contain at least one [1..\*] **entryRelationship** (CONF:7509) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="SUBJ" Has subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7915).
  - b. **SHALL** contain exactly one [1..1] Allergy Observation (2.16.840.1.113883.10.20.22.4.7) (CONF:7510).

**Table 121: HITSP Problem Status Value Set**

Value Set: HITSPProblemStatus 2.16.840.1.113883.3.88.12.80.68 DYNAMIC		
Code System: SNOMED CT 2.16.840.1.113883.6.96		
Code	Code System	Display Name
55561003	SNOMED CT	Active
73425007	SNOMED CT	Inactive*
413322009	SNOMED CT	Resolved**

\* An inactive problems refers to one that is quiescent, and may appear again in future.

\*\* A resolved problem refers to one that used to affect a patient, but does not any more.

**Figure 155: Allergy problem act example**

```

<entry typeCode="DRIV">
  <act classCode="ACT" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.30"/>
    <id root="36e3e930-7b14-11db-9fe1-0800200c9a66"/>
    <code code="48765-2"
      codeSystem="2.16.840.1.113883.6.1"
      codeSystemName="LOINC"
      displayName="Allergies, adverse reactions, alerts"/>
    <statusCode code="active" codeSystem="2.16.840.1.113883.5.14"/>
    <effectiveTime value="20090909">
      <low value="20090902"/>
      <high value="20100103"/>
    </effectiveTime>
    <entryRelationship typeCode="SUBJ">
      <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.7"/>
        <!-- Allergy observation template -->
        ...
      </observation>
    </entryRelationship>
  </act>
</entry>

```

## 5.6 Allergy Status Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.28 (open)]

**Table 122: Allergy Status Observation Contexts**

Used By:	Contains Entries:
<a href="#">Allergy Observation</a>	

This template represents the status of the allergy indicating whether it is active, no longer active, or is an historic allergy. There can be only one allergy status observation per alert observation.

**Table 123: Allergy Status Observation Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.28']					
	@classCode	1..1	SHALL		<a href="#">7318</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
	@moodCode	1..1	SHALL		<a href="#">7319</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET<II>	<a href="#">7317</a>	
	@root	1..1	SHALL		<a href="#">10490</a>	2.16.840.1.113883.10.20.22.4.28
	code	1..1	SHALL	CD	<a href="#">7320</a>	2.16.840.1.113883.6.1 (LOINC) = 33999-4
	statusCode	1..1	SHALL	CS	<a href="#">7321</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
	value	1..1	SHALL	CE	<a href="#">7322</a>	2.16.840.1.113883.3.88.12.80.68 (HITSPProblemStatus)

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7318).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7319).
3. **SHALL** contain exactly one [1..1] templateId (CONF:7317) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.28" (CONF:10490).
4. **SHALL** contain exactly one [1..1] code="33999-4" Status (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7320).
5. **SHALL** contain exactly one [1..1] statusCode="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:7321).
6. **SHALL** contain exactly one [1..1] value with @xsi:type="CE", where the @code **SHALL** be selected from ValueSet [HITSPProblemStatus 2.16.840.1.113883.3.88.12.80.68 DYNAMIC](#) (CONF:7322).

**Figure 156: Allergy status observation example**

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.28"/>
  <!-- Allergy status observation template -->
  <code code="33999-4"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="Status"/>
  <statusCode code="completed"/>
  <value xsi:type="CE" code="55561003"
    codeSystem="2.16.840.1.113883.6.96"
    displayName="Active"/>
</observation>
```

## 5.7 Authorization Activity

[act: templateId 2.16.840.1.113883.10.20.1.19(open)]

**Table 124: Authorization Activity Contexts**

Used By:	Contains Entries:
<a href="#">Policy Activity</a> (optional)	

An Authorization Activity represents authorizations or pre-authorizations currently active for the patient for the particular payer.

Authorizations are represented using an act subordinate to the policy or program that provided it. The authorization refers to the policy or program. Authorized treatments can be grouped into an organizer class, where common properties, such as the reason for the authorization, can be expressed. Subordinate acts represent what was authorized.

**Table 125: Authorization Activity Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	act[templateId/@root = '2.16.840.1.113883.10.20.1.19']					
	@classCode	1..1	SHALL		<a href="#">8944</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ACT
	@moodCode	1..1	SHALL		<a href="#">8945</a>	2.16.840.1.113883.5.6 (HL7ActClass) = EVN
	templateId	1..1	SHALL	SET<II>	<a href="#">8946</a>	
	@root	1..1	SHALL		<a href="#">10529</a>	2.16.840.1.113883.10.20.1.19
	id	1..1	SHALL	II	<a href="#">8947</a>	
	entry Relationship	1..*	SHALL		<a href="#">8948</a>	
	@typeCode	1..1	SHALL		<a href="#">8949</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ

1. **SHALL** contain exactly one [1..1] @classCode="ACT" Act (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8944).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8945).
3. **SHALL** contain exactly one [1..1] templateId (CONF:8946) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.1.19" (CONF:10529).
4. **SHALL** contain exactly one [1..1] id (CONF:8947).
5. **SHALL** contain at least one [1..\*] entryRelationship (CONF:8948) such that it
  - a. **SHALL** contain exactly one [1..1] @typeCode="SUBJ" Subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8949).
  - b. The target of an authorization activity with act/entryRelationship/@typeCode="SUBJ" **SHALL** be a clinical statement with moodCode="PRMS" Promise (CONF:8951).
  - c. The target of an authorization activity **MAY** contain one or more performer, to indicate the providers that have been authorized to provide treatment (CONF:8952).

**Figure 157: Authorization activity example**

```

<act classCode="ACT" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.1.19"/>
    <!-- **** Authorization activity template **** -->
    <id root="f4dce790-8328-11db-9fe1-0800200c9a66"/>
    <code nullFlavor="NA"/>
    <entryRelationship typeCode="SUBJ">
        <procedure classCode="PROC" moodCode="PRMS">
            <code code="73761001"
                codeSystem="2.16.840.1.113883.6.96"
                displayName="Colonoscopy"/>
        </procedure>
    </entryRelationship>
</act>

```

## 5.8 Boundary Observation

[observation: templateId 2.16.840.1.113883.10.20.6.2.11 (open)]

**Table 126: Boundary Observation Contexts**

Used By:	Contains Entries:
<a href="#">Referenced Frames Observation</a>	

A Boundary Observation contains a list of integer values for the referenced frames of a DICOM multiframe image SOP instance. It identifies the frame numbers within the referenced SOP instance to which the reference applies. The CDA Boundary Observation numbers frames using the same convention as DICOM, with the first frame in the referenced object being Frame 1. A Boundary Observation must be used if a referenced DICOM SOP instance is a multiframe image and the reference does not apply to all frames.

**Table 127: Boundary Observation Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	observation[templateId/@root = '2.16.840.1.113883.10.20.6.2.11']					
	@classCode	1..1	SHALL		<a href="#">9282</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
	@moodCode	1..1	SHALL		<a href="#">9283</a>	2.16.840.1.113883.5.6 (HL7ActClass) = EVN
	code	1..1	SHALL	CD	<a href="#">9284</a>	1.2.840.10008.2.16.4 (DCM) = 113036
	value	1..*	SHALL		<a href="#">9285</a>	
	@xsi:type	1..1	SHALL		<a href="#">9286</a>	INT

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:9282).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:9283).
3. **SHALL** contain exactly one [1..1] code="113036" Frames for Display (CodeSystem: DCM 1.2.840.10008.2.16.4) (CONF:9284).
4. **SHALL** contain at least one [1..\*] value (CONF:9285).
  - a. Such values **SHALL** contain exactly one [1..1] @xsi:type, where the @code="INT" (CONF:9286).
    - i. Each numbers represents a frame for display (CONF:9287).

**Figure 158: Boundary observation example**

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.6.2.11"/>
  <code code="113036"
    codeSystem="1.2.840.10008.2.16.4"
    displayName="Frames for Display"/>
  <value xsi:type="INT" value="1"/>
</observation>
```

## 5.9 Code Observations

observation: templateId 2.16.840.1.113883.10.20.6.2.13 (open) ]

**Table 128: Code Observations Contexts**

Used By:	Contains Entries:
	<a href="#">Quantity Measurement Observation</a> <a href="#">Sop Instance Observation</a>

DICOM Template 2000 specifies that Imaging Report Elements of Value Type Code are contained in sections. The Imaging Report Elements are inferred from Basic Diagnostic Imaging Report Observations that consist of image references and measurements (linear, area, volume, and numeric). Coded DICOM Imaging Report Elements in this context are mapped to CDA-coded observations that are section components and are related to the SOP Instance Observations (templateId 2.16.840.1.113883.10.20.6.2.8) or Quantity Measurement Observations (templateId 2.16.840.1.113883.10.20.6.2.14) by the SPRT (Support) act relationship.

**Table 129: Code Observations Constraints Overview**

Name	XPath	Card .	Verb	Data Type	CONF #	Fixed Value
	observation[templateId/@root = '2.16.840.1.113883.10.20.6.2.13']					
	@classCode	1..1	SHALL		<a href="#">9304</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
	@moodCode	1..1	SHALL		<a href="#">9305</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId/@root	1..1	SHALL		<a href="#">9306</a>	2.16.840.1.113883.10.20.6.2.13
	code	1..1	SHALL	CD	<a href="#">9307</a>	
	value	1..1	SHALL		<a href="#">9308</a>	
	effectiveTime	0..1	SHOULD	TS or IVL<TS>	<a href="#">9309</a>	
	entryRelationship	0..*	MAY		<a href="#">9311</a>	
	@typeCode	1..1	SHALL		<a href="#">9312</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SPRT
	entryRelationship	0..*	MAY		<a href="#">9314</a>	
	@typeCode	1..1	SHALL		<a href="#">9315</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SPRT

1. **SHALL** contain exactly one [1..1] `@classCode="OBS"` Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:9304).
2. **SHALL** contain exactly one [1..1] `@moodCode="EVN"` Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:9305).
3. **SHALL** contain exactly one [1..1] `templateId/@root="2.16.840.1.113883.10.20.6.2.13"` (CONF:9306).
4. **SHALL** contain exactly one [1..1] `code` (CONF:9307).
5. **SHALL** contain exactly one [1..1] `value` (CONF:9308).
6. **SHOULD** contain zero or one [0..1] `effectiveTime` (CONF:9309).
7. Code Observations **SHALL** be rendered into section/text in separate paragraphs (CONF:9310).
8. **MAY** contain zero or more [0..\*] `entryRelationship` (CONF:9311) such that it
  - a. **SHALL** contain exactly one [1..1] `@typeCode="SPRT"` Has Support (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:9312).
  - b. **SHALL** contain exactly one [1..1] `Sop Instance Observation` (2.16.840.1.113883.10.20.6.2.8) (CONF:9313).
9. **MAY** contain zero or more [0..\*] `entryRelationship` (CONF:9314) such that it

- a. **SHALL** contain exactly one [1..1] @**typeCode**="SPRT" Has Support (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:9315).
- b. **SHALL** contain exactly one [1..1] **Quantity Measurement Observation** (2.16.840.1.113883.10.20.6.2.14) (CONF:9316).

**Figure 159: Code observation example**

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.6.2.13"/>
  <code code="18782-3" codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="Study observation"/>
  <statusCode code="completed"/>
  <value xsi:type="CD" code="309530007"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="Hilar mass"/>
  <!-- entryRelationship elements referring to SOP Instance Observations
      or Quantity Measurement Observations may appear here -->
</observation>
```

## 5.10 Comment Activity

[act: templateId 2.16.840.1.113883.10.20.22.4.64 (open) ]

**Table 130: Comment Activity Contexts**

<b>Used By:</b>	<b>Contains Entries:</b>
Any document	

Comments are free text data that cannot otherwise be recorded using data elements already defined by this specification. They are not to be used to record information that can be recorded elsewhere. For example, a free text description of the severity of an allergic reaction would not be recorded in a comment.

**Table 131: Comment Activity Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	act[templateId/@root = '2.16.840.1.113883.10.20.22.4.64']					
	@classCode	1..1	SHALL		<a href="#">9425</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ACT
	@moodCode	1..1	SHALL		<a href="#">9426</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET<II>	<a href="#">9427</a>	
	@root	1..1	SHALL		<a href="#">10491</a>	2.16.840.1.113883.10.20.22. 4.64
	code	1..1	SHALL	CD	<a href="#">9428</a>	2.16.840.1.113883.6.1 (LOINC) = 48767-8
	text	1..1	SHALL	ED	<a href="#">9430</a>	
free Text Comment	reference/@value	1..1	SHALL		<a href="#">9431</a>	
author	author	0..1	MAY		<a href="#">9433</a>	
	time	1..1	SHALL	IVL<TS>	<a href="#">9434</a>	
	assignedAuthor	1..1	SHALL		<a href="#">9435</a>	
	id	1..1	SHALL	II	<a href="#">9436</a>	
	addr	1..1	SHALL	SET<AD>	<a href="#">9437</a>	

1. Data elements defined elsewhere in the specification **SHALL NOT** be recorded using the Comment Activity (CONF:9429).
2. **SHALL** contain exactly one [1..1] **@classCode="ACT"** Act (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:9425).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:9426).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:9427) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.64"** (CONF:10491).
5. **SHALL** contain exactly one [1..1] **code="48767-8"** Annotation Comment (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:9428).
6. **SHALL** contain exactly one [1..1] **text** (CONF:9430).
  - a. This text **SHALL** contain exactly one [1..1] **reference/@value** (CONF:9431).
    - i. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:9432).
7. **MAY** contain zero or one [0..1] **author** (CONF:9433).
  - a. The author, if present, **SHALL** contain exactly one [1..1] **time** (CONF:9434).
  - b. The author, if present, **SHALL** contain exactly one [1..1] **assignedAuthor** (CONF:9435).

- i. This assignedAuthor **SHALL** contain exactly one [1..1] **id** (CONF:9436).
- ii. This assignedAuthor **SHALL** contain exactly one [1..1] **addr** (CONF:9437).
  - 1. The content of addr **SHALL** be a conformant [US Realm Address \(AD.US.FIELDDED\)](#) (2.16.840.1.113883.10.20.22.5.2) (CONF:10480).
- iii. **SHALL** include assignedPerson/name or representedOrganization/name (CONF:9438).
- iv. An assignedPerson/name **SHALL** be a conformant [US Realm Person Name \(PN.US.FIELDDED\)](#) (2.16.840.1.113883.10.20.22.5.1.1) (CONF:9439).

**Figure 160: Comment act example**

```

<act classCode="ACT" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.64"/>
  <!-- Comment template -->
  <code code="48767-8" displayName="comment"
    codeSystemName="LOINC"
    codeSystem="2.16.840.1.113883.6.1"/>
  <text>The patient stated that he was looking forward to an upcoming
    vacation to New York with his family. He was concerned that he may
    not have enough medication for the trip. An additional prescription
    was provided to cover that period of time.
    <reference value="#PntrtoSectionText"/>
  </text>
  <author>
    <time value="20050329224411+0500"/>
    <assignedAuthor>
      <id extension="KP00017" root="2.16.840.1.113883.19.5"/>
      <addr>
        <streetAddressLine>21 North Ave.</streetAddressLine>
        <city>Burlington</city>
        <state>MA</state>
        <postalCode>02368</postalCode>
        <country>US</country>
      </addr>
      <telecom use="WP" value="tel:(555) 555-1003"/>
      <assignedPerson>
        <name>
          <given>Henry</given>
          <family>Seven</family>
        </name>
      </assignedPerson>
    </assignedAuthor>
  </author>
</act>
```

## 5.11 Coverage Activity

[act: templateId 2.16.840.1.113883.10.20.22.4.60 (open) ]

**Table 132: Coverage Activity Contexts**

Used By:	Contains Entries:
<a href="#">Payers Section</a>	<a href="#">Policy Activity</a>

A Coverage Activity groups the policy and authorization acts within a Payers Section to order the payment sources. A Coverage Activity contains one or more policy activities, each of which contains zero or more authorization activities. The Coverage Activity id is the Id from the patient's insurance card. The sequenceNumber/@value shows the policy order of preference.

**Table 133: Coverage Activity Constraints Overview**

Name	XPath	Card .	Verb	Data Type	CONF #	Fixed Value
act[templateId/@root = '2.16.840.1.113883.10.20.22.4.60']						
	@classCode	1..1	SHALL		<a href="#">8872</a>	2.16.840.1.113883.5.1001 (ActMood) = ACT
	@moodCode	1..1	SHALL		<a href="#">8873</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET<II>	<a href="#">8897</a>	
	@root	1..1	SHALL		<a href="#">10492</a>	2.16.840.1.113883.10.20.22.4.60
	id	1..*	SHALL	II	<a href="#">8874</a>	
	statusCode	1..1	SHALL	CS	<a href="#">8875</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
	code	1..1	SHALL	CD	<a href="#">8876</a>	2.16.840.1.113883.6.1 (LOINC) = 48768-6
	entryRelationship	1..*	SHALL		<a href="#">8878</a>	
	@typeCode	1..1	SHALL		<a href="#">8879</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
	sequenceNumber/@value	0..1	MAY		<a href="#">8973</a>	

1. **SHALL** contain exactly one [1..1] @classCode="ACT" Act (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:8872).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:8873).
3. **SHALL** contain exactly one [1..1] templateId (CONF:8897) such that it

- a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.60" (CONF:10492).
- 4. **SHALL** contain at least one [1..\*] **id** (CONF:8874).
- 5. **SHALL** contain exactly one [1..1] **statusCode**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:8875).
- 6. **SHALL** contain exactly one [1..1] **code**="48768-6" Payment Sources (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8876).
- 7. **SHALL** contain at least one [1..\*] **entryRelationship** (CONF:8878) such that it
  - a. **SHALL** contain exactly one [1..1] @typeCode="COMP" Component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8879).
  - b. **MAY** contain zero or one [0..1] **sequenceNumber/@value** (CONF:8973).
  - c. **SHALL** contain exactly one [1..1] **Policy Activity** (2.16.840.1.113883.10.20.22.4.61) (CONF:8880).

**Figure 161: Coverage activity example**

```
<act classCode="ACT" moodCode="DEF">
  <templateId root="2.16.840.1.113883.10.20.22.4.60"/>
  <!-- **** Coverage activity template **** -->
  <id root="1fe2cdd0-7aad-11db-9fe1-0800200c9a66"/>
  <code code="48768-6" codeSystem="2.16.840.1.113883.6.1"
        codeSystemName="LOINC" displayName="Payment sources"/>
  <statusCode code="completed"/>
  <entryRelationship typeCode="COMP">
    <act classCode="ACT" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.61"/>
      <!-- **** Policy Activity template **** -->
      ...
    </act>
  </entryRelationship>
</act>
```

## 5.12 Discharge Medication

[act: templateId 2.16.840.1.113883.10.20.22.4.35(open)]

**Table 134: Discharge Medication Contexts**

Used By:	Contains Entries:
<a href="#">Hospital Discharge Medications Section (entries required)</a>	<a href="#">Medication Activity</a>
<a href="#">Hospital Discharge Medications Section (entries optional)</a>	

The Discharge Medications entry codes medications that the patient is intended to take (or stop) after discharge.

**Table 135: Discharge Medication Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	act[templateId/@root = '2.16.840.1.113883.10.20.22.4.35']					
	@classCode	1..1	SHALL		<a href="#">7689</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ACT
	@moodCode	1..1	SHALL		<a href="#">7690</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	code	1..1	SHALL	CD	<a href="#">7691</a>	2.16.840.1.113883.6.1 (LOINC) = 10183-2
	entryRelationship	1..1	SHALL		<a href="#">7692</a>	
	@typeCode	1..1	SHALL		<a href="#">7693</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ

1. **SHALL** contain exactly one [1..1] @classCode="ACT" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7689).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7690).
3. **SHALL** contain exactly one [1..1] code="10183-2" Discharge medication (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7691).
4. **SHALL** contain exactly one [1..1] entryRelationship (CONF:7692) such that it
  - a. **SHALL** contain exactly one [1..1] @typeCode="SUBJ" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7693).
  - b. **SHALL** contain exactly one [1..1] [Medication Activity](#) (2.16.840.1.113883.10.20.22.4.16) (CONF:7694).

**Figure 162: Discharge medication entry example**

```
<entry>
  <act classCode="ACT" moodCode="EVN">
    <!-- Discharge Medication Entry -->
    <templateId root="2.16.840.1.113883.10.20.22.4.35"/>
    <id root="5a784260-6856-4f38-9638-80c751aff2fb"/>
    <code code="10183-2"
      codeSystem="2.16.840.1.113883.6.1"
      codeSystemName="LOINC"
      displayName="Discharge medication"/>
    <statusCode code="active"/>
    <effectiveTime>
      <low value="20903003"/>
    </effectiveTime>
    <entryRelationship typeCode="SUBJ">
      <substanceAdministration moodCode="" classCode="SBADM">
        <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
        <!-- Medication Activity -->
        ...
      </substanceAdministration>
    </entryRelationship>
  </act>
</entry>
```

## 5.13 Drug Vehicle

[participantRole: templateId 2.16.840.1.113883.10.20.22.4.24 (open)]

**Table 136: Drug Vehicle Contexts**

Used By:	Contains Entries:
<a href="#">Medication Activity</a>	
<a href="#">Immunization Activity</a>	

This template represents the vehicle (e.g., saline, dextrose) for administering a medication.

**Table 137: Drug Vehicle Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	participantRole[templateId/@root = '2.16.840.1.113883.10.20.22.4.24']					
	@classCode	1..1	SHALL		<a href="#">7490</a>	2.16.840.1.113883.5.110 (RoleClass) = MANU
	templateId	1..1	SHALL	SET<II>	<a href="#">7495</a>	
	@root	1..1	SHALL		<a href="#">10493</a>	2.16.840.1.113883.10.20.22.4.24
	code	1..1	SHALL	CE	<a href="#">7491</a>	2.16.840.1.113883.6.96 (SNOMEDCT) = 412307009
	playingEntity	1..1	SHALL		<a href="#">7492</a>	
	code	1..1	SHALL	CE	<a href="#">7493</a>	
	name	0..1	MAY	PN	<a href="#">7494</a>	

1. **SHALL** contain exactly one [1..1] **@classCode="MANU"** (CodeSystem: RoleClass 2.16.840.1.113883.5.110) (CONF:7490).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:7495) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.24"** (CONF:10493).
3. **SHALL** contain exactly one [1..1] **code="412307009"** Drug Vehicle (CodeSystem: SNOMEDCT 2.16.840.1.113883.6.96) (CONF:7491).
4. **SHALL** contain exactly one [1..1] **playingEntity** (CONF:7492).
  - a. This playingEntity **SHALL** contain exactly one [1..1] **code** (CONF:7493).
    - i. This playingEntity/code is used to supply a coded term for the drug vehicle (CONF:10086).
  - b. This playingEntity **MAY** contain zero or one [0..1] **name** (CONF:7494).
    - i. This playingEntity/name **MAY** be used for the vehicle name in text, such as Normal Saline (CONF:10087).

**Figure 163: Drug vehicle entry example**

```
<participantRole classCode="MANU">
  <templateId root="2.16.840.1.113883.10.20.22.4.24"/>
  <code code="412307009"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="drug vehicle" />
  <playingEntity classCode="MMAT">
    <code code="125464" displayName="Normal Saline"
      codeSystem="2.16.840.1.113883.6.88"
      codeSystemName="RxNorm" />
    <name>Normal Saline</name>
  </playingEntity>
</participantRole>
```

## 5.14 Encounter Activities

[encounter: templateId 2.16.840.1.113883.10.20.22.4.49 (open) ]

**Table 138: Encounter Activities Contexts**

Used By:	Contains Entries:
<a href="#">Encounters Section (entries optional)</a>	<a href="#">Indication</a>
<a href="#">Encounters Section (entries required)</a>	<a href="#">Service Delivery Location</a>

This clinical statement describes the interactions between the patient and clinicians. Interactions include in-person encounters, telephone conversations, and email exchanges.

**Table 139: Encounter Activities Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
encounter[templateId/@root = '2.16.840.1.113883.10.20.22.4.49']						
	@classCode	1..1	SHALL		<a href="#">8710</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ENC
	@moodCode	1..1	SHALL		<a href="#">8711</a>	2.16.840.1.113883.5.6 (HL7ActClass) = EVN
	templateId	1..1	SHALL	SET<II>	<a href="#">8712</a>	
	@root	1..1	SHALL		<a href="#">10494</a>	2.16.840.1.113883.10.20.2 2.4.49
encounter ID	id	1..*	SHALL	II	<a href="#">8713</a>	
encounter Type	code	0..1	SHOULD	CD	<a href="#">8714</a>	2.16.840.1.113883.3.88.12 .80.32 (EncounterTypeCode)
	originalText	0..1	SHOULD	ED	<a href="#">8719</a>	
encounter FreeText Type	reference/ @value	0..1	SHOULD		<a href="#">8720</a>	
encounter DateTime	effectiveTime	1..1	SHALL	TS or IVL<TS>	<a href="#">8715</a>	
	performer	0..*	MAY		<a href="#">8725</a>	
encounter Provider	assignedEntity	1..1	SHALL		<a href="#">8726</a>	
	code	0..1	MAY	CE	<a href="#">8727</a>	
facility Location	participant	0..*	MAY		<a href="#">8738</a>	
	@typeCode	1..1	SHALL		<a href="#">8740</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = LOC

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
reasonForVisit	entryRelationship	0..*	MAY		<a href="#">8722</a>	
	@typeCode	1..1	SHALL		<a href="#">8723</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON

1. **SHALL** contain exactly one [1..1] **@classCode="ENC"** (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8710).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8711).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8712) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.49"** (CONF:10494).
4. **SHALL** contain at least one [1..\*] **id** (CONF:8713).
5. **SHOULD** contain zero or one [0..1] **code**, where the **@code** **SHOULD** be selected from ValueSet EncounterTypeCode 2.16.840.1.113883.3.88.12.80.32 **DYNAMIC** (CONF:8714).
  - a. The code, if present, **SHOULD** contain zero or one [0..1] **originalText** (CONF:8719).
    - i. The originalText, if present, **SHOULD** contain zero or one [0..1] **reference/@value** (CONF:8720).
      1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:8721).
6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:8715).
7. **MAY** have a [sdtc:dischargeDispositionCode](#) which **SHALL** be selected from ValueSet 2.16.840.1.113883.3.88.12.80.33 NUBC UB-04 FL17-Patient Status **DYNAMIC** or, if access to NUBC is unavailable, from CodeSystem 2.16.840.1.113883.12.112 HL7 Discharge Disposition. The prefix **sdtc:** **SHALL** be bound to the namespace "urn:hl7-org:sdtc". The use of the namespace provides a necessary extension to CDA R2 for the use of the dischargeDispositionCode element (CONF:9929).
8. **MAY** contain zero or more [0..\*] **performer** (CONF:8725).
  - a. The performer, if present, **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:8726).
    - i. This assignedEntity **MAY** contain zero or one [0..1] **code** (CONF:8727).
9. **MAY** contain zero or more [0..\*] **participant** (CONF:8738) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode="LOC"** Location (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8740).
  - b. **SHALL** contain exactly one [1..1] [Service Delivery Location](#) (2.16.840.1.113883.10.20.22.4.32) (CONF:8739).
10. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:8722) such that it

- a. **SHALL** contain exactly one [1..1] @typeCode="RSON" Has Reason (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8723).
- b. **SHALL** contain exactly one [1..1] [Indication](#) (2.16.840.1.113883.10.20.22.4.19) (CONF:8724).

**Table 140: Encounter Type Value Set**

Value Set: EncounterTypeCode 2.16.840.1.113883.3.88.12.80.32 DYNAMIC Code System: CPT-4 2.16.840.1.113883.6.12 This value set includes only the codes of the Current Procedure and Terminology designated for Evaluation and Management (99200 – 99607) (subscription to AMA Required <a href="http://www.amacodingonline.com/">http://www.amacodingonline.com/</a> )		
Code	Code System	Print Name
99201	CPT-4	Office or other outpatient visit (problem focused)
99202	CPT-4	Office or other outpatient visit (expanded problem (expanded))
99203	CPT-4	Office or other outpatient visit (detailed)
99204	CPT-4	Office or other outpatient visit (comprehensive, (comprehensive - moderate))
99205	CPT-4	Office or other outpatient visit (comprehensive, comprehensive-high)
...	CPT-4	...

**Figure 164: Encounter activities example**

```

<entry typeCode="DRIV">
  <encounter classCode="ENC" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.49"/>
    <!-- Encounter Activities -->
    <id root="2a620155-9d11-439e-92b3-5d9815ff4de8"/>
    <code code="99241" displayName="Office consultation - 15 minutes"
          codeSystemName="CPT-4"
          codeSystem="2.16.840.1.113883.6.12" codeSystemVersion="4">
      <originalText>Checkup Examination<reference value="#Encounter1"/>
      </originalText>
      <translation code="AMB" codeSystem="2.16.840.1.113883.5.4"
                  displayName="Ambulatory"
                  codeSystemName="HL7 ActEncounterCode"/>
    </code>
    <effectiveTime value="20000407"/>
    <performer>
      <assignedEntity>
        <code code="59058001" codeSystem="2.16.840.1.113883.6.96"
              codeSystemName="SNOMED CT" displayName="General Physician"/>
      </assignedEntity>
    </performer>
  </encounter>
</entry>

```

```

<participant typeCode="LOC">
  <participantRole classCode="SDLOC">
    <templateId root="2.16.840.1.113883.10.20.22.4.32"/>
    ...
  </participantRole>
</participant>
<entryRelationship typeCode="RSON">
  <observation classCode="OBS" moodCode="EVN">
    <!-- Indication -->
    <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
    ...
  </observation>
</entryRelationship>
</encounter>
</entry>

```

## 5.15 Estimated Date of Delivery

[observation: templateId 2.16.840.1.113883.10.20.15.3.1 (closed)]

**Table 141: Estimated Date of Delivery Contexts**

Used By:	Contains Entries:
<a href="#">Pregnancy Observation</a>	

This clinical statement represents the anticipated date when a woman will give birth.

**Table 142: Estimated Date of Delivery Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	observation[templateId/@root = '2.16.840.1.113883.10.20.15.3.1']					
	@classCode	1..1	SHALL		<a href="#">444</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
	@moodCode	1..1	SHALL		<a href="#">445</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	code	1..1	SHALL	CD	<a href="#">446</a>	2.16.840.1.113883.6.1 (LOINC) = 11778-8
	statusCode	1..1	SHALL	CS	<a href="#">448</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
	value	1..1	SHALL	TS	<a href="#">450</a>	

1. **SHALL** contain exactly one [1..1] @**classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:444).
2. **SHALL** contain exactly one [1..1] @**moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:445).
3. **SHALL** contain exactly one [1..1] **code**="11778-8" Estimated date of delivery (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:446).

4. **SHALL** contain exactly one [1..1] **statusCode**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:448).
5. **SHALL** contain exactly one [1..1] **value** with @xsi:type="TS" (CONF:450).

**Figure 165: Estimated date of delivery example**

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Estimated Date of Delivery observation template -->
  <templateId root="2.16.840.1.113883.10.20.15.3.1"/>
  <id extension="123456789" root="2.16.840.1.113883.19"/>
  <code code="11778-8" codeSystem="2.16.840.1.113883.6.1"
        displayName="Estimated date of delivery"/>
  <statusCode code="completed"/>
  <value xsi:type="TS">20110919</value>
</observation>
```

## 5.16 Family History Death Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.47 (open) ]

**Table 143: Family History Death Observation Contexts**

Used By:	Contains Entries:
<a href="#">Family History Observation</a>	

This clinical statement records whether the family member is deceased

**Table 144: Family History Death Observation Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.47']						
	@classCode	1..1	SHALL		<a href="#">8621</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
	@moodCode	1..1	SHALL		<a href="#">8622</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET<II>	<a href="#">8623</a>	
	@root	1..1	SHALL		<a href="#">10495</a>	2.16.840.1.113883.10.20.22.4.47
	code	1..1	SHALL	CD	<a href="#">8624</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
	statusCode	1..1	SHALL	CS	<a href="#">8625</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
	value	1..1	SHALL	CD	<a href="#">8626</a>	2.16.840.1.113883.6.96 (SNOMEDCT) = 419099009

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8621).

2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:8622).
3. **SHALL** contain exactly one [1..1] templateId (CONF:8623).
  - a. This templateId **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.47" (CONF:10495).
4. **SHALL** contain exactly one [1..1] code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4) (CONF:8624).
5. **SHALL** contain exactly one [1..1] statusCode="completed" (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:8625).
6. **SHALL** contain exactly one [1..1] value with @xsi:type="CD"="419099009" Dead (CodeSystem: SNOMEDCT 2.16.840.1.113883.6.96) (CONF:8626).

**Figure 166: Family history death observation example**

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.47"/>
  <!-- Family history death observation template -->
  <id root="6898fae0-5c8a-11db-b0de-0800200c9a66"/>
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>
  <statusCode code="completed"/>
  <value xsi:type="CD" code="419099009"
    codeSystem="2.16.840.1.113883.6.96"
    displayName="Dead"/>
</observation>
```

## 5.17 Family History Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.46 (open) ]

**Table 145: Family History Observation Contexts**

Used By:	Contains Entries:
<a href="#">Family History Organizer</a> (optional)	<a href="#">Age Observation</a> <a href="#">Family History Death Observation</a>

Family History Observations related to a particular family member are contained within a Family History Organizer. The effectiveTime in the Family History Observation is the biologically or clinically relevant time of the observation. The biologically or clinically relevant time is the time at which the observation holds (is effective) for the family member (the subject of the observation).

**Table 146: Family History Observation Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.46']					
	@classCode	1..1	SHALL		<a href="#">8586</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
	@moodCode	1..1	SHALL		<a href="#">8587</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET<II>	<a href="#">8599</a>	
	@root	1..1	SHALL		<a href="#">10496</a>	2.16.840.1.113883.10.20.22.4.46
	id	1..*	SHALL	II	<a href="#">8592</a>	
	code	1..1	SHALL	CD	<a href="#">8589</a>	2.16.840.1.113883.3.88.12.3221.7.2 (Problem Type)
	statusCode	1..1	SHALL	CS	<a href="#">8590</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
	effective Time	0..1	SHOULD	TS or IVL<TS>	<a href="#">8593</a>	
	value	1..1	SHALL	CD	<a href="#">8591</a>	2.16.840.1.113883.3.88.12.3221.7.4 (Problem)
	entry Relationship	0..1	MAY		<a href="#">8675</a>	
	@typeCode	1..1	SHALL		<a href="#">8676</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = SUBJ
	@inversion Ind	1..1	SHALL		<a href="#">8677</a>	true
	entry Relationship	0..1	MAY		<a href="#">8678</a>	
	@typeCode	1..1	SHALL		<a href="#">8679</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = CAUS

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8586).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:8587).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8599) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.46"** (CONF:10496).
4. **SHALL** contain at least one [1..\*] **id** (CONF:8592).
5. **SHALL** contain exactly one [1..1] **code**, where the **@code SHOULD** be selected from ValueSet [Problem Type 2.16.840.1.113883.3.88.12.3221.7.2 STATIC](#) 2008-01-30 (CONF:8589).
6. **SHALL** contain exactly one [1..1] **statusCode="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:8590).
7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:8593).

8. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the @code **SHALL** be selected from ValueSet Problem 2.16.840.1.113883.3.88.12.3221.7.4 **STATIC** (CONF:8591).
9. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:8675) such that it
  - a. **SHALL** contain exactly one [1..1] @typeCode="SUBJ" Subject (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:8676).
  - b. **SHALL** contain exactly one [1..1] @inversionInd="true" True (CONF:8677).
  - c. **SHALL** contain exactly one [1..1] [Age Observation](#) (2.16.840.1.113883.10.20.22.4.31) (CONF:8619).
10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:8678) such that it
  - a. **SHALL** contain exactly one [1..1] @typeCode="CAUS" Causal or Contributory (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:8679).
  - b. **SHALL** contain zero or one [0..1] [Family History Death Observation](#) (2.16.840.1.113883.10.20.22.4.47) (CONF:8629).

**Figure 167: Family history observation scenario**

SCENARIO
<p>A patient's father was diagnosed with diabetes at the age of 40. He died of Myocardial Infarction at the age of 57. If the patient's father was born in 1910, the family history organizer for the father would contain the following items:</p> <p><b>The Date of Birth</b>  RelatedSubject/subject/birthTime =&gt; 1910</p> <p><b>The Date of Death</b>  RelatedSubject/subject/sdtc:deceasedInd =&gt; true  RelatedSubject/subject/sdtc:deceasedTime =&gt; 1967</p> <p><b>The Diabetes Diagnosis</b>  component/observation/effectiveTime =&gt; 1950  component/observation/value =&gt; contains the code and displayName for diabetes  component/observation/entryRelationship/observation/value/@value =&gt; 40 with the unit set to "a" to indicate years</p> <p><b>The Myocardial Infarction Diagnosis and Cause of Death</b>  component/observation/effectiveTime =&gt; 1967  component/observation/value =&gt; contains the code and displayName for MI  component/observation/entryRelationship/observation/value/@value =&gt; 57 with the unit set to "a" to indicate years  component/observation/entryRelationship/@typeCode =&gt; "CAUS". This second entryRelationship shows that the MI was the cause of death.</p>

The next example uses the above scenario .

**Figure 168: Family history observation example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.15"/>
  <!-- ***** Family history section template ***** -->
  <code code="10157-6" codeSystem="2.16.840.1.113883.6.1"/>
  <title>FAMILY HISTORY</title>
  <text>
    <paragraph>Father (deceased)</paragraph>
    <table border="1" width="100%">
      <thead>
        <tr>
          <th>Diagnosis</th>
          <th>Age At Onset</th>
        </tr>
      </thead>
      <tbody>
        <tr>
          <td>Myocardial Infarction (cause of death)</td>
          <td>57</td>
        </tr>
        <tr>
          <td>Diabetes</td>
          <td>40</td>
        </tr>
      </tbody>
    </table>
  </text>
  <entry typeCode="DRIV">
    <organizer moodCode="EVN" classCode="CLUSTER">
      <templateId root="2.16.840.1.113883.10.20.22.4.45"/>
    <!-- ***** Family history organizer template ***** -->
    <statusCode code="completed"/>
    <subject>
      <relatedSubject classCode="PRS">
        <code code="FTH" displayName="Father"
          codeSystemName="HL7 FamilyMember"
          codeSystem="2.16.840.1.113883.5.111">
          <translation code="9947008"
            displayName="Biological father"
            codeSystemName="SNOMED"
            codeSystem="2.16.840.1.113883.6.96"/>
        </code>
        <subject>
          <administrativeGenderCode code="M"
            codeSystem="2.16.840.1.113883.5.1"
            displayName="Male"/>
          <birthTime value="1910"/>
          <sdtc:deceasedInd value="true"/>
          <sdtc:deceasedTime value="1967"/>
        </subject>
      </relatedSubject>
    </subject>
  </entry>
</section>
```

```

<component>
  <observation classCode="OBS" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.46"/>
    <!-- Family History Observation template -->
    <id root="d42ebf70-5c89-11db-b0de-0800200c9a66"/>
    <code code="55561003" displayName="Active"
      codeSystemName="SNOMED CT"
      codeSystem="2.16.840.1.113883.6.96"/>
    <statusCode code="completed"/>
    <effectiveTime value="1967"/>
    <value xsi:type="CD" code="22298006"
      codeSystem="2.16.840.1.113883.6.96"
      displayName="Myocardial infarction"/>
    <entryRelationship typeCode="CAUS">
      <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.47"/>
      <!-- ***** Family history death observation template ***** -->
      <id root="6898fae0-5c8a-11db-b0de-0800200c9a66"/>
      <code code="ASSERTION"
        codeSystem="2.16.840.1.113883.5.4"/>
      <statusCode code="completed"/>
      <value xsi:type="CD" code="419099009"
        codeSystem="2.16.840.1.113883.6.96"
        displayName="Dead"/>
      </observation>
    </entryRelationship>
    <entryRelationship typeCode="SUBJ" inversionInd="true">
      <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.31"/>
      <!-- ***** Age observation template ***** -->
      <code code="397659008" codeSystem="2.16.840.1.113883.6.96"
        displayName="Age"/>
      <statusCode code="completed"/>
      <value xsi:type="PQ" value="57" unit="a"/>
      </observation>
    </entryRelationship>
  </observation>
</component>
<component>
  <observation classCode="OBS" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.46"/>
  <!-- ***** Family history observation template ***** -->
  <id root="5bfe3ec0-5c8b-11db-b0de-0800200c9a66"/>
  <code code="7087005" displayName="Intermittent"
    codeSystemName="SNOMED CT"
    codeSystem="2.16.840.1.113883.6.96"/>
  <statusCode code="completed"/>
  <effectiveTime value="1950"/>
  <value xsi:type="CD" code="46635009"
    codeSystem="2.16.840.1.113883.6.96"
    displayName="Diabetes mellitus type 1"/>

```

```

<entryRelationship typeCode="SUBJ" inversionInd="true">
  <observation classCode="OBS" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.31"/>
    <!-- ***** Age observation template ***** -->
    <code code="397659008" codeSystem="2.16.840.1.113883.6.96"
      displayName="Age"/>
    <statusCode code="completed"/>
    <value xsi:type="PQ" value="40" unit="a"/>
  </observation>
</entryRelationship>
</observation>
</component>
</organizer>
</entry>
</section>

```

## 5.18 Family History Organizer

[organizer: templateId 2.16.840.1.113883.10.20.22.4.45 (open) ]

**Table 147: Family History Organizer Contexts**

Used By:	Contains Entries:
<a href="#">Family History Section</a>	<a href="#">Family History Observation</a>

The Family History Organizer associates a set of observations with a family member. For example, the Family History Organizer can group a set of observations about the patient's father.

**Table 148: Family History Organizer Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	organizer[templateId/@root = '2.16.840.1.113883.10.20.22.4.45']					
	@classCode	1..1	SHALL		<a href="#">8600</a>	2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER
	@moodCode	1..1	SHALL		<a href="#">8601</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET<II>	<a href="#">8604</a>	
	@root	1..1	SHALL		<a href="#">10497</a>	2.16.840.1.113883.10.20.22.4.45
	statusCode	1..1	SHALL	CS	<a href="#">8602</a>	2.16.840.1.113883.5.14 (ActStatus) = completed

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
familyMember Demographics	subject	1..1	SHALL		<a href="#">8609</a>	
	relatedSubject /@classCode	1..1	SHALL		<a href="#">8610</a>	2.16.840.1.113883.5.41 (EntityClass) = PRS
familyMember Relationship ToPatient	code	1..1	SHALL	CE	<a href="#">8611</a>	
familyMember Person Information	subject	0..1	SHOULD		<a href="#">8613</a>	
familyMember Administrative Gender	administrativeGender Code	1..1	SHALL	CE	<a href="#">8614</a>	2.16.840.1.113883.1.11.1 (Administrative Gender (HL7 V3))
familyMember DateOfBirth	birthTime	0..1	SHOULD	TS	<a href="#">8615</a>	
familyMember MedicalHistory	component	1..*	SHALL		<a href="#">8607</a>	
familyMember Condition	observation	0..*	SHOULD		<a href="#">8605</a>	

1. **SHALL** contain exactly one [1..1] **@classCode="CLUSTER"** Cluster (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8600).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:8601).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8604) such that it
  - a. **SHALL** contain exactly one [1..1]  
**@root="2.16.840.1.113883.10.20.22.4.45"** (CONF:10497).
4. **SHALL** contain exactly one [1..1] **statusCode="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:8602).
5. **SHALL** contain exactly one [1..1] **subject** (CONF:8609).
  - a. This subject **SHALL** contain exactly one [1..1]  
**relatedSubject/@classCode="PRS"** Person (CodeSystem: EntityClass 2.16.840.1.113883.5.41) (CONF:8610).
    - i. This relatedSubject/@classCode **SHALL** contain exactly one [1..1] **code** (CONF:8611).
      1. The value for "RelatedSubject/code" **SHOULD** be selected from ValueSet 2.16.840.1.113883.1.11.19579 FamilyHistoryRelatedSubjectCode **DYNAMIC** (CONF:8612).
    - ii. This relatedSubject/@classCode **SHOULD** contain zero or one [0..1] **subject** (CONF:8613).
      1. The subject **SHOULD** contain zero or more [0..\*] **sdtc:id**. The prefix **sdtc:** **SHALL** be bound to the namespace "urn:hl7-org:sdtc". The use of the namespace provides a necessary

- extension to CDA R2 for the use of the id element (CONF:8618).
2. The subject, if present, **SHALL** contain exactly one [1..1] **administrativeGenderCode**, where the @code **SHALL** be selected from ValueSet [Administrative Gender \(HL7 V3\) 2.16.840.1.113883.1.11.1 DYNAMIC](#) (CONF:8614).
  3. The subject, if present, **SHOULD** contain zero or one [0..1] **birthTime** (CONF:8615).
  4. The subject **MAY** contain zero or one [sdtc:deceasedInd](#). The prefix sdtc: **SHALL** be bound to the namespace “urn:hl7-org:sdtc”. The use of the namespace provides a necessary extension to CDA R2 for the use of the deceasedInd element (CONF:8616).
  5. The subject **MAY** contain zero or one [sdtc:deceasedTime](#). The prefix sdtc: **SHALL** be bound to the namespace “urn:hl7-org:sdtc”. The use of the namespace provides a necessary extension to CDA R2 for the use of the deceasedTime element (CONF:8617).
  6. The age of a relative at the time of a family history observation **SHOULD** be inferred by comparing RelatedSubject/subject/birthTime with Observation/effectiveTime (CONF:8631).
  7. The age of a relative at the time of death **MAY** be inferred by comparing RelatedSubject/subject/birthTime with RelatedSubject/subject/sdwg:deceasedTime (CONF:8632).
6. **SHALL** contain at least one [1..\*] **component** (CONF:8607).
- a. Such components **SHOULD** contain zero or more [0..\*] [Family History Observation](#) (2.16.840.1.113883.10.20.22.4.46) (CONF:8605).

**Table 149: Family History Related Subject Value Set (excerpt)**

Value Set: FamilyHistoryRelatedSubjectCode 2.16.840.1.113883.1.11.19579 DYNAMIC Code System: RoleCode 2.16.840.1.113883.5.111 (any subtype of RoleCode: FAMMEMB) See HL7 Vocabulary Domains included in the CDA R2 Normative Web Edition <a href="http://www.hl7.org/documentcenter/private/standards/cda/r2/cda_r2_normativewebedition_2010.zip">http://www.hl7.org/documentcenter/private/standards/cda/r2/cda_r2_normativewebedition_2010.zip</a>		
Code	Code System	Print Name
CHILD	RoleCode	Child
CHLDADOPT	RoleCode	Adopted Child
DAUADOPT	RoleCode	Adopted Daughter
SONADOPT	RoleCode	Adopted Son
CHLDINLAW	RoleCode	Child in-law
...		

**Figure 169: Family history organizer example**

```
<entry typeCode="DRIV">
  <organizer moodCode="EVN" classCode="CLUSTER">
    <templateId root="2.16.840.1.113883.10.20.22.4.45"/>
    <!-- Family history organizer template -->
    <statusCode code="completed"/>
    <subject>
      <relatedSubject classCode="PRS">
        <code code="FTH" displayName="Father"
          codeSystemName="HL7 FamilyMember"
          codeSystem="2.16.840.1.113883.5.111">
          <translation code="9947008" displayName="Biological father"
            codeSystemName="SNOMED CT" codeSystem="2.16.840.1.113883.6.96"/>
        </code>
        <subject>
          <administrativeGenderCode
            code="M" codeSystem="2.16.840.1.113883.5.1"
            displayName="Male"/>
          <birthTime value="1912"/>
        </subject>
      </relatedSubject>
    </subject>
    <component>
      <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.46"/>
        <!-- Family history observation template -->
        ...
      </observation>
    </component>
  </organizer>
</entry>
```

## 5.19 Health Status Observation

[Observation: templateId 2.16.840.1.113883.10.20.22.4.5 (open) ]

**Table 150: Health Status Observation Contexts**

Used By:	Contains Entries:
<a href="#">Problem Observation</a>	

The Health Status Observation records information about the current health status of the patient.

**Table 151: Health Status Observation Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.5']						
	@classCode	1..1	SHALL		<a href="#">9057</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
	@moodCode	1..1	SHALL		<a href="#">9072</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	code	1..1	SHALL	CD	<a href="#">9073</a>	2.16.840.1.113883.6.1 (LOINC) = 11323-3
	text	0..1	SHOULD	ED	<a href="#">9270</a>	
	reference/ @value	0..1	SHOULD		<a href="#">9271</a>	
	statusCode	1..1	SHALL	CS	<a href="#">9074</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
	value	1..1	SHALL	CD	<a href="#">9075</a>	2.16.840.1.113883.3.88.12.80.68 (HITSPProblemStatus)

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:9057).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:9072).
3. **SHALL** contain exactly one [1..1] **code="11323-3"** Health status (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:9073).
4. **SHOULD** contain zero or one [0..1] **text** (CONF:9270).
  - a. The text, if present, **SHOULD** contain zero or one [0..1] **reference/@value** (CONF:9271).
    - i. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:9272).
5. **SHALL** contain exactly one [1..1] **statusCode="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:9074).
6. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the @code **SHALL** be selected from ValueSet [HITSPProblemStatus](#) 2.16.840.1.113883.3.88.12.80.68 **DYNAMIC** (CONF:9075).

**Figure 170: Health status observation example**

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.5"/>
  <!-- Health status observation template -->
  <code code="11323-3"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="Health status"/>
  <statusCode code="completed"/>
  <value xsi:type="CE" code="413322009"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="Resolved"/>
</observation>
```

## 5.20 Hospital Admission Diagnosis

[act: templateId 2.16.840.1.113883.10.20.22.4.34 (open)]

**Table 152: Hospital Admission Diagnosis Contexts**

Used By:	Contains Entries:
<a href="#">Hospital Admission Diagnosis Section</a>	<a href="#">Problem Observation</a>

The Hospital Admission Diagnosis entry describes the relevant problems or diagnoses at the time of admission.

**Table 153: Hospital Admission Diagnosis Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
act[templateId/@root = '2.16.840.1.113883.10.20.22.4.34']						
	@classCode	1..1	SHALL		<a href="#">7671</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ACT
	@moodCode	1..1	SHALL		<a href="#">7672</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	code	1..1	SHALL	CD	<a href="#">7673</a>	2.16.840.1.113883.6.1 (LOINC) = 46241-6
	entryRelationship	1..*	SHALL		<a href="#">7674</a>	
	@typeCode	1..1	SHALL		<a href="#">7675</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ

1. **SHALL** contain exactly one [1..1] @classCode="ACT" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7671).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7672).

3. **SHALL** contain exactly one [1..1] **code**="46241-6" Admission diagnosis (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7673).
4. **SHALL** contain at least one [1..\*] **entryRelationship** (CONF:7674) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7675).
  - b. **SHALL** contain exactly one [1..1] **Problem Observation** (2.16.840.1.113883.10.20.22.4.4) (CONF:7676).

**Figure 171: Hospital admission diagnosis example**

```

<act classCode="ACT" moodCode="EVN">
  <!-- Admission Diagnosis template -->
  <templateId root="2.16.840.1.113883.10.20.22.4.34"/>
  <id root="5a784260-6856-4f38-9638-80c751aff2fb"/>
  <code code="46241-6"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="Hospital Admission Diagnosis"/>
  <statusCode code="active"/>
  <effectiveTime>
    <low value="20090303"/>
  </effectiveTime>
  <entryRelationship typeCode="SUBJ" inversionInd="false">
    <observation classCode="OBS" moodCode="EVN" negationInd="false">
      <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
      <!-- Problem Observation -->
      ...
    </observation>
  </entryRelationship>
</act>

```

## 5.21 Hospital Discharge Diagnosis

[act: templateId 2.16.840.1.113883.10.20.22.4.33 (open)]

**Table 154: Hospital Discharge Diagnosis Contexts**

Used By:	Contains Entries:
<a href="#">Hospital Discharge Diagnosis Section</a>	<a href="#">Problem Observation</a>

The Hospital Discharge Diagnosis act wraps relevant problems or diagnoses at the time of discharge that occurred during the hospitalization or that need to be followed after hospitalization. This entry requires at least one Problem Observation entry.

**Table 155: Hospital Discharge Diagnosis Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	act[templateId/@root = '2.16.840.1.113883.10.20.22.4.33']					
	@classCode	1..1	SHALL		<a href="#">7663</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ACT
	@moodCode	1..1	SHALL		<a href="#">7664</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	code	1..1	SHALL	CD	<a href="#">7665</a>	2.16.840.1.113883.6.1 (LOINC) = 11535-2
	entryRelationship	1..*	SHALL		<a href="#">7666</a>	
	@typeCode	1..1	SHALL		<a href="#">7667</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ

1. **SHALL** contain exactly one [1..1] `@classCode="ACT"` (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7663).
2. **SHALL** contain exactly one [1..1] `@moodCode="EVN"` (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7664).
3. **SHALL** contain exactly one [1..1] `code="11535-2"` Hospital discharge diagnosis (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7665).
4. **SHALL** contain at least one [1..\*] `entryRelationship` (CONF:7666) such that it
  - a. **SHALL** contain exactly one [1..1] `@typeCode="SUBJ"` (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7667).
  - b. **SHALL** contain exactly one [1..1] `Problem Observation` (2.16.840.1.113883.10.20.22.4.4) (CONF:7669).

**Figure 172: Hospital discharge diagnosis act example**

```

<act classCode="ACT" moodCode="EVN">
    <!--Hospital discharge diagnosis act -->
    <templateId root="2.16.840.1.113883.10.20.22.4.33"/>
    <id root="5a784260-6856-4f38-9638-80c751aff2fb"/>
    <code code="11535-2"
        codeSystem="2.16.840.1.113883.6.1"
        codeSystemName="LOINC"
        displayName="HOSPITAL DISCHARGE DIAGNOSIS"/>
    <statusCode code="active"/>
    <effectiveTime>
        <low value="20903003"/>
    </effectiveTime>
    <entryRelationship typeCode="SUBJ" inversionInd="false">
        <observation classCode="OBS" moodCode="EVN" negationInd="false">
            <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
            <!-- Problem Observation -->
            ...
        </observation>
    </entryRelationship>
</act>

```

## 5.22 Immunization Activity

[substanceAdministration: templateId  
2.16.840.1.113883.10.20.22.4.52 (open) ]

**Table 156: Immunization Activity Contexts**

Used By:	Contains Entries:
<a href="#">Immunizations Section (entries optional)</a> <a href="#">Immunizations Section (entries required)</a>	<a href="#">Drug Vehicle</a> <a href="#">Immunization Medication Information</a> <a href="#">Immunization Refusal Reason</a> <a href="#">Indication</a> <a href="#">Instructions</a> <a href="#">Medication Dispense</a> <a href="#">Medication Supply Order</a> <a href="#">Precondition for Substance Administration</a> <a href="#">Reaction Observation</a>

An Immunization Activity describes immunization substance administrations that have actually occurred or are intended to occur. Immunization Activities in "INT" mood are reflections of immunizations a clinician intends a patient to receive. Immunization Activities in "EVN" mood reflect immunizations actually received.

An Immunization Activity is very similar to a Medication Activity with some key differentiators. The drug code system is constrained to CVX codes. Administration timing is less complex. Patient refusal reasons should be captured. All vaccines administered should be fully documented in the patient's permanent medical record. Healthcare providers who administer vaccines covered by the National Childhood

Vaccine Injury Act are required to ensure that the permanent medical record of the recipient indicates:

- 1) Date of administration
- 2) Vaccine manufacturer
- 3) Vaccine lot number
- 4) Name and title of the person who administered the vaccine and the address of the clinic or facility where the permanent record will reside
- 5) Vaccine information statement (VIS)
  - a. date printed on the VIS
  - b. date VIS given to patient or parent/guardian.

This information should be included in an Immunization Activity when available.

**Table 157: Immunization Activity Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CON F#	Fixed Value
substanceAdministration[templateId/@root = '2.16.840.1.113883.10.20.22.4.52']						
	@class Code	1..1	SHALL		<a href="#">8826</a>	2.16.840.1.113883.5.6 (HL7ActClass) = SBADM
	@mood Code	1..1	SHALL		<a href="#">8827</a>	2.16.840.1.113883.11.20.9.18 (MoodCodeEvnInt)
refusal	@negationInd	1..1	SHALL		<a href="#">8985</a>	
	templateId	1..1	SHALL	SET<II >	<a href="#">8828</a>	
	@root	1..1	SHALL		<a href="#">1049</a> 8	2.16.840.1.113883.10.20.22.4 .52
	id	1..*	SHALL	II	<a href="#">8829</a>	
	code	0..1	MAY	CD	<a href="#">8830</a>	
	text	0..1	SHOULD	ED	<a href="#">8831</a>	
	reference/ @value	0..1	SHOULD		<a href="#">8832</a>	
	statusCode	1..1	SHALL	CS	<a href="#">8833</a>	
adminis- teredDate	effectiveTime	1..1	SHALL	TS or IVL<TS >	<a href="#">8834</a>	
medication SeriesNum- ber	repeatNumber	0..1	MAY	IVL<IN T>	<a href="#">8838</a>	
	routeCode	0..1	MAY	CE	<a href="#">8839</a>	2.16.840.1.113883.3.88.12.32 21.8.7 (Medication Route FDA Value Set)
	approachSite Code	0..1	MAY	SET<C D>	<a href="#">8840</a>	2.16.840.1.113883.3.88.12.32 21.8.9 (Body Site Value Set)

Name	XPath	Card.	Verb	Data Type	CON F#	Fixed Value
	doseQuantity	0..1	SHOULD	IVL<PQ >	<a href="#">8841</a>	
	@unit	0..1	SHOULD		<a href="#">8842</a>	2.16.840.1.113883.1.11.12839 (UCUM Units of Measure (case sensitive))
	administration UnitCode	0..1	MAY	CE	<a href="#">8846</a>	2.16.840.1.113883.3.88.12.3221.8.11 (Medication Product Form)
medication Information	consumable	1..1	SHALL		<a href="#">8847</a>	
performer	performer	0..1	SHOULD		<a href="#">8849</a>	
	participant	0..*	MAY		<a href="#">8850</a>	
	@typeCode	1..1	SHALL		<a href="#">8851</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
	entry Relationship	0..*	MAY		<a href="#">8853</a>	
	@typeCode	1..1	SHALL		<a href="#">8854</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
	entry Relationship	0..1	MAY		<a href="#">8856</a>	
	@typeCode	1..1	SHALL		<a href="#">8857</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
	@inversion Ind	1..1	SHALL		<a href="#">8858</a>	true
	entry Relationship	0..1	MAY		<a href="#">8860</a>	
	@typeCode	1..1	SHALL		<a href="#">8861</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
	entry Relationship	0..1	MAY		<a href="#">8863</a>	
	@typeCode	1..1	SHALL		<a href="#">8864</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
reaction	entry Relationship	0..1	MAY		<a href="#">8866</a>	
	@typeCode	1..1	SHALL		<a href="#">8867</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = CAUS
	precondition	0..*	MAY		<a href="#">8869</a>	
	@typeCode	1..1	SHALL		<a href="#">8870</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = PRCN

Name	XPath	Card.	Verb	Data Type	CON F#	Fixed Value
refusal Reason	entry Relationship	0..1	MAY		<a href="#">8988</a>	
	@typeCode	1..1	SHALL		<a href="#">8989</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON

1. **SHALL** contain exactly one [1..1] **@classCode="SBADM"** (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8826).
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet MoodCodeEvnInt 2.16.840.1.113883.11.20.9.18 **STATIC** (CONF:8827).
3. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:8985).
  - a. @negationInd="true" **SHALL** be used to represent the immunization was not given (CONF:8986).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:8828) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.52"** (CONF:10498).
5. **SHALL** contain at least one [1..\*] **id** (CONF:8829).
6. **MAY** contain zero or one [0..1] **code** (CONF:8830).
7. **SHOULD** contain zero or one [0..1] **text** (CONF:8831).
  - a. The text, if present, **SHOULD** contain zero or one [0..1] **reference/@value** (CONF:8832).
    - i. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1 (CONF:9056).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:8833).
9. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:8834).
10. **MAY** contain zero or one [0..1] **repeatNumber** (CONF:8838).
  - a. In "INT" (intent) mood, the repeatNumber defines the number of allowed administrations. For example, a repeatNumber of "3" means that the substance can be administered up to 3 times. In "EVN" (event) mood, the repeatNumber is the number of occurrences. For example, a repeatNumber of "3" in a dispense act means that the current dispensation is the 3rd. A repeatNumber of "3" in a substance administration event means that the current administration is the 3rd in a series (CONF:8987).
11. **MAY** contain zero or one [0..1] **routeCode**, where the @code **SHALL** be selected from ValueSet Medication Route FDA Value Set 2.16.840.1.113883.3.88.12.3221.8.7 **DYNAMIC** (CONF:8839).
12. **MAY** contain zero or one [0..1] **approachSiteCode**, where the @code **SHALL** be selected from ValueSet Body Site Value Set 2.16.840.1.113883.3.88.12.3221.8.9 **DYNAMIC** (CONF:8840).
13. **SHOULD** contain zero or one [0..1] **doseQuantity** (CONF:8841).

- a. The doseQuantity, if present, **SHOULD** contain zero or one [0..1] **@unit**, which **SHALL** be selected from ValueSet UCUM Units of Measure (case sensitive) 2.16.840.1.113883.1.11.12839 **DYNAMIC** (CONF:8842).
14. **MAY** contain zero or one [0..1] **administrationUnitCode**, where the **@code** **SHALL** be selected from ValueSet Medication Product Form 2.16.840.1.113883.3.88.12.3221.8.11 **DYNAMIC** (CONF:8846).
15. **SHALL** contain exactly one [1..1] **consumable** (CONF:8847).
- a. This consumable **SHALL** contain exactly one [1..1] [Immunization Medication Information](#) (2.16.840.1.113883.10.20.22.4.54) (CONF:8848).
16. **SHOULD** contain zero or one [0..1] **performer** (CONF:8849).
17. **MAY** contain zero or more [0..\*] **participant** (CONF:8850).
- a. The participant, if present, **SHALL** contain exactly one [1..1] **@typeCode="CSM"** (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:8851).
  - b. The participant, if present, **SHALL** contain exactly one [1..1] [Drug Vehicle](#) (2.16.840.1.113883.10.20.22.4.24) (CONF:8852).
18. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:8853) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8854).
  - b. **SHALL** contain exactly one [1..1] [Indication](#) (2.16.840.1.113883.10.20.22.4.19) (CONF:8855).
19. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:8856) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="SUBJ"** (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8857).
  - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** True (CONF:8858).
  - c. **SHALL** contain exactly one [1..1] [Instructions](#) (2.16.840.1.113883.10.20.22.4.20) (CONF:8859).
20. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:8860) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8861).
  - b. **SHALL** contain exactly one [1..1] [Medication Supply Order](#) (2.16.840.1.113883.10.20.22.4.17) (CONF:8862).
21. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:8863) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8864).
  - b. **SHALL** contain exactly one [1..1] [Medication Dispense](#) (2.16.840.1.113883.10.20.22.4.18) (CONF:8865).
22. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:8866) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="CAUS"** (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8867).
  - b. **SHALL** contain exactly one [1..1] [Reaction Observation](#) (2.16.840.1.113883.10.20.22.4.9) (CONF:8868).
23. **MAY** contain zero or more [0..\*] **precondition** (CONF:8869) such that it

- a. **SHALL** contain exactly one [1..1] @typeCode="PRCN" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8870).
  - b. **SHALL** contain exactly one [1..1] [Precondition for Substance Administration](#) (2.16.840.1.113883.10.20.22.4.25) (CONF:8871).
24. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:8988) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="RSON" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8989).
  - b. **SHALL** contain exactly one [1..1] [Immunization Refusal Reason](#) (2.16.840.1.113883.10.20.22.4.53) (CONF:8997).

**Figure 173: Immunization activity example**

```

<substanceAdministration classCode="SBADM" moodCode="EVN"
    negationInd="false">
    <templateId root="2.16.840.1.113883.10.20.22.4.52"/>
    <!-- **** Immunization activity template **** -->
    <id root="e6f1ba43-c0ed-4b9b-9f12-f435d8ad8f92"/>
    <text>
        <reference value="#immun3"/>
    </text>
    <statusCode code="completed"/>
    <effectiveTime xsi:type="IVL_TS" value="19981215"/>
    <routeCode code="IM" codeSystem="2.16.840.1.113883.5.112"
        codeSystemName="RouteOfAdministration"
        displayName="Intramuscular injection"/>
    <doseQuantity nullFlavor="UNK"/>
    <consumable>
        <manufacturedProduct>
            <templateId root="2.16.840.1.113883.10.20.22.4.54"/>
            <!-- **** Immunization Medication Information **** -->
            <manufacturedMaterial>
                ...
                </manufacturedMaterial>
            </manufacturedProduct>
        </consumable>
        <entryRelationship typeCode="SUBJ">
            <act classCode="ACT" moodCode="INT">
                <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                <!-- ** Instructions Template ** -->
                ...
            </act>
        </entryRelationship>
        <entryRelationship typeCode="RSON">
            <observation classCode="OBS" moodCode="EVN">
                <templateId root="2.16.840.1.113883.10.20.22.4.53"/>
                <!-- Immunization Refusal -->
                ...
            </observation>
        </entryRelationship>
    </substanceAdministration>

```

## 5.23 Immunization Medication Information

[manufacturedProduct: templateId 2.16.840.1.113883.10.20.22.4.54 (open) ]

**Table 158: Immunization Medication Information Contexts**

Used By:	Contains Entries:
<a href="#">Immunization Activity</a> <a href="#">Medication Dispense</a> <a href="#">Medication Supply Order</a>	

The Immunization Medication Information represents product information about the immunization substance. The vaccine manufacturer and vaccine lot number are typically recorded in the medical record and should be included if known.

**Table 159: Immunization Medication Information Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
manufacturedProduct[templateId/@root = '2.16.840.1.113883.10.20.22.4.54']						
	@classCode	1..1	SHALL		<a href="#">9002</a>	2.16.840.1.113883.5.110 (RoleClass) = MANU
	templateId	1..1	SHALL	SET<II>	<a href="#">9004</a>	
	@root	1..1	SHALL		<a href="#">10499</a>	2.16.840.1.113883.10.20.22. 4.54
	id	0..*	MAY	II	<a href="#">9005</a>	
	manufactured Material	1..1	SHALL		<a href="#">9006</a>	
coded Product Name	code	1..1	SHALL	CE	<a href="#">9007</a>	2.16.840.1.113883.3.88.12.8 0.22 (Vaccine Administered Value Set)
freeText Product Name	originalText	0..1	SHOULD	ED	<a href="#">9008</a>	
	reference /@value	0..1	SHOULD		<a href="#">9009</a>	
	translation	0..*	MAY	SET<PQ R>	<a href="#">9011</a>	
lotNumber	lotNumber Text	0..1	SHOULD	ST	<a href="#">9014</a>	
drug Manufacturer	manufacturer Organization	0..1	SHOULD		<a href="#">9012</a>	

1. **SHALL** contain exactly one [1..1] @classCode="MANU" (CodeSystem: RoleClass 2.16.840.1.113883.5.110) (CONF:9002).
2. **SHALL** contain exactly one [1..1] templateId (CONF:9004) such that it

- a. **SHALL** contain exactly one [1..1]   
 @root="2.16.840.1.113883.10.20.22.4.54" (CONF:10499).
- 3. **MAY** contain zero or more [0..\*] **id** (CONF:9005).
- 4. **SHALL** contain exactly one [1..1] **manufacturedMaterial** (CONF:9006).
  - a. This manufacturedMaterial **SHALL** contain exactly one [1..1] **code**, where the @code **SHALL** be selected from ValueSet Vaccine Administered Value Set 2.16.840.1.113883.3.88.12.80.22 **DYNAMIC** (CONF:9007).
    - i. This code **SHOULD** contain zero or one [0..1] **originalText** (CONF:9008).
      - 1. The originalText, if present, **SHOULD** contain zero or one [0..1] **reference/@value** (CONF:9009).
        - a. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:9010).
      - ii. This code **MAY** contain zero or more [0..\*] **translation** (CONF:9011).
        - 1. Translations can be used to represent generic product name, packaged product code, etc (CONF:9013).
    - b. This manufacturedMaterial **SHOULD** contain zero or one [0..1] **lotNumberText** (CONF:9014).
  - 5. **SHOULD** contain zero or one [0..1] **manufacturerOrganization** (CONF:9012).

**Table 160: Vaccine Administered (Hepatitis B) Value Set (excerpt)**

Value Set: Vaccine Administered Value Set 2.16.840.1.113883.3.88.12.80.22 DYNAMIC		
Code System(s): Vaccines administered (CVX) 2.16.840.1.113883.12.292		
<a href="http://phinvads.cdc.gov/vads/ViewCodeSystem.action?id=2.16.840.1.113883.12.292">http://phinvads.cdc.gov/vads/ViewCodeSystem.action?id=2.16.840.1.113883.12.292</a>		
Code	Code System	Print Name
82	CVX	adenovirus vaccine, NOS
54	CVX	adenovirus vaccine, type 4, live, oral
55	CVX	adenovirus vaccine, type 7, live, oral
24	CVX	anthrax vaccine
...		

**Figure 174: Immunization medication information example**

```

<manufacturedProduct>
  <templateId root="2.16.840.1.113883.10.20.22.4.54"/>
  <!-- **** Immunization Medication Information **** -->
  <manufacturedMaterial>
    <code code="103" codeSystem="2.16.840.1.113883.6.59"
          displayName="Tetanus and diphtheria toxoids -
          preservative free" codeSystemName="CVX">
      <originalText>Tetanus and diphtheria toxoids - preservative
          free</originalText>
      <translation code="09"
          displayName="Tetanus and diphtheria toxoids - preservative free"
          codeSystemName="CVX"
          codeSystem="2.16.840.1.113883.6.59"/>
    </code>
  </manufacturedMaterial>
</manufacturedProduct>

```

## 5.24 Immunization Refusal Reason

[observation: templateId 2.16.840.1.113883.10.20.22.4.53 (open) ]

**Table 161: Immunization Refusal Reason Contexts**

Used By:	Contains Entries:
<a href="#">Immunization Activity</a>	

The Immunization Refusal Reason Observation documents the rationale for the patient declining an immunization.

**Table 162: Immunization Refusal Reason Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.53']					
	@classCode	1..1	SHALL		<a href="#">8991</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
	@moodCode	1..1	SHALL		<a href="#">8992</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET<II>	<a href="#">8993</a>	
	@root	1..1	SHALL		<a href="#">10500</a>	2.16.840.1.113883.10.20.22.4.53
	id	1..*	SHALL	II	<a href="#">8994</a>	
	code	1..1	SHALL	CD	<a href="#">8995</a>	2.16.840.1.113883.1.11.19717 (No Immunization Reason Value Set)
	statusCode	1..1	SHALL	CS	<a href="#">8996</a>	2.16.840.1.113883.5.14 (ActStatus) = completed

1. **SHALL** contain exactly one [1..1] `@classCode="OBS"` Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8991).
2. **SHALL** contain exactly one [1..1] `@moodCode="EVN"` Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:8992).
3. **SHALL** contain exactly one [1..1] `templateId` (CONF:8993) such that it
  - a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.22.4.53"` (CONF:10500).
4. **SHALL** contain at least one [1..\*] `id` (CONF:8994).
5. **SHALL** contain exactly one [1..1] `code`, where the `@code` **SHALL** be selected from ValueSet No Immunization Reason Value Set 2.16.840.1.113883.1.11.19717 DYNAMIC (CONF:8995).
6. **SHALL** contain exactly one [1..1] `statusCode="completed"` Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:8996).

**Table 163: No Immunization Reason Value Set**

Value Set: No Immunization Reason Value Set 2.16.840.1.113883.1.11.19717 DYNAMIC Code System(s): ActReason 2.16.840.1.113883.5.8		
<b>Code</b>	<b>Code System</b>	<b>Print Name</b>
IMMUNE	ActReason	Immunity
MEDPREC	ActReason	Medical precaution
OSTOCK	ActReason	Out of stock
PATOBJ	ActReason	Patient objection
PHILISOP	ActReason	Philosophical objection
RELIG	ActReason	Religious objection
VACEFF	ActReason	Vaccine efficacy concerns
VACSAF	ActReason	Vaccine safety concerns

**Figure 175: Immunization refusal reason**

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.53"/>
  <!-- Immunization Refusal -->
  <id/>
  <code displayName="Patient Objection" code="PATOBJ"
        codeSystemName="HL7 ActNoImmunizationReason"
        codeSystem="2.16.840.1.113883.11.19725"/>
  <statusCode code="completed"/>
</observation>
```

## 5.25 Indication

[observation: templateId 2.16.840.1.113883.10.20.22.4.19 (open)]

**Table 164: Indication Contexts**

Used By:	Contains Entries:
<a href="#">Medication Activity</a> <a href="#">Procedure Activity Procedure</a> <a href="#">Procedure Activity Observation</a> <a href="#">Procedure Activity Act</a> <a href="#">Encounter Activities</a> <a href="#">Procedure Indications Section</a> <a href="#">Immunization Activity</a>	

The Indication Observation documents the rationale for an activity. It can do this with the id element to reference a problem recorded elsewhere in the document or with a code and value to record the problem type and problem within the Indication. For example, the indication for a prescription of a painkiller might be a headache that is documented in the Problems Section.

**Table 165: Indication Constraints Overview**

Name	XPath	Card	Verb	Data Type	CONF #	Fixed Value
	observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.19']					
	@classCode	1..1	SHALL		<a href="#">7480</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
	@moodCode	1..1	SHALL		<a href="#">7481</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET<II>	<a href="#">7482</a>	
	@root	1..1	SHALL		<a href="#">10502</a>	2.16.840.1.113883.10.20.22.4.19
	id	1..1	SHALL	II	<a href="#">7483</a>	
	code	0..1	SHOULD	CD	<a href="#">7484</a>	2.16.840.1.113883.3.88.12.3221.7 .2 (Problem Type)
	statusCode	1..1	SHALL	CS	<a href="#">7487</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
	effectiveTime	0..1	SHOULD	TS or IVL<TS>	<a href="#">7488</a>	
	value	0..1	SHOULD	CD	<a href="#">7489</a>	
	@code	0..1	SHOULD		<a href="#">7991</a>	2.16.840.1.113883.3.88.12.3221.7 .4 (Problem)
	@nullFlavor	0..1	MAY		<a href="#">10088</a>	

1. **SHALL** contain exactly one [1..1] `@classCode="OBS"` (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7480).
2. **SHALL** contain exactly one [1..1] `@moodCode="EVN"` (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7481).
3. **SHALL** contain exactly one [1..1] `templateId` (CONF:7482) such that it
  - a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.22.4.19"` (CONF:10502).
4. **SHALL** contain exactly one [1..1] `id` (CONF:7483).
  - a. Set the observation/id equal to an ID on the problem list to signify that problem as an indication (CONF:9321).
5. **SHOULD** contain zero or one [0..1] `code`, where the `@code` **SHOULD** be selected from ValueSet [Problem Type 2.16.840.1.113883.3.88.12.3221.7.2 STATIC](#) 2008-12-18 (CONF:7484).
6. **SHALL** contain exactly one [1..1] `statusCode="completed"` Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:7487).
7. **SHOULD** contain zero or one [0..1] `effectiveTime` (CONF:7488).
8. **SHOULD** contain zero or one [0..1] `value` with `@xsi:type="CD"` (CONF:7489).
  - a. The value, if present, **SHOULD** contain zero or one [0..1] `code`, which **SHOULD** be selected from ValueSet [Problem 2.16.840.1.113883.3.88.12.3221.7.4 DYNAMIC](#) (CONF:7991).
    - i. The code, if present, **MAY** contain zero or one [0..1] `@nullFlavor` (CONF:10088).
      1. If the diagnosis is unkown or the SNOMED code is unknown, `@nullFlavor` **SHOULD** be "UNK". If the code is something other than SNOMED, `@nullFlavor` **SHOULD** be "OTH" and the other code **SHOULD** be placed in the translation element (CONF:10089).

**Figure 176: Indication entry example**

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Indication -->
  <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
  <id extension="123456789" root="2.16.840.1.113883.19"/>
  <code code="409586006"
        codeSystem="2.16.840.1.113883.6.96"
        codeSystemName="SNOMED CT"
        displayName="Complaint"/>
  <statusCode code="completed"/>
  <value xsi:type="CD"
        code="195967001"
        codeSystem="2.16.840.1.113883.6.96"
        codeSystemName="SNOMED CT"
        displayName="Asthma"/>
</observation>
```

## 5.26 Instructions

[act: templateId 2.16.840.1.113883.10.20.22.4.20 (open)]

**Table 166: Instructions Contexts**

Used By:	Contains Entries:
<a href="#">Medication Supply Order</a> <a href="#">Medication Activity</a> <a href="#">Procedure Activity Procedure</a> <a href="#">Procedure Activity Observation</a> <a href="#">Procedure Activity Act</a> <a href="#">Immunization Activity</a> <a href="#">Instructions Section</a>	

The Instructions template can be used in several ways, such as to record patient instructions within a Medication Activity or to record fill instructions within a supply order. The act/code defines the type of instruction. Though not defined in this template, a Vaccine Information Statement (VIS) document could be referenced through act/reference/externalDocument, and patient awareness of the instructions can be represented with the generic participant and the participant/awarenessCode.

**Table 167: Instructions Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	act[templateId/@root = '2.16.840.1.113883.10.20.22.4.20']					
	@classCode	1..1	SHALL		<a href="#">7391</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ACT
	@moodCode	1..1	SHALL		<a href="#">7392</a>	2.16.840.1.113883.5.1001 (ActMood) = INT
	templateId	1..1	SHALL	SET<II>	<a href="#">7393</a>	
	@root	1..1	SHALL		<a href="#">10503</a>	2.16.840.1.113883.10.20.22.4.20
	code	1..1	SHALL	CD	<a href="#">7394</a>	2.16.840.1.113883.11.20.9.34 (Patient Education)
	text	0..1	SHOULD	ED	<a href="#">7395</a>	
	reference /@value	0..1	SHOULD		<a href="#">7397</a>	
	statusCode	1..1	SHALL	CS	<a href="#">7396</a>	2.16.840.1.113883.5.14 (ActStatus) = completed

1. **SHALL** contain exactly one [1..1] @classCode="ACT" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7391).
2. **SHALL** contain exactly one [1..1] @moodCode="INT" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7392).
3. **SHALL** contain exactly one [1..1] templateId (CONF:7393) such that it

- a. **SHALL** contain exactly one [1..1]   
 @root="2.16.840.1.113883.10.20.22.4.20" (CONF:10503).
- 4. **SHALL** contain exactly one [1..1] **code**, where the @code **SHOULD** be selected from ValueSet Patient Education 2.16.840.1.113883.11.20.9.34 **DYNAMIC** (CONF:7394).
- 5. **SHOULD** contain zero or one [0..1] **text** (CONF:7395).
  - a. The text, if present, **SHOULD** contain zero or one [0..1] **reference/@value** (CONF:7397).
    - i. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:7398).
- 6. **SHALL** contain exactly one [1..1] **statusCode="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:7396).

**Figure 177: Instructions entry example**

```

<act classCode="ACT" moodCode="INT">
  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
  <code code="171044003"
    codeSystem="2.16.840.1.113883.6.96"
    displayName=" Immunization Education"/>
  <text>
    <reference value="#sect1"/>
    Patient may have low grade fever, mild joint pain and injection area
    tenderness .
  </text>
  <statusCode code="completed"/>
</act>

```

**Table 168: Patient Education Value Set**

Value Set: Patient Education 2.16.840.1.113883.11.20.9.34 DYNAMIC		
Code System(s):	SNOMED CT 2.16.840.1.113883.6.96	
Description:	Limited to terms descending from the Education (409073007) hierarchy. Code system browser: <a href="https://uts.nlm.nih.gov/snomedctBrowser.html">https://uts.nlm.nih.gov/snomedctBrowser.html</a>	
Code	Code System	Print Name
311401005	SNOMED CT	Patient Education
171044003	SNOMED CT	Immunization Education
243072006	SNOMED CT	Cancer Education
...		

## 5.27 Medication Activity

[substanceAdministration: templateId  
2.16.840.1.113883.10.20.22.4.16(open) ]

**Table 169: Medication Activity Contexts**

Used By:	Contains Entries:
<a href="#">Reaction Observation</a>	<a href="#">Drug Vehicle</a>
<a href="#">Medications Section (entries required)</a>	<a href="#">Indication</a>
<a href="#">Discharge Medication</a>	<a href="#">Instructions</a>
<a href="#">Admission Medication</a>	<a href="#">Medication Dispense</a>
<a href="#">Medications Section (entries optional)</a>	<a href="#">Medication Information</a>
<a href="#">Procedure Activity Procedure</a>	<a href="#">Medication Supply Order</a>
<a href="#">Anesthesia Section</a>	<a href="#">Precondition for Substance Administration</a>
<a href="#">Medications Administered Section</a>	<a href="#">Reaction Observation</a>
<a href="#">Procedure Activity Observation</a>	
<a href="#">Procedure Activity Act</a>	

A medication activity describes substance administrations that have actually occurred (e.g. pills ingested or injections given) or are intended to occur (e.g. "take 2 tablets twice a day for the next 10 days"). Medication activities in "INT" mood are reflections of what a clinician intends a patient to be taking. Medication activities in "EVN" mood reflect actual use.

Medication timing is complex. This template requires that there be a substanceAdministration/effectiveTime valued with a time interval, representing the start and stop dates. Additional effectiveTime elements are optional, and can be used to represent frequency and other aspects of more detailed dosing regimens.

**Table 170: Medication Activity Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
substanceAdministration[templateId/@root = '2.16.840.1.113883.10.20.22.4.16']						
	@classCode	1..1	SHALL		<a href="#">7496</a>	2.16.840.1.113883.5.6 (HL7ActClass) = SBADM
	@moodCode	1..1	SHALL		<a href="#">7497</a>	2.16.840.1.113883.11.20.9.18 (MoodCodeEvnInt)
	templateId	1..1	SHALL	SET<II>	<a href="#">7499</a>	
	@root	1..1	SHALL		<a href="#">10504</a>	
	id	1..*	SHALL	II	<a href="#">7500</a>	
delivery Method	code	0..1	MAY	CD	<a href="#">7506</a>	
freeText Sig	text	0..1	SHOULD	ED	<a href="#">7501</a>	
	reference/@value	0..1	SHOULD		<a href="#">7502</a>	

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	statusCode	1..1	SHALL	CS	<a href="#">7507</a>	
	effectiveTime	1..1	SHALL	TS or IVL<TS>	<a href="#">7508</a>	
	@xsi:type	1..1	SHALL		<a href="#">9104</a>	IVL_TS
indicate Medication Started	low	1..1	SHALL	TS	<a href="#">7511</a>	
indicate Medication Stopped	high	1..1	SHALL	TS	<a href="#">7512</a>	
administration Timing	effectiveTime	0..1	SHOULD	TS or IVL<TS>	<a href="#">7513</a>	
	@operator	1..1	SHALL		<a href="#">9106</a>	A
	repeat Number	0..1	MAY	IVL<INT>	<a href="#">7555</a>	
route	routeCode	0..1	MAY	CE	<a href="#">7514</a>	2.16.840.1.113883.3.88.12.3221.8.7 (Medication Route FDA Value Set)
site	approach SiteCode	0..1	MAY	SET<CD>	<a href="#">7515</a>	2.16.840.1.113883.3.88.12.3221.8.9 (Body Site Value Set)
dose	dose Quantity	0..1	SHOULD	IVL<PQ>	<a href="#">7516</a>	
	@unit	0..1	SHOULD		<a href="#">7526</a>	2.16.840.1.113883.1.11.12839 (UCUM Units of Measure (case sensitive))
	rate Quantity	0..1	MAY	IVL<PQ>	<a href="#">7517</a>	
	@unit	1..1	SHALL		<a href="#">7525</a>	2.16.840.1.113883.1.11.12839 (UCUM Units of Measure (case sensitive))
dose Restriction	maxDose Quantity	0..1	MAY	RTO<PQ, PQ>	<a href="#">7518</a>	
product Form	administration UnitCode	0..1	MAY	CE	<a href="#">7519</a>	2.16.840.1.113883.3.88.12.3221.8.11 (Medication Product Form)
medication Information	consumable	1..1	SHALL		<a href="#">7520</a>	
	performer	0..1	MAY		<a href="#">7522</a>	
vehicle	participant	0..*	MAY		<a href="#">7523</a>	
	@typeCode	1..1	SHALL		<a href="#">7524</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
indication	entry Relationship	0..*	MAY		<a href="#">7536</a>	
	@typeCode	1..1	SHALL		<a href="#">7537</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
patient Instructions	entry Relationship	0..1	MAY		<a href="#">7539</a>	
	@typeCode	1..1	SHALL		<a href="#">7540</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
	@inversion Ind	1..1	SHALL		<a href="#">7542</a>	true
order Information	entry Relationship	0..1	MAY		<a href="#">7543</a>	
	@typeCode	1..1	SHALL		<a href="#">7547</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
fulfillment Instructions	entry Relationship	0..1	MAY		<a href="#">7549</a>	
	@typeCode	1..1	SHALL		<a href="#">7553</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
reaction	entry Relationship	0..1	MAY		<a href="#">7552</a>	
	@typeCode	1..1	SHALL		<a href="#">7544</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = CAUS
	precondition	0..*	MAY		<a href="#">7546</a>	
	@typeCode	1..1	SHALL		<a href="#">7550</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = PRCN

1. **SHALL** contain exactly one [1..1] @classCode="SBADM" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7496).
2. **SHALL** contain exactly one [1..1] @moodCode, which **SHALL** be selected from ValueSet MoodCodeEvnInt 2.16.840.1.113883.11.20.9.18 STATIC 2011-04-03 (CONF:7497).
3. **SHALL** contain exactly one [1..1] templateId (CONF:7499) such that it
  - a. **SHALL** contain exactly one [1..1] @root (CONF:10504).
4. **SHALL** contain at least one [1..\*] id (CONF:7500).
5. **MAY** contain zero or one [0..1] code (CONF:7506).
6. **SHOULD** contain zero or one [0..1] text (CONF:7501).
  - a. The text, if present, **SHOULD** contain zero or one [0..1] reference/@value (CONF:7502).

- i. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:7503).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:7507).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:7508) such that it
- a. **SHALL** contain exactly one [1..1] **@xsi:type**, where the @code="IVL\_TS" (CONF:9104).
  - b. **SHALL** contain exactly one [1..1] **low** (CONF:7511).
  - c. **SHALL** contain exactly one [1..1] **high** (CONF:7512).
9. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:7513) such that it
- a. **SHALL** contain exactly one [1..1] @xsi:type="PIVL\_TS" or "EIVL\_TS" (CONF:9105).
  - b. **SHALL** contain exactly one [1..1] **@operator**"A" and (CONF:9106).
10. **MAY** contain zero or one [0..1] **repeatNumber** (CONF:7555).
- a. In "INT" (intent) mood, the repeatNumber defines the number of allowed administrations. For example, a repeatNumber of "3" means that the substance can be administered up to 3 times (CONF:7556).
  - b. In "EVN" (event) mood, the repeatNumber is the number of occurrences. For example, a repeatNumber of "3" in a substance administration event means that the current administration is the 3rd in a series (CONF:9485).
11. **MAY** contain zero or one [0..1] **routeCode**, where the @code **SHALL** be selected from ValueSet Medication Route FDA Value Set 2.16.840.1.113883.3.88.12.3221.8.7 **DYNAMIC** (CONF:7514).
12. **MAY** contain zero or one [0..1] **approachSiteCode**, where the @code **SHALL** be selected from ValueSet Body Site Value Set 2.16.840.1.113883.3.88.12.3221.8.9 **DYNAMIC** (CONF:7515).
13. **SHOULD** contain zero or one [0..1] **doseQuantity** (CONF:7516).
- a. Pre-coordinated consumable: If the consumable code is a precoordinated unit dose (e.g. "metoprolol 25mg tablet") then doseQuantity is a unitless number that indicates the number of products given per administration (e.g. "2", meaning 2 x "metoprolol 25mg tablet") (CONF:10118).
  - b. Not pre-coordinated consumable: If the consumable code is not pre-coordinated (e.g. is simply "metoprolol"), then doseQuantity must represent a physical quantity with @unit, e.g. "25" and "mg", specifying the amount of product given per administration (CONF:7533).
  - c. The doseQuantity, if present, **SHOULD** contain zero or one [0..1] **@unit**, which **SHALL** be selected from ValueSet UCUM Units of Measure (case sensitive) 2.16.840.1.113883.1.11.12839 **DYNAMIC** (CONF:7526).
14. **MAY** contain zero or one [0..1] **rateQuantity** (CONF:7517).
- a. The rateQuantity, if present, **SHALL** contain exactly one [1..1] **@unit**, which **SHALL** be selected from ValueSet UCUM Units of Measure (case sensitive) 2.16.840.1.113883.1.11.12839 **DYNAMIC** (CONF:7525).
15. Medication Activity **SHOULD** include doseQuantity OR rateQuantity (CONF:7529).
16. **MAY** contain zero or one [0..1] **maxDoseQuantity** (CONF:7518).

17. **MAY** contain zero or one [0..1] **administrationUnitCode**, where the @code **SHALL** be selected from ValueSet Medication Product Form 2.16.840.1.113883.3.88.12.3221.8.11 **DYNAMIC** (CONF:7519).
18. **SHALL** contain exactly one [1..1] **consumable** (CONF:7520).
- This consumable **SHALL** contain exactly one [1..1] [Medication Information](#) (2.16.840.1.113883.10.20.22.4.23) (CONF:7521).
19. **MAY** contain zero or one [0..1] **performer** (CONF:7522).
20. **MAY** contain zero or more [0..\*] **participant** (CONF:7523) such that it
- SHALL** contain exactly one [1..1] @typeCode="CSM" (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:7524).
  - SHALL** contain exactly one [1..1] [Drug Vehicle](#) (2.16.840.1.113883.10.20.22.4.24) (CONF:7535).
21. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:7536) such that it
- SHALL** contain exactly one [1..1] @typeCode="RSON" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7537).
  - SHALL** contain exactly one [1..1] [Indication](#) (2.16.840.1.113883.10.20.22.4.19) (CONF:7538).
22. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:7539) such that it
- SHALL** contain exactly one [1..1] @typeCode="SUBJ" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7540).
  - SHALL** contain exactly one [1..1] @inversionInd="true" True (CONF:7542).
  - SHALL** contain exactly one [1..1] [Instructions](#) (2.16.840.1.113883.10.20.22.4.20) (CONF:7541).
23. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:7543) such that it
- SHALL** contain exactly one [1..1] @typeCode="REFR" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7547).
  - SHALL** contain exactly one [1..1] [Medication Supply Order](#) (2.16.840.1.113883.10.20.22.4.17) (CONF:7545).
24. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:7549) such that it
- SHALL** contain exactly one [1..1] @typeCode="REFR" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7553).
  - SHALL** contain exactly one [1..1] [Medication Dispense](#) (2.16.840.1.113883.10.20.22.4.18) (CONF:7554).
25. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:7552) such that it
- SHALL** contain exactly one [1..1] @typeCode="CAUS" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7544).
  - SHALL** contain exactly one [1..1] [Reaction Observation](#) (2.16.840.1.113883.10.20.22.4.9) (CONF:7548).
26. **MAY** contain zero or more [0..\*] **precondition** (CONF:7546) such that it
- SHALL** contain exactly one [1..1] @typeCode="PRCN" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7550).
  - SHALL** contain exactly one [1..1] [Precondition for Substance Administration](#) (2.16.840.1.113883.10.20.22.4.25) (CONF:7551).

**Table 171: MoodCodeEvnInt Value Set**

Value Set: MoodCodeEvnInt 2.16.840.1.113883.11.20.9.18 STATIC 2011-04-03		
Code System(s): ActMood 2.16.840.1.113883.5.1001		
Description:	Subset of HL7 ActMood codes, constrained to represent event (EVN) and intent (INT) moods	
Code	Code System	Print Name
EVN	ActMood	Event
INT	ActMood	Intent

**Table 172: Medication Route FDA Value Set (excerpt)**

Value Set: Medication Route FDA Value Set 2.16.840.1.113883.3.88.12.3221.8.7 DYNAMIC		
Code System(s): National Cancer Institute (NCI) Thesaurus 2.16.840.1.113883.3.26.1.1		
Description:	This indicates the method for the medication received by the individual (e.g., by mouth, intravenously, topically, etc). NCI concept code for route of administration: C38114 <a href="http://www.fda.gov/ForIndustry/DataStandards/StructuredProductLabeling/ucm162034.htm">http://www.fda.gov/ForIndustry/DataStandards/StructuredProductLabeling/ucm162034.htm</a>	
Code	Code System	Print Name
C38229	NCI Thesaurus	INTRACAUDAL
C38276	NCI Thesaurus	INTRAVENOUS
C38288	NCI Thesaurus	ORAL
C38295	NCI Thesaurus	RECTAL
...		

**Table 173: Body Site Value Set (excerpt)**

Value Set: Body Site Value Set 2.16.840.1.113883.3.88.12.3221.8.9 DYNAMIC		
Code System(s): SNOMED CT 2.16.840.1.113883.6.96		
Description:	Contains values descending from the SNOMED CT® Anatomical Structure (91723000) hierarchy or Acquired body structure (body structure) (280115004) or Anatomical site notations for tumor staging (body structure) (258331007) or Body structure, altered from its original anatomical structure (morphologic abnormality) (118956008) or Physical anatomical entity (body structure) (91722005) This indicates the anatomical site. <a href="http://www.nlm.nih.gov/research/umls/Snomed/snomed_main.html">http://www.nlm.nih.gov/research/umls/Snomed/snomed_main.html</a>	
Code	Code System	Print Name
361316009	SNOMED CT	entire embryonic artery
38033009	SNOMED CT	amputation stump
9550003	SNOMED CT	bronchogenic cyst
302509004	SNOMED CT	heart
...		

**Table 174: Medication Product Form Value Set (excerpt)**

Value Set: Medication Product Form 2.16.840.1.113883.3.88.12.3221.8.11 DYNAMIC		
Code System(s): National Cancer Institute (NCI) Thesaurus 2.16.840.1.113883.3.26.1.1		
Description:	This is the physical form of the product as presented to the individual. For example: tablet, capsule, liquid or ointment.	
	<a href="http://www.fda.gov/ForIndustry/DataStandards/StructuredProductLabeling/ucm162038.htm">http://www.fda.gov/ForIndustry/DataStandards/StructuredProductLabeling/ucm162038.htm</a>	
Code	Code System	Print Name
C42887	NCI Thesaurus	AEROSOL
C42909	NCI Thesaurus	GRANULE, EFFERVESCENT
C42998	NCI Thesaurus	TABLET
...		

**Table 175: Unit of Measure Value Set (excerpt)**

Value Set: UCUM Units of Measure (case sensitive) 2.16.840.1.113883.1.11.12839 DYNAMIC		
Code System(s): Unified Code for Units of Measure (UCUM) 2.16.840.1.113883.6.8		
Description:	UCUM codes include all units of measures being contemporarily used in international science, engineering, and business. The purpose is to facilitate unambiguous electronic communication of quantities together with their units. The focus is on electronic communication, as opposed to communication between humans.	
	<a href="http://www.regenstrief.org/medinformatics/ucum">http://www.regenstrief.org/medinformatics/ucum</a>	
Code	Code System	Print Name
mmol/kg	UCUM	MilliMolesPerKiloGram
fL	UCUM	FemtoLiter
ug/mL	UCUM	MicroGramsPerMilliLiter
...		

**Figure 178: Medication activity example**

```

<substanceAdministration classCode="SBADM" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
  <id root="cdbd33f0-6cde-11db-9fe1-0800200c9a66"/>
  <text>
    <reference value="#med1/>
    Proventil 0.09 MG/ACTUAT inhalant solution, 2 puffs QID PRN wheezing
  </text>
  <statusCode code="completed"/>
  <effectiveTime xsi:type="IVL_TS">
    <low value="20110301"/>
    <high value="20120301"/>
  </effectiveTime>
  <effectiveTime xsi:type="PIVL_TS" institutionSpecified="true" operator="A">
    <period value="6" unit="h"/>
  </effectiveTime>

```

```

<routeCode code="C38216" codeSystem="2.16.840.1.113883.3.26.1.1"
    codeSystemName="NCI Thesaurus" displayName="RESPIRATORY (INHALATION)"/>
<doseQuantity value="1"/>
<rateQuantity value="90" unit="ml/min"/>
<maxDoseQuantity nullFlavor="UNK">
    <numerator nullFlavor="UNK"/>
    <denominator nullFlavor="UNK"/>
</maxDoseQuantity>
<administrationUnitCode code="C42944" displayName="INHALANT"
    codeSystem="2.16.840.1.113883.3.26.1.1" codeSystemName="NCI Thesaurus"/>
<consumable>
    <manufacturedProduct>
        <templateId root="2.16.840.1.113883.10.20.22.4.23"/>
        <!-- Medication Information template -->
        ...
        </manufacturedMaterial>
        <manufacturerOrganization/>
    </manufacturedProduct>
</consumable>
<performer>
    ...
</performer>
<participant typeCode="CSM">
    <participantRole classCode="MANU">
        <templateId root="2.16.840.1.113883.10.20.22.4.24"/>
        <!-- Drug Vehicle template -->
        ...
    </participantRole>
</participant>
<entryRelationship typeCode="RSON">
    <observation classCode="COND" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
        <!-- Indication template -->
        ...
    </observation>
</entryRelationship>
<entryRelationship typeCode="REFR">
    <supply classCode="SPLY" moodCode="INT">
        <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
        <!-- Medication Supply Order template -->
        ...
        <entryRelationship typeCode="SUBJ" inversionInd="true">
            <act classCode="ACT" moodCode="INT">
                <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                <!-- Instructions template -->
                ...
            </act>
        </entryRelationship>
    </supply>
</entryRelationship>
<entryRelationship typeCode="REFR">
    <supply classCode="SPLY" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
        <!-- Medication Dispense template -->
        ...
    </supply>
</entryRelationship>

```

```

<precondition typeCode="PRCN">
  <templateId root="2.16.840.1.113883.10.20.22.4.25"/>
  <!-- Precondition for Substance Administration template -->
  ...
</precondition>
</substanceAdministration>

```

## 5.28 Medication Dispense

[supply: templateId 2.16.840.1.113883.10.20.22.4.18 (open) ]

**Table 176: Medication Dispense Contexts**

Used By:	Contains Entries:
<a href="#">Medication Activity</a>	<a href="#">Immunization Medication Information</a>
<a href="#">Immunization Activity</a>	<a href="#">Medication Information</a> <a href="#">Medication Supply Order</a>

This template records the act of supplying medications (i.e., dispensing).

**Table 177: Medication Dispense Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
supply[templateId/@root = '2.16.840.1.113883.10.20.22.4.18']						
	@classCode	1..1	SHALL		<a href="#">7451</a>	2.16.840.1.113883.5.6 (HL7ActClass) = SPLY
	@moodCode	1..1	SHALL		<a href="#">7452</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET<II>	<a href="#">7453</a>	
	@root	1..1	SHALL		<a href="#">10505</a>	2.16.840.1.113883.10.20.22.4.18
prescription Number	id	1..*	SHALL	II	<a href="#">7454</a>	
	statusCode	1..1	SHALL	CS	<a href="#">7455</a>	2.16.840.1.113883.3.88.12.8 0.64 (Medication Fill Status)
dispense Date	effectiveTime	0..1	SHOULD	TS or IVL<TS>	<a href="#">7456</a>	
fillNumber	repeat Number	0..1	SHOULD	IVL<INT>	<a href="#">7457</a>	
quantity Dispensed	quantity	0..1	SHOULD	PQ	<a href="#">7458</a>	
	product	0..1	MAY		<a href="#">7459</a>	
	product	0..1	MAY		<a href="#">9331</a>	
	performer	0..1	MAY		<a href="#">7461</a>	

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
provider	assignedEntity	1..1	SHALL		<a href="#">7467</a>	
	addr	0..1	SHOULD	SET<AD>	<a href="#">7468</a>	
order Information	entry Relationship	0..1	MAY		<a href="#">7473</a>	
	@typeCode	1..1	SHALL		<a href="#">7474</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR

1. **SHALL** contain exactly one [1..1] **@classCode="SPLY"** (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7451).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7452).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:7453) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.18"** (CONF:10505).
4. **SHALL** contain at least one [1..\*] **id** (CONF:7454).
5. **SHALL** contain exactly one [1..1] **statusCode**, where the @code **SHALL** be selected from ValueSet Medication Fill Status 2.16.840.1.113883.3.88.12.80.64 **DYNAMIC** (CONF:7455).
6. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:7456).
7. **SHOULD** contain zero or one [0..1] **repeatNumber** (CONF:7457).
  - a. In "EVN" (event) mood, the repeatNumber is the number of occurrences. For example, a repeatNumber of "3" in a dispense act means that the current dispensation is the 3rd (CONF:7466).
8. **SHOULD** contain zero or one [0..1] **quantity** (CONF:7458).
9. **MAY** contain zero or one [0..1] **product** (CONF:7459) such that it
  - a. **SHALL** contain exactly one [1..1] **Medication Information** (2.16.840.1.113883.10.20.22.4.23) (CONF:7460).
10. **MAY** contain zero or one [0..1] **product** (CONF:9331) such that it
  - a. **SHALL** contain exactly one [1..1] **Immunization Medication Information** (2.16.840.1.113883.10.20.22.4.54) (CONF:9332).
11. A supply act **SHALL** contain one product/Medication Information or one product/Immunization Medication Information template (CONF:9333).
12. **MAY** contain zero or one [0..1] **performer** (CONF:7461).
13. **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:7467).
  - a. This assignedEntity **SHOULD** contain zero or one [0..1] **addr** (CONF:7468).
    - i. The content of addr **SHALL** be a conformant **US Realm Address (AD.US.FIELDED)** (2.16.840.1.113883.10.20.22.5.2) (CONF:10565).
14. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:7473) such that it

- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7474).
- b. **SHALL** contain exactly one [1..1] [Medication Supply Order](#) (2.16.840.1.113883.10.20.22.4.17) (CONF:7476).

**Table 178: Medication Fill Status Value Set**

Value Set: Medication Fill Status 2.16.840.1.113883.3.88.12.80.64 DYNAMIC Code System: ActStatus 2.16.840.1.113883.5.14		
Code	Code System	Print Name
aborted	ActStatus	Aborted
completed	ActStatus	Completed

**Figure 179: Medication dispense example**

```

<supply classCode="SPLY" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
  <id root="1.2.3.4.56789.1" extension="cb734647-fc99-424c-a864-7e3cda82e704"/>
  <statusCode code="completed"/>
  <effectiveTime value="20020101"/>
  <repeatNumber value="1"/>
  <quantity value="75"/>
  <performer>
    <time nullFlavor="UNK"/>
    <assignedEntity>
      <id/>
      <addr>
        <streetAddressLine>17 Daws Rd.</streetAddressLine>
        <city>Blue Bell</city>
        <state>MA</state>
        <postalCode>02368</postalCode>
        <country>US</country>
      </addr>
      <telecom nullFlavor="UNK"/>
      <assignedPerson>
        <name>
          <prefix>Dr.</prefix>
          <given>Robert</given>
          <family>Michaels</family>
        </name>
      </assignedPerson>
      <representedOrganization>
        <id root="2.16.840.1.113883.19.5"/>
        <name>Good Health Clinic</name>
        <telecom nullFlavor="UNK"/>
        <addr nullFlavor="UNK"/>
      </representedOrganization>
    </assignedEntity>
  </performer>
</supply>

```

## 5.29 Medication Information

[manufacturedProduct: templateId 2.16.840.1.113883.10.20.22.4.23 (open)]

**Table 179: Medication Information Contexts**

Used By:	Contains Entries:
<a href="#">Medication Supply Order</a> <a href="#">Medication Dispense</a> <a href="#">Medication Activity</a>	

The medication can be recorded as a precoordinated product strength, product form, or product concentration (e.g. "metoprolol 25mg tablet", "amoxicillin 400mg/5mL suspension"); or not pre-coordinated (e.g. "metoprolol product").

**Table 180: Medication Information Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
manufacturedProduct[templateId/@root = '2.16.840.1.113883.10.20.22.4.23']						
	@classCode	1..1	SHALL		<a href="#">7408</a>	2.16.840.1.113883.5.110 (RoleClass) = MANU
	templateId	1..1	SHALL	SET<II>	<a href="#">7409</a>	
	@root	1..1	SHALL		<a href="#">10506</a>	2.16.840.1.113883.10.20.22.4.23
	id	0..*	MAY	II	<a href="#">7410</a>	
	manufactured Material	1..1	SHALL		<a href="#">7411</a>	
coded Product Name	code	1..1	SHALL	CE	<a href="#">7412</a>	2.16.840.1.113883.3.88.12.80.17 (Medication Clinical Drug)
freeText ProductName	originalText	0..1	SHOULD	ED	<a href="#">7413</a>	
	reference /@value	0..1	SHOULD		<a href="#">7417</a>	
codedBrandName	translation	0..*	MAY	SET<P QR>	<a href="#">7414</a>	
drug Manufacturer	manufacturer Organization	0..1	MAY		<a href="#">7416</a>	

1. **SHALL** contain exactly one [1..1] **@classCode="MANU"** (CodeSystem: RoleClass 2.16.840.1.113883.5.110) (CONF:7408).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:7409) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.23"** (CONF:10506).
3. **MAY** contain zero or more [0..\*] **id** (CONF:7410).

4. **SHALL** contain exactly one [1..1] **manufacturedMaterial** (CONF:7411).
  - a. This manufacturedMaterial **SHALL** contain exactly one [1..1] **code**, where the @code **SHALL** be selected from ValueSet [Medication Clinical Drug 2.16.840.1.113883.3.88.12.80.17 DYNAMIC](#) (CONF:7412).
    - i. This code **SHOULD** contain zero or one [0..1] **originalText** (CONF:7413).
      1. The originalText, if present, **SHOULD** contain zero or one [0..1] **reference/@value** (CONF:7417).
        - a. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:7418).
      - ii. This code **MAY** contain zero or more [0..\*] **translation** (CONF:7414).
        1. Translations can be used to represent generic product name, packaged product code, etc (CONF:7420).
  5. **MAY** contain zero or one [0..1] **manufacturerOrganization** (CONF:7416).

**Figure 180: Medication information example**

```
<manufacturedProduct classCode="MANU">
  <templateId root="2.16.840.1.113883.10.20.22.4.23"/>
  <id/>
  <manufacturedMaterial>
    <code code="329498"
      codeSystem="2.16.840.1.113883.6.88"
      displayName="Albuterol 0.09 MG/ACTUAT inhalant solution">
      <originalText><reference value="#manmat1"/></originalText>
      <translation code="573621"
        codeSystem="2.16.840.1.113883.6.88" codeSystemName="RxNorm"
        displayName="Proventil 0.09 MG/ACTUAT inhalant solution"/>
    </code>
  </manufacturedMaterial>
  <manufacturerOrganization>...</manufacturerOrganization>
</manufacturedProduct>
```

## 5.30 Medication Supply Order

[supply: templateId 2.16.840.1.113883.10.20.22.4.17 (open)]

**Table 181: Medication Supply Order Contexts**

Used By:	Contains Entries:
<a href="#">Medication Dispense</a>	<a href="#">Immunization Medication Information</a>
<a href="#">Medication Activity</a>	<a href="#">Instructions</a>
<a href="#">Immunization Activity</a>	<a href="#">Medication Information</a>

This template records the intent to supply a patient with medications.

**Table 182: Medication Supply Order Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	supply[templateId/@root = '2.16.840.1.113883.10.20.22.4.17']					
	@classCode	1..1	SHALL		<a href="#">7427</a>	2.16.840.1.113883.5.6 (HL7ActClass) = SPLY
	@moodCode	1..1	SHALL		<a href="#">7428</a>	2.16.840.1.113883.5.100 1 (ActMood) = INT
	templateId	1..1	SHALL	SET<II>	<a href="#">7429</a>	
	@root	1..1	SHALL		<a href="#">10507</a>	2.16.840.1.113883.10.20. 22.4.17
orderNumber	id	1..*	SHALL	II	<a href="#">7430</a>	
	statusCode	1..1	SHALL	CS	<a href="#">7432</a>	
order Expiration DateTime	effectiveTime/high	0..1	SHOULD	TS	<a href="#">7433</a>	
fills	repeatNumber	0..1	SHOULD	IVL<INT>	<a href="#">7434</a>	
quantity Ordered	quantity	0..1	SHOULD	PQ	<a href="#">7436</a>	
	product	0..1	MAY		<a href="#">7439</a>	
	product	0..1	MAY		<a href="#">9334</a>	
ordering Provider	author	0..1	MAY		<a href="#">7438</a>	
patient Instructions	entryRelationship	0..1	MAY		<a href="#">7442</a>	
	@typeCode	1..1	SHALL		<a href="#">7444</a>	2.16.840.1.113883.5.100 2 (HL7ActRelationshipType) = SUBJ
	@inversionInd	1..1	SHALL		<a href="#">7445</a>	true

1. **SHALL** contain exactly one [1..1] **@classCode="SPLY"** (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7427).
2. **SHALL** contain exactly one [1..1] **@moodCode="INT"** (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7428).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:7429) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.17"** (CONF:10507).
4. **SHALL** contain at least one [1..\*] **id** (CONF:7430).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:7432).
6. **SHOULD** contain zero or one [0..1] **effectiveTime/high** (CONF:7433).
7. **SHOULD** contain zero or one [0..1] **repeatNumber** (CONF:7434).

- a. In "INT" (intent) mood, the repeatNumber defines the number of allowed fills. For example, a repeatNumber of "3" means that the substance can be supplied up to 3 times (or, can be dispensed, with 2 refills) (CONF:7435).
- 8. **SHOULD** contain zero or one [0..1] **quantity** (CONF:7436).
- 9. **MAY** contain zero or one [0..1] **product** (CONF:7439) such that it
  - a. **SHALL** contain exactly one [1..1] [Medication Information](#) (2.16.840.1.113883.10.20.22.4.23) (CONF:7437).
- 10. **MAY** contain zero or one [0..1] **product** (CONF:9334) such that it
  - a. **SHALL** contain exactly one [1..1] [Immunization Medication Information](#) (2.16.840.1.113883.10.20.22.4.54) (CONF:9335).
    - i. A supply act **SHALL** contain one product/Medication Information or one product/Immunization Medication Information template (CONF:9336).
- 11. **MAY** contain zero or one [0..1] **author** (CONF:7438).
- 12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:7442).
  - a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode="SUBJ"** (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7444).
  - b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@inversionInd="true"** True (CONF:7445).
  - c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] [Instructions](#) (2.16.840.1.113883.10.20.22.4.20) (CONF:7443).

**Figure 181: Medication supply order example**

```
<supply classCode="SPLY" moodCode="INT">
  <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
  <id root="1.2.3.4.5.6.7" extension="1234567"/>
  <statusCode code="completed"/>
  <effectiveTime xsi:type="IVL_TS">
    <low value="20020101"/>
    <high nullFlavor="UNK"/>
  </effectiveTime>
  <repeatNumber value="1"/>
  <quantity value="75"/>
  <product>
    <manufacturedProduct>
      <templateId root="2.16.840.1.113883.10.20.22.4.23"/>
      <!-- Medication Information template -->
      ...
    </manufacturedProduct>
  </product>
  <author>
    ...
  </author>
  <entryRelationship typeCode="SUBJ" inversionInd="true">
    <act classCode="ACT" moodCode="INT">
      <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
      <!-- Instructions template -->
      ...
    </act>
  </entryRelationship>
</supply>
```

## 5.31 Medication Use – None Known (deprecated)

observation: templateId 2.16.840.1.113883.10.20.22.4.29(open)]

The recommended approach to stating no known medications is to use the appropriate nullFlavor instead of this template. See "[Unknown Information](#)" in Section 1.

This template indicates that the subject is not known to be on any medications.

1. **SHALL** contain exactly one [1..1] @**classCode**="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7557).
2. **SHALL** contain exactly one [1..1] @**moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7558).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:7559) such that it
  - a. **SHALL** contain exactly one [1..1] @**root**="2.16.840.1.113883.10.20.22.4.29" (CONF:10508).
4. **SHALL** contain at least one [1..\*] **id** (CONF:7560).
5. **SHALL** contain exactly one [1..1] **code**="ASSERTION" (CodeSystem: ActCode 2.16.840.1.113883.5.4) (CONF:7561).
6. **MAY** contain zero or one [0..1] **text** (CONF:7565).

- a. The text, if present, **SHOULD** contain zero or one [0..1] **reference/@value** (CONF:7566).
  - i. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:7567).
- 7. **SHALL** contain exactly one [1..1] **statusCode="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:7562).
- 8. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:7563).
- 9. **SHALL** contain exactly one [1..1] **value** with @xsi:type="ANY"="182904002" Drug treatment unknown (CodeSystem: SNOMEDCT 2.16.840.1.113883.6.96) (CONF:7564).

**Figure 182: Medication use – none known example**

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.29"/>
  <id root="db734647-fc99-424c-a864-7e3cda82e703" extension="45665"/>
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>
  <text><reference value="#med_text1"/></text>
  <statusCode code="completed"
    codeSystem="2.16.840.1.113883.5.4"/>
  <effectiveTime value="20110203"/>
  <value code="182904002"
    displayName="Drug treatment unknown"
    codeSystem="2.16.840.1.113883.6.96"/>
</observation>
```

## 5.32 Non-Medicinal Supply Activity

[supply: templateId 2.16.840.1.113883.10.20.22.4.50 (open) ]

**Table 183: Non-Medicinal Supply Activity Contexts**

Used By:	Contains Entries:
<a href="#">Medical Equipment Section</a>	<a href="#">Product Instance</a>

This template records non-medicinal supplies provided, such as medical equipment

**Table 184: Non-Medicinal Supply Activity Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	supply[templateId/@root = '2.16.840.1.113883.10.20.22.4.50']					
	@classCode	1..1	SHALL		<a href="#">8745</a>	2.16.840.1.113883.5.6 (HL7ActClass) = SPLY
	@moodCode	1..1	SHALL		<a href="#">8746</a>	2.16.840.1.113883.11.20.9.18 (MoodCodeEvnInt)
	templateId	1..1	SHALL	SET<II>	<a href="#">8747</a>	
	@root	1..1	SHALL		<a href="#">10509</a>	2.16.840.1.113883.10.20.22.4.50
	id	1..*	SHALL	II	<a href="#">8748</a>	
	statusCode	1..1	SHALL	CS	<a href="#">8749</a>	
	effectiveTime/high	0..1	SHOULD	TS	<a href="#">8750</a>	
	quantity	0..1	SHOULD	PQ	<a href="#">8751</a>	
	participant	0..1	MAY		<a href="#">8752</a>	
	@typeCode	1..1	SHALL		<a href="#">8754</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = PRD

1. **SHALL** contain exactly one [1..1] @classCode="SPLY" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8745).
2. **SHALL** contain exactly one [1..1] @moodCode, which **SHALL** be selected from ValueSet [MoodCodeEvnInt 2.16.840.1.113883.11.20.9.18 STATIC 2011-04-03](#) (CONF:8746).
3. **SHALL** contain exactly one [1..1] templateId (CONF:8747) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.50" (CONF:10509).
4. **SHALL** contain at least one [1..\*] id (CONF:8748).
5. **SHALL** contain exactly one [1..1] statusCode (CONF:8749).
6. **SHOULD** contain zero or one [0..1] effectiveTime/high (CONF:8750).
7. **SHOULD** contain zero or one [0..1] quantity (CONF:8751).
8. **MAY** contain zero or one [0..1] participant (CONF:8752) such that it
  - a. **SHALL** contain exactly one [1..1] @typeCode="PRD" Product (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:8754).
  - b. **SHALL** contain exactly one [1..1] [Product Instance](#) (2.16.840.1.113883.10.20.22.4.37) (CONF:8753).

**Figure 183: Non-medicinal supply activity example**

```

<supply classCode="SPLY" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.50"/>
    <!-- Non-Medicinal Supply Activity template -->
    <id root="2413773c-2372-4299-bbe6-5b0f60664446"/>
    <statusCode code="completed"/>
    <effectiveTime xsi:type="IVL_TS">
        <center value="199911"/>
    </effectiveTime>
    <quantity value="2"/>
    <participant typeCode="PRD">
        <participantRole classCode="MANU">
            <templateId root="2.16.840.1.113883.10.20.22.4.37"/>
            <!-- *** Product Instance template *** -->
            ...
        </participantRole>
    </participant>
</supply>

```

### 5.33 Plan of Care Activity Act

[act: templateId 2.16.840.1.113883.10.20.22.4.39 (open) ]

**Table 185: Plan of Care Activity Act Contexts**

Used By:	Contains Entries:
<a href="#">Assessment and Plan Section</a> <a href="#">Plan of Care Section</a>	

This is the generic template for the Plan of Care Activity.

**Table 186: Plan of Care Activity Act Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	act[templateId/@root = '2.16.840.1.113883.10.20.22.4.39']					
	@classCode	1..1	SHALL		<a href="#">8538</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ACT
	@moodCode	1..1	SHALL		<a href="#">8539</a>	2.16.840.1.113883.11.20.9.23 (Plan of Care moodCode (Act/Encounter/Procedure))
	templateId	1..1	SHALL	SET<II>	<a href="#">8544</a>	
	@root	1..1	SHALL		<a href="#">10510</a>	2.16.840.1.113883.10.20.22.4.39
	id	1..*	SHALL	II	<a href="#">8546</a>	

1. **SHALL** contain exactly one [1..1] @classCode="ACT" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8538).

2. **SHALL** contain exactly one [1..1] `@moodCode`, which **SHALL** be selected from ValueSet Plan of Care moodCode (Act/Encounter/Procedure) 2.16.840.1.113883.11.20.9.23 STATIC 2011-09-30 (CONF:8539).
3. **SHALL** contain exactly one [1..1] `templateId` (CONF:8544) such that it
  - a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.22.4.39"` (CONF:10510).
4. **SHALL** contain at least one [1..\*] `id` (CONF:8546).

**Table 187: Plan of Care moodcode (Act/Encounter/Procedure)**

Value Set: Plan of Care moodCode (Act/Encounter/Procedure) 2.16.840.1.113883.11.20.9.23 STATIC 2011-09-30		
Code System(s): HL7 ActMood 2.16.840.1.113883.5.1001		
Code	Code System	Print Name
INT	HL7 ActMood	Intent
ARQ	HL7 ActMood	Appointment Request
PRMS	HL7 ActMood	Promise
PRP	HL7 ActMood	Proposal
RQO	HL7 ActMood	Request

**Figure 184: Plan of care activity act example**

```
<act moodCode="RQO" classCode="ACT">
  <templateId root="2.16.840.1.113883.10.20.22.4.39"/>
  <!-- Plan of Care Activity Act -->
  <id root="9a6d1bac-17d3-4195-89a4-1121bc809a5c"/>
  <code code="310634005" codeSystem="2.16.840.1.113883.6.96"
    displayName="Colonoscopy"/>
  <statusCode code="new"/>
  <effectiveTime>
    <center value="20000421"/>
  </effectiveTime>
</act>
```

## 5.34 Plan of Care Activity Encounter

[encounter: templateId 2.16.840.1.113883.10.20.22.4.40 (open)]

**Table 188: Plan of Care Activity Encounter Contexts**

Used By:	Contains Entries:
<a href="#">Plan of Care Section</a>	

This is the template for the Plan of Care Activity Encounter.

**Table 189: Plan of Care Activity Encounter Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	encounter[templateId/@root = '2.16.840.1.113883.10.20.22.4.40']					
	@classCode	1..1	SHALL		<a href="#">8564</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ENC
	@moodCode	1..1	SHALL		<a href="#">8565</a>	2.16.840.1.113883.11.20.9.23 (Plan of Care moodCode (Act/Encounter/Procedure))
	templateId	1..1	SHALL	SET<II>	<a href="#">8566</a>	
	@root	1..1	SHALL		<a href="#">10511</a>	2.16.840.1.113883.10.20.22.4.40
	id	1..*	SHALL	II	<a href="#">8567</a>	

1. **SHALL** contain exactly one [1..1] `@classCode="ENC"` (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8564).
2. **SHALL** contain exactly one [1..1] `@moodCode`, which **SHALL** be selected from ValueSet [Plan of Care moodCode \(Act/Encounter/Procedure\)](#) 2.16.840.1.113883.11.20.9.23 STATIC 2011-09-30 (CONF:8565).
3. **SHALL** contain exactly one [1..1] `templateId` (CONF:8566) such that it
  - a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.22.4.40"` (CONF:10511).
4. **SHALL** contain at least one [1..\*] `id` (CONF:8567).

**Figure 185: Plan of care activity encounter example**

```
<encounter moodCode="INT" classCode="ENC">
  <templateId root="2.16.840.1.113883.10.20.22.4.40"/>
  <!-- **** Plan of Care Activity Encounter template **** -->
  <id root="9a6d1bac-17d3-4195-89a4-1121bc809b4d"/>
</encounter>
```

## 5.35 Plan of Care Activity Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.44 (open)]

**Table 190: Plan of Care Activity Observation Contexts**

Used By:	Contains Entries:
<a href="#">Plan of Care Section</a>	

This is the template for the Plan of Care Activity Observation.

**Table 191: Plan of Care Activity Observation Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.44']					
	@classCode	1..1	SHALL		<a href="#">8581</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
	@moodCode	1..1	SHALL		<a href="#">8582</a>	2.16.840.1.113883.11.20.9.25 (Plan of Care moodCode (Observation))
	templateId	1..1	SHALL	SET<II>	<a href="#">8583</a>	
	@root	1..1	SHALL		<a href="#">10512</a>	2.16.840.1.113883.10.20.22.4.44
	id	1..*	SHALL	II	<a href="#">8584</a>	

1. **SHALL** contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8581).
2. **SHALL** contain exactly one [1..1] @moodCode, which **SHALL** be selected from ValueSet Plan of Care moodCode (Observation) 2.16.840.1.113883.11.20.9.25 STATIC 2011-09-30 (CONF:8582).
3. **SHALL** contain exactly one [1..1] templateId (CONF:8583) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.44" (CONF:10512).
4. **SHALL** contain at least one [1..\*] id (CONF:8584).

**Table 192: Plan of Care moodCode (Observation) Value Set**

Value Set: Plan of Care moodCode (Observation) 2.16.840.1.113883.11.20.9.25 STATIC 2011-09-30		
Code System(s): HL7 ActMood 2.16.840.1.113883.5.1001		
Code	Code System	Print Name
INT	ActMood	Intent
GOL	ActMood	Goal
PRMS	ActMood	Promise
PRP	ActMood	Proposal
RQO	ActMood	Request

**Figure 186: Plan of care activity observation example**

```
<observation classCode="OBS" moodCode="RQO">
  <templateId root="2.16.840.1.113883.10.20.22.4.44"/>
  <!-- Plan of Care Activity Observation template -->
  <id root="9a6d1bac-17d3-4195-89a4-1121bc809b4a"/>
  <code code="23426006" codeSystem="2.16.840.1.113883.6.96"
    displayName="Pulmonary function test"/>
  <statusCode code="new"/>
  <effectiveTime>
    <center value="20000421"/>
  </effectiveTime>
</observation>
```

## 5.36 Plan of Care Activity Procedure

[procedure: templateId 2.16.840.1.113883.10.20.22.4.41 (open)]

**Table 193: Plan of Care Activity Procedure Contexts**

Used By:	Contains Entries:
<a href="#">Planned Procedure Section</a>	
<a href="#">Plan of Care Section</a>	

This is the template for the Plan of Care Activity Procedure.

**Table 194: Plan of Care Activity Procedure Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	procedure[templateId/@root = '2.16.840.1.113883.10.20.22.4.41']					
	@classCode	1..1	SHALL		<a href="#">8568</a>	2.16.840.1.113883.5.6 (HL7ActClass) = PROC
	@moodCode	1..1	SHALL		<a href="#">8569</a>	2.16.840.1.113883.11.20.9.23 (Plan of Care moodCode (Act/Encounter/Procedure))
	templateId	1..1	SHALL	SET<II>	<a href="#">8570</a>	
	@root	1..1	SHALL		<a href="#">10513</a>	2.16.840.1.113883.10.20.22.4.41
	id	1..*	SHALL	II	<a href="#">8571</a>	

1. **SHALL** contain exactly one [1..1] @**classCode**="PROC" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8568).
2. **SHALL** contain exactly one [1..1] @**moodCode**, which **SHALL** be selected from ValueSet [Plan of Care moodCode \(Act/Encounter/Procedure\)](#) 2.16.840.1.113883.11.20.9.23 STATIC 2011-09-30 (CONF:8569).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8570) such that it
  - a. **SHALL** contain exactly one [1..1] @**root**="2.16.840.1.113883.10.20.22.4.41" (CONF:10513).

4. **SHALL** contain at least one [1..\*] **id** (CONF:8571).

**Figure 187: Plan of care activity procedure example**

```
<procedure moodCode="RQO" classCode="PROC">
  <templateId root="2.16.840.1.113883.10.20.22.4.41"/>
  <!-- ** Plan of Care Activity Procedure template ** -->
  <id root="9a6d1bac-17d3-4195-89c4-1121bc809b5a"/>
  <code code="23426006" codeSystem="2.16.840.1.113883.6.96">
    displayName="Pulmonary function test"/>
  <statusCode code="new"/>
  <effectiveTime>
    <center value="20000421"/>
  </effectiveTime>
</procedure>
```

## 5.37 Plan of Care Activity Substance Administration

[substanceAdministration:templateId  
2.16.840.1.113883.10.20.22.4.42(open)]

**Table 195: Plan of Care Activity Substance Administration Contexts**

Used By:	Contains Entries:
<a href="#">Plan of Care Section</a>	

This is the template for the Plan of Care Activity Substance Administration

**Table 196: Plan of Care Activity Substance Administration Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	substanceAdministration[templateId/@root = '2.16.840.1.113883.10.20.22.4.42']					
	@classCode	1..1	SHALL		<a href="#">8572</a>	2.16.840.1.113883.5.6 (HL7ActClass) = SBADM
	@moodCode	1..1	SHALL		<a href="#">8573</a>	2.16.840.1.113883.11.20.9.24 (Plan of Care moodCode (SubstanceAdministration/Supply))
	templateId	1..1	SHALL	SET<II>	<a href="#">8574</a>	
	@root	1..1	SHALL		<a href="#">10514</a>	2.16.840.1.113883.10.20.22.4.42
	id	1..*	SHALL	II	<a href="#">8575</a>	

1. **SHALL** contain exactly one [1..1] **@classCode="SBADM"** (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8572).
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet Plan of Care moodCode (SubstanceAdministration/Supply) 2.16.840.1.113883.11.20.9.24 STATIC 2011-09-30 (CONF:8573).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8574) such that it

- a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.4.42"` (CONF:10514).
- 4. **SHALL** contain at least one [1..\*] **id** (CONF:8575).

**Table 197: Plan of Care moodCode (SubstanceAdministration/Supply) Value Set**

Value Set: Plan of Care moodCode (SubstanceAdministration/Supply) 2.16.840.1.113883.11.20.9.24 STATIC 2011-09-30		
Code System(s): HL7 ActMood 2.16.840.1.113883.5.1001		
Code	Code System	Print Name
INT	ActMood	Intent
PRMS	ActMood	Promise
PRP	ActMood	Proposal
RQO	ActMood	Request

**Figure 188: Plan of care activity substance administration example**

```
<substanceAdministration moodCode="RQO" classCode="SBADM">
  <templateId root="2.16.840.1.113883.10.20.22.4.42"/>
  <!-- ** Plan of Care Activity Substance Administration template **-->
  <id root="9a6d1bac-17d3-4195-89c4-1121bc809b5b"/>
  <consumable>
    <manufacturedProduct>
      <manufacturedLabeledDrug .../>
    </manufacturedProduct>
  </consumable>
</substanceAdministration>
```

## 5.38 Plan of Care Activity Supply

[supply: templateId 2.16.840.1.113883.10.20.22.4.43 (open) ]

**Table 198: Plan of Care Activity Supply Contexts**

Used By:	Contains Entries:
<a href="#">Plan of Care Section</a>	

This is the template for the Plan of Care Activity Supply.

**Table 199: Plan of Care Activity Supply Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	supply[templateId/@root = '2.16.840.1.113883.10.20.22.4.43']					
	@classCode	1..1	SHALL		<a href="#">8577</a>	2.16.840.1.113883.5.6 (HL7ActClass) = SPLY
	@moodCode	1..1	SHALL		<a href="#">8578</a>	2.16.840.1.113883.11.20.9.24 (Plan of Care moodCode (SubstanceAdministration/Supply))
	templateId	1..1	SHALL	SET<II>	<a href="#">8579</a>	
	@root	1..1	SHALL		<a href="#">10515</a>	2.16.840.1.113883.10.20.22.4.43
	id	1..*	SHALL	II	<a href="#">8580</a>	

1. **SHALL** contain exactly one [1..1] @classCode="SPLY" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8577).
2. **SHALL** contain exactly one [1..1] @moodCode, which **SHALL** be selected from ValueSet [Plan of Care moodCode \(SubstanceAdministration/Supply\)](#) 2.16.840.1.113883.11.20.9.24 STATIC 2011-09-30 (CONF:8578).
3. **SHALL** contain exactly one [1..1] templateId (CONF:8579) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.43" (CONF:10515).
4. **SHALL** contain at least one [1..\*] id (CONF:8580).

**Figure 189: Plan of care activity supply example**

```
<supply moodCode="INT" classCode="SPLY">
  <templateId root="2.16.840.1.113883.10.20.22.4.43"/>
  <!-- ** Plan of Care Activity Supply ** -->
  <id root="9a6d1bac-17d3-4195-89c4-1121bc809b5d"/>
  <code .../>
</supply>
```

## 5.39 Policy Activity

[act: templateId 2.16.840.1.113883.10.20.22.4.61 (open)]

**Table 200: Policy Activity Contexts**

Used By:	Contains Entries:
<a href="#">Coverage Activity</a>	

A policy activity represents the policy or program providing the coverage. The person for whom payment is being provided (i.e., the patient) is the covered party. The subscriber of the policy or program is represented as a participant that is the holder the coverage. The payer is represented as the performer of the policy activity.

**Table 201: Policy Activity Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	act[templateId/@root = '2.16.840.1.113883.10.20.22.4.61']					
	@classCode	1..1	SHALL		<a href="#">8898</a>	2.16.840.1.113883.5. 1001 (ActMood) = ACT
	@moodCode	1..1	SHALL		<a href="#">8899</a>	2.16.840.1.113883.5. 1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET< II>	<a href="#">8900</a>	
	@root	1..1	SHALL		<a href="#">10516</a>	2.16.840.1.113883.1 0.20.22.4.61
resultId	id	1..*	SHALL	II	<a href="#">8901</a>	
	statusCode	1..1	SHALL	CS	<a href="#">8902</a>	2.16.840.1.113883.5. 14 (ActStatus) = completed
	code	0..1	SHOULD	CD	<a href="#">8903</a>	
health Insurance Type	code	0..1	SHOULD	CE	<a href="#">8904</a>	2.16.840.1.113883.3. 88.12.3221.5.2 (Health Insurance Type Value Set)
	performer	1..1	SHALL		<a href="#">8906</a>	
	@typeCode	1..1	SHALL		<a href="#">8907</a>	2.16.840.1.113883.5. 90 (HL7ParticipationType) = PRF
payer	assignedEntity	1..1	SHALL		<a href="#">8908</a>	
healthPlan Insurance Information SourceId	id	1..*	SHALL	II	<a href="#">8909</a>	
	code	0..1	SHOULD	CE	<a href="#">8914</a>	
	code	1..1	SHALL	CE	<a href="#">8915</a>	2.16.840.1.113883.1. 11.10416 (HL7FinanciallyResponsiblePartyType)
healthPlan Insurance Information SourceAddress	addr	0..1	MAY	SET< AD>	<a href="#">8910</a>	
healthPlan Insurance Information SourcePhone EmailURL	telecom	0..1	MAY	SET< TEL>	<a href="#">8911</a>	

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	represented Organization	0..1	SHOULD		<a href="#">8912</a>	
healthPlan Insurance Information SourceName	name	0..1	SHOULD	PN	<a href="#">8913</a>	
guarantor Information	performer	0..1	SHOULD		<a href="#">8961</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = PRF
effectiveDate OfFinancial Responsibility	time	0..1	SHOULD	IVL< TS>	<a href="#">8963</a>	
	assignedEntity	1..1	SHALL		<a href="#">8962</a>	
	code	0..1	SHOULD	CE	<a href="#">8968</a>	
	code	0..1	SHOULD	CE	<a href="#">10566</a>	2.16.840.1.113883.5.111 (RoleCode) = GUAR
financial Responsibility PartyAddress	addr	0..1	SHOULD	SET< AD>	<a href="#">8964</a>	
financial Responsibility PartyPhone EmailURL	telecom	0..1	SHOULD	SET< TEL>	<a href="#">8965</a>	
	participant	1..1	SHALL		<a href="#">8916</a>	
member Information	@typeCode	1..1	SHALL		<a href="#">8917</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = COV
healthPlan CoverageDates	time	0..1	SHOULD	IVL< TS>	<a href="#">8918</a>	
	low	0..1	SHOULD	TS	<a href="#">8919</a>	
	high	0..1	SHOULD	TS	<a href="#">8920</a>	
patient	participantRole	1..1	SHALL		<a href="#">8921</a>	
memberId	id	1..*	SHALL	II	<a href="#">8922</a>	
	code	0..1	SHOULD	CE	<a href="#">8923</a>	
patient Relationship ToSubscriber	code	1..1	SHALL		<a href="#">8924</a>	2.16.840.1.113883.1.11.18877 (Coverage Role Type Value Set)
patientAddress	addr	0..1	SHOULD	SET< AD>	<a href="#">8956</a>	
	playingEntity	0..1	SHOULD		<a href="#">8932</a>	
patientName	name	1..1	SHALL	PN	<a href="#">8930</a>	
	participant	0..1	SHOULD		<a href="#">8934</a>	

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	@typeCode	1..1	SHALL		<a href="#">8935</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = HLD
	time	0..1	MAY	IVL< TS>	<a href="#">8938</a>	
subscriber Information	participantRole	1..1	SHALL		<a href="#">8936</a>	
subscriberId	id	1..*	SHALL	II	<a href="#">8937</a>	
subscriber Address	addr	0..1	SHOULD	SET< AD>	<a href="#">8925</a>	
healthPlan	entry Relationship	1..*	SHALL		<a href="#">8939</a>	
	@typeCode	1..1	SHALL		<a href="#">8940</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR

1. **SHALL** contain exactly one [1..1] **@classCode="ACT"** Act (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:8898).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:8899).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8900) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.61"** (CONF:10516).
4. **SHALL** contain at least one [1..\*] **id** (CONF:8901).
  - a. This id is a unique identifier for the policy or program providing the coverage (CONF:10119).
5. **SHALL** contain exactly one [1..1] **statusCode="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:8902).
6. **SHOULD** contain zero or one [0..1] **code** (CONF:8903).
  - a. The code, if present, **SHOULD** contain zero or one [0..1] **code**, which **SHOULD** be selected from ValueSet Health Insurance Type Value Set 2.16.840.1.113883.3.88.12.3221.5.2 **DYNAMIC** (CONF:8904).
7. **SHALL** contain exactly one [1..1] **performer** (CONF:8906) such that it
  - a. This performer represents the Payer (CONF:9078).
  - b. **SHALL** contain exactly one [1..1] **@typeCode="PRF"** Performer (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:8907).
  - c. **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:8908).
    - i. This assignedEntity **SHALL** contain at least one [1..\*] **id** (CONF:8909).
    - ii. This assignedEntity **SHOULD** contain zero or one [0..1] **code** (CONF:8914).

1. The code, if present, **SHALL** contain exactly one [1..1] **code**, where the @code **SHALL** be selected from ValueSet HL7FinanciallyResponsiblePartyType 2.16.840.1.113883.1.11.10416 **DYNAMIC** (CONF:8915).
    - iii. This assignedEntity **MAY** contain zero or one [0..1] **addr** (CONF:8910).
      1. The content of addr **SHALL** be a conformant [US Realm Address \(AD.US.FIELDDED\)](#) (2.16.840.1.113883.10.20.22.5.2) (CONF:10481).
  - iv. This assignedEntity **MAY** contain zero or one [0..1] **telecom** (CONF:8911).
  - v. This assignedEntity **SHOULD** contain zero or one [0..1] **representedOrganization** (CONF:8912).
    1. The representedOrganization, if present, **SHOULD** contain zero or one [0..1] **name** (CONF:8913).
8. **SHOULD** contain zero or one [0..1] **performer**="PRF" Performer (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:8961) such that it
- a. This performer represents the Guarantor (CONF:9079).
  - b. **SHOULD** contain zero or one [0..1] **time** (CONF:8963).
  - c. **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:8962).
    - i. This assignedEntity **SHOULD** contain zero or one [0..1] **code** (CONF:8968).
      1. The code, if present, **SHOULD** contain zero or one [0..1] **code**="GUAR" guarantor (CodeSystem: RoleCode 2.16.840.1.113883.5.111) (CONF:10566).
    - ii. This assignedEntity **SHOULD** contain zero or one [0..1] **addr** (CONF:8964).
      1. The content of addr **SHALL** be a conformant [US Realm Address \(AD.US.FIELDDED\)](#) (2.16.840.1.113883.10.20.22.5.2) (CONF:10482).
    - iii. This assignedEntity **SHOULD** contain zero or one [0..1] **telecom** (CONF:8965).
    - iv. **SHOULD** include assignedEntity/assignedPerson/name AND/OR assignedEntity/representedOrganization/name (CONF:8967).
9. **SHALL** contain exactly one [1..1] **participant** (CONF:8916) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="COV" Coverage target (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:8917).
  - b. **SHOULD** contain zero or one [0..1] **time** (CONF:8918).
    - i. The time, if present, **SHOULD** contain zero or one [0..1] **low** (CONF:8919).
    - ii. The time, if present, **SHOULD** contain zero or one [0..1] **high** (CONF:8920).
  - c. **SHALL** contain exactly one [1..1] **participantRole** (CONF:8921).
    - i. This participantRole **SHALL** contain at least one [1..\*] **id** (CONF:8922).

1. This id is a unique identifier for the covered party member. Implementers **SHOULD** use the same GUID for each instance of a member identifier from the same health plan (CONF:8984).
  - ii. This participantRole **SHOULD** contain zero or one [0..1] **code** (CONF:8923).
    1. The code, if present, **SHALL** contain exactly one [1..1] **code**, where the @code **SHOULD** be selected from ValueSet Coverage Role Type Value Set 2.16.840.1.113883.1.11.18877 **DYNAMIC** (CONF:8924).
  - iii. This participantRole **SHOULD** contain zero or one [0..1] **addr** (CONF:8956).
    1. The content of addr **SHALL** be a conformant [US Realm Address \(AD.US.FIELDDED\)](#) (2.16.840.1.113883.10.20.22.5.2) (CONF:10484).
  - iv. This participantRole **SHOULD** contain zero or one [0..1] **playingEntity** (CONF:8932).
    1. The playingEntity, if present, **SHALL** contain exactly one [1..1] **name** (CONF:8930).
      - a. If the member name as recorded by the health plan differs from the patient name as recorded in the registration/medication summary (e.g., due to marriage or for other reasons), then the member name **SHALL** be recorded in the name element (CONF:8931).
    2. If the member date of birth as recorded by the health plan differs from the patient date of birth as recorded in the registration/medication summary, then the member date of birth **SHALL** be recorded in sdwg:birthTime. The prefix [sdtc:](#) **SHALL** be bound to the namespace “urn:hl7-org:sdtc”. The use of the namespace provides a necessary extension to CDA R2 for the use of the birthTime element (CONF:8933).
10. **SHOULD** contain zero or one [0..1] **participant** (CONF:8934) such that it
- a. When the Subscriber is the patient, the participant element describing the subscriber **SHALL NOT** be present. This information will be recorded instead in the data elements used to record member information (CONF:8953).
  - b. **SHALL** contain exactly one [1..1] @typeCode="HLD" Holder (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:8935).
  - c. **MAY** contain zero or one [0..1] **time** (CONF:8938).
  - d. **SHALL** contain exactly one [1..1] **participantRole** (CONF:8936).
    - i. This participantRole **SHALL** contain at least one [1..\*] **id** (CONF:8937).
      1. This id is a unique identifier for the subscriber of the coverage (CONF:10120).
    - ii. This participantRole **SHOULD** contain zero or one [0..1] **addr** (CONF:8925).
      1. The content of addr **SHALL** be a conformant [US Realm Address \(AD.US.FIELDDED\)](#) (2.16.840.1.113883.10.20.22.5.2) (CONF:10483).

11. **SHALL** contain at least one [1..\*] **entryRelationship** (CONF:8939) such that it
- SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8940).
  - The target of a policy activity with act/entryRelationship/@typeCode="REFR" **SHALL** be an authorization activity (templateId 2.16.840.1.113883.10.20.1.19) OR an act, with act[@classCode="ACT"] and act[@moodCode="DEF"], representing a description of the coverage plan (CONF:8942).
  - A description of the coverage plan **SHALL** contain one or more act/id, to represent the plan identifier, and an act/text with the name of the plan (CONF:8943).

**Table 202: Health Insurance Type Value Set (excerpt)**

Value Set: Health Insurance Type Value Set 2.16.840.1.113883.3.88.12.3221.5.2 DYNAMIC		
Code System(s): ASC X12 2.16.840.1.113883.6.255.1336		
The full value set is available in HITSP C80 (see HITSP.org).		
Code	Code System	Print Name
12	ASC X12	Medicare Secondary Working Aged Beneficiary or Spouse with Employer Group Health Plan
13	ASC X12	Medicare Secondary End-Stage Renal Disease Beneficiary in the 12 month coordination period with an employer's group health plan
14	ASC X12	Medicare Secondary, No-fault Insurance including Auto is Primary
...		

**Table 203: Coverage Type Value Set**

Value Set: Coverage Role Type Value Set 2.16.840.1.113883.1.11.18877 DYNAMIC		
Code System(s): RoleCode 2.16.840.1.113883.5.111		
Code	Code System	Print Name
FAMDEP	RoleCode	Family dependent
FSTUD	RoleCode	Full-time student
HANDIC	RoleCode	Handicapped dependent
INJ	RoleCode	Injured plaintiff
PSTUD	RoleCode	Part-time student
SELF	RoleCode	Self
SPON	RoleCode	Sponsored dependent
STUD	RoleCode	Student

**Table 204: Financially Responsible Party Value Set**

Value Set: FinanciallyResponsiblePartyType 2.16.840.1.113883.1.11.10416 DYNAMIC		
Code System(s):	RoleCode 2.16.840.1.113883.5.111 <a href="http://www.hl7.org/memonly/downloads/v3edition.cfm#V32008">http://www.hl7.org/memonly/downloads/v3edition.cfm#V32008</a>	
Code	Code System	Print Name
EMP	RoleCode	employee
GUAR	RoleCode	guarantor
INVSBJ	RoleCode	Investigation Subject
COVPTY	RoleCode	Covered party
...		

**Figure 190: Policy activity example**

```
<act classCode="ACT" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.61"/>
  <!-- ***** Policy Activity template ***** -->
  <id root="3e676a50-7aac-11db-9fe1-0800200c9a66"/>
  <code code="SELF" codeSystemName="HL7RoleClass"
        codeSystem="2.16.840.1.113883.5.110">
  </code>
  <statusCode code="completed"/>
  <!-- Insurance Company Information -->
  <performer typeCode="PRF">
    <time/>
    <assignedEntity>
      <id root="2.16.840.1.113883.19"/>
      <code code="PAYOR" codeSystem="2.16.840.1.113883.5.111"
            codeSystemName="RoleCode"/>
      <addr use="WP">
        <!-- HP is "primary home" from codeSystem
            2.16.840.1.113883.5.1119 -->
        <streetAddressLine>123 Insurance Road</streetAddressLine>
        <city>Blue Bell</city>
        <state>MA</state>
        <postalCode>02368</postalCode>
        <country>US</country>
        <!--US is "United States" from ISO 3166-1 Country Codes: 1.0.3166.1-->
      </addr>
      <telecom value="tel:(781)555-1515" use="WP"/>
      <representedOrganization>
        <name>Good Health Insurance</name>
        <telecom/>
        <addr/>
      </representedOrganization>
    </assignedEntity>
```

```

    </performer>
    <!-- Guarantor Information The person responsible for the final bill. -->
<performer typeCode="PRF">
    <time/>
    <assignedEntity>
        <id root="329fcdf0-7ab3-11db-9fe1-0800200c9a66"/>
        <code code="GUAR" codeSystem="2.16.840.1.113883.5.110"
              codeSystemName="HL7RoleClass"/>
        <addr use="HP">
            <streetAddressLine>17 Daws Rd.</streetAddressLine>
            <city>Blue Bell</city>
            <state>MA</state>
            <postalCode>02368</postalCode>
            <country>US</country>
        </addr>
        <telecom value="tel:(781) 555-1212" use="HP"/>
        <assignedPerson>
            <name>
                <prefix>Mr.</prefix>
                <given>Adam</given>
                <given>Frankie</given>
                <family>Everyman</family>
            </name>
        </assignedPerson>
    </assignedEntity>
</performer>
<participant typeCode="COV">
    <time>
        <low nullFlavor="UNK"/>
        <high nullFlavor="UNK"/>
    </time>
    <participantRole classCode="PAT">
        <id root="14d4a520-7aae-11db-9fe1-0800200c9a66"
                       extension="1138345"/>
        <!-- Health plan ID for patient. -->
        <code code="SELF" codeSystem="2.16.840.1.113883.5.111"
              displayName="Self"/>
        <addr use="HP">
            <streetAddressLine>17 Daws Rd.</streetAddressLine>
            <city>Blue Bell</city>
            <state>MA</state>
            <postalCode>02368</postalCode>
            <country>US</country>
        </addr>
        <playingEntity>
            <name>
                <!-- Name is needed if different than health plan name. -->
                <prefix>Mr.</prefix>
                <given>Frank</given>
                <given>A.</given>
                <family>Everyman</family>
            </name>
        </playingEntity>
    </participantRole>
</participant>

```

```

<participant typeCode="HLD">
  <participantRole>
    <id extension="1138345" root="2.16.840.1.113883.19"/>
    <addr use="HP">
      <streetAddressLine>17 Daws Rd.</streetAddressLine>
      <city>Blue Bell</city>
      <state>MA</state>
      <postalCode>02368</postalCode>
      <country>US</country>
    </addr>
  </participantRole>
</participant>
<entryRelationship typeCode="REFR">
  <act classCode="ACT" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.1.19"/>
    <!-- **** Authorization activity template **** -->
    ...
  </act>
</entryRelationship>
...
</entryRelationship>
</act>

```

## 5.40 Postprocedure Diagnosis

[act: templateId 2.16.840.1.113883.10.20.22.4.51 (open) ]

**Table 205: Postprocedure Diagnosis Contexts**

Used By:	Contains Entries:
<a href="#">Postprocedure Diagnosis Section</a>	<a href="#">Problem Observation</a>

The Postprocedure Diagnosis entry encodes the diagnosis or diagnoses discovered or confirmed during the procedure. Often it is the same as the pre-procedure diagnosis or indication.

**Table 206: Postprocedure Diagnosis Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	act[templateId/@root = '2.16.840.1.113883.10.20.22.4.51']					
	@classCode	1..1	SHALL		<a href="#">8756</a>	ACT
	@moodCode	1..1	SHALL		<a href="#">8757</a>	EVN
	code	1..1	SHALL	CD	<a href="#">8758</a>	2.16.840.1.113883.6.1 (LOINC) = 59769-0
	entryRelationship	1..*	SHALL		<a href="#">8759</a>	
	@typeCode	1..1	SHALL		<a href="#">8760</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ

1. **SHALL** contain exactly one [1..1] @classCode="ACT" (CONF:8756).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CONF:8757).
3. **SHALL** contain exactly one [1..1] code="59769-0" Postprocedure Diagnosis (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8758).
4. **SHALL** contain at least one [1..\*] entryRelationship (CONF:8759).
  - a. Such entryRelationships **SHALL** contain exactly one [1..1] @typeCode="SUBJ" Has subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8760).
  - b. Such entryRelationships **SHALL** contain exactly one [1..1] [Problem Observation](#) (2.16.840.1.113883.10.20.22.4.4) (CONF:8767).

**Figure 191: Postprocedure diagnosis example**

```
<act moodCode="EVN" classCode="ACT">
  <templateId root="2.16.840.1.113883.10.20.22.4.51"/>
  <!-- ** Postprocedure Diagnosis Entry ** -->
  <code code="59769-0" codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="Postprocedure Diagnosis"/>
  <entryRelationship typeCode="SUBJ">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
      <!-- Problem Observation template -->
      ...
    </observation>
  </entryRelationship>
</act>
```

## 5.41 Precondition for Substance Administration

[precondition: templateId 2.16.840.1.113883.10.20.22.4.25 (open)]

**Table 207: Precondition for Substance Administration Contexts**

Used By:	Contains Entries:
<u><a href="#">Medication Activity</a></u>	
<u><a href="#">Immunization Activity</a></u>	

A criterion for administration can be used to record that the medication is to be administered only when the associated criteria are met.

**Table 208: Precondition for Substance Administration Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
criterion[templateId/@root = '2.16.840.1.113883.10.20.22.4.25']						
	templateId	1..1	SHALL	SET<II>	<a href="#">7372</a>	
	@root	1..1	SHALL		<a href="#">10517</a>	2.16.840.1.113883.10.20.22.4.25
	code	0..1	SHOULD	CD	<a href="#">7367</a>	
	text	0..1	MAY	ED	<a href="#">7373</a>	
	value	0..1	SHOULD	CD	<a href="#">7369</a>	

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7372) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.25"** (CONF:10517).
2. **SHOULD** contain zero or one [0..1] **code** (CONF:7367).
3. **MAY** contain zero or one [0..1] **text** (CONF:7373).
4. **SHOULD** contain zero or one [0..1] **value** with @xsi:type="CD" (CONF:7369).

**Figure 192: Precondition for substance administration example**

```
<precondition typeCode="PRCN">
  <templateId root="2.16.840.1.113883.10.20.22.4.25"/>
  <criterion>
    <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>
    <text>...</text>
    <value xsi:type="CD" code="56018004"
      codeSystem="2.16.840.1.113883.6.96"
      displayName="Wheezing"/>
  </criterion>
</precondition>
```

## 5.42 Pregnancy Observation

[observation: templateId 2.16.840.1.113883.10.20.15.3.8 (open)]

**Table 209: Pregnancy Observation Contexts**

Used By:	Contains Entries:
<a href="#">Social History Section</a>	<a href="#">Estimated Date of Delivery</a>

This clinical statement represents current and/or prior pregnancy dates enabling investigators to determine if the subject of the case report was pregnant during the course of a condition.

**Table 210: Pregnancy Observation Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	observation[templateId/@root = '2.16.840.1.113883.10.20.15.3.8']					
	@classCode	1..1	SHALL		<a href="#">451</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
	@moodCode	1..1	SHALL		<a href="#">452</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	code	1..1	SHALL	CD	<a href="#">454</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
	statusCode	1..1	SHALL	CS	<a href="#">455</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
	effectiveTime	0..1	SHOULD	TS or IVL<TS>	<a href="#">2018</a>	
pregnancy	value	1..1	SHALL	CD	<a href="#">457</a>	2.16.840.1.113883.6.96 (SNOMEDCT) = 77386006
	entryRelationship	0..1	MAY		<a href="#">458</a>	
	@typeCode	1..1	SHALL		<a href="#">459</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:451).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:452).
3. **SHALL** contain exactly one [1..1] **code="ASSERTION"** Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4) (CONF:454).
4. **SHALL** contain exactly one [1..1] **statusCode="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:455).
5. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:2018).
6. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD"="77386006" Pregnant (CodeSystem: SNOMEDCT 2.16.840.1.113883.6.96) (CONF:457).
7. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:458) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers to (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:459).
  - b. **SHALL** contain exactly one [1..1] **Estimated Date of Delivery** (2.16.840.1.113883.10.20.15.3.1) (CONF:460).

**Figure 193: Pregnancy observation example**

```

<observation classCode="OBS" moodCode="EVN">
    <!-- Pregnancy observation template -->
    <templateId root="2.16.840.1.113883.10.20.15.3.8"/>
    <id extension="123456789" root="2.16.840.1.113883.19"/>
    <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>
    <statusCode code="completed"/>
    <effectiveTime>
        <low value="20110410"/>
    </effectiveTime>
    <value xsi:type="CD" code="77386006"
        displayName="pregnant"
        codeSystem="2.16.840.1.113883.6.96"/>
    <entryRelationship typeCode="REFR">
        <!-- Estimated Date of Delivery template -->
        <templateId root="2.16.840.1.113883.10.20.15.3.1"/>
        ...
    </entryRelationship>
</observation>

```

## 5.43 Preoperative Diagnosis

[act: templateId 2.16.840.1.113883.10.20.22.4.65 (open) ]

**Table 211: Preoperative Diagnosis Contexts**

Used By:	Contains Entries:
<a href="#">Preoperative Diagnosis Section</a>	<a href="#">Problem Observation</a>

The Preoperative Diagnosis entry encodes the surgical diagnosis or diagnoses assigned to the patient before the surgical procedure and is the reason for the surgery. The preoperative diagnosis is, in the opinion of the surgeon, the diagnosis that will be confirmed during surgery.

**Table 212: Preoperative Diagnosis Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
act[templateId/@root = '2.16.840.1.113883.10.20.22.4.65']						
	@classCode	1..1	SHALL		<a href="#">10090</a>	ACT
	@moodCode	1..1	SHALL		<a href="#">10091</a>	EVN
	code	1..1	SHALL	CD	<a href="#">10092</a>	2.16.840.1.113883.6.1 (LOINC) = 10219-4
	entryRelationship	1..*	SHALL		<a href="#">10093</a>	
	@typeCode	1..1	SHALL		<a href="#">10094</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ

1. **SHALL** contain exactly one [1..1] @classCode="ACT" (CONF:10090).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CONF:10091).
3. **SHALL** contain exactly one [1..1] code="10219-4" Preoperative Diagnosis (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:10092).
4. **SHALL** contain at least one [1..\*] entryRelationship (CONF:10093).
  - a. Such entryRelationships **SHALL** contain exactly one [1..1] @typeCode="SUBJ" Has subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:10094).
    - i. This @typeCode **SHALL** contain exactly one [1..1] [Problem Observation](#) (2.16.840.1.113883.10.20.22.4.4) (CONF:10095).

**Figure 194: Preoperative diagnosis example**

```
<act moodCode="EVN" classCode="ACT">
  <templateId root="2.16.840.1.113883.10.20.22.4.65"/>
  <!-- ** Preoperative Diagnosis Entry -->
  <code code="10219-4" codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="Preoperative Diagnosis"/>
  <entryRelationship typeCode="SUBJ">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
      <!-- Problem Observation template -->
      ...
    </observation>
  </entryRelationship>
</act>
```

## 5.44 Problem Concern Act (Condition)

[act: templateId 2.16.840.1.113883.10.20.22.4.3 (open)]

**Table 213: Problem Concern Act (Condition) Contexts**

Used By:	Contains Entries:
<a href="#">Problem Section (entries optional)</a>	<a href="#">Problem Observation</a>
<a href="#">Problem Section (entries required)</a>	

Observations of problems or other clinical statements captured at a point in time are wrapped in a "Concern" act, which represents the ongoing process tracked over time. This allows for binding related observations of problems. For example, the observation of "Acute MI" in 2004 can be related to the observation of "History of MI" in 2006 because they are the same concern. The conformance statements in this section define an outer "problem act" (representing the "Concern") that can contain a nested "problem observation" or other nested clinical statements.

**Table 214: Problem Concern Act (Condition) Constraints Overview**

Name	XPath	Card .	Verb	Data Type	CONF #	Fixed Value
	act[templateId/@root = '2.16.840.1.113883.10.20.22.4.3']					
	@classCode	1..1	SHALL		<a href="#">9024</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ACT
	@moodCode	1..1	SHALL		<a href="#">9025</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	id	1..*	SHALL	II	<a href="#">9026</a>	
	code	1..1	SHALL	CD	<a href="#">9027</a>	
	@code	1..1	SHALL		<a href="#">9440</a>	2.16.840.1.113883.5.6 (HL7ActClass) = CONC
	statusCode	1..1	SHALL	CS	<a href="#">9029</a>	2.16.840.1.113883.11.20.9.19 (ProblemAct statusCode)
	effectiveTime	1..1	SHALL	TS or IVL<TS >	<a href="#">9030</a>	
	low	1..1	SHALL	TS	<a href="#">9032</a>	
	high	0..1	SHOULD	TS	<a href="#">9033</a>	
	entryRelationship	1..*	SHALL		<a href="#">9034</a>	
	@typeCode	1..1	SHALL		<a href="#">9035</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ

1. **SHALL** contain exactly one [1..1] **@classCode="ACT"** Act (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:9024).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:9025).
3. **SHALL** contain at least one [1..\*] **id** (CONF:9026).
4. **SHALL** contain exactly one [1..1] **code** (CONF:9027).
  - a. This code **SHALL** contain exactly one [1..1] **@code="CONC"** Concern (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:9440).
5. **SHALL** contain exactly one [1..1] **statusCode**, where the **@code** **SHALL** be selected from ValueSet ProblemAct statusCode 2.16.840.1.113883.11.20.9.19 **STATIC** 2011-09-09 (CONF:9029).
6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:9030).
  - a. The effectiveTime element records the starting and ending times during which the concern was active on the Problem List (CONF:9031).
  - b. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:9032).
  - c. This effectiveTime **SHOULD** contain zero or one [0..1] **high** (CONF:9033).
7. **SHALL** contain at least one [1..\*] **entryRelationship** (CONF:9034) such that it

- a. **SHALL** contain exactly one [1..1] @**typeCode**="SUBJ" Has subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:9035).
- b. **SHALL** contain exactly one [1..1] **Problem Observation** (2.16.840.1.113883.10.20.22.4.4) (CONF:9036).

**Table 215: ProblemAct statusCode Value Set**

Value Set: ProblemAct statusCode 2.16.840.1.113883.11.20.9.19 STATIC 2011-09-09		
Code System(s):		ActStatus 2.16.840.1.113883.5.14
Description:		This value set indicates the status of the problem concern act
Code	Code System	Print Name
active	ActStatus	active
suspended	ActStatus	suspended
aborted	ActStatus	aborted
completed	ActStatus	completed

**Figure 195: Problem concern act (condition) example**

```

<entry typeCode="DRIV">
  <act classCode="ACT" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.3"/>
    <id root="36e3e930-7b14-11db-9fe1-0800200c9a66"/>
    <code code="CONC" codeSystem="2.16.840.1.113883.5.6"/>
    <statusCode code="active" codeSystem="2.16.840.1.113883.5.14"/>
    <effectiveTime>
      <low value="20090902"/>
    </effectiveTime>
    <entryRelationship typeCode="SUBJ">
      <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
        <!-- Problem Observation template-->
        ...
      </observation>
    </act>
  </entry>

```

## 5.45 Problem Observation

[Observation: templateId 2.16.840.1.113883.10.20.22.4.4 (open) ]

**Table 216: Problem Observation Contexts**

Used By:	Contains Entries:
<a href="#">Hospital Discharge Diagnosis</a> <a href="#">Hospital Admission Diagnosis</a> <a href="#">Procedure Findings Section</a> <a href="#">Postprocedure Diagnosis</a> <a href="#">History of Past Illness Section</a> <a href="#">Complications Section</a> <a href="#">Problem Concern Act (Condition)</a> <a href="#">Functional Status Section</a> <a href="#">Preoperative Diagnosis</a>	<a href="#">Age Observation</a> <a href="#">Health Status Observation</a> <a href="#">Problem Status</a>

A problem is a clinical statement that a clinician has noted. In health care it is a condition that requires monitoring or diagnostic, therapeutic, or educational action. It also refers to any unmet or partially met basic human need.

A Problem Observation is required to be wrapped in an act wrapper in locations such as the Problem Section, Allergies Section, and Hospital Discharge Diagnosis Section, where the type of problem needs to be identified or the condition tracked. A Problem Observation can be a valid "standalone" template instance in cases where a simple problem observation is to be sent.

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). NegationInd='true' is an acceptable way to make a clinical assertion that something did not occur, for example, "no diabetes".

**Table 217: Problem Observation Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.4']						
	@classCode	1..1	SHALL		<a href="#">9041</a>	
	@moodCode	1..1	SHALL		<a href="#">9042</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	@negationInd	0..1	MAY		<a href="#">10139</a>	
	id	1..*	SHALL	II	<a href="#">9043</a>	
problem Type	code	1..1	SHALL	CD	<a href="#">9045</a>	2.16.840.1.113883.3.88.1 2.3221.7.2 (Problem Type)
problem Name	text	0..1	SHOULD	ED	<a href="#">9185</a>	
	reference /@value	0..1	SHOULD		<a href="#">9187</a>	

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	statusCode	1..1	SHALL	CS	<a href="#">9049</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
problem Date	effectiveTime	0..1	SHOULD	TS or IVL< TS>	<a href="#">9050</a>	
problemCode	value	1..1	SHALL	CD	<a href="#">9058</a>	2.16.840.1.113883.3.88.1 2.3221.7.4 (Problem)
	@nullFlavor	0..1	MAY		<a href="#">10141</a>	
ageAtOnset	entryRelationship	0..1	MAY		<a href="#">9059</a>	
	@typeCode	1..1	SHALL		<a href="#">9060</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
	@inversionInd	1..1	SHALL		<a href="#">9069</a>	true
problem Status	entryRelationship	0..1	MAY		<a href="#">9063</a>	
	@typeCode	1..1	SHALL		<a href="#">9068</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
	entryRelationship	0..1	MAY		<a href="#">9067</a>	
	@typeCode	1..1	SHALL		<a href="#">9064</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR

1. **SHALL** contain exactly one [1..1] @classCode (CONF:9041).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:9042).
3. **MAY** contain zero or one [0..1] @negationInd (CONF:10139).
  - a. negationInd="true" **SHALL** be used to represent that the problem was not observed (CONF:10140).
4. **SHALL** contain at least one [1..\*] id (CONF:9043).
5. **SHALL** contain exactly one [1..1] code, where the @code **SHOULD** be selected from ValueSet Problem Type 2.16.840.1.113883.3.88.12.3221.7.2 STATIC 2008-12-18 (CONF:9045).
6. **SHOULD** contain zero or one [0..1] text (CONF:9185).
  - a. The text, if present, **SHOULD** contain zero or one [0..1] reference/@value (CONF:9187).
    - i. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:9188).
7. **SHALL** contain exactly one [1..1] statusCode="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:9049).
8. **SHOULD** contain zero or one [0..1] effectiveTime (CONF:9050).

- a. The onset date **SHALL** be recorded in the low element of the effectiveTime element when known (CONF:9051).
  - b. The resolution date **SHALL** be recorded in the high element of the effectiveTime element when known (CONF:9052).
  - c. If the problem is known to be resolved, but the date of resolution is not known, then the high element **SHALL** be present, and the nullFlavor attribute **SHALL** be set to 'UNK'. Therefore, the existence of an high element within a problem does indicate that the problem has been resolved (CONF:9053).
9. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the @code **SHOULD** be selected from ValueSet Problem 2.16.840.1.113883.3.88.12.3221.7.4 **DYNAMIC** (CONF:9058).
- a. This value **MAY** contain zero or one [0..1] @nullFlavor (CONF:10141).
    - i. If the diagnosis is unkown or the SNOMED code is unknown, @nullFlavor **SHOULD** be "UNK". If the code is something other than SNOMED, @nullFlavor **SHOULD** be "OTH" and the other code **SHOULD** be placed in the translation element (CONF:10142).
10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:9059) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="SUBJ" Has subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:9060).
  - b. **SHALL** contain exactly one [1..1] @inversionInd="true" True (CONF:9069).
  - c. **SHALL** contain exactly one [1..1] [Age Observation](#) (2.16.840.1.113883.10.20.22.4.31) (CONF:9066).
11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:9063) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:9068).
  - b. **SHALL** contain exactly one [1..1] [Problem Status](#) (2.16.840.1.113883.10.20.22.4.6) (CONF:9062).
12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:9067) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:9064).
  - b. **SHALL** contain exactly one [1..1] [Health Status Observation](#) (2.16.840.1.113883.10.20.22.4.5) (CONF:9070).

**Table 218: Problem Type Value Set**

Value Set: Problem Type 2.16.840.1.113883.3.88.12.3221.7.2 STATIC 2008-12-18		
Code System(s):	SNOMED CT 2.16.840.1.113883.6.96	
Description:	This value set indicates the level of medical judgment used to determine the existence of a problem.	
Code	Code System	Print Name
404684003	SNOMED CT	Finding
409586006	SNOMED CT	Complaint
282291009	SNOMED CT	Diagnosis
64572001	SNOMED CT	Condition
248536006	SNOMED CT	Functional limitation
418799008	SNOMED CT	Symptom
55607006	SNOMED CT	Problem

**Table 219: Problem Value Set (excerpt)**

Value Set: Problem 2.16.840.1.113883.3.88.12.3221.7.4 DYNAMIC		
Code System(s):	SNOMED CT 2.16.840.1.113883.6.96	
Description:	Problems and diagnoses. Limited to terms descending from the Clinical Findings (404684003) or Situation with Explicit Context (243796009) hierarchies. <a href="http://phinvads.cdc.gov/vads/ViewValueSet.action?id=70FDBFB5-A277-DE11-9B52-0015173D1785">http://phinvads.cdc.gov/vads/ViewValueSet.action?id=70FDBFB5-A277-DE11-9B52-0015173D1785</a>	
Code	Code System	Print Name
46635009	SNOMED CT	Diabetes mellitus type 1
234422006	SNOMED CT	Acute porphyria
31712002	SNOMED CT	Primary biliary chrrhosis
...		

**Figure 196: Problem observation example**

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
  <!-- Problem Observation template -->
  <id root="d11275e7-67ae-11db-bd13-0800200c9a66"/>
  <code code="409586006"
    codeSystem="2.16.840.1.113883.6.96"
    displayName="Complaint"/>
  <text>
    ...
  </text>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="1950"/>
  </effectiveTime>
  <value xsi:type="CD" code="195967001"
    codeSystem="2.16.840.1.113883.6.96" displayName="Asthma"/>
  <entryRelationship typeCode="SUBJ" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.31"/>
      <!-- Age observation template -->
      ...
    </observation>
  </entryRelationship>

  <entryRelationship typeCode="REFR" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.5"/>
      <!-- Health status observation template -->
      ...
    </observation>
  </entryRelationship>
</observation>
```

**Figure 197: Problem observation with specific problem not observed**

```
<observation classCode="OBS" moodCode="EVN" nullFlavor="NI">
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" />
  <text> No known problems</text>
  <statusCode code="completed" />
  <value xsi:type="CD" code="195967001"
    codeSystem="2.16.840.1.113883.6.96"
    displayName="Asthma" />
</observation>
```

**Figure 198: Problem observation for no known problems**

```
<observation classCode="OBS" moodCode="EVN" negationInd="true">
    <!-- Problem Observation template -->
    <templateId root="2.16.840.1.113883.10.20.22.4.4" />
    <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" />
    <statusCode code="completed" />
    <value xsi:type="CD" code="55607006"
        codeSystem="2.16.840.1.113883.6.96"
        displayName="Problem" />
</observation>
```

**Figure 199: NullFlavor example**

```
<value nullFlavor="OTH">
    <translation code="1234"
        displayName="Example"
        codeSystem="2.16.840.1.113883.19.5"
        codeSystemName="Non-SNOMED"/>
</value>
```

## 5.46 Problem Status

[observation: templateId 2.16.840.1.113883.10.20.22.4.6(open)]

**Table 220: Problem Status Contexts**

Used By:	Contains Entries:
<a href="#">Problem Observation</a>	

The Problem Status records whether the indicated problem is active, inactive, or resolved.

**Table 221: Problem Status Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.6']					
	@classCode	1..1	SHALL		<a href="#">7357</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
	@moodCode	1..1	SHALL		<a href="#">7358</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET<II>	<a href="#">7359</a>	
	@root	1..1	SHALL		<a href="#">10518</a>	2.16.840.1.113883.10.20.22.4.6
	code	1..1	SHALL	CD	<a href="#">7361</a>	2.16.840.1.113883.6.1 (LOINC) = 33999-4
	text	0..1	SHOULD	ED	<a href="#">7362</a>	
	reference/@value	0..1	SHOULD		<a href="#">7363</a>	
	statusCode	1..1	SHALL	CS	<a href="#">7364</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
	value	1..1	SHALL	CD	<a href="#">7365</a>	2.16.840.1.113883.3.88.12.80.68 (HITSPProblemStatus)

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7357).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7358).
3. **SHALL** contain exactly one [1..1] templateId (CONF:7359) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.6" (CONF:10518).
4. **SHALL** contain exactly one [1..1] code="33999-4" Status (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7361).
5. **SHOULD** contain zero or one [0..1] text (CONF:7362).
  - a. The text, if present, **SHOULD** contain zero or one [0..1] reference/@value (CONF:7363).
    - i. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:7375).
6. **SHALL** contain exactly one [1..1] statusCode="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:7364).
7. **SHALL** contain exactly one [1..1] value with @xsi:type="CD", where the @code **SHALL** be selected from ValueSet [HITSPProblemStatus 2.16.840.1.113883.3.88.12.80.68 DYNAMIC](#) (CONF:7365).

**Figure 200: Problem status example**

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Status observation template -->
  <templateId root="2.16.840.1.113883.10.20.22.4.6"/>
  <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC" displayName="Status"/>
  <statusCode code="completed"/>
  <value xsi:type="CD" code="55561003"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT" displayName="Active"/>
</observation>
```

## 5.47 Procedure Activity Act

[act: templateId 2.16.840.1.113883.10.20.22.4.12 (open)]

**Table 222: Procedure Activity Act Contexts**

Used By:	Contains Entries:
<a href="#">Procedures Section (entries required)</a>	<a href="#">Indication</a>
<a href="#">Procedures Section (entries optional)</a>	<a href="#">Instructions</a> <a href="#">Medication Activity</a> <a href="#">Service Delivery Location</a>

The common notion of "procedure" is broader than that specified by the HL7 Version 3 Reference Information Model (RIM). Therefore procedure templates can be represented with various RIM classes: act (e.g., dressing change), observation (e.g., EEG), procedure (e.g. splenectomy).

This clinical statement represents any procedure that cannot be classified as an observation or a procedure according to the HL7 RIM. Examples of these procedures are a dressing change, teaching or feeding a patient or providing comfort measures.

**Table 223: Procedure Activity Act Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	act[templateId/@root = '2.16.840.1.113883.10.20.22.4.12']					
	@classCode	1..1	SHALL		<a href="#">8289</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ACT
	@moodCode	1..1	SHALL		<a href="#">8290</a>	2.16.840.1.113883.11.20. 9.18 (MoodCodeEvnInt)
	templateId	1..1	SHALL	SET<II>	<a href="#">8291</a>	
	@root	1..1	SHALL		<a href="#">10519</a>	2.16.840.1.113883.10.20. 22.4.12
procedureId	id	1..*	SHALL	II	<a href="#">8292</a>	
procedure	code	1..1	SHALL	CE	<a href="#">8293</a>	

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
Type						
procedure FreeTextType	originalText	0..1	SHOULD	ED	<a href="#">8295</a>	
	reference /@value	0..1	SHOULD		<a href="#">8296</a>	
	statusCode	1..1	SHALL	CS	<a href="#">8298</a>	2.16.840.1.113883.11.20. 9.22 (ProcedureAct statusCode)
procedure DateTime	effectiveTime	0..1	SHOULD	TS or IVL<T S>	<a href="#">8299</a>	
	priorityCode	0..1	MAY	CE	<a href="#">8300</a>	2.16.840.1.113883.1.11.1 6866 (ActPriority)
	performer	0..*	SHOULD		<a href="#">8301</a>	
procedure Performer	assignedEntity	1..1	SHALL		<a href="#">8302</a>	
	id	1..*	SHALL	II	<a href="#">8303</a>	
	addr	1..1	SHALL	SET<A D>	<a href="#">8304</a>	
	telecom	1..1	SHALL	SET<T EL>	<a href="#">8305</a>	
	represented Organization	0..1	SHOULD		<a href="#">8306</a>	
	id	0..*	SHOULD	II	<a href="#">8307</a>	
	name	0..*	MAY	PN	<a href="#">8308</a>	
	addr	1..1	SHALL	SET<A D>	<a href="#">8309</a>	
	telecom	1..1	SHALL	SET<T EL>	<a href="#">8310</a>	
	participant	0..*	MAY		<a href="#">8311</a>	
	@typeCode	1..1	SHALL		<a href="#">8312</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = LOC
	entryRelationship	0..*	MAY		<a href="#">8314</a>	
	@typeCode	1..1	SHALL		<a href="#">8315</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
	@inversionInd	1..1	SHALL		<a href="#">8316</a>	true
	encounter	1..1	SHALL		<a href="#">8317</a>	
	@classCode	1..1	SHALL		<a href="#">8318</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ENC
	@moodCode	1..1	SHALL		<a href="#">8319</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	id	1..1	SHALL	II	<a href="#">8320</a>	

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	entryRelationship	0..1	MAY		<a href="#">8322</a>	
	@typeCode	1..1	SHALL		<a href="#">8323</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
	@inversionInd	1..1	SHALL		<a href="#">8324</a>	true
	entryRelationship	0..*	MAY		<a href="#">8326</a>	
	@typeCode	1..1	SHALL		<a href="#">8327</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
	entryRelationship	0..1	MAY		<a href="#">8329</a>	
	@typeCode	1..1	SHALL		<a href="#">8330</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP

1. **SHALL** contain exactly one [1..1] **@classCode="ACT"** Act (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8289).
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet [MoodCodeEvnInt 2.16.840.1.113883.11.20.9.18 STATIC](#) 2011-04-03 (CONF:8290).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8291) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.12"** (CONF:10519).
4. **SHALL** contain at least one [1..\*] **id** (CONF:8292).
5. **SHALL** contain exactly one [1..1] **code** (CONF:8293).
  - a. This code in a procedure activity observation **SHOULD** be selected from LOINC (CodeSystem: 2.16.840.1.113883.6.1) or SNOMED CT (CodeSystem: 2.16.840.1.113883.6.96) (CONF:8294).
  - b. This code **SHOULD** contain zero or one [0..1] **originalText** (CONF:8295).
    - i. The originalText, if present, **SHOULD** contain zero or one [0..1] **reference/@value** (CONF:8296).
      1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:8297).
6. **SHALL** contain exactly one [1..1] **statusCode**, where the @code **SHALL** be selected from ValueSet ProcedureAct statusCode 2.16.840.1.113883.11.20.9.22 **DYNAMIC** (CONF:8298).
7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:8299).
8. **MAY** contain zero or one [0..1] **priorityCode**, where the @code **SHALL** be selected from ValueSet ActPriority 2.16.840.1.113883.1.11.16866 **DYNAMIC** (CONF:8300).
9. **SHOULD** contain zero or more [0..\*] **performer** (CONF:8301).
  - a. The performer, if present, **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:8302).

- i. This assignedEntity **SHALL** contain at least one [1..\*] **id** (CONF:8303).
  - ii. This assignedEntity **SHALL** contain exactly one [1..1] **addr** (CONF:8304).
  - iii. This assignedEntity **SHALL** contain exactly one [1..1] **telecom** (CONF:8305).
  - iv. This assignedEntity **SHOULD** contain zero or one [0..1] **representedOrganization** (CONF:8306).
    - 1. The representedOrganization, if present, **SHOULD** contain zero or more [0..\*] **id** (CONF:8307).
    - 2. The representedOrganization, if present, **MAY** contain zero or more [0..\*] **name** (CONF:8308).
    - 3. The representedOrganization, if present, **SHALL** contain exactly one [1..1] **addr** (CONF:8309).
    - 4. The representedOrganization, if present, **SHALL** contain exactly one [1..1] **telecom** (CONF:8310).
10. **MAY** contain zero or more [0..\*] **participant** (CONF:8311).
- a. The participant, if present, **SHALL** contain exactly one [1..1] **@typeCode="LOC"** Location (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8312).
  - b. The participant, if present, **SHALL** contain exactly one [1..1] **Service Delivery Location** (2.16.840.1.113883.10.20.22.4.32) (CONF:8313).
11. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:8314).
- a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode="COMP"** Has Component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8315).
  - b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@inversionInd="true"** true (CONF:8316).
  - c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **encounter** (CONF:8317).
    - i. This encounter **SHALL** contain exactly one [1..1] **@classCode="ENC"** Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8318).
    - ii. This encounter **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:8319).
      - 1. Set the encounter ID to the ID of an encounter in another section to signify they are the same encounter (CONF:8321).
    - iii. This encounter **SHALL** contain exactly one [1..1] **id** (CONF:8320).
12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:8322).
- a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode="SUBJ"** Has Subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8323).
  - b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@inversionInd="true"** true (CONF:8324).

- c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] Instructions (2.16.840.1.113883.10.20.22.4.20) (CONF:8325).
13. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:8326).
- a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] @**typeCode**="RSON" Has Reason (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8327).
  - b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] Indication (2.16.840.1.113883.10.20.22.4.19) (CONF:8328).
14. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:8329).
- a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] @**typeCode**="COMP" Has Component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8330).
  - b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] Medication Activity (2.16.840.1.113883.10.20.22.4.16) (CONF:8331).

**Table 224: Procedure Act Status Code Value Set**

Value Set: ProcedureAct statusCode 2.16.840.1.113883.11.20.9.22 DYNAMIC		
Code System(s): ActStatus 2.16.840.1.113883.5.14		
Description: A ValueSet of HL7 actStatus codes for use with a procedure activity		
Code	Code System	Print Name
completed	ActStatus	Completed
active	ActStatus	Active
aborted	ActStatus	Aborted
cancelled	ActStatus	Cancelled

**Table 225: Act Priority Value Set**

Value Set: ActPriority 2.16.840.1.113883.1.11.16866 DYNAMIC		
Code System(s): ActPriority 2.16.840.1.113883.5.7		
Description:	A code or set of codes (e.g., for routine, emergency,) specifying the urgency under which the Act happened, can happen, is happening, is intended to happen, or is requested/demanded to happen.	
Code	Code System	Print Name
A	ActPriority	ASAP
CR	ActPriority	Callback results
CS	ActPriority	Callback for scheduling
CSP	ActPriority	Callback placer for scheduling
CSR	ActPriority	Contact recipient for scheduling
EL	ActPriority	Elective
EM	ActPriority	Emergency
P	ActPriority	Preoperative
PRN	ActPriority	As needed
R	ActPriority	Routine
RR	ActPriority	Rush reporting
S	ActPriority	Stat
T	ActPriority	Timing critical
UD	ActPriority	Use as directed
UR	ActPriority	Urgent

**Figure 201: Procedure activity act example**

```
<act classCode="ACT" moodCode="INT">
  <templateId root="2.16.840.1.113883.10.20.22.4.12"/>
  <id root="1.2.3.4.5.6.7.8" extension="1234567"/>
  <code code="80146002"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="Appendectomy">
    <originalText>
      <reference value="#proc1"/>
    </originalText>
  </code>
  <statusCode code="completed"/>
  <effectiveTime value="20110203"/>
  <priorityCode code="CR"
    codeSystem="2.16.840.1.113883.5.7"
    codeSystemName="ActPriority"
    displayName="Callback results"/>
```

```

<performer>
  <assignedEntity>
    <id root="1.2.3.4" extension="1234"/>
    <addr>
      <streetAddressLine>17 Daws Rd.</streetAddressLine>
      <city>Blue Bell</city>
      <state>MA</state>
      <postalCode>02368</postalCode>
      <country>US</country>
    </addr>
    <telecom use="WP" value="(555) 555-555-1234"/>
    <representedOrganization>
      <id root="2.16.840.1.113883.19.5"/>
      <name>Good Health Clinic</name>
      <telecom nullFlavor="UNK"/>
      <addr nullFlavor="UNK"/>
    </representedOrganization>
  </assignedEntity>
</performer>
<participant typeCode="LOC">
  <participantRole classCode="SDLOC">
    <templateId root="2.16.840.1.113883.10.20.22.4.32"/>
    <!-- Service Delivery Location template -->
    ...
  </participantRole>
</participant>
<entryRelationship typeCode="COMP">
  <substanceAdministration classCode="SBADM" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
    <!-- Medication Activity template -->
    ...
  </substanceAdministration>
</entryRelationship>
</act>

```

## 5.48 Procedure Activity Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.13 (open)]

**Table 226: Procedure Activity Observation Contexts**

Used By:	Contains Entries:
<a href="#">Procedures Section (entries optional)</a>	<a href="#">Indication</a>
<a href="#">Procedures Section (entries required)</a>	<a href="#">Instructions</a> <a href="#">Medication Activity</a> <a href="#">Service Delivery Location</a>

The common notion of "procedure" is broader than that specified by the HL7 Version 3 Reference Information Model (RIM). Therefore procedure templates can be represented with various RIM classes: act (e.g., dressing change), observation (e.g., EEG), procedure (e.g. splenectomy).

This clinical statement represents procedures that result in new information about the patient that cannot be classified as a procedure according to the HL7 RIM. Examples of these procedures are diagnostic imaging procedures, EEGs and EKGs.

**Table 227: Procedure Activity Observation Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF #	Fixed Value
observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.13']						
	@classCode	1..1	SHALL		<a href="#">8282</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
	@moodCode	1..1	SHALL		<a href="#">8237</a>	2.16.840.1.113883.11.20.9.18 (MoodCodeEvnInt)
	templateId	1..1	SHALL	SET<II>	<a href="#">8238</a>	
	@root	1..1	SHALL		<a href="#">10520</a>	2.16.840.1.113883.10.20.22.4.13
procedure Id	id	1..*	SHALL	II	<a href="#">8239</a>	
procedure Type	code	1..1	SHALL	CD	<a href="#">8240</a>	
procedure FreeTextType	originalText	0..1	SHOULD	ED	<a href="#">8242</a>	
	reference /@value	0..1	SHOULD		<a href="#">8243</a>	
	statusCode	1..1	SHALL	CS	<a href="#">8245</a>	2.16.840.1.113883.11.20.9.22 (ProcedureAct statusCode)
	value	1..1	SHALL	ANY	<a href="#">8368</a>	
procedure DateTime	effectiveTime	0..1	SHOULD	TS or IVL<T S>	<a href="#">8246</a>	
	priorityCode	0..1	MAY	CE	<a href="#">8247</a>	2.16.840.1.113883.1.11.16866 (ActPriority)
	methodCode	0..1	MAY	SET<C E>	<a href="#">8248</a>	
procedure BodyType	targetSiteCode	0..*	SHOULD	SET<C D>	<a href="#">8250</a>	
	code	1..1	SHALL		<a href="#">10121</a>	2.16.840.1.113883.3.88.12.3221.8.9 (Body Site Value Set)
	performer	0..*	SHOULD		<a href="#">8251</a>	
procedure Provider	assignedEntity	1..1	SHALL		<a href="#">8252</a>	
	id	1..*	SHALL	II	<a href="#">8253</a>	
	addr	1..1	SHALL	SET<A D>	<a href="#">8254</a>	

Name	XPath	Card.	Verb	Data Type	CONF #	Fixed Value
	telecom	1..1	SHALL	SET<T EL>	<a href="#">8255</a>	
	represented Organization	0..1	SHOULD		<a href="#">8256</a>	
	id	0..*	SHOULD	II	<a href="#">8257</a>	
	name	0..*	MAY	PN	<a href="#">8258</a>	
	addr	1..1	SHALL	SET<A D>	<a href="#">8259</a>	
	telecom	1..1	SHALL	SET<T EL>	<a href="#">8260</a>	
	participant	0..*	MAY		<a href="#">8261</a>	
	@typeCode	1..1	SHALL		<a href="#">8262</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = LOC
	entryRelationship	0..*	MAY		<a href="#">8264</a>	
	@typeCode	1..1	SHALL		<a href="#">8265</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
	@inversionInd	1..1	SHALL		<a href="#">8266</a>	true
	encounter	1..1	SHALL		<a href="#">8267</a>	
	@classCode	1..1	SHALL		<a href="#">8268</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ENC
	@moodCode	1..1	SHALL		<a href="#">8269</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	id	1..1	SHALL	II	<a href="#">8270</a>	
	entryRelationship	0..1	MAY		<a href="#">8272</a>	
	@typeCode	1..1	SHALL		<a href="#">8273</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
	@inversionInd	1..1	SHALL		<a href="#">8274</a>	true
	entryRelationship	0..*	MAY		<a href="#">8276</a>	
	@typeCode	1..1	SHALL		<a href="#">8277</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
	entryRelationship	0..1	MAY		<a href="#">8279</a>	
	@typeCode	1..1	SHALL		<a href="#">8280</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8282).
2. **SHALL** contain exactly one [1..1] @moodCode, which **SHALL** be selected from ValueSet MoodCodeEvnInt 2.16.840.1.113883.11.20.9.18 STATIC 2011-04-03 (CONF:8237).

3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8238) such that it
  - a. **SHALL** contain exactly one [1..1]  
`@root="2.16.840.1.113883.10.20.22.4.13"` (CONF:10520).
4. **SHALL** contain at least one [1..\*] **id** (CONF:8239).
5. **SHALL** contain exactly one [1..1] **code** (CONF:8240).
  - a. This code in a procedure activity **SHOULD** be selected from LOINC (CodeSystem: 2.16.840.1.113883.6.1) or SNOMED CT (CodeSystem: 2.16.840.1.113883.6.96), and **MAY** be selected from CPT-4 (CodeSystem: 2.16.840.1.113883.6.12), ICD9 Procedures (CodeSystem: 2.16.840.1.113883.6.4) (CONF:8241).
  - b. This code **SHOULD** contain zero or one [0..1] **originalText** (CONF:8242).
    - i. The originalText, if present, **SHOULD** contain zero or one [0..1] **reference/@value** (CONF:8243).
      1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:8244).
6. **SHALL** contain exactly one [1..1] **statusCode**, where the @code **SHALL** be selected from ValueSet [ProcedureAct statusCode 2.16.840.1.113883.11.20.9.22 DYNAMIC](#) (CONF:8245).
7. **SHALL** contain exactly one [1..1] **value** with @xsi:type="ANY" (CONF:8368).
8. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:8246).
9. **MAY** contain zero or one [0..1] **priorityCode**, where the @code **SHALL** be selected from ValueSet [ActPriority 2.16.840.1.113883.1.11.16866 DYNAMIC](#) (CONF:8247).
10. **MAY** contain zero or one [0..1] **methodCode** (CONF:8248).
  - a. methodCode **SHALL NOT** conflict with the method inherent in Observation / code (CONF:8249).
11. **SHOULD** contain zero or more [0..\*] **targetSiteCode** (CONF:8250).
  - a. The targetSiteCode, if present, **SHALL** contain exactly one [1..1] **code**, where the @code **SHALL** be selected from ValueSet [Body Site Value Set 2.16.840.1.113883.3.88.12.3221.8.9 DYNAMIC](#) (CONF:10121).
12. **SHOULD** contain zero or more [0..\*] **performer** (CONF:8251).
  - a. The performer, if present, **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:8252).
    - i. This assignedEntity **SHALL** contain at least one [1..\*] **id** (CONF:8253).
    - ii. This assignedEntity **SHALL** contain exactly one [1..1] **addr** (CONF:8254).
    - iii. This assignedEntity **SHALL** contain exactly one [1..1] **telecom** (CONF:8255).
    - iv. This assignedEntity **SHOULD** contain zero or one [0..1] **representedOrganization** (CONF:8256).
      1. The representedOrganization, if present, **SHOULD** contain zero or more [0..\*] **id** (CONF:8257).
      2. The representedOrganization, if present, **MAY** contain zero or more [0..\*] **name** (CONF:8258).

- 3. The representedOrganization, if present, **SHALL** contain exactly one [1..1] **addr** (CONF:8259).
  - 4. The representedOrganization, if present, **SHALL** contain exactly one [1..1] **telecom** (CONF:8260).
13. **MAY** contain zero or more [0..\*] **participant** (CONF:8261).
- a. The participant, if present, **SHALL** contain exactly one [1..1] **@typeCode="LOC"** Location (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8262).
  - b. The participant, if present, **SHALL** contain exactly one [1..1] **Service Delivery Location** (2.16.840.1.113883.10.20.22.4.32) (CONF:8263).
14. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:8264).
- a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode="COMP"** Component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8265).
  - b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@inversionInd="true"** true (CONF:8266).
  - c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **encounter** (CONF:8267).
    - i. This encounter **SHALL** contain exactly one [1..1] **@classCode="ENC"** Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8268).
    - ii. This encounter **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:8269).
    - iii. This encounter **SHALL** contain exactly one [1..1] **id** (CONF:8270).
      - 1. Set the encounter ID to the ID of an encounter in another section to signify they are the same encounter (CONF:8271).
15. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:8272) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="SUBJ"** Has Subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8273).
  - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** true (CONF:8274).
  - c. **SHALL** contain exactly one [1..1] **Instructions** (2.16.840.1.113883.10.20.22.4.20) (CONF:8275).
16. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:8276) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** Has Reason (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8277).
  - b. **SHALL** contain exactly one [1..1] **Indication** (2.16.840.1.113883.10.20.22.4.19) (CONF:8278).
17. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:8279) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="COMP"** Has Component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8280).

- b. **SHALL** contain exactly one [1..1] **Medication Activity**  
 (2.16.840.1.113883.10.20.22.4.16) (CONF:8281).

**Figure 202: Procedure activity observation example**

```

<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.13"/>
  <!-- Procedure Activity Observation -->
  <id extension="123456789" root="2.16.840.1.113883.19"/>
  <code code="80146002" codeSystem="2.16.840.1.113883.6.96"
    displayName="Appendectomy" codeSystemName="SNOMED CT">
    <originalText>
      <reference value="#proc1"/>
    </originalText>
  </code>
  <statusCode code="aborted"
    codeSystem="2.16.840.1.113883.5.14"
    codeSystemName="ActStatus"/>
  <effectiveTime value="20110203"/>
  <priorityCode code="CR"
    codeSystem="2.16.840.1.113883.5.7"
    codeSystemName="ActPriority"
    displayName="Callback results"/>
  <value xsi:type="CD"/>
  <methodCode nullFlavor="UNK"/>
  <targetSiteCode code="416949008"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="Abdomen and pelvis" />
  <performer>
    <assignedEntity>
      <id root="1.2.3.4" extension="1234"/>
      <addr>
        <streetAddressLine>17 Daws Rd.</streetAddressLine>
        <city>Blue Bell</city>
        <state>MA</state>
        <postalCode>02368</postalCode>
        <country>US</country>
      </addr>
      <telecom use="WP" value="(555) 555-555-1234"/>
    <representedOrganization>
      <id root="2.16.840.1.113883.19.5"/>
      <name>Good Health Clinic</name>
      <telecom nullFlavor="UNK"/>
      <addr nullFlavor="UNK"/>
    </representedOrganization>
  </performer>

```

```

        </assignedEntity>
    </performer>
    <entryRelationship typeCode="COMP">
        <substanceAdministration classCode="SBADM" moodCode="EVN">
            <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
            <!-- Medication Activity template -->
            ...
        </substanceAdministration>
    </entryRelationship>
</observation>

```

## 5.49 Procedure Activity Procedure

[procedure: templateId 2.16.840.1.113883.10.20.22.4.14 (open)]

**Table 228: Procedure Activity Procedure Contexts**

Used By:	Contains Entries:
<a href="#">Procedures Section (entries optional)</a> <a href="#">Reaction Observation</a> <a href="#">Procedures Section (entries required)</a> <a href="#">Anesthesia Section</a>	<a href="#">Indication</a> <a href="#">Instructions</a> <a href="#">Medication Activity</a> <a href="#">Product Instance</a> <a href="#">Service Delivery Location</a>

The common notion of "procedure" is broader than that specified by the HL7 Version 3 Reference Information Model (RIM). Therefore procedure templates can be represented with various RIM classes: act (e.g., dressing change), observation (e.g., EEG), procedure (e.g. splenectomy).

This clinical statement represents procedures whose immediate and primary outcome (post-condition) is the alteration of the physical condition of the patient. Examples of these procedures are an appendectomy, hip replacement and a creation of a gastrostomy.

**Table 229: Procedure Activity Procedure Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	procedure[templateId/@root = '2.16.840.1.113883.10.20.22.4.14']					
	@classCode	1..1	SHALL		<a href="#">7652</a>	2.16.840.1.113883.5.6 (HL7ActClass) = PROC
	@moodCode	1..1	SHALL		<a href="#">7653</a>	2.16.840.1.113883.11.2 0.9.18 (MoodCodeEvnInt)
	templateId	1..1	SHALL	SET<II>	<a href="#">7654</a>	
	@root	1..1	SHALL		<a href="#">10521</a>	2.16.840.1.113883.10.2 0.22.4.14
procedure Id	id	1..*	SHALL	II	<a href="#">7655</a>	
procedureType	code	1..1	SHALL	CD	<a href="#">7656</a>	
	originalText	0..1	SHOULD	ED	<a href="#">7658</a>	
procedure FreeTextType	reference /@value	0..1	SHOULD		<a href="#">7659</a>	
	statusCode	1..1	SHALL	CS	<a href="#">7661</a>	2.16.840.1.113883.11.2 0.9.22 (ProcedureAct statusCode)
procedure DateTime	effectiveTime	0..1	SHOULD	TS or IVL<TS>	<a href="#">7662</a>	
	priorityCode	0..1	MAY	CE	<a href="#">7668</a>	2.16.840.1.113883.1.11.16866 (ActPriority)
	methodCode	0..1	MAY	SET<C E>	<a href="#">7670</a>	
bodySite	targetSiteCode	0..*	SHOULD	SET<C D>	<a href="#">7683</a>	2.16.840.1.113883.3.88.12.3221.8.9 (Body Site Value Set)
	code	1..1	SHALL	CE	<a href="#">10122</a>	2.16.840.1.113883.3.88.12.3221.8.9 (Body Site Value Set)
	specimen	0..*	MAY		<a href="#">7697</a>	
	specimenRole	1..1	SHALL		<a href="#">7704</a>	
	id	0..*	SHOULD	II	<a href="#">7716</a>	
	performer	0..*	SHOULD		<a href="#">7718</a>	
procedure Provider	assignedEntity	1..1	SHALL		<a href="#">7720</a>	
	id	1..*	SHALL	II	<a href="#">7722</a>	
	addr	1..1	SHALL	SET<A D>	<a href="#">7731</a>	
	telecom	1..1	SHALL	SET<T EL>	<a href="#">7732</a>	

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	represented Organization	0..1	SHOULD		<a href="#">7733</a>	
	id	0..*	SHOULD	II	<a href="#">7734</a>	
	name	0..*	MAY	PN	<a href="#">7735</a>	
	addr	1..1	SHALL	SET<AD>	<a href="#">7736</a>	
	telecom	1..1	SHALL	SET<TEL>	<a href="#">7737</a>	
	participant	0..*	MAY		<a href="#">7751</a>	
	@typeCode	1..1	SHALL		<a href="#">7752</a>	2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = DEV
	participant	0..*	MAY		<a href="#">7765</a>	
	@typeCode	1..1	SHALL		<a href="#">7766</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC
	entryRelationship	0..*	MAY		<a href="#">7768</a>	
	@typeCode	1..1	SHALL		<a href="#">7769</a>	2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = COMP
	@inversionInd	1..1	SHALL		<a href="#">8009</a>	true
	encounter	1..1	SHALL		<a href="#">7770</a>	
	@classCode	1..1	SHALL		<a href="#">7771</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ENC
	@moodCode	1..1	SHALL		<a href="#">7772</a>	2.16.840.1.113883.5.10 01 (ActMood) = EVN
	id	1..1	SHALL	II	<a href="#">7773</a>	
	entryRelationship	0..1	MAY		<a href="#">7775</a>	
	@typeCode	1..1	SHALL		<a href="#">7776</a>	2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = SUBJ
	@inversionInd	1..1	SHALL		<a href="#">7777</a>	true
	entryRelationship	0..*	MAY		<a href="#">7779</a>	
	@typeCode	1..1	SHALL		<a href="#">7780</a>	2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = RSON
	entryRelationship	0..1	MAY		<a href="#">7886</a>	
	@typeCode	1..1	SHALL		<a href="#">7887</a>	2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = COMP

1. **SHALL** contain exactly one [1..1] `@classCode="PROC"` Procedure (CodeSystem: [HL7ActClass 2.16.840.1.113883.5.6](#)) (CONF:7652).
2. **SHALL** contain exactly one [1..1] `@moodCode`, which **SHALL** be selected from ValueSet [MoodCodeEvnInt 2.16.840.1.113883.11.20.9.18 STATIC](#) 2011-04-03 (CONF:7653).
3. **SHALL** contain exactly one [1..1] `templateId` (CONF:7654) such that it
  - a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.22.4.14"` (CONF:10521).
4. **SHALL** contain at least one [1..\*] `id` (CONF:7655).
5. **SHALL** contain exactly one [1..1] `code` (CONF:7656).
  - a. This code in a procedure activity **SHOULD** be selected from LOINC (codeSystem 2.16.840.1.113883.6.1) or SNOMED CT (CodeSystem: 2.16.840.1.113883.6.96), and **MAY** be selected from CPT-4 (CodeSystem: 2.16.840.1.113883.6.12), ICD9 Procedures (CodeSystem: 2.16.840.1.113883.6.104), ICD10 Procedure Coding System (CodeSystem: 2.16.840.1.113883.6.4) (CONF:7657).
  - b. This code **SHOULD** contain zero or one [0..1] `originalText` (CONF:7658).
    - i. The originalText, if present, **SHOULD** contain zero or one [0..1] `reference/@value` (CONF:7659).
      1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:7660).
6. **SHALL** contain exactly one [1..1] `statusCode`, where the `@code` **SHALL** be selected from ValueSet [ProcedureAct statusCode 2.16.840.1.113883.11.20.9.22 DYNAMIC](#) (CONF:7661).
7. **SHOULD** contain zero or one [0..1] `effectiveTime` (CONF:7662).
8. **MAY** contain zero or one [0..1] `priorityCode`, where the `@code` **SHALL** be selected from ValueSet [ActPriority 2.16.840.1.113883.1.11.16866 DYNAMIC](#) (CONF:7668).
9. **MAY** contain zero or one [0..1] `methodCode` (CONF:7670).
  - a. methodCode **SHALL NOT** conflict with the method inherent in Procedure / code (CONF:7890).
10. **SHOULD** contain zero or more [0..\*] `targetSiteCode` (CONF:7683).
  - a. The targetSiteCode, if present, **SHALL** contain exactly one [1..1] `code`, where the `@code` **SHALL** be selected from ValueSet [Body Site Value Set 2.16.840.1.113883.3.88.12.3221.8.9 DYNAMIC](#) (CONF:10122).
11. **MAY** contain zero or more [0..\*] `specimen` (CONF:7697).
  - a. This specimen is for representing specimens obtained from a procedure (CONF:8008).
  - b. The specimen, if present, **SHALL** contain exactly one [1..1] `specimenRole` (CONF:7704).
    - i. This specimenRole **SHOULD** contain zero or more [0..\*] `id` (CONF:7716).

1. If you want to indicate that the Procedure and the Results are referring to the same specimen, the Procedure/specimen/specimenRole/id **SHOULD** be set to equal an Organizer/specimen/ specimenRole/id (CONF:7717).
12. **SHOULD** contain zero or more [0..\*] **performer** (CONF:7718) such that it
- a. **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:7720).
    - i. This assignedEntity **SHALL** contain at least one [1..\*] **id** (CONF:7722).
    - ii. This assignedEntity **SHALL** contain exactly one [1..1] **addr** (CONF:7731).
    - iii. This assignedEntity **SHALL** contain exactly one [1..1] **telecom** (CONF:7732).
    - iv. This assignedEntity **SHOULD** contain zero or one [0..1] **representedOrganization** (CONF:7733).
      1. The representedOrganization, if present, **SHOULD** contain zero or more [0..\*] **id** (CONF:7734).
      2. The representedOrganization, if present, **MAY** contain zero or more [0..\*] **name** (CONF:7735).
      3. The representedOrganization, if present, **SHALL** contain exactly one [1..1] **addr** (CONF:7736).
      4. The representedOrganization, if present, **SHALL** contain exactly one [1..1] **telecom** (CONF:7737).
13. **MAY** contain zero or more [0..\*] **participant** (CONF:7751) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DEV"** Device (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7752).
  - b. **SHALL** contain exactly one [1..1] **Product Instance** (2.16.840.1.113883.10.20.22.4.37) (CONF:7754).
14. **MAY** contain zero or more [0..\*] **participant** (CONF:7765) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="LOC"** Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:7766).
  - b. **SHALL** contain exactly one [1..1] **Service Delivery Location** (2.16.840.1.113883.10.20.22.4.32) (CONF:7767).
15. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:7768) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="COMP"** Has Component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7769).
  - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** true (CONF:8009).
  - c. **SHALL** contain exactly one [1..1] **encounter** (CONF:7770).
    - i. This encounter **SHALL** contain exactly one [1..1] **@classCode="ENC"** Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7771).
    - ii. This encounter **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7772).
    - iii. This encounter **SHALL** contain exactly one [1..1] **id** (CONF:7773).

1. Set the encounter ID to the ID of an encounter in another section to signify they are the same encounter (CONF:7774).
16. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:7775) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="SUBJ" Has Subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7776).
  - b. **SHALL** contain exactly one [1..1] @inversionInd="true" true (CONF:7777).
  - c. **SHALL** contain exactly one [1..1] Instructions (2.16.840.1.113883.10.20.22.4.20) (CONF:7778).
17. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:7779) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="RSON" Has Reason (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7780).
  - b. **SHALL** contain exactly one [1..1] Indication (2.16.840.1.113883.10.20.22.4.19) (CONF:7781).
18. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:7886) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="COMP" Has Component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7887).
  - b. **SHALL** contain exactly one [1..1] Medication Activity (2.16.840.1.113883.10.20.22.4.16) (CONF:7888).

**Figure 203: Procedure activity procedure example**

```

<procedure classCode="PROC" moodCode="EVN">
  <!-- Procedure activity procedure template -->
  <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
  <id root="e401f340-7be2-11db-9fe1-0800200c9a66"/>

  <code code="397394009" codeSystem="2.16.840.1.113883.6.96"
        displayName="Bronchoalveolar lavage">
    <originalText>Bronchoalveolar<reference value="procedure1"/></originalText>
  </code>

  <text>
    <reference value="procedure1"/>
  </text>

  <statusCode code="completed"/>
  <effectiveTime value="1998"/>
  <methodCode code="168731009" codeSystem="2.16.840.1.113883.6.96"
              displayName="Standard chest X-ray"/>
  <targetSiteCode code="82094008" codeSystem="2.16.840.1.113883.6.96"
                 displayName="Lower respiratory tract structure"/>

  <specimen>
    <specimenRole>
      <id extension="234234"/>
    </specimenRole>
  </specimen>

```

```

<participant typeCode="DEV">
  <participantRole classCode="MANU">
    <!-- Product instance template -->
    <templateId root="2.16.840.1.113883.10.20.22.4.37"/>
    ...
  </participantRole>
</participant>

<entryRelationship typeCode="COMP" inversionInd="true">
  <substanceAdministration classCode="SBADM" moodCode="INT">
    <!-- Medication activity template -->
    <templateId root=" 2.16.840.1.113883.10.20.22.4.16"/>
    ...
  </substanceAdministration>
</entryRelationship>

</procedure>

```

## 5.50 Procedure Context

[act: templateId 2.16.840.1.113883.10.20.6.2.5 (open) ]

**Table 230: Procedure Context Contexts**

Used By:	Contains Entries:
<a href="#">Diagnostic Imaging Report</a> (optional)	

The ServiceEvent Procedure Context of the document header may be overridden in the CDA structured body if there is a need to refer to multiple imaging procedures or acts. The selection of the Procedure or Act entry from the clinical statement choice box depends on the nature of the imaging service that has been performed. The Procedure entry shall be used for image-guided interventions and minimal invasive imaging services, whereas the Act entry shall be used for diagnostic imaging services.

**Table 231: Procedure Context Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	act[templateId/@root = '2.16.840.1.113883.10.20.6.2.5']					
	templateId	1..1	SHALL	SET<II>	<a href="#">9200</a>	
	@root	1..1	SHALL		<a href="#">10530</a>	2.16.840.1.113883.10.20.6.2.5
	code	1..1	SHALL	CD	<a href="#">9201</a>	
	effectiveTime	0..1	SHOULD	TS or IVL<TS>	<a href="#">9203</a>	
	@value	1..1	SHALL		<a href="#">9204</a>	
	low	0..0	SHALL NOT	TS	<a href="#">9205</a>	
	high	0..0	SHALL NOT	TS	<a href="#">9206</a>	

1. Procedure Context **SHALL** be represented with the procedure or act elements depending on the nature of the procedure (CONF:9199).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:9200) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.6.2.5"** (CONF:10530).
3. **SHALL** contain exactly one [1..1] **code** (CONF:9201).
4. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:9203).
  - a. The effectiveTime, if present, **SHALL** contain exactly one [1..1] **@value** (CONF:9204).
  - b. The effectiveTime, if present, **SHALL NOT** contain [0..0] **low** (CONF:9205).
  - c. The effectiveTime, if present, **SHALL NOT** contain [0..0] **high** (CONF:9206).

**Figure 204: Procedure context template example**

```

<act moodCode="EVN" classCode="ACT">
  <templateId root="2.16.840.1.113883.10.20.6.2.5"/>
  <!-- Procedure Context template -->
  <code code="70548">
    displayName="Magnetic resonance angiography, head; with contrast
                material(s)"
    codeSystem="2.16.840.1.113883.6.12" codeSystemName="CPT4"/>
  <!-- Note: This code is slightly different from the code used in the
      header documentationOf and overrides it, which is what this entry
      is for. -->
  <effectiveTime value="20060823222400"/>
</act>

```

## 5.51 Product Instance

[participantRole: templateId 2.16.840.1.113883.10.20.22.4.37 (open)]

**Table 232: Product Instance Contexts**

Used By:	Contains Entries:
<a href="#">Procedure Activity Procedure</a>	
<a href="#">Non-Medicinal Supply Activity</a>	

This clinical statement represents a particular device that was placed in or used as part of a procedure or other act. This provides a record of the identifier and other details about the given product that was used. For example, it is important to have a record that indicates not just that a hip prostheses was placed in a patient but that it was a particular hip prostheses number with a unique identifier.

The FDA Amendments Act specifies the creation of a Unique Device Identification (UDI) System that requires the label of devices to bear a unique identifier that will standardize device identification and identify the device through distribution and use.

The UDI should be sent in the participantRole/id.

**Table 233: Product Instance Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
participantRole[templateId/@root = '2.16.840.1.113883.10.20.22.4.37']						
	@classCode	1..1	SHALL		<a href="#">7900</a>	2.16.840.1.113883.5.110 (RoleClass) = MANU
	templateId	1..1	SHALL	SET<II>	<a href="#">7901</a>	
	@root	1..1	SHALL		<a href="#">10522</a>	2.16.840.1.113883.10.20.22.4.37
	id	1..*	SHALL	II	<a href="#">7902</a>	
	playing Device	1..1	SHALL		<a href="#">7903</a>	
	code	0..1	SHOULD	CE	<a href="#">7904</a>	
	scoping Entity	1..1	SHALL		<a href="#">7905</a>	
	id	1..*	SHALL	II	<a href="#">7908</a>	

1. **SHALL** contain exactly one [1..1] @classCode="MANU" Manufactured Product (CodeSystem: RoleClass 2.16.840.1.113883.5.110) (CONF:7900).
2. **SHALL** contain exactly one [1..1] templateId (CONF:7901) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.37" (CONF:10522).
3. **SHALL** contain at least one [1..\*] id (CONF:7902).
4. **SHALL** contain exactly one [1..1] playingDevice (CONF:7903).
  - a. This playingDevice **SHOULD** contain zero or one [0..1] code (CONF:7904).
5. **SHALL** contain exactly one [1..1] scopingEntity (CONF:7905).

- a. This scopingEntity **SHALL** contain at least one [1..\*] **id** (CONF:7908).

**Figure 205: Product instance example**

```
<participantRole classCode="MANU">
  <templateId root="2.16.840.1.113883.10.20.22.4.37"/>
  <!-- Product instance template -->
  <id root="eb936010-7b17-11db-9fe1-0800200c9a68"/>
  <playingDevice>
    <code code="72506001"
      codeSystem="2.16.840.1.113883.6.96"
      displayName="Automatic implantable
      cardioverter/defibrillator"/>
  </playingDevice>
  <scopingEntity>
    <id root="eb936010-7b17-11db-9fe1-0800200c9b65"/>
  </scopingEntity>
</participantRole>
```

## 5.52 Purpose of Reference Observation

[observation: templateId 2.16.840.1.113883.10.20.6.2.9 (open)]

**Table 234: Purpose of Reference Observation Contexts**

Used By:	Contains Entries:
<a href="#">Sop Instance Observation</a>	

A Purpose of Reference Observation describes the purpose of the DICOM composite object reference. Appropriate codes, such as externally defined DICOM codes, may be used to specify the semantics of the purpose of reference. When this observation is absent, it implies that the reason for the reference is unknown.

**Table 235: Purpose of Reference Observation Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	observation[templateId/@root = '2.16.840.1.113883.10.20.6.2.9']					
	@classCode	1..1	SHALL		<a href="#">9264</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
	@moodCode	1..1	SHALL		<a href="#">9265</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET<II>	<a href="#">9266</a>	
	@root	1..1	SHALL		<a href="#">10531</a>	2.16.840.1.113883.10.20.6.2.9
	code	1..1	SHALL	CD	<a href="#">9267</a>	
	code	0..1	SHOULD		<a href="#">9268</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
	value	0..1	SHOULD	CD	<a href="#">9273</a>	2.16.840.1.113883.11.20.9.28 (DICOMPurposeOfReference)

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:9264).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:9265).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:9266) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.6.2.9"** (CONF:10531).
4. **SHALL** contain exactly one [1..1] **code** (CONF:9267).
  - a. This code **SHOULD** contain zero or one [0..1] **code="ASSERTION"** (CodeSystem: ActCode 2.16.840.1.113883.5.4) (CONF:9268).
  - b. For backwards compatibility with the DICOM CMET, the code **MAY** be drawn from ValueSet 2.16.840.1.113883.11.20.9.28 DICOMPurposeOfReference **DYNAMIC** (CONF:9269).
5. **SHOULD** contain zero or one [0..1] **value** with @xsi:type="CD", where the **@code** **SHOULD** be selected from ValueSet DICOMPurposeOfReference 2.16.840.1.113883.11.20.9.28 **DYNAMIC** (CONF:9273).
  - a. The value element is a **SHOULD** to allow backwards compatibility with the DICOM CMET. Note that the use of ASSERTION for the code differs from the DICOM CMET. This is intentional. The DICOM CMET was created before the Term Info guidelines describing the use of the assertion pattern were released. It was determined that this IG should follow the latest Term Info guidelines. Implementers using both this IG and the DICOM CMET will need to be aware of this difference and apply appropriate transformations (CONF:9274).

**Table 236: DICOM Purpose of Reference Value Set**

Value Set: DICOMPurposeOfReference 2.16.840.1.113883.11.20.9.28 DYNAMIC		
Code System(s): DCM 1.2.840.10008.2.16.4		
Code	Code System	Print Name
121079	DCM	Baseline
121080	DCM	Best illustration of finding
121112	DCM	Source of Measurement

**Figure 206: Purpose of reference example**

```
<observation classCode="OBS" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.6.2.9"/>
    <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>
    <value xsi:type="CD" code="121112"
        codeSystem="1.2.840.10008.2.16.4"
        codeSystemName="DCM"
        displayName="Source of Measurement"/>
</observation>
```

## 5.53 Quantity Measurement Observation

observation: templateId 2.16.840.1.113883.10.20.6.2.14 (open) ]

**Table 237: Quantity Measurement Observation Contexts**

Used By:	Contains Entries:
<a href="#">Text Observation</a>	<a href="#">Sop Instance Observation</a>
<a href="#">Code Observations</a>	

A Quantity Measurement Observation records quantity measurements based on image data such as linear, area, volume, and numeric measurements. The codes in DIRQuantityMeasurementTypeCodes (ValueSet: 2.16.840.1.113883.11.20.9.29) are from the qualifier hierarchy of SNOMED CT and are not valid for observation/code according to the Term Info guidelines. These codes can be used for backwards compatibility, but going forward, codes from the observable entity hierarchy will be requested and used.

**Table 238: Quantity Measurement Observation Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	observation[templateId/@root = '2.16.840.1.113883.10.20.6.2.14']					
	@classCode	1..1	SHALL		<a href="#">9317</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
	@moodCode	1..1	SHALL		<a href="#">9318</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET<II>	<a href="#">9319</a>	
	@root	1..1	SHALL		<a href="#">10532</a>	2.16.840.1.113883.10.20.6.2.14
	code	1..1	SHALL	CD	<a href="#">9320</a>	
	code	0..1	SHOULD		<a href="#">9322</a>	2.16.840.1.113883.11.20.9.29 (DIRQuantityMeasurementTypeCodes)
	code	0..1	SHOULD		<a href="#">9323</a>	2.16.840.1.113883.11.20.9.30 (DICOMQuantityMeasurementTypeCodes)
	value	1..1	SHALL		<a href="#">9324</a>	
	@xsi:type	1..1	SHALL		<a href="#">9325</a>	PQ
	effectiveTime	0..1	SHOULD	TS or IVL<TS>	<a href="#">9326</a>	
	entry Relationship	0..*	MAY		<a href="#">9327</a>	
	@typeCode	1..1	SHALL		<a href="#">9328</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SPRT

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:9317).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:9318).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:9319) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.6.2.14"** (CONF:10532).
4. **SHALL** contain exactly one [1..1] **code** (CONF:9320).
  - a. This code **SHOULD** contain zero or one [0..1] **code**, which **SHALL** be selected from ValueSet DIRQuantityMeasurementTypeCodes 2.16.840.1.113883.11.20.9.29 **DYNAMIC** (CONF:9322).
  - b. This code **SHOULD** contain zero or one [0..1] **code**, which **SHALL** be selected from ValueSet DICOMQuantityMeasurementTypeCodes 2.16.840.1.113883.11.20.9.30 **DYNAMIC** (CONF:9323).
  - c. The value set of the observation/code includes numeric measurement types for linear dimensions, areas, volumes, and other numeric measurements. This value set is extensible and comprises the union of SNOMED codes for observable entities as reproduced in DIRQuantityMeasurementTypeCodes (ValueSet: 2.16.840.1.113883.11.20.9.29) and DICOM Codes in

- DICOMQuantityMeasurementTypeCodes (ValueSet: 2.16.840.1.113883.11.20.9.30) (CONF:9330).
5. **SHALL** contain exactly one [1..1] **value** (CONF:9324).
    - a. This value **SHALL** contain exactly one [1..1] **@xsi:type**, where the **@code="PQ"** (CONF:9325).
  6. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:9326).
  7. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:9327) such that it
    - a. **SHALL** contain exactly one [1..1] **@typeCode="SPRT"** Has Support (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:9328).
    - b. **SHALL** contain exactly one [1..1] **Sop Instance Observation** (2.16.840.1.113883.10.20.6.2.8) (CONF:9329).

**Table 239: DIR Quantity Measurement Type Value Set**

Value Set: DIRQuantityMeasurementTypeCodes 2.16.840.1.113883.11.20.9.29 DYNAMIC		
Code System(s): SNOMED CT 2.16.840.1.113883.6.96		
<b>Code</b>	<b>Code System</b>	<b>Print Name</b>
439932008	SNOMED CT	Length of structure
440357003	SNOMED CT	Width of structure
439934009	SNOMED CT	Depth of structure
439984002	SNOMED CT	Diameter of structure
439933003	SNOMED CT	Long axis length of structure
439428006	SNOMED CT	Short axis length of structure
439982003	SNOMED CT	Major axis length of structure
439983008	SNOMED CT	Minor axis length of structure
440356007	SNOMED CT	Perpendicular axis length of structure
439429003	SNOMED CT	Radius of structure
440433004	SNOMED CT	Perimeter of non-circular structure
439747008	SNOMED CT	Circumference of circular structure
439748003	SNOMED CT	Diameter of circular structure
439746004	SNOMED CT	Area of structure
439985001	SNOMED CT	Area of body region
439749006	SNOMED CT	Volume of structure

**Table 240: DICOM Quantity Measurement Type Value Set**

Value Set: DICOMQuantityMeasurementTypeCodes 2.16.840.1.113883.11.20.9.30 DYNAMIC Code System(s): DCM 1.2.840.10008.2.16.4			
<b>Code</b>	<b>Code System</b>	<b>Print Name</b>	<b>Measurement Type</b>
121211	DCM	Path length	Linear
121206	DCM	Distance	Linear
121207	DCM	Height	Linear
121216	DCM	Volume estimated from single 2D region	Volume
121218	DCM	Volume estimated from two non-coplanar 2D regions	Volume
121217	DCM	Volume estimated from three or more non-coplanar 2D regions	Volume
121222	DCM	Volume of sphere	Volume
121221	DCM	Volume of ellipsoid	Volume
121220	DCM	Volume of circumscribed sphere	Volume
121219	DCM	Volume of bounding three dimensional region	Volume

**Figure 207: Quantity measurement observation example**

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.6.2.14"/>
  <code code="439984002" codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNM3"
    displayName="Diameter of structure">
    <originalText>
      <reference value="#Diam2"/>
    </originalText>
  </code>
  <statusCode code="completed"/>
  <effectiveTime value="20060823223912"/>
  <value xsi:type="PQ" value="45" unit="mm">
    codeSystemVersion="1.5"/>
  </value>
  <!-- entryRelationships to SOP Instance Observations may go here -->
</observation>
```

## 5.54 Reaction Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.9 (open)]

**Table 241: Reaction Observation Contexts**

Used By:	Contains Entries:
<a href="#">Allergy Observation</a>	<a href="#">Medication Activity</a>
<a href="#">Medication Activity</a>	<a href="#">Procedure Activity</a> <a href="#">Procedure</a>
<a href="#">Immunization Activity</a>	<a href="#">Severity Observation</a>

This clinical statement represents an undesired symptom, finding, etc., due to an administered or exposed substance. A reaction can be defined with respect to its severity, and can have been treated by one or more interventions.

**Table 242: Reaction Observation Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF #	Fixed Value
observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.9']						
	@classCode	1..1	SHALL		<a href="#">7325</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
	@moodCode	1..1	SHALL		<a href="#">7326</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET< II>	<a href="#">7323</a>	
	@root	1..1	SHALL		<a href="#">10523</a>	2.16.840.1.113883.10.20.22.4.9
	id	1..1	SHALL	II	<a href="#">7329</a>	
	code	1..1	SHALL	CD	<a href="#">7327</a>	
reaction FreeText	text	0..1	SHOULD	ED	<a href="#">7330</a>	
	reference/@value	0..1	SHOULD		<a href="#">7331</a>	
	statusCode	1..1	SHALL	CS	<a href="#">7328</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
	effectiveTime	0..1	SHOULD	TS or IVL< TS>	<a href="#">7332</a>	
	low	0..1	SHOULD	TS	<a href="#">7333</a>	
	high	0..1	SHOULD	TS	<a href="#">7334</a>	
reaction Coded	value	1..1	SHALL	CD	<a href="#">7335</a>	2.16.840.1.113883.3.88.12.3221. 7.4 (Problem)
severity	entryRelationship	0..1	SHOULD		<a href="#">7580</a>	
	@typeCode	1..1	SHALL		<a href="#">7581</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
	@inversionInd	1..1	SHALL		<a href="#">10375</a>	true
	entryRelationship	0..*	MAY		<a href="#">7337</a>	

Name	XPath	Card.	Verb	Data Type	CONF #	Fixed Value
	@typeCode	1..1	SHALL		<a href="#">7338</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
	@inversionInd	1..1	SHALL		<a href="#">7343</a>	true
	entryRelationship	0..*	MAY		<a href="#">7340</a>	
	@typeCode	1..1	SHALL		<a href="#">7341</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
	@inversionInd	1..1	SHALL		<a href="#">7344</a>	true

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7325).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7326).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:7323) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.9"** (CONF:10523).
4. **SHALL** contain exactly one [1..1] **id** (CONF:7329).
5. **SHALL** contain exactly one [1..1] **code** (CONF:7327).
  - a. The value set for this code element has not been specified. Implementers are allowed to use any code system, such as SNOMED CT, a locally determined code, or a nullFlavor (CONF:9107).
6. **SHOULD** contain zero or one [0..1] **text** (CONF:7330).
  - a. The text, if present, **SHOULD** contain zero or one [0..1] **reference/@value** (CONF:7331).
    - i. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:7377).
7. **SHALL** contain exactly one [1..1] **statusCode="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:7328).
8. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:7332).
  - a. The effectiveTime, if present, **SHOULD** contain zero or one [0..1] **low** (CONF:7333).
  - b. The effectiveTime, if present, **SHOULD** contain zero or one [0..1] **high** (CONF:7334).
9. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"**, where the **@code** **SHALL** be selected from ValueSet [Problem 2.16.840.1.113883.3.88.12.3221.7.4 DYNAMIC](#) (CONF:7335).
10. **SHOULD** contain zero or one [0..1] **entryRelationship** (CONF:7580) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode="SUBJ"** Has subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7581).
  - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** TRUE (CONF:10375).

- c. **SHALL** contain exactly one [1..1] **Severity Observation** (2.16.840.1.113883.10.20.22.4.8) (CONF:7582).
11. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:7337) such that it
- a. **SHALL** contain exactly one [1..1] @**typeCode**="RSON" Has reason (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7338).
  - b. **SHALL** contain exactly one [1..1] @**inversionInd**="true" True (CONF:7343).
  - c. **SHALL** contain exactly one [1..1] **Procedure Activity Procedure** (2.16.840.1.113883.10.20.22.4.14) (CONF:7339).
    - i. This procedure activity is intended to contain information about procedures that were performed in response to an allergy reaction (CONF:7583).
12. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:7340) such that it
- a. **SHALL** contain exactly one [1..1] @**typeCode**="RSON" Has reason (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7341).
  - b. **SHALL** contain exactly one [1..1] @**inversionInd**="true" True (CONF:7344).
  - c. **SHALL** contain exactly one [1..1] **Medication Activity** (2.16.840.1.113883.10.20.22.4.16) (CONF:7342).
    - i. This medication activity is intended to contain information about medications that were administered in response to an allergy reaction (CONF:7584).

**Figure 208: Reaction observation example**

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
  <!-- Reaction observation template -->
  <code code="ASSERTION"
    codeSystem="2.16.840.1.113883.5.4"/>
  <statusCode code="completed"/>
  <value xsi:type="CD" code="56018004"
    codeSystem="2.16.840.1.113883.6.96"
    displayName="Wheezing"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"/>
</observation>
```

## 5.55 Referenced Frames Observation

[observation: templateId 2.16.840.1.113883.10.20.6.2.10 (open)]

A Referenced Frames Observation is used if the referenced DICOM SOP instance is a multiframe image and the reference does not apply to all frames. The list of integer values for the referenced frames of a DICOM multiframe image SOP instance is contained in a Boundary Observation nested inside this class.

1. **SHALL** contain exactly one [1..1] @**classCode**="ROIBND" Bounded Region of Interest (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) (CONF:9276).

2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: 2.16.840.1.113883.5.1001 ActMood) (CONF:9277).
3. **SHALL** contain exactly one [1..1] code="121190" Referenced Frames (CodeSystem: 1.2.840.10008.2.16.4 DCM) (CONF:9278).
4. **SHALL** contain exactly one [1..1] entryRelationship (CONF:9279).
  - a. This entryRelationship **SHALL** contain exactly one [1..1] @typeCode="COMP" Component (CodeSystem: 2.16.840.1.113883.5.1002 HL7ActRelationshipType) (CONF:9280).
  - b. This entryRelationship **SHALL** contain exactly one [1..1] **Boundary Observation** (templateId:2.16.840.1.113883.10.20.6.2.11) (CONF:9281).

**Figure 209: Referenced frames observation example**

```
<observation classCode="ROIBND" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.6.2.10"/>
  <code code="121190" codeSystem="1.2.840.10008.2.16.4"
    displayName="Referenced Frames"/>
  <entryRelationship typeCode="COMP">
    <!-- Boundary Observation -->
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.6.2.11"/>
      <code code="113036" codeSystem="1.2.840.10008.2.16.4"
        displayName="Frames for Display"/>
      <value xsi:type="INT" value="1"/>
    </observation>
  </entryRelationship>
</observation>
```

## 5.56 Result Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.2 (open)]

**Table 243: Result Observation Contexts**

Used By:	Contains Entries:
<a href="#">Result Organizer</a> <a href="#">Functional Status Section</a>	

This clinical statement represents details of a lab, radiology, or other study performed on a patient.

**Table 244: Result Observation Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.2']					
	@classCode	1..1	SHALL		<a href="#">7130</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
	@moodCode	1..1	SHALL		<a href="#">7131</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET<II>	<a href="#">7136</a>	
	@root	1..1	SHALL		<a href="#">9138</a>	2.16.840.1.113883.10.20.2 2.4.2
resultID	id	1..*	SHALL	II	<a href="#">7137</a>	
resultType	code	1..1	SHALL	CD	<a href="#">7133</a>	
	text	0..1	SHOULD	ED	<a href="#">7138</a>	
	reference /@value	0..1	SHOULD		<a href="#">7139</a>	
result Status	statusCode	1..1	SHALL	CS	<a href="#">7134</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
resultDate Time	effectiveTime	1..1	SHALL	TS or IVL<T S>	<a href="#">7140</a>	
resultValue	value	1..1	SHALL	ANY	<a href="#">7143</a>	
result Interpretation	interpretation Code	0..*	SHOULD	CE	<a href="#">7147</a>	
	methodCode	0..1	MAY	SET<C E>	<a href="#">7148</a>	
	targetSiteCode	0..1	MAY	SET<C D>	<a href="#">7153</a>	
	author	0..1	MAY		<a href="#">7149</a>	
result Reference Range	referenceRange	0..*	SHOULD		<a href="#">7150</a>	
	observation Range	1..1	SHALL		<a href="#">7151</a>	
	code	0..0	SHALL NOT		<a href="#">7152</a>	

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7130).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7131).
3. **SHALL** contain exactly one [1..1] templateId (CONF:7136) such that it

- a. **SHALL** contain exactly one [1..1]   
 @root="2.16.840.1.113883.10.20.22.4.2" (CONF:9138).
- 4. **SHALL** contain at least one [1..\*] **id** (CONF:7137).
- 5. **SHALL** contain exactly one [1..1] **code** (CONF:7133).
  - a. **SHOULD** be from LOINC (CodeSystem: 2.16.840.1.113883.6.1) or SNOMED CT (CodeSystem: 2.16.840.1.113883.6.96) (CONF:7166).
  - b. Laboratory results **SHOULD** be from LOINC (CodeSystem: 2.16.840.1.113883.6.1) or other constrained terminology named by the US Department of Health and Human Services Office of National Coordinator or other federal agency. Local and/or regional codes for laboratory results are allowed. The Local and/or regional codes **SHOULD** be sent in the translation element. See the Local code example figure (CONF:9109).
- 6. **SHOULD** contain zero or one [0..1] **text** (CONF:7138).
  - a. The text, if present, **SHOULD** contain zero or one [0..1] **reference/@value** (CONF:7139).
    - i. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:9119).
- 7. **SHALL** contain exactly one [1..1] **statusCode**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:7134).
- 8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:7140).
  - a. represents clinically effective time of the measurement, which may be when the measurement was performed (e.g., a BP measurement), or may be when sample was taken (and measured some time afterwards) (CONF:7141).
- 9. **SHALL** contain exactly one [1..1] **value** with @xsi:type="ANY" (CONF:7143).
- 10. **SHOULD** contain zero or more [0..\*] **interpretationCode** (CONF:7147).
- 11. **MAY** contain zero or one [0..1] **methodCode** (CONF:7148).
- 12. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:7153).
- 13. **MAY** contain zero or one [0..1] **author** (CONF:7149).
- 14. **SHOULD** contain zero or more [0..\*] **referenceRange** (CONF:7150).
  - a. The referenceRange, if present, **SHALL** contain exactly one [1..1] **observationRange** (CONF:7151).
    - i. This observationRange **SHALL NOT** contain [0..0] **code** (CONF:7152).

**Figure 210: Result observation example**

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Result observation template -->
  <templateId root="2.16.840.1.113883.10.20.22.4.2"/>
  <id root="107c2dc0-67a5-11db-bd13-0800200c9a66"/>
  <code code="30313-1" displayName="HGB" codeSystem="2.16.840.1.113883.6.1"
        codeSystemName="LOINC"/>
  <statusCode code="completed"/>
  <effectiveTime value="200003231430"/>
  <value xsi:type="PQ" value="13.2" unit="g/dl"/>
  <interpretationCode code="N" codeSystem="2.16.840.1.113883.5.83"/>

  <methodCode/>
  <targetSiteCode/>

  <author>
    <time/>
    <assignedAuthor>
      <id/>
    </assignedAuthor>
  </author>

  <referenceRange>
    <observationRange>
      <text>M 13-18 g/dl; F 12-16 g/dl</text>
    </observationRange>
  </referenceRange>
</observation>
```

**Figure 211: No evaluation procedures (e.g., labs/x-rays) performed example**

```
<entry>
  <act classCode="ACT" moodCode="EVN" negationInd="true">
    <code code="386053000" codeSystem="2.16.840.1.113883.6.96"
          displayName="evaluation procedure"/>
    <text>No Evaluation Procedures Performed</text>
    <statusCode code="completed"/>
  </act>
</entry>
```

**Figure 212: Local code example**

```
<code code="30313-1" displayName="HGB" codeSystem="2.16.840.1.113883.6.1"
      codeSystemName="LOINC">
  <translation code="123-4"
    displayName="Example"
    codeSystem="2.16.840.1.113883.19.5"
    codeSystemName="Regional Example Code System"/>
</code>
```

## 5.57 Result Organizer

[organizer: templateId 2.16.840.1.113883.10.20.22.4.1 (open)]

**Table 245: Result Organizer Contexts**

Used By:	Contains Entries:
<a href="#">Results Section (entries required)</a>	<a href="#">Result Observation</a>
<a href="#">Results Section (entries optional)</a>	

This clinical statement identifies set of result observations. It contains information applicable to all of the contained result observations. Result type codes categorize a result into one of several commonly accepted values (e.g., "Hematology", "Chemistry", "Nuclear Medicine"). These values are often implicit in the Organizer/code (e.g., an Organizer/code of "complete blood count" implies a ResultTypeCode of "Hematology"). This template requires Organizer/code to include a ResultTypeCode either directly or as a translation of a code from some other code system.

An appropriate nullFlavor can be used when a single result observation is contained in the organizer, and organizer/code or organizer/id is unknown.

**Table 246: Result Organizer Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
organizer[templateId/@root = '2.16.840.1.113883.10.20.22.4.1']						
	@classCode	1..1	SHALL		<a href="#">7121</a>	2.16.840.1.113883.5.6 (HL7ActClass)
	@moodCode	1..1	SHALL		<a href="#">7122</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET<II>	<a href="#">7126</a>	
	@root	1..1	SHALL		<a href="#">9134</a>	2.16.840.1.113883.10.20.22.4.1
	id	1..*	SHALL	II	<a href="#">7127</a>	
	code	1..1	SHALL	CD	<a href="#">7128</a>	
	statusCode	1..1	SHALL	CS	<a href="#">7123</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
	component	1..*	SHALL		<a href="#">7124</a>	

1. **SHALL** contain exactly one [1..1] @classCode (CONF:7121).
  - a. **SHOULD** contain zero or one [0..1] @classCode="CLUSTER" Cluster (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) OR **SHOULD** contain zero or one [0..1] @classCode="BATTERY" Battery (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) (CONF:7165).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7122).
3. **SHALL** contain exactly one [1..1] templateId (CONF:7126) such that it

- a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.1" (CONF:9134).
4. **SHALL** contain at least one [1..\*] **id** (CONF:7127).
  5. **SHALL** contain exactly one [1..1] **code** (CONF:7128).
    - a. **SHOULD** be selected from LOINC (codeSystem 2.16.840.1.113883.6.1) or SNOMED CT (codeSystem 2.16.840.1.113883.6.96), and **MAY** be selected from CPT-4 (codeSystem 2.16.840.1.113883.6.12) (CONF:7164).
    - b. Laboratory results **SHOULD** be from LOINC (CodeSystem: 2.16.840.1.113883.6.1) or other constrained terminology named by the US Department of Health and Human Services Office of National Coordinator or other federal agency. Local and/or regional codes for laboratory results **SHOULD** also be allowed (CONF:9108).
  6. **SHALL** contain exactly one [1..1] **statusCode**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:7123).
  7. **SHALL** contain at least one [1..\*] **component** (CONF:7124) such that it
    - a. **SHALL** contain exactly one [1..1] **Result Observation** (2.16.840.1.113883.10.20.22.4.2) (CONF:7125).

**Figure 213: Result organizer example**

```

<organizer classCode="BATTERY" moodCode="EVN">
  <!-- Result organizer template -->
  <templateId root="2.16.840.1.113883.10.20.22.4.1"/>
  <id root="7d5a02b0-67a4-11db-bd13-0800200c9a66"/>
  <code code="57021-8" displayName="CBC W Auto Differential panel"
        codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
  <statusCode code="completed"/>

  <component>
    <observation classCode="OBS" moodCode="EVN">
      <!-- Result observation template -->
      <templateId root="2.16.840.1.113883.10.20.22.4.2"/>
      ...
    </observation>
  </component>

  <component>
    <observation classCode="OBS" moodCode="EVN">
      <!-- Result observation template -->
      <templateId root="2.16.840.1.113883.10.20.22.4.2"/>
      ...
    </observation>
  </component>
  ...
</organizer>

```

## 5.58 Series Act

[act: templateId 2.16.840.1.113883.10.20.22.4.63 (open) ]

**Table 247: Series Act Contexts**

Used By:	Contains Entries:
<a href="#">Study Act</a>	<a href="#">Sop Instance Observation</a>

A Series Act contains the DICOM series information for referenced DICOM composite objects. The series information defines the attributes that are used to group composite instances into distinct logical sets. Each series is associated with exactly one study. Series Act clinical statements are only instantiated in the DICOM Object Catalog section inside a Study Act, and thus do not require a separate templateId; in other sections, the SOP Instance Observation is included directly.

**Table 248: Series Act Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
act[templateId/@root = '2.16.840.1.113883.10.20.22.4.63']						
	@classCode	1..1	SHALL		<a href="#">9222</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ACT
	@moodCode	1..1	SHALL		<a href="#">9223</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	id	1..*	SHALL	II	<a href="#">9224</a>	
	@root	1..1	SHALL		<a href="#">9225</a>	
	@extension	0..0	SHALL NOT		<a href="#">9226</a>	
	code	1..1	SHALL	CD	<a href="#">9228</a>	1.2.840.10008.2.16.4 (DCM) = 113015
	qualifier	1..1	SHALL	SET<CS>	<a href="#">9229</a>	
	name	1..1	SHALL	PN	<a href="#">9230</a>	1.2.840.10008.2.16.4 (DCM) = 121139
	value	1..1	SHALL	ANY	<a href="#">9231</a>	
	text	0..1	MAY	ED	<a href="#">9233</a>	
	effectiveTime	0..1	SHOULD	TS or IVL<TS>	<a href="#">9235</a>	
	entryRelationship	1..*	SHALL		<a href="#">9237</a>	
	@typeCode	1..1	SHALL		<a href="#">9238</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP

1. **SHALL** contain exactly one [1..1] @classCode="ACT" Act (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:9222).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:9223).

3. **SHALL** contain at least one [1..\*] **id** (CONF:9224).
  - a. Such ids **SHALL** contain exactly one [1..1] @root (CONF:9225).
    - i. The @root contains the OID of the study instance UID since DICOM study ids consist only of an OID (CONF:9227).
    - b. Such ids **SHALL NOT** contain [0..0] @extension (CONF:9226).
4. **SHALL** contain exactly one [1..1] **code**="113015" (CodeSystem: DCM 1.2.840.10008.2.16.4) (CONF:9228).
  - a. This code **SHALL** contain exactly one [1..1] **qualifier** (CONF:9229).
    - i. This qualifier **SHALL** contain exactly one [1..1] **name**="121139" Modality (CodeSystem: DCM 1.2.840.10008.2.16.4) (CONF:9230).
    - ii. This qualifier **SHALL** contain exactly one [1..1] **value** with @xsi:type="ANY" (CONF:9231).
      1. 1. The value element code contains a modality code and codeSystem is 1.2.840.10008.2.16.4 (CONF:9232).
5. **MAY** contain zero or one [0..1] **text** (CONF:9233).
  - a. If present, the text element contains the description of the series (CONF:9234).
6. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:9235).
  - a. If present, the effectiveTime contains the time the series was started (CONF:9236).
7. **SHALL** contain at least one [1..\*] **entryRelationship** (CONF:9237) such that it
  - a. **SHALL** contain exactly one [1..1] @typeCode="COMP" Component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:9238).
  - b. **SHALL** contain exactly one [1..1] [Sop Instance Observation](#) (2.16.840.1.113883.10.20.6.2.8) (CONF:9239).

**Figure 214: Series act example**

```
<act classCode="ACT" moodCode="EVN">
  <id root="1.2.840.113619.2.62.994044785528.20060823223142485051"/>
  <code code="113015" codeSystem="1.2.840.10008.2.16.4"
    codeSystemName="DCM" displayName="Series">
    <qualifier>
      <name code="121139" codeSystem="1.2.840.10008.2.16.4"
        codeSystemName="DCM"
        displayName="Modality"> </name>
      <value code="CR" codeSystem="1.2.840.10008.2.16.4"
        codeSystemName="DCM"
        displayName="Computed Radiography"> </value>
    </qualifier>
  </code>
  <!-- **** SOP Instance UID *** -->
  <entryRelationship typeCode="COMP">
    <observation classCode="DGIMG" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.6.2.8"/>
      ...
    </observation>
  </entryRelationship>
</act>
```

## 5.59 Service Delivery Location

[participantRole: templateId 2.16.840.1.113883.10.20.22.4.32 (open)]

**Table 249: Service Delivery Location Contexts**

Used By:	Contains Entries:
<a href="#">Procedure Activity Procedure</a> <a href="#">Procedure Activity Observation</a> <a href="#">Procedure Activity Act</a> <a href="#">Encounter Activities</a>	

This clinical statement represents the location of a service event where an act, observation or procedure took place.

**Table 250: Service Delivery Location Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	participantRole[templateId/@root = '2.16.840.1.113883.10.20.22.4.32']					
	@classCode	1..1	SHALL		<a href="#">7758</a>	2.16.840.1.113883.5.111 (RoleCode) = SDLOC
	templateId	1..1	SHALL	SET<II>	<a href="#">7635</a>	
	@root	1..1	SHALL		<a href="#">10524</a>	2.16.840.1.113883.10.20.22.4.32
	code	1..1	SHALL	CE	<a href="#">7759</a>	2.16.840.1.113883.1.11.20275 (HealthcareServiceLocation)
	addr	0..*	SHOULD	SET<AD>	<a href="#">7760</a>	
	telecom	0..*	SHOULD	SET<TEL>	<a href="#">7761</a>	
	playingEntity	0..1	MAY		<a href="#">7762</a>	
	@classCode	1..1	SHALL		<a href="#">7763</a>	2.16.840.1.113883.5.41 (EntityClass) = PLC
	name	0..1	MAY	PN	<a href="#">7764</a>	

1. **SHALL** contain exactly one [1..1] **@classCode="SDLOC"** (CodeSystem: RoleCode 2.16.840.1.113883.5.111) (CONF:7758).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:7635) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.32"** (CONF:10524).
3. **SHALL** contain exactly one [1..1] **code**, where the **@code** **SHALL** be selected from ValueSet HealthcareServiceLocation 2.16.840.1.113883.1.11.20275 **DYNAMIC** (CONF:7759).
4. **SHOULD** contain zero or more [0..\*] **addr** (CONF:7760).
5. **SHOULD** contain zero or more [0..\*] **telecom** (CONF:7761).
6. **MAY** contain zero or one [0..1] **playingEntity** (CONF:7762).
  - a. The playingEntity, if present, **SHALL** contain exactly one [1..1] **@classCode="PLC"** (CodeSystem: EntityClass 2.16.840.1.113883.5.41) (CONF:7763).
    - i. This **@classCode** **MAY** contain zero or one [0..1] **name** (CONF:7764).

**Table 251: HealthcareServiceLocation Value Set (excerpt)**

Value Set: HealthcareServiceLocation 2.16.840.1.113883.1.11.20275 DYNAMIC		
Code System(s): HealthcareServiceLocation 2.16.840.1.113883.6.259		
Description:	A comprehensive classification of locations and settings where healthcare services are provided. This value set is based on the National Healthcare Safety Network (NHSN) location code system that has been developed over a number of years through CDC's interaction with a variety of healthcare facilities and is intended to serve a variety of reporting needs where coding of healthcare service locations is required. Full value set may be found at: <a href="http://phinvads.cdc.gov/vads/SearchAllVocab_search.action?searchOptions=searchText=Healthcare+Service+Location+%28NHSN%29">http://phinvads.cdc.gov/vads/SearchAllVocab_search.action?searchOptions=searchText=Healthcare+Service+Location+%28NHSN%29</a>	
Code	Code System	Print Name
1024-9	HealthcareServiceLocation	Critical Care Unit
1117-1	HealthcareServiceLocation	Family Medicine Clinic
1128-8	HealthcareServiceLocation	Pediatric Clinic
1160-1	HealthcareServiceLocation	Urgent Care Center
...		

**Figure 215: Service delivery location example**

```
<participantRole classCode="SDLOC">
  <templateId root="2.16.840.1.113883.10.20.22.4.32"/>
  <code code="GACH"
    codeSystem="2.16.840.1.113883.5.111"
    codeSystemName="HL7RoleCode"
    displayName="General Acute Care Hospital"/>
  <addr>
    <streetAddressLine>17 Daws Rd.</streetAddressLine>
    <city>Blue Bell</city>
    <state>MA</state>
    <postalCode>02368</postalCode>
    <country>US</country>
  </addr>
  <telecom nullFlavor="UNK"/>
  <playingEntity classCode="PLC">
    <name>Good Health Clinic</name>
  </playingEntity>
</participantRole>
```

## 5.60 Severity Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.8 (open)]

**Table 252: Severity Observation Contexts**

Used By:	Contains Entries:
<a href="#">Reaction Observation</a> <a href="#">Allergy Observation</a>	

This clinical statement represents the gravity of the problem, such as allergy or reaction, in terms of its actual or potential impact on the patient. The Severity Observation can be associated with an Allergy Observation, Reaction Observation or both. When the Severity Observation is associated directly with an Allergy it characterizes the Allergy. When the Severity Observation is associated with a Reaction Observation it characterizes a Reaction. A person may manifest many symptoms in a reaction to a single substance, and each reaction to the substance can be represented. However, each reaction observation can have only one severity observation associated with it. For example, someone may have a rash reaction observation as well as an itching reaction observation, but each can have only one level of severity

**Table 253: Severity Observation Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.8']					
	@classCode	1..1	SHALL		<a href="#">7345</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
	@moodCode	1..1	SHALL		<a href="#">7346</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET< II>	<a href="#">7347</a>	
	@root	1..1	SHALL		<a href="#">10525</a>	2.16.840.1.113883.10.20.22 .4.8
	code	1..1	SHALL	CD	<a href="#">7349</a>	2.16.840.1.113883.5.4 (ActCode) = SEV
severityFreeText	text	0..1	SHOULD	ED	<a href="#">7350</a>	
	reference /@value	0..1	SHOULD		<a href="#">7351</a>	
	statusCode	1..1	SHALL	CS	<a href="#">7352</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
severity Coded	value	1..1	SHALL	CD	<a href="#">7356</a>	2.16.840.1.113883.3.88.12. 3221.6.8 (Problem Severity)
	interpretation Code	0..*	SHOULD	CE	<a href="#">9117</a>	
	code	0..1	SHOULD	CE	<a href="#">9118</a>	2.16.840.1.113883.1.11.78 (Observation Interpretation (HL7))

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7345).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7346).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:7347) such that it
  - a. **SHALL** contain exactly one [1..1]  
**@root="2.16.840.1.113883.10.20.22.4.8"** (CONF:10525).
4. **SHALL** contain exactly one [1..1] **code="SEV"** Severity Observation (CodeSystem: ActCode 2.16.840.1.113883.5.4) (CONF:7349).
5. **SHOULD** contain zero or one [0..1] **text** (CONF:7350).
  - a. The text, if present, **SHOULD** contain zero or one [0..1] **reference/@value** (CONF:7351).
    - i. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:7378).
6. **SHALL** contain exactly one [1..1] **statusCode="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:7352).

7. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the @code **SHALL** be selected from ValueSet Problem Severity  
2.16.840.1.113883.3.88.12.3221.6.8 **DYNAMIC** (CONF:7356).
8. **SHOULD** contain zero or more [0..\*] **interpretationCode** (CONF:9117).
  - a. The interpretationCode, if present, **SHOULD** contain zero or one [0..1] **code**, where the @code **SHOULD** be selected from ValueSet Observation Interpretation (HL7) 2.16.840.1.113883.1.11.78 **DYNAMIC** (CONF:9118).

**Table 254: Problem Severity Value Set**

Value Set: Problem Severity 2.16.840.1.113883.3.88.12.3221.6.8 DYNAMIC		
Code System(s): SNOMED CT 2.16.840.1.113883.6.96		
Description: This is a description of the level of the severity of the problem.		
Code	Code System	Print Name
255604002	SNOMED CT	Mild (qualifier value)
371923003	SNOMED CT	Mild to moderate (qualifier value)
6736007	SNOMED CT	Moderate (severity modifier) (qualifier value)
371924009	SNOMED CT	Moderate to severe (qualifier value)
24484000	SNOMED CT	Severe (severity modifier) (qualifier value)
399166001	SNOMED CT	Fatal (qualifier value)

**Figure 216: Severity observation example**

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Severity observation template -->
  <templateId root="2.16.840.1.113883.10.20.22.4.8"/>
  <code code="SEV"
    displayName="Severity Observation"
    codeSystem="2.16.840.1.113883.5.4"
    codeSystemName="ActCode"/>

  <text>
    <reference value="#severity"/>
  </text>

  <statusCode code="completed"/>
  <value xsi:type="CD" code="371924009" displayName="Moderate to severe"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"/>
</observation>

```

## 5.61 Social History Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.38 (open) ]

**Table 255: Social History Observation Contexts**

Used By:	Contains Entries:
<a href="#">Social History Section</a>	

This Social History Observation defines the patient's occupational, personal (e.g., lifestyle), social, and environmental history and health risk factors, as well as administrative data such as marital status, race, ethnicity, and religious affiliation.

**Table 256: Social History Observation Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.38']						
	@classCode	1..1	SHALL		<a href="#">8548</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
	@moodCode	1..1	SHALL		<a href="#">8549</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET<I I>	<a href="#">8550</a>	
	@root	1..1	SHALL		<a href="#">10526</a>	2.16.840.1.113883.10.20.22 .4.38
	id	1..*	SHALL	II	<a href="#">8551</a>	
	code	0..1	SHOULD	CD	<a href="#">8558</a>	
socialHistory Type	code	0..1	SHOULD		<a href="#">8896</a>	2.16.840.1.113883.3.88.12. 80.60 (Social History Type Set Definition)
socialHistory FreeText	original Text	0..1	SHOULD	ED	<a href="#">8893</a>	
	reference /@value	0..1	SHOULD		<a href="#">8894</a>	
	statusCode	1..1	SHALL	CS	<a href="#">8553</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
socialHistory ObservedValue	value	0..1	SHOULD	ANY	<a href="#">8559</a>	

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:8548).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:8549).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8550) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.38" (CONF:10526).

4. **SHALL** contain at least one [1..\*] **id** (CONF:8551).
5. **SHOULD** contain zero or one [0..1] **code** (CONF:8558).
  - a. The code, if present, **SHOULD** contain zero or one [0..1] **code**, where the @code **SHOULD** be selected from ValueSet Social History Type Set Definition 2.16.840.1.113883.3.88.12.80.60 **STATIC** (2008-12-18 CONF:8896).
  - b. The code, if present, **SHOULD** contain zero or one [0..1] **originalText** (CONF:8893).
    - i. The originalText, if present, **SHOULD** contain zero or one [0..1] **reference/@value** (CONF:8894).
      1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:8895).
6. **SHALL** contain exactly one [1..1] **statusCode**="completed" (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:8553).
7. **SHOULD** contain zero or one [0..1] **value** with @xsi:type="ANY" (CONF:8559).
  - a. Observation/value can be any data type. Where Observation/value is a physical quantity, the unit of measure **SHALL** be expressed using a valid Unified Code for Units of Measure (UCUM) expression (CONF:8555).

**Table 257: Social History Type Set Definition Value Set**

Value Set: Social History Type Set Definition 2.16.840.1.113883.3.88.12.80.60 STATIC 2008-12-18		
Code System(s): SNOMED CT 2.16.840.1.113883.6.96		
Code	Code System	Print Name
229819007	SNOMED CT	Tobacco use and exposure
256235009	SNOMED CT	Exercise
160573003	SNOMED CT	Alcohol intake
364393001	SNOMED CT	Nutritional observable
364703007	SNOMED CT	Employment detail
425400000	SNOMED CT	Toxic exposure status
363908000	SNOMED CT	Details of drug misuse behavior
228272008	SNOMED CT	Health-related behavior
105421008	SNOMED CT	Educational Achievement

**Figure 217: Social history observation template example**

```
<observation classCode="OBS" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.38"/>
    <!-- ** Social history observation template ** -->
    <id root="45efb604-7049-4a2e-ad33-d38556c9636c"/>
    <code code="230056004" codeSystem="2.16.840.1.113883.6.96"
        displayName="Cigarette smoking">
        <originalText>
            <reference value="#soc2"/>
        </originalText>
    </code>
    <statusCode code="completed"/>
    <effectiveTime>
        <low value="1973"/>
    </effectiveTime>
    <value xsi:type="ST">None</value>
</observation>
```

## 5.62 SOP Instance Observation

[observation: templateId 2.16.840.1.113883.10.20.6.2.8 (open) ]

**Table 258: Sop Instance Observation Contexts**

Used By:	Contains Entries:
<a href="#">Series Act</a> <a href="#">Text Observation</a> <a href="#">Code Observations</a> <a href="#">Quantity Measurement Observation</a>	<a href="#">Purpose of Reference Observation</a> <a href="#">Referenced Frames Observation</a> <a href="#">Sop Instance Observation</a>

A SOP Instance Observation contains the DICOM Service Object Pair (SOP) Instance information for referenced DICOM composite objects. The SOP Instance act class is used to reference both image and non-image DICOM instances. The text attribute contains the DICOM WADO reference.

**Table 259: Sop Instance Observation Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	observation[templateId/@root = '2.16.840.1.113883.10.20.6.2.8']					
	@classCode	1..1	SHALL		<a href="#">9240</a>	2.16.840.1.113883.5.6 (HL7ActClass) = DGIMG
	@moodCode	1..1	SHALL		<a href="#">9241</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	id	1..*	SHALL	II	<a href="#">9242</a>	
	code	1..1	SHALL	CD	<a href="#">9244</a>	
	text	0..1	SHOULD	ED	<a href="#">9246</a>	
	@mediaType	1..1	SHALL		<a href="#">9247</a>	application/dicom
	reference	1..1	SHALL		<a href="#">9248</a>	
	effectiveTime	0..1	SHOULD	TS or IVL<TS>	<a href="#">9250</a>	
	@value	1..1	SHALL		<a href="#">9251</a>	
	low	0..0	SHALL NOT	TS	<a href="#">9252</a>	
	high	0..0	SHALL NOT	TS	<a href="#">9253</a>	
	entryRelationship	0..*	MAY		<a href="#">9254</a>	
	@typeCode	1..1	SHALL		<a href="#">9255</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
	entryRelationship	0..*	MAY		<a href="#">9257</a>	
	@typeCode	1..1	SHALL		<a href="#">9258</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
	entryRelationship	0..*	MAY		<a href="#">9260</a>	
	@typeCode	1..1	SHALL		<a href="#">9261</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP

1. **SHALL** contain exactly one [1..1] @classCode="DGIMG" Diagnostic Image (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:9240).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:9241).
3. **SHALL** contain at least one [1..\*] id (CONF:9242).
  - a. The @root contains an OID representing the DICOM SOP Instance UID (CONF:9243).
4. **SHALL** contain exactly one [1..1] code (CONF:9244).
  - a. **SHALL** contain codeSystem 1.2.840.10008.2.6.1 DCMUID and code is an OID for a valid SOP class name UID (CONF:9245).
5. **SHOULD** contain zero or one [0..1] text (CONF:9246).

- a. The text, if present, **SHALL** contain exactly one [1..1] `@mediaType="application/dicom"` (CONF:9247).
- b. The text, if present, **SHALL** contain exactly one [1..1] **reference** (CONF:9248).
  - i. **SHALL** contain a @value which contains a WADO reference as a URI (CONF:9249).
- 6. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:9250).
  - a. The effectiveTime, if present, **SHALL** contain exactly one [1..1] `@value` (CONF:9251).
  - b. The effectiveTime, if present, **SHALL NOT** contain [0..0] **low** (CONF:9252).
  - c. The effectiveTime, if present, **SHALL NOT** contain [0..0] **high** (CONF:9253).
- 7. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:9254) such that it
  - a. **SHALL** contain exactly one [1..1] `@typeCode="SUBJ"` Has Subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:9255).
  - b. **SHALL** contain exactly one [1..1] [Sop Instance Observation](#) (2.16.840.1.113883.10.20.6.2.8) (CONF:9256).
- 8. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:9257) such that it
  - a. **SHALL** contain exactly one [1..1] `@typeCode="RSON"` Has Reason (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:9258).
  - b. **SHALL** contain exactly one [1..1] [Purpose of Reference Observation](#) (2.16.840.1.113883.10.20.6.2.9) (CONF:9259).
- 9. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:9260) such that it
  - a. This entryRelationship **SHALL** be present if the referenced DICOM object is a multiframe object and the reference does not apply to all frames (CONF:9263).
  - b. **SHALL** contain exactly one [1..1] `@typeCode="COMP"` Has Component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:9261).
  - c. **SHALL** contain exactly one [1..1] [Referenced Frames Observation](#) (2.16.840.1.113883.10.20.6.2.10) (CONF:9262).

**Figure 218: SOP instance observation example**

```
<observation classCode="DGIMG" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.6.2.8"/>
  <id root="1.2.840.113619.2.62.994044785528.20060823.200608232232322.3"/>
  <code code="1.2.840.10008.5.1.4.1.1.1"
        codeSystem="1.2.840.10008.2.6.1" codeSystemName="DCMUID"
        displayName="Computed Radiography Image Storage">
    </code>
  <text mediaType="application/dicom">
    <reference
      value="http://www.example.org/wado?requestType=WADO&studyUID=1.2.840.113619
              .2.62.994044785528.114289542805&seriesUID=1.2.840.113619.2.62.994044785528.
              20060823223142485051&objectUID=1.2.840.113619.2.62.994044785528.20060823.20
              0608232232322.3&contentType=application/dicom"/>
    <!--reference to image 1 (PA) -->
  </text>
  <effectiveTime value="20060823223232"/>
</observation>
```

## 5.63 Study Act

[act: templateId 2.16.840.1.113883.10.20.6.2.6(open) ]

**Table 260: Study Act Contexts**

Used By:	Contains Entries:
<a href="#">DICOM Object Catalog Section - DCM 121181</a>	<a href="#">Series Act</a>

A Study Act contains the DICOM study information that defines the characteristics of a referenced medical study performed on a patient. A study is a collection of one or more series of medical images, presentation states, SR documents, overlays, and/or curves that are logically related for the purpose of diagnosing a patient. Each study is associated with exactly one patient. A study may include composite instances that are created by a single modality, multiple modalities, or by multiple devices of the same modality. The study information is modality-independent. Study Act clinical statements are only instantiated in the DICOM Object Catalog section; in other sections, the SOP Instance Observation is included directly.

**Table 261: Study Act Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
act[templateId/@root = '2.16.840.1.113883.10.20.6.2.6']						
	@classCode	1..1	SHALL		<a href="#">9207</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ACT
	@moodCode	1..1	SHALL		<a href="#">9208</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET<I I>	<a href="#">9209</a>	
	@root	1..1	SHALL		<a href="#">10533</a>	2.16.840.1.113883.10.20.6.2.6
	id	1..*	SHALL	II	<a href="#">9210</a>	
	@root	1..1	SHALL		<a href="#">9213</a>	
	@extension	0..0	SHALL NOT		<a href="#">9211</a>	
	code	1..1	SHALL	CD	<a href="#">9214</a>	1.2.840.10008.2.16.4 (DCM) = 113014
	text	0..1	MAY	ED	<a href="#">9215</a>	
	effectiveTime	0..1	SHOULD	TS or IVL<TS>	<a href="#">9216</a>	
	entryRelationship	1..*	SHALL		<a href="#">9219</a>	
	@typeCode	1..1	SHALL		<a href="#">9220</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP

1. **SHALL** contain exactly one [1..1] **@classCode="ACT"** (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:9207).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:9208).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:9209) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.6.2.6"** (CONF:10533).
4. **SHALL** contain at least one [1..\*] **id** (CONF:9210).
  - a. Such ids **SHALL** contain exactly one [1..1] **@root** (CONF:9213).
    - i. The @root contains the OID of the study instance UID since DICOM study ids consist only of an OID (CONF:9212).
  - b. Such ids **SHALL NOT** contain [0..0] **@extension** (CONF:9211).
5. **SHALL** contain exactly one [1..1] **code="113014"** (CodeSystem: DCM 1.2.840.10008.2.16.4) (CONF:9214).
6. **MAY** contain zero or one [0..1] **text** (CONF:9215).
  - a. If present, the text element contains the description of the study (CONF:9217).

7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:9216).
  - a. If present, the effectiveTime contains the time the study was started (CONF:9218).
8. **SHALL** contain at least one [1..\*] **entryRelationship** (CONF:9219) such that it
  - a. **SHALL** contain exactly one [1..1] @typeCode="COMP" Component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:9220).
  - b. **SHALL** contain exactly one [1..1] **Series Act** (2.16.840.1.113883.10.20.22.4.63) (CONF:9221).

**Figure 219: Study act example**

```
<act classCode="ACT" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.6.2.6"/>
  <id root="1.2.840.113619.2.62.994044785528.114289542805"/>
  <code code="113014" codeSystem="1.2.840.10008.2.16.4"
        codeSystemName="DCM" displayName="Study"/>

  <!-- ***** Series *****-->
  <entryRelationship typeCode="COMP">
    <act classCode="ACT" moodCode="EVN">
      ...
    </act>
  </entryRelationship>
</act>
```

## 5.64 Text Observation

[observation: templateId 2.16.840.1.113883.10.20.6.2.12(open) ]

**Table 262: Text Observation Contexts**

Used By:	Contains Entries:
<u><a href="#">Findings Section (DIR)</a></u>	<u><a href="#">Quantity Measurement Observation</a></u> <u><a href="#">Sop Instance Observation</a></u>

DICOM Template 2000 specifies that Imaging Report Elements of Value Type Text are contained in sections. The Imaging Report Elements are inferred from Basic Diagnostic Imaging Report Observations that consist of image references and measurements (linear, area, volume, and numeric). Text DICOM Imaging Report Elements in this context are mapped to CDA text observations that are section components and are related to the SOP Instance Observations (templateId 2.16.840.1.113883.10.20.6.2.8) or Quantity Measurement Observations (templateId 2.16.840.1.113883.10.20.6.2.14) by the SPRT (Support) act relationship.

A Text Observation is required if the findings in the section text are represented as inferred from SOP Instance Observations.

**Table 263: Text Observation Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	observation[templateId/@root = '2.16.840.1.113883.10.20.6.2.12']					
	@classCode	1..1	SHALL		<a href="#">9288</a>	2.16.840.1.113883.5.4 (ActCode) = OBS
	@moodCode	1..1	SHALL		<a href="#">9289</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET<II>	<a href="#">9290</a>	
	@root	1..1	SHALL		<a href="#">10534</a>	2.16.840.1.113883.10.20.6.2.12
	code	1..1	SHALL	CD	<a href="#">9291</a>	
	value	1..1	SHALL		<a href="#">9292</a>	
	@xsi:type	1..1	SHALL		<a href="#">9293</a>	ED
	effectiveTime	0..1	SHOULD	TS or IVL<TS>	<a href="#">9294</a>	
	text	0..1	MAY	ED	<a href="#">9295</a>	
	reference /@value	0..1	SHOULD		<a href="#">9296</a>	
	entryRelationship	0..*	MAY		<a href="#">9298</a>	
	@typeCode	1..1	SHALL		<a href="#">9299</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SPRT
	entryRelationship	0..*	MAY		<a href="#">9301</a>	
	@typeCode	1..1	SHALL		<a href="#">9302</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SPRT

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: ActCode 2.16.840.1.113883.5.4) (CONF:9288).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:9289).
3. **SHALL** contain exactly one [1..1] templateId (CONF:9290) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.6.2.12" (CONF:10534).
4. **SHALL** contain exactly one [1..1] code (CONF:9291).
5. **SHALL** contain exactly one [1..1] value (CONF:9292).
  - a. This value **SHALL** contain exactly one [1..1] @xsi:type, where the @code="ED" (CONF:9293).
6. **SHOULD** contain zero or one [0..1] effectiveTime (CONF:9294).
7. **MAY** contain zero or one [0..1] text (CONF:9295).
  - a. The text, if present, **SHOULD** contain zero or one [0..1] reference/@value (CONF:9296).

- i. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:9297).
- 8. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:9298) such that it
  - a. **SHALL** contain exactly one [1..1] @**typeCode**="SPRT" Has Support (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:9299).
  - b. **SHALL** contain exactly one [1..1] **Sop Instance Observation** (2.16.840.1.113883.10.20.6.2.8) (CONF:9300).
- 9. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:9301) such that it
  - a. **SHALL** contain exactly one [1..1] @**typeCode**="SPRT" Has Support (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:9302).
  - b. **SHALL** contain exactly one [1..1] **Quantity Measurement Observation** (2.16.840.1.113883.10.20.6.2.14) (CONF:9303).

**Figure 220: Text observation example**

```

<text>
  <paragraph>
    <caption>Finding</caption>
    <content ID="Fndng2">The cardiomedastinum is within normal limits. The trachea is midline. The previously described opacity at the medial right lung base has cleared. There are no new infiltrates. There is a new round density at the left hilus, superiorly (diameter about 45mm). A CT scan is recommended for further evaluation. The pleural spaces are clear. The visualized musculoskeletal structures and the upper abdomen are stable and unremarkable.</content>
  </paragraph>
  ...
</text>
<entry>
  <observation classCode="OBS" moodCode="EVN">
    <!-- Text Observation -->
    <templateId root="2.16.840.1.113883.10.20.6.2.12"/>
    <code code="121071" codeSystem="1.2.840.10008.2.16.4"
          codeSystemName="DCM" displayName="Finding"/>
    <value xsi:type="ED"><reference value="#Fndng2"/></value>
    ...
    <!-- entryRelationships to SOP Instance Observations and Quantity Measurement Observations may go here -->
  </observation>
</entry>

```

## 5.65 Vital Sign Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.27 (open)]

**Table 264: Vital Sign Observation Contexts**

Used By:	Contains Entries:
<a href="#">Vital Signs Organizer</a>	

Vital signs are represented as are other [results](#), with additional vocabulary constraints.

**Table 265: Vital Sign Observation Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.27']						
	@classCode	1..1	SHALL		<a href="#">7297</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
	@moodCode	1..1	SHALL		<a href="#">7298</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET<II >	<a href="#">7299</a>	
	@root	1..1	SHALL		<a href="#">10527</a>	2.16.840.1.113883.10.20.22.4 .27
	id	1..*	SHALL	II	<a href="#">7300</a>	
	code	1..1	SHALL	CD	<a href="#">7301</a>	2.16.840.1.113883.3.88.12.80 .62 (HITSP Vital Sign Result Type)
	text	0..1	SHOULD	ED	<a href="#">7302</a>	
	reference/ @value	0..1	SHOULD		<a href="#">7314</a>	
	statusCode	1..1	SHALL	CS	<a href="#">7303</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
	effectiveTime	1..1	SHALL	TS or IVL<T S>	<a href="#">7304</a>	
	value	1..1	SHALL	PQ	<a href="#">7305</a>	
	interpretationCode	0..1	MAY	CE	<a href="#">7307</a>	
	methodCode	0..1	MAY	SET<C E>	<a href="#">7308</a>	
	targetSiteCode	0..1	MAY	SET<C D>	<a href="#">7309</a>	
	author	0..1	MAY		<a href="#">7310</a>	

1. **SHALL** contain exactly [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7297).

2. **SHALL** contain exactly one [1..1] `@moodCode="EVN"` Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7298).
3. **SHALL** contain exactly one [1..1] `templateId` (CONF:7299) such that it
  - a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.22.4.27"` (CONF:10527).
4. **SHALL** contain at least one [1..\*] `id` (CONF:7300).
5. **SHALL** contain exactly one [1..1] `code`, where the @code **SHOULD** be selected from ValueSet HITSP Vital Sign Result Type 2.16.840.1.113883.3.88.12.80.62 **DYNAMIC** (CONF:7301).
6. **SHOULD** contain zero or one [0..1] `text` (CONF:7302).
  - a. The text, if present, **SHOULD** contain zero or one [0..1] `reference/@value` (CONF:7314).
    - i. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:9120).
7. **SHALL** contain exactly one [1..1] `statusCode="completed"` Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:7303).
8. **SHALL** contain exactly one [1..1] `effectiveTime` (CONF:7304).
9. **SHALL** contain exactly one [1..1] `value` with @xsi:type="PQ" (CONF:7305).
10. **MAY** contain zero or one [0..1] `interpretationCode` (CONF:7307).
11. **MAY** contain zero or one [0..1] `methodCode` (CONF:7308).
12. **MAY** contain zero or one [0..1] `targetSiteCode` (CONF:7309).
13. **MAY** contain zero or one [0..1] `author` (CONF:7310).

**Table 266: Vital Sign Result Type Value Set**

Value Set: HITSP Vital Sign Result Type 2.16.840.1.113883.3.88.12.80.62 DYNAMIC Code System(s): LOINC 2.16.840.1.113883.6.1		
Description: This identifies the vital sign result type		
Code	Code System	Print Name
9279-1	LOINC	Respiratory Rate
8867-4	LOINC	Heart Rate
2710-2	LOINC	O2 % BldC Oximetry
8480-6	LOINC	BP Systolic
8462-4	LOINC	BP Diastolic
8310-5	LOINC	Body Temperature
8302-2	LOINC	Height
8306-3	LOINC	Height (Lying)
8287-5	LOINC	Head Circumference
3141-9	LOINC	Weight Measured
39156-5	LOINC	BMI (Body Mass Index)
3140-1	LOINC	BSA (Body Surface Area)

**Figure 221: Vital sign observation example**

```
<component>
  <observation classCode="OBS" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.27"/>
    <!-- Vital Sign Observation template -->
    <id root="c6f88321-67ad-11db-bd13-0800200c9a66"/>
    <code code="8302-2"
      codeSystem="2.16.840.1.113883.6.1"
      codeSystemName="LOINC"
      displayName="Height"/>
    <text><reference value="#height1"/></text>
    <statusCode code="completed"/>
    <effectiveTime value="19991114"/>
    <value xsi:type="PQ" value="177" unit="cm"/>
    <interpretationCode code="N" codeSystem="2.16.840.1.113883.5.83"/>
  </observation>
</component>
```

## 5.66 Vital Signs Organizer

[organizer: templateId 2.16.840.1.113883.10.20.22.4.26(open)]

**Table 267: Vital Signs Organizer Contexts**

Used By:	Contains Entries:
<a href="#">Vital Signs Section (entries optional)</a>	<a href="#">Vital Sign Observation</a>
<a href="#">Vital Signs Section (entries required)</a>	

The Vital Signs Organizer groups vital signs, which is similar to the [Result Organizer](#), but with further constraints.

An appropriate nullFlavor can be used when a single result observation is contained in the organizer, and organizer/code or organizer/id is unknown.

**Table 268: Vital Signs Organizer Constraints Overview**

Name	XPath	Card.	Verb	Data Type	CONF#	Fixed Value
	organizer[templateId/@root = '2.16.840.1.113883.10.20.22.4.26']					
	@classCode	1..1	SHALL		<a href="#">7279</a>	2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER
	@moodCode	1..1	SHALL		<a href="#">7280</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
	templateId	1..1	SHALL	SET<II>	<a href="#">7281</a>	
	@root	1..1	SHALL		<a href="#">10528</a>	2.16.840.1.113883.10.20.22.4.26
	id	1..*	SHALL	II	<a href="#">7282</a>	
	code	1..1	SHALL	CD	<a href="#">7283</a>	2.16.840.1.113883.6.96 (SNOMEDCT) = 46680005
	statusCode	1..1	SHALL	CS	<a href="#">7284</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
	effectiveTime	1..1	SHALL	TS or IVL<TS>	<a href="#">7288</a>	
	component	1..*	SHALL		<a href="#">7285</a>	

1. **SHALL** contain exactly one [1..1] **@classCode="CLUSTER"** CLUSTER (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7279).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7280).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:7281) such that it
  - a. **SHALL** contain exactly one [1..1]  
**@root="2.16.840.1.113883.10.20.22.4.26"** (CONF:10528).
4. **SHALL** contain at least one [1..\*] **id** (CONF:7282).
5. **SHALL** contain exactly one [1..1] **code="46680005"** Vital Signs (CodeSystem: SNOMEDCT 2.16.840.1.113883.6.96) (CONF:7283).
6. **SHALL** contain exactly one [1..1] **statusCode="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:7284).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:7288).
  - a. represents clinically effective time of the measurement, which is most likely when the measurement was performed (e.g., a BP measurement) (CONF:7289).
8. **SHALL** contain at least one [1..\*] **component** (CONF:7285) such that it
  - a. **SHALL** contain exactly one [1..1] **Vital Sign Observation** (2.16.840.1.113883.10.20.22.4.27) (CONF:7286).

**Figure 222: Vital signs organizer example**

```
<organizer classCode="CLUSTER" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.26"/>
  <!-- Vital signs organizer template -->
  <id root="c6f88320-67ad-11db-bd13-0800200c9a66"/>
  <code code="46680005" codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT" displayName="Vital signs"/>
  <statusCode code="completed"/>
  <effectiveTime value="19991114"/>
  <component>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.27"/>
      ...
    </observation>
  </component>
</observation>
```

## 6 REFERENCES

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You must be logged in as a member of HL7.org to access this resource:  
[http://www.hl7.org/login/singlesignon.cfm?next=/documentcenter/private/standards/cda/Trifolia\\_HL7\\_Consolidation\\_20110712-dist.zip](http://www.hl7.org/login/singlesignon.cfm?next=/documentcenter/private/standards/cda/Trifolia_HL7_Consolidation_20110712-dist.zip)
- XML Path Language (XPath), Version 1.0. <http://www.w3.org/TR/xpath/>

## APPENDIX A — ACRONYMS AND ABBREVIATIONS

ADL	Activities of Daily Living
AMA	American Medical Association
CCD	Continuity of Care Document
CDA	Clinical Document Architecture
CRS	Care Record Summary
DICOM	Digital Imaging and Communications in Medicine
DIR	Diagnostic Imaging Report
EHR	electronic health record
DSTU	Draft Standard for Trial Use
H&P	History and Physical
HIMSS	Healthcare Information and Management Systems Society
HIT	healthcare information technology
HITECH	Health Information Technology for Economic and Clinical Health
HITSP	Health Information Technology Standards Panel
HL7	Health Level Seven
HHS	U.S. Department of Health and Human Services
HTML	Hypertext Markup Language
IG	implementation guide
IHE	Integrating the Healthcare Enterprise
IHTSDO	International Health Terminology Standard Development Organisation
LOINC	Logical Observation Identifiers Names and Codes
MDHT	Model-Driven Health Tools
MIME	Multipurpose Internet Mail Extensions
NPP	non-physician providers
NUCC	Healthcare Provider Taxonomy Code
ONC	Office of National Coordinator
PCP	primary care provider
PDF	portable document format
PHCR	Public Health case reports
PHR	personal health record
PPRF	primary performers
RIM	Reference Information Model

RTF	rich text format
S&I	Standards and Interoperability
SCOORD	Spatial Coordinates
SDWG	Structured Documents Working Group
SDO	Standards Development Organization
SNOMED CT	Systemized Nomenclature for Medicine – Clinical Terms
SOP	Service Object Pair
SR	Structured Report
Tdb	Template Database
TIFF	tagged-image file format
UCUM	Unified Code for Units of Measure
UD	Unstructured Document
UDI	Unique Device Identification
UML	Unified Modeling Language
URL	Uniform Resource Locator
VIS	Vaccine Information Statement
WADO	Web Access to Persistent DICOM Objects
XPath	XML Path Language

## APPENDIX B — CHANGES FROM PREVIOUS GUIDES

### Section Code Changes.

The following table documents changes to section codes used in the current Operative Note templates to conform to those in use for general procedures.

**Table 269: Surgical Operative Codes Mapping to Generic Procedure Codes**

Sections Names	Section Codes	Sections Names	Section Codes
<b>Previous Operative Section Codes</b>		<b>Now Using</b>	
Surgical Operation Note Anesthesia	10213-7	Anesthesia	59774-0
Surgical Operation Note Description	8724-7	Procedure Description	29554-3
Surgical Operation Note Disposition	55102-8	Procedure Disposition	59775-7
Surgical Operation Note Estimated Blood Loss	55103-6	Procedure Estimated Blood Loss	59770-8
Surgical Operation Note Findings	10215-2	Procedure Findings	59776-5
Surgical Operation Note Indications	10217-8	Procedure Indications	59768-2
Surgical Operation Note Planned Procedure	55104-4	Planned Procedure	59772-4
Surgical Operation Note Specimens Taken	10221-0	Procedure Specimens taken	59773-2

### Cardinality Changes

The next three tables show updates for H&P, Consultation Note, and Discharge Summary cardinality.

**Table 270: H&P Cardinality Updates**

Sections Names	HITSP (C84)	HL7 (H&P)	Current Cardinality
Problems	R	O	O
Resolved Problems	R	-	
Vital Signs	-	R	R
Past Medical History	-	R	R

**Table 271: Consultation Note Cardinality Updates**

<b>Sections Names</b>	<b>HITSP (C84)</b>	<b>HL7 (H&amp;P)</b>	<b>Current Cardinality</b>
Active Problems		O	O – Problems
Resolved Problems	R2	-	
Allergies	R	O	O
Current Meds	R	O	O
Past Medical History	-	O	O
Chief Complaint	-	O	O
Functional Status	R2	-	-
Advance Directives	R	-	-
Pertinent Insurance Information (Payers)	R2	-	-

**Table 272: Discharge Summary Cardinality Updates**

<b>Sections Names</b>	<b>HITSP (C48)</b>	<b>HL7 (H&amp;P)</b>	<b>Current Cardinality</b>
Problems	R	O	O
Hospital Admission Diagnosis Section	R	-	O

## Conformance Verbs

The next table represents a matrix of the conformance verbs used across the standards reviewed for the consolidation guide. Cells with a dash (-) did not have an equivalent conformance convention.

**Table 273: Consolidated Conformance Verb Matrix**

RFC 2119	HL7	IHE	HITSP	Workgroup Consensus
<b>SHALL</b> Absolute requirement of the specification	<b>SHALL</b> Required/Mandatory	R (Required) Element must be present but can be NULL	R (Required) Data elements must always be sent. A NULL can be sent.	<b>SHALL</b> Element must be present but can be NULL  Where necessary to explicitly preclude nullFlavor (e.g. where you want to preclude nullFlavor on observation/value), can include something like "SHALL NOT include nullFlavor".  Where <b>SHALL</b> is applied to an attribute, it must be present and cannot be a NULL
<b>SHALL NOT</b> Absolute prohibition of the specification	<b>SHALL NOT</b> Not Required/Mandatory	-	-	<b>SHALL NOT</b> Absolute prohibition against inclusion
<b>SHOULD</b> Recommended There may exist valid reasons in particular circumstances to ignore a particular item, but the full implications must be understood and carefully weighed before choosing a different course.	<b>SHOULD</b> Best Practice or Recommendation	R2 (Required if known) The sending application must be able to demonstrate that it can send all required if known elements, unless it does not in fact gather that data. If the information cannot be transmitted, the data element shall contain a value indicating the reason for omission of the data.	R2 (Required if known) If the sending application has data for the data element, it is REQUIRED to populate the data element. If the value is not known, the data element need not be sent	<b>SHOULD</b> Best Practice or Recommendation There may exist valid reasons in particular circumstances to ignore a particular item, but the full implications must be understood and carefully weighed before choosing a different course

RFC 2119	HL7	IHE	HITSP	Workgroup Consensus
SHOULD NOT	SHOULD NOT	-	-	SHOULD NOT
Not Recommended	Not Recommended			Not Recommended
MAY	MAY	O (Optional)	O (Optional)	MAY
Optional	Accepted/Permitted			Optional
-	-	C (Conditional) A conditional data element is one that is required, required if known or optional depending upon other conditions.	C (Conditional) Required to be sent when the conditions specified in the HITSP additional specifications column are true	-

## Template ID Changes

The following table tracks changes in template IDs, for the most part representing a consolidation of separate templates into a single template. In some cases, two new template IDs are assigned to distinguish sections where computable data entries are required and those where entries are optional and only the human-readable narrative is required.

**Table 274: Section Template Change Tracking**

Section	LOINC Code(s)	Consolidated Entry Optional templateId	Consolidated Entry Required templateId	Previous templateIds	Was
<b>Medications Category</b>					
Medications Section	10160-0	2.16.840.1.113883.10.20.22.2 .1	2.16.840.1.113883.10.20.22.2 1.1	2.16.840.1.113883.10.20.1.8 (CCD)	HL7
				2.16.840.1.113883.3.88.11.83.112	HITSP
				1.3.6.1.4.1.19376.1.5.3.1.3.19	IHE
Hospital Discharge Medications Section	10183-2	2.16.840.1.113883.10.20.22.2 .11	2.16.840.1.113883.10.20.22.2 11.1	2.16.840.1.113883.10.20.16.2.2 (DS)	HL7
				2.16.840.1.113883.3.88.11.83.114	HITSP
				1.3.6.1.4.1.19376.1.5.3.1.3.22	IHE

<b>Section</b>	<b>LOINC Code(s)</b>	<b>Consolidated Entry Optional templateId</b>	<b>Consolidated Entry Required templateId</b>	<b>Previous templateIds</b>	<b>Was</b>
Medications Administered Section <sup>33</sup>	29549-3 18610-6	2.16.840.1.113883.10.20.22.2 .38	Future assignment	2.16.840.1.113883.10.20.18.2.8 (Proc Note)	HL7
				2.16.840.1.113883.3.88.11.83.115	HITSP
				1.3.6.1.4.1.19376.1.5.3.1.3.21	IHE
Immunizations Section	11369-6	2.16.840.1.113883.10.20.22.2 .2	Future assignment	2.16.840.1.113883.10.20.1.6 (CCD)	HL7
				2.16.840.1.113883.3.88.11.83.117	HITSP
				1.3.6.1.4.1.19376.1.5.3.1.3.23	IHE
<b>Conditions/Concern Category</b>					
Allergies Section (2.2.1.2)	48765-2	2.16.840.1.113883.10.20.22.2 .6	2.16.840.1.113883.10.20.22.2 6.1	2.16.840.1.113883.10.20.1.2 (CCD)	HL7
				2.16.840.1.113883.3.88.11.83.102	HITSP
				1.3.6.1.4.1.19376.1.5.3.1.3.13	IHE
Problem Section	11450-4	2.16.840.1.113883.10.20.22.2 .5	2.16.840.1.113883.10.20.22.2 5.1	2.16.840.1.113883.10.20.1.11	HL7
				2.16.840.1.113883.3.88.11.83.103	HITSP
				1.3.6.1.4.1.19376.1.5.3.1.3.6	IHE
History of Past Illness Section (2.2.1.4)	11348-0	2.16.840.1.113883.10.20.22.2 .20		2.16.840.1.113883.10.20.2.9 (H&P)	HL7
				2.16.840.1.113883.3.88.11.83.104	HITSP
				1.3.6.1.4.1.19376.1.5.3.1.3.8	IHE
Hospital Discharge Diagnosis Section	11535-2	2.16.840.1.113883.10.20.22.2 .24		2.16.840.1.113883.10.20.16.2.1 (DS)	HL7
				2.16.840.1.113883.3.88.11.83.111	HITSP
				1.3.6.1.4.1.19376.1.5.3.1.3.7	IHE
Preoperative Diagnosis Section	10219-4	2.16.840.1.113883.10.20.22.2 .34		2.16.840.1.113883.10.20.7.1 (OpNote)	HL7
				2.16.840.1.113883.3.88.11.83.129	HITSP
Post-operative Diagnosis Section	10218-6	2.16.840.1.113883.10.20.22.2 .35		2.16.840.1.113883.10.20.7.2 (OpNote)	HL7
				2.16.840.1.113883.3.88.11.83.130	HITSP

<sup>33</sup> Requires further discussion and resolution.

<b>Section</b>	<b>LOINC Code(s)</b>	<b>Consolidated Entry Optional templateId</b>	<b>Consolidated Entry Required templateId</b>	<b>Previous templateIds</b>	<b>Was</b>
Chief Complaint Section / Reason for Visit	10154-3 29299-5 46239-0	Chief complaint (1.3.6.1.4.1.19376.1.5.3.1.1.3.2.1) Reason for Visit (2.16.840.1.113883.10.20.22.2.12) Chief Complaint + Reason for Visit (2.16.840.1.113883.10.20.22.2.13)	N/A (narrative-only)	2.16.840.1.113883.10.20.2.8 (H&P) 2.16.840.1.113883.10.20.18.2.16 (Proc Note)	HL7
		2.16.840.1.113883.3.88.11.83.105		HITSP	
		1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1		IHE	
Reason for Referral Section	42349-1	1.3.6.1.4.1.19376.1.5.3.1.3.1	N/A (narrative-only)	2.16.840.1.113883.10.20.4.8 (Consult Note)	HL7
				2.16.840.1.113883.3.88.11.83.106	HITSP
				1.3.6.1.4.1.19376.1.5.3.1.3.1 (narrative-only) 1.3.6.1.4.1.19376.1.5.3.1.3.2 (coded)	IHE
History of Present Illness Section	10164-2	N/A (use IHE 1.3.6.1.4.1.19376.1.5.3.1.3.4)	N/A (narrative-only)	1.3.6.1.4.1.19376.1.5.3.1.3.4	HL7
				2.16.840.1.113883.3.88.11.83.107	HITSP
				1.3.6.1.4.1.19376.1.5.3.1.3.4	IHE
Medical (General) History Section	11329-0	2.16.840.1.113883.10.20.22.2.39		2.16.840.1.113883.10.20.18.2.5 (Proc Note)	HL7
<b>Procedure and Surgery Category</b>					
Procedures Section (List of Surgeries) (History of Procedures)	47519-4	2.16.840.1.113883.10.20.22.2.7	N/A (narrative-only)	2.16.840.1.113883.10.20.1.12 (CCD) HL7:2.16.840.1.113883.10.20.18.2.18 (Proc Note)	HL7
				2.16.840.1.113883.3.88.11.83.108	HITSP
				1.3.6.1.4.1.19376.1.5.3.1.3.12	IHE
Operative Note Fluids Section	10216-0	2.16.840.1.113883.10.20.7.12		2.16.840.1.113883.10.20.7.12 (OpNote)	HL7

<b>Section</b>	<b>LOINC Code(s)</b>	<b>Consolidated Entry Optional templateId</b>	<b>Consolidated Entry Required templateId</b>	<b>Previous templateIds</b>	<b>Was</b>
Operative Note Surgical Procedure Section	10223-6	2.16.840.1.113883.10.20.7.14		2.16.840.1.113883.10.20.7.14 (OpNote)	HL7
Surgical Drains Section	11537-8	2.16.840.1.113883.10.20.7.13		2.16.840.1.113883.10.20.7.13 (OpNote)	HL7
Procedure Indications Section	59768-2	2.16.840.1.113883.10.20.22.2 .29		2.16.840.1.113883.10.20.18.2.1 (Proc Note)	HL7
Procedure Description Section	29554-3	2.16.840.1.113883.10.20.22.2 .27		2.16.840.1.113883.10.20.18.2.2 (Proc Note)	HL7
Post-procedure Diagnosis Section	59769-0	2.16.840.1.113883.10.20.22.2 .36		2.16.840.1.113883.10.20.18.2.3 (Proc Note)	HL7
Complications Section	55109-3	2.16.840.1.113883.10.20.22.2 .37		2.16.840.1.113883.10.20.18.2.4 (Proc Note) 2.16.840.1.113883.10.20.7.10 (OpNote)	HL7
Anesthesia Section	59774-0	2.16.840.1.113883.10.20.22.2 .25		2.16.840.1.113883.10.20.18.2.7 (Proc Note) 2.16.840.1.113883.10.20.7.5 (OpNote)	HL7
Procedure Disposition Section	59775-7	2.16.840.1.113883.10.20.18.2 .12		2.16.840.1.113883.10.20.18.2.12 (Proc Note)	HL7
Procedure Estimated Blood Loss Section	59770-8	2.16.840.1.113883.10.20.18.2 .9		2.16.840.1.113883.10.20.18.2.9 (Proc Note)	HL7
Procedure Findings	59776-5	2.16.840.1.113883.10.20.22.2 .28		2.16.840.1.113883.10.20.18.2.15 (Proc Note)	HL7

<b>Section</b>	<b>LOINC Code(s)</b>	<b>Consolidated Entry Optional templateId</b>	<b>Consolidated Entry Required templateId</b>	<b>Previous templateIds</b>	<b>Was</b>
Section					
Procedure Implants Section	59771-6	2.16.840.1.113883.10.20.22.2 .40		2.16.840.1.113883.10.20.18.2.11 (Proc Note)	HL7
Planned Procedure Section	59772-4	2.16.840.1.113883.10.20.22.2 .30		2.16.840.1.113883.10.20.18.2.6 (Proc Note)	HL7
Procedure Specimens Taken Section	59773-2	2.16.840.1.113883.10.20.22.2 .31		2.16.840.1.113883.10.20.18.2.10 (Proc Note)	HL7
<b>Care Planning/Assessment Category</b>					
Assessments Section	51848-0	2.16.840.1.113883.10.20.22.2 .8	-	2.16.840.1.113883.10.20.2.7 (H&P) 2.16.840.1.113883.10.20.18.2.13 (Proc Note)	HL7
				1.3.6.1.4.1.19376.1.5.3.1.1.13.2.4	HITSP
				1.3.6.1.4.1.19376.1.5.3.1.1.13.2.4	IHE
Assessment and Plan Section	51847-2	2.16.840.1.113883.10.20.22.2 .9	-	2.16.840.1.113883.10.20.2.7 (H&P) 2.16.840.1.113883.10.20.18.2.14 (Proc Note)	HL7
				1.3.6.1.4.1.19376.1.5.3.1.1.13.2.5	IHE
				2.16.840.1.113883.3.88.11.83.124	HITSP
Plan of Care Section <i>(may be used for Discharge Instructions)</i>	18776-5	2.16.840.1.113883.10.20.22.2 .10	-	2.16.840.1.113883.10.20.2.7 (H&P) 2.16.840.1.113883.10.20.1.10 (CCD)	HL7
				1.3.6.1.4.1.19376.1.5.3.1.3.31	IHE
				2.16.840.1.113883.3.88.11.83.109	HITSP
Functional Status Section	47420-5	2.16.840.1.113883.10.20.22.2 .14	-	2.16.840.1.113883.10.20.1.5 (CCD)	HL7
				1.3.6.1.4.1.19376.1.5.3.1.3.17	IHE
				2.16.840.1.113883.3.88.11.83.109	HITSP
<b>Results Category</b>					
Results	30954-2	2.16.840.1.113883.10.20.22.2	2.16.840.1.113883.10.20.22.2	2.16.840.1.113883.10.20.1.14	HL7

<b>Section</b>	<b>LOINC Code(s)</b>	<b>Consolidated Entry Optional templateId</b>	<b>Consolidated Entry Required templateId</b>	<b>Previous templateIds</b>	<b>Was</b>
Section (Diagnostic Results in HITSP)		.3	3.1	(CCD)	
				2.16.840.1.113883.3.88.11.83.122	HITSP
				1.3.6.1.4.1.19376.1.5.3.1.3.28	IHE
Vital Signs Section	8716-3	2.16.840.1.113883.10.20.22.2 .4	2.16.840.1.113883.10.20.22.2. 4.1	2.16.840.1.113883.10.20.1.16 (CCD) 2.16.840.1.113883.10.20.2.4 (H&P)	HL7
				2.16.840.1.113883.3.88.11.83.119	HITSP
				1.3.6.1.4.1.19376.1.5.3.1.3.25	IHE
DICOM Object Catalog Section	121181	N/A	2.16.840.1.113883.10.20.6.1.1	2.16.840.1.113883.10.20.6.1.1	HL7
Findings (DIR) (Radiology Comparison Study - Observation) Section	18782-3	2.16.840.1.113883.10.20.6.1.2		2.16.840.1.113883.10.20.6.1.2	HL7
<b>Other Templates</b>					
Payers Section	48768-6	2.16.840.1.113883.10.20.22.2 .18	-	2.16.840.1.113883.10.20.1.9 (CCD)	HL7
				2.16.840.1.113883.3.88.11.83.101.1	HITSP
				1.3.6.1.4.1.19376.1.5.3.1.1.5.3.7	IHE
Advance Directives Section	42348-3	2.16.840.1.113883.10.20.22.2 .21	-	2.16.840.1.113883.10.20.1.1 (CCD)	HL7
				2.16.840.1.113883.3.88.11.83.116	HITSP
				1.3.6.1.4.1.19376.1.5.3.1.3.34 (narrative-only)	IHE
				1.3.6.1.4.1.19376.1.5.3.1.3.35 (coded)	
Physical Exam	29545-1	2.16.840.1.113883.10.20.2.10	-	2.16.840.1.113883.10.20.2.10 (H&P)	HL7

<b>Section</b>	<b>LOINC Code(s)</b>	<b>Consolidated Entry Optional templateId</b>	<b>Consolidated Entry Required templateId</b>	<b>Previous templateIds</b>	<b>Was</b>
Section				2.16.840.1.113883.3.88.11.83.118	HITSP
				1.3.6.1.4.1.19376.1.5.3.1.3.24 (narrative-only) 1.3.6.1.4.1.19376.1.5.3.1.1.9.15 (coded)	IHE
Review of Systems Section	10187-3	1.3.6.1.4.1.19376.1.5.3.1.3.18	N/A (narrative-only)	2.16.840.1.113883.10.20.4.10 (Consult)	HL7
				2.16.840.1.113883.3.88.11.83.120	HITSP
				1.3.6.1.4.1.19376.1.5.3.1.3.18	IHE
Hospital Course Section <i>(may be used as part of Discharge Summary)</i>	8648-8	1.3.6.1.4.1.19376.1.5.3.1.3.5	N/A (narrative-only)	1.3.6.1.4.1.19376.1.5.3.1.3.5	HL7
				2.16.840.1.113883.3.88.11.83.121	HITSP
				1.3.6.1.4.1.19376.1.5.3.1.3.5	IHE
Family History Section	10157-6	2.16.840.1.113883.10.20.22.2 .15	-	2.16.840.1.113883.10.20.1.4 (CCD)	HL7
				2.16.840.1.113883.10.20.18.2.17 (Proc Note)	
				2.16.840.1.113883.3.88.11.83.125	HITSP
				1.3.6.1.4.1.19376.1.5.3.1.3.14 (narrative-only) 1.3.6.1.4.1.19376.1.5.3.1.3.15 (coded)	IHE
Social History Section(incl. smoking)	29762-2	2.16.840.1.113883.10.20.22.2 .17	N/A (no stds require entry)	2.16.840.1.113883.10.20.1.15 (CCD)	HL7
				2.16.840.1.113883.3.88.11.83.126	HITSP
				1.3.6.1.4.1.19376.1.5.3.1.3.16	IHE
Encounters Section	46240-8	2.16.840.1.113883.10.20.22.2 .22	-	2.16.840.1.113883.10.20.1.3 (CCD)	HL7
				2.16.840.1.113883.3.88.11.83.127	HITSP
				1.3.6.1.4.1.19376.1.5.3.1.1.5.3.3	IHE
Medical	46264-8	2.16.840.1.113883.10.20.22.2	-	2.16.840.1.113883.10.20.1.7 (CCD)	HL7

<b>Section</b>	<b>LOINC Code(s)</b>	<b>Consolidated Entry Optional templateId</b>	<b>Consolidated Entry Required templateId</b>	<b>Previous templateIds</b>	<b>Was</b>
Equipment Section		.23		2.16.840.1.113883.3.88.11.83.128	HITSP
				1.3.6.1.4.1.19376.1.5.3.1.1.5.3.5	IHE
Hospital Discharge Physical Section	10184-0	N/A (1.3.6.1.4.1.19376.1.5.3.1.3.26)	N/A (narrative-only)	N/A – Used IHE	HL7
				1.3.6.1.4.1.19376.1.5.3.1.3.26	IHE
General Status Section	10210-3	N/A (2.16.840.1.113883.10.20.2.5)	N/A (narrative-only)	2.16.840.1.113883.10.20.2.5 (H&P)	HL7
Objective Section	61149-1	N/A (2.16.840.1.113883.10.20.21.2.1)	N/A (narrative-only)	2.16.840.1.113883.10.20.22.2.1 (Prog Note)	HL7
Subjective Section	61150-9	N/A (2.16.840.1.113883.10.20.21.2.2)	N/A (narrative-only)	2.16.840.1.113883.10.20.22.2.2 (Prog Note)	HL7
Discharge Diet	42344-2	N/A (1.3.6.1.4.1.19376.1.5.3.1.3.33)	N/A (narrative-only)	N/A – Used IHE	HL7
				1.3.6.1.4.1.19376.1.5.3.1.3.33	IHE
Hospital Discharge Studies Summary Section	11493-4	2.16.840.1.113883.10.20.22.2.16	N/A (no stds require entry)	2.16.840.1.113883.10.20.16.2.3 (DS)	HL7

## Consolidated Entries

The following table tracks changes made to consolidate templates originating in HL7, IHE, and HITSP.

**Table 275: Entry Change Tracking Table**

Entry	New templateId	Previous Title	Previous templateId	Previous Template Organization
Result Organizer	2.16.840.1.113883.10.20.22.4.1	Result Organizer	2.16.840.1.113883.10.20.1.32	CCD
Result Observation	2.16.840.1.113883.10.20.22.4.2	Result Observation Result Entry Content Module	2.16.840.1.113883.10.20.1.31 2.16.840.1.113883.3.88.11.83.15.1	CCD HITSP C83
Problem Concern Act (Condition)	2.16.840.1.113883.10.20.22.4.3	Problem Act Concern Entry Problem Concern Entry Condition Entry Module	2.16.840.1.113883.10.20.1.27 1.3.6.1.4.1.19376.1.5.3.1.4.5.1 1.3.6.1.4.1.19376.1.5.3.1.4.5.2 2.16.840.1.113883.3.88.11.83.7	CCD IHE PCC R6-0 V2 IHE PCC R6-0 V2 HITSP C83
Problem Observation	2.16.840.1.113883.10.20.22.4.4	Problem Observation Problem Entry	2.16.840.1.113883.10.20.1.28 1.3.6.1.4.1.19376.1.5.3.1.4.5	CCD IHE PCC R6-0 V2
Health Status Observation	2.16.840.1.113883.10.20.22.4.5	Problem Healthstatus observation Health Status	2.16.840.1.113883.10.20.1.51 1.3.6.1.4.1.19376.1.5.3.1.4.1.2	CCD IHE PCC R6-0 V2
Problem Status Observation	2.16.840.1.113883.10.20.22.4.6	Problem status observation Problem Status Observation	2.16.840.1.113883.10.20.1.50 1.3.6.1.4.1.19376.1.5.3.1.4.1.1	CCD IHE PCC R6-0 V2
Allergy Observation	2.16.840.1.113883.10.20.22.4.7	Allergy/Alert Observation Alert observation Allergy and Intolerance Concern Allergy/Drug Sensitivity Module	2.16.840.1.113883.10.20.22.4.7 2.16.840.1.113883.10.20.1.18 1.3.6.1.4.1.19376.1.5.3.1.4.5.3 2.16.840.1.113883.3.88.11.83.6	Consolidated IG CCD IHE PCC R6-0 V2 HITSP C83
Severity Observation	2.16.840.1.113883.10.20.22.4.8	Severity observation Severity	2.16.840.1.113883.10.20.1.55 1.3.6.1.4.1.19376.1.5.3.1.4.1	CCD IHE PCC R6-0 V2

<b>Entry</b>	<b>New templateId</b>	<b>Previous Title</b>	<b>Previous templateId</b>	<b>Previous Template Organization</b>
Reaction Observation	2.16.840.1.113883.10.20.22.4.9	Reaction Observation	2.16.840.1.113883.10.20.1.54	CCD
Procedure Activity	2.16.840.1.113883.10.20.22.4.12	Procedure activity	2.16.840.1.113883.10.20.1.29	CCD
Procedure Activity Observation	2.16.840.1.113883.10.20.22.4.13	Procedure activity	2.16.840.1.113883.10.20.1.29	CCD
Procedure Activity Procedure	2.16.840.1.113883.10.20.22.4.14	Procedure activity Procedure Entry Procedure	2.16.840.1.113883.10.20.1.29 1.3.6.1.4.1.19376.1.5.3.1.4.19 2.16.840.1.113883.3.88.11.83.17	CCD IHE PCC R6-0 V2 HITSP C83
Immunization SubstanceAdministration	2.16.840.1.113883.10.20.22.4.52	Medication Activity (for immunization) Immunization Immunization	2.16.840.1.113883.10.20.1.24 1.3.6.1.4.1.19376.1.5.3.1.4.12 2.16.840.1.113883.3.88.11.83.13	CCD IHE PCC R6-0 V2 HITSP C83
Medication Activity	2.16.840.1.113883.10.20.22.4.16	Medication Activity Medication Medication	2.16.840.1.113883.10.20.1.24 1.3.6.1.4.1.19376.1.5.3.1.4.7 2.16.840.1.113883.3.88.11.83.8	CCD IHE PCC R6-0 V2 HITSP C83
Medication Supply Order	2.16.840.1.113883.10.20.22.4.17	Supply Activity Supply entry Order Information Constraint	2.16.840.1.113883.10.20.1.34 1.3.6.1.4.1.19376.1.5.3.1.4.7.3 2.16.840.1.113883.3.88.11.83.8.3	CCD IHE PCC R6-0 V2 HITSP C83
Medication Dispense	2.16.840.1.113883.10.20.22.4.18	Supply Activity Supply entry	2.16.840.1.113883.10.20.1.34 1.3.6.1.4.1.19376.1.5.3.1.4.7.3	CCD IHE PCC R6-0 V2
Indication	2.16.840.1.113883.10.20.22.4.19	Indications	2.16.840.1.113883.3.88.11.83.138	HITSP C83
Instructions	2.16.840.1.113883.10.20.22.4.20	Patient instruction Patient Medication Instructions	2.16.840.1.113883.10.20.1.49 1.3.6.1.4.1.19376.1.5.3.1.4.3	CCD IHE PCC R6-0 V2
Sequence Number	2.16.840.1.113883.10.20.22.4.22			

<b>Entry</b>	<b>New templateId</b>	<b>Previous Title</b>	<b>Previous templateId</b>	<b>Previous Template Organization</b>
Medication Information (manufacturedMaterial)		Product Product Entry Medication Information Constraints	2.16.840.1.113883.10.20.1.53 1.3.6.1.4.1.19376.1.5.3.1.4.7.2 2.16.840.1.113883.3.88.11.83.8.2	CCD IHE PCC R6-0 V2 HITSP C83
Drug Vehicle (participant)	2.16.840.1.113883.10.20.22.4.24			
Precondition (criterion)	2.16.840.1.113883.10.20.22.4.25			
Medication Use – None known (deprecated)	2.16.840.1.113883.10.20.22.4.29			
Vital Signs Organizer	2.16.840.1.113883.10.20.22.4.26	Vital signs organizer Vital Signs Organizer	2.16.840.1.113883.10.20.1.35 1.3.6.1.4.1.19376.1.5.3.1.4.13.1	CCD IHE PCC R6-0 V2
Vital Signs Observation	2.16.840.1.113883.10.20.22.4.27	Vital Signs Observation	1.3.6.1.4.1.19376.1.5.3.1.4.13.2	IHE PCC R6-0 V2
Allergy Status Observation	2.16.840.1.113883.10.20.22.4.28	Alert Status	2.16.840.1.113883.10.20.1.39	CCD
Allergy Problem Act	2.16.840.1.113883.10.20.22.4.30			
Age Observation	2.16.840.1.113883.10.20.22.4.31	Age Observation	2.16.840.1.113883.10.20.22.4.38	CCD
Encounter Location	2.16.840.1.113883.10.20.22.4.32	Encounter Location	2.16.840.1.113883.10.20.1.45	CCD
Hospital Discharge Diagnosis	2.16.840.1.113883.10.20.22.4.33	Discharge Diagnosis		
Hospital Admission Diagnosis	2.16.840.1.113883.10.20.22.4.34	Admission Diagnosis		
Discharge medication	2.16.840.1.113883.10.20.22.4.35			
Admission medication	2.16.840.1.113883.10.20.22.4.36			
Product Instance	2.16.840.1.113883.10.20.22.4.37			

<b>Entry</b>	<b>New templateId</b>	<b>Previous Title</b>	<b>Previous templateId</b>	<b>Previous Template Organization</b>
Social History Observation	2.16.840.1.113883.10.20.22.4.38	Social History Observation Social History Social History Observation	2.16.840.1.113883.10.20.1.33 2.16.840.1.113883.3.88.11.83.19 1.3.6.1.4.1.19376.1.5.3.1.4.13.4	CCD HITSP C83 IHE PCC R6-0 V2
Family History Organizer	2.16.840.1.113883.10.20.22.4.45	Family History Organizer Family Member Information	2.16.840.1.113883.10.20.1.23 2.16.840.1.113883.3.88.11.83.18	CCD HITSP C83
Family History Observation	2.16.840.1.113883.10.20.22.4.46	Family History Observation	2.16.840.1.113883.10.20.1.22	CCD
Family History Death Observation	2.16.840.1.113883.10.20.22.4.47	Family History Cause of Death Observation	2.16.840.1.113883.10.20.1.42	CCD
Advance Directive Observation	2.16.840.1.113883.10.20.22.4.48	Advance Directive Observation	2.16.840.1.113883.10.20.1.17	CCD
Comment Template	2.16.840.1.113883.10.20.22.4.64	Comments Comment Module IHE Comment Module	2.16.840.1.113883.10.20.1.40 2.16.840.1.113883.3.88.11.83.11 1.3.6.1.4.1.19376.1.5.3.1.4.2	CCD HITSP C83 IHE PCC R6-0 V2

## Changes Within Sections

The next five tables show changes in the [Results](#), [Problems](#), [Vital Signs](#), [Procedures](#), and [Medications](#) sections.

**Table 276: Result Section Changes**

Title	Previous Templates	New Templates	Changes from HITSP C83	Changes from CCD
Results Section	2.16.840.1.113883.10.20.1.14 (HL7) 2.16.840.1.113883.3.88.11.83.122 (HITSP) 1.3.6.1.4.1.19376.1.5.3.1.3.28 (IHE)	2.16.840.1.113883.10.20.22.2.3 (optional entries) 2.16.840.1.113883.10.20.22.2.3.1 (requires entries)	1. IHE Coded Results template (1.3.6.1.4.1.19376.1.5.3.1.3.28) is not required 2. The C83 Procedure Module (2.16.840.1.113883.3.88.11.83.17) is not required 3. Result Organizer (section/entry/organizer) is required for all coded results	1. Result Organizer (section/entry/organizer) is required for all coded results
Result Organizer	2.16.840.1.113883.10.20.1.32 (CCD)	2.16.840.1.113883.10.20.22.4.1	1. Requires new Result Observation (2.16.840.1.113883.10.20.22.4.2)	1. Requires new Result Observation (2.16.840.1.113883.10.20.22.4.2)
Result Observation	2.16.840.1.113883.10.20.1.31 (CCD) 2.16.840.1.113883.3.88.11.83.15.1 (HITSP) 1.3.6.1.4.1.19376.1.5.3.1.4.13 (IHE)	2.16.840.1.113883.10.20.22.4.2	1. Narrative-entry link is not required. 2. observation "INT" and "PRP" @moodCodes no longer included	1. Requires observation/statusCode 2. Requires observation/effectiveTime

**Table 277: Problems Section Changes**

<b>Title (templateId)</b>	<b>Previous templateId</b>	<b>Changes from IHE</b>	<b>Changes from HITSP C83</b>	<b>Changes from CCD</b>
Problems Section (Entries Optional) (2.16.840.1.11388 3.10.20.22.2.5)	2.16.840.1.113883.10.20.1.11 (CCD) 1.3.6.1.4.1.19376.1.5.3.1.3.6 (IHE) 2.16.840.1.113883.3.88.11.83.103 (C83)	<ul style="list-style-type: none"> <li>1. IHE templateId(s) no longer required</li> <li>2. title updated to SHALL [1..1] be present</li> <li>3. entry should be present and contain Problem Concern Act</li> </ul>	<ul style="list-style-type: none"> <li>1. C83 templateId(s) no longer required</li> <li>2. title updated to SHALL [1..1] be present</li> <li>3. entry should be present and contain Problem Concern Act</li> </ul>	<ul style="list-style-type: none"> <li>1. CCD templateId no longer required</li> <li>2. title updated to not require inclusion of "problems"</li> <li>3. text updated to SHALL [1..1] be present</li> <li>4. entry should be present and contain Problem Concern Act</li> </ul>
Problems Section (Entries Required) (2.16.840.1.11388 3.10.20.22.2.5.1)	2.16.840.1.113883.10.20.1.11 (CCD) 1.3.6.1.4.1.19376.1.5.3.1.3.6 (IHE) 2.16.840.1.113883.3.88.11.83.103 (C83)	<ul style="list-style-type: none"> <li>1. IHE templateId(s) no longer required</li> <li>2. title updated to SHALL [1..1] be present</li> <li>3. entry updated to SHALL [1..*] contain Problem Concern Act</li> </ul>	<ul style="list-style-type: none"> <li>1. C83 templateId(s) no longer required</li> <li>2. title updated to SHALL [1..1] be present</li> <li>3. entry updated to SHALL [1..*] contain Problem Concern Act</li> </ul>	<ul style="list-style-type: none"> <li>1. CCD templateId no longer required</li> <li>2. title updated to not require inclusion of "problems"</li> <li>3. entry updated to SHALL [1..*] contain Problem Concern Act</li> </ul>
Problem Concern Act (2.16.840.1.11388 3.10.20.22.4.3)	2.16.840.1.113883.10.20.1.27 (CCD) 1.3.6.1.4.1.19376.1.5.3.1.4.5.1 (IHE) 1.3.6.1.4.1.19376.1.5.3.1.4.5.2 (IHE) 2.16.840.1.113883.3.88.11.83.7 (C83)	<ul style="list-style-type: none"> <li>1. IHE templateId(s) no longer required</li> <li>2. id updated to SHALL [1..*]</li> <li>3. code updated to SHALL [1..1] 'CONC' from 2.16.840.1.113883.5.6</li> <li>4. statusCode updated to SHALL [1..1] be from 2.16.840.1.113883.11.20.9.19</li> <li>5. effectiveTime/high updated to remove dependency on status</li> </ul>	<ul style="list-style-type: none"> <li>1. C83 templateId(s) no longer required</li> <li>2. id updated to SHALL [1..*]</li> <li>3. code updated to SHALL [1..1] 'CONC' from 2.16.840.1.113883.5.6</li> <li>4. statusCode updated to SHALL [1..1] be from 2.16.840.1.113883.11.20.9.19</li> <li>5. effectiveTime updated to SHALL [1..1]</li> </ul>	<ul style="list-style-type: none"> <li>1. CCD templateId no longer required</li> <li>2. id updated to SHALL [1..*]</li> <li>3. code updated to SHALL [1..1] 'CONC' from 2.16.840.1.113883.5.6</li> <li>4. statusCode updated to SHALL [1..1] be from 2.16.840.1.113883.11.20.9.19</li> <li>5. effectiveTime updated to SHALL [1..1]</li> </ul>

<b>Title (templateId)</b>	<b>Previous templateId</b>	<b>Changes from IHE</b>	<b>Changes from HITSP C83</b>	<b>Changes from CCD</b>
Problem Observation (2.16.840.1.11388.3.10.20.22.4.4)	2.16.840.1.113883.10.20.1.28 (CCD) 1.3.6.1.4.1.19376.1.5.3.1.4.5 (IHE)	<ol style="list-style-type: none"> <li>1. IHE templateId(s) no longer required</li> <li>2. id updated to SHALL [1..*]</li> <li>3. code updated to SHALL [1..1] be from 2.16.840.1.113883.3.88.12.3221.7.2</li> <li>4. Text and text/reference/@value updated to SHOULD [0..1] be present</li> <li>5. effectiveTime must be updated for semantic differences</li> <li>6. value updated to SHALL [1..1] be CD from 2.16.840.1.113883.3.88.12.3221.7.4</li> <li>7. entryRelationships must be updated for differences</li> </ol>	New requirement, no mappings required	<ol style="list-style-type: none"> <li>1. CCD templateId no longer required</li> <li>2. id updated to SHALL [1..*]</li> <li>3. code updated to SHALL [1..1] be from 2.16.840.1.113883.3.88.12.3221.7.2</li> <li>4. Text and text/reference/@value SHOULD be present</li> <li>5. effectiveTime and child elements updated to SHOULD [0..1] be present</li> <li>6. value updated to SHALL [1..1] be CD from 2.16.840.1.113883.3.88.12.3221.7.4</li> <li>7. entryRelationships must be updated for differences</li> <li>8. Sources of information differences are allowed under open template rules.</li> </ol>

<b>Title (templateId)</b>	<b>Previous templateId</b>	<b>Changes from IHE</b>	<b>Changes from HITSP C83</b>	<b>Changes from CCD</b>
Problem Status Entry (2.16.840.1.113883.10.20.1.50 3.10.20.22.4.6)	2.16.840.1.113883.10.20.1.50 (CCD) 1.3.6.1.4.1.19376.1.5.3.1.4.1.1 (IHE)	<ul style="list-style-type: none"> <li>1. IHE templateId(s) no longer required</li> <li>2. text updated to SHOULD [0..1] (not SHALL)</li> <li>3. value updated to SHALL be [1..1] CD from 2.16.840.1.113883.3.88.12.80.68</li> </ul>	New requirement, no mappings required	<ul style="list-style-type: none"> <li>1. CCD templateId no longer required</li> <li>2. text updated to SHOULD [0..1] be present</li> <li>3. value updated to SHALL be [1..1] CD from 2.16.840.1.113883.3.88.12.80.68</li> </ul>
Health Status Observation (2.16.840.1.113883.10.20.1.51 3.10.20.22.4.5)	2.16.840.1.113883.10.20.1.51 (CCD) 1.3.6.1.4.1.19376.1.5.3.1.4.1.2 (IHE)	<ul style="list-style-type: none"> <li>1. IHE templateId(s) no longer required</li> <li>2. text and text/reference/@value updated to SHOULD [0..1] be present</li> <li>3. value updated to SHALL be [1..1] CD from 2.16.840.1.113883.3.88.12.80.68</li> <li>4. entryRelationships must be updated for differences</li> </ul>	New requirement, no mappings required	<ul style="list-style-type: none"> <li>1. CCD templateId no longer required</li> <li>2. id updated to SHALL [1..*]</li> <li>3. text and text/@value updated to SHOULD [0..1] be present</li> <li>4. effectiveTime and child elements updated to SHOULD [0..1] be present</li> <li>5. value updated to SHALL be [1..1] CD from 2.16.840.1.113883.3.88.12.80.68</li> <li>6. entryRelationships must be updated for differences</li> <li>7. Sources of information differences are allowed under open template rules.</li> </ul>

**Table 278: Vital Signs Section Changes**

<b>Title (templateId)</b>	<b>Previous templateId</b>	<b>Changes from IHE</b>	<b>Changes from HITSP C83</b>	<b>Changes from CCD</b>
Vital Signs Section (Entries Optional) (2.16.840.1.11388 3.10.20.22.4)	2.16.840.1.113883.10.20.1.16 (CCD)  1.3.6.1.4.1.19376.1.5.3.1.1.5.3.25 (IHE)  2.16.840.1.113883.3.88.11.83.119 (C83)	1. IHE templateId(s) no longer required  2. title updated to not require inclusion of "vital signs"	1. HITSP templateID(s) no longer required  2. code/@code updated to SHALL be [1..1] 8716-3 from 2.16.840.1.113883.6.1  3. title updated to SHALL [1..1] occur	1. CCD templateId no longer required  2. title updated to not require inclusion of "vital signs"
Vital Signs Section (Entries Required) (2.16.840.1.11388 3.10.20.22.4.1)	2.16.840.1.113883.10.20.1.16 (CCD)  1.3.6.1.4.1.19376.1.5.3.1.1.5.3.25 (IHE)  2.16.840.1.113883.3.88.11.83.119 (C83)	1. IHE templateId(s) no longer required  2. title updated to not require inclusion of "vital signs"  3. Section updated to SHALL contain [1..*] Vitals Signs Organizer	1. HITSP templateID(s) no longer required  2. code/@code updated to SHALL be [1..1] 8716-3 from 2.16.840.1.113883.6.1  3. title updated to SHALL [1..1] occur  4. Section updated to SHALL contain [1..*] Vitals Signs Organizer	1. CCD templateId no longer required  2. title updated to not require inclusion of "vital signs"  3. Section updated to SHALL contain [1..*] Vitals Signs Organizer
Vital Signs Organizer (2.16.840.1.11388 3.10.20.22.4.26)	1.3.6.1.4.1.19376.1.5.3.1.4.13.1 (IHE)  2.16.840.1.113883.10.20.1.35 (CCD)	1. IHE templateId(s) no longer required  2. Requires [1..*] organizer/id  3. effectiveTime updated to SHALL [1..1]	1. HITSP templateID(s) no longer required  2. Requires [1..*] organizer/id  3. effectiveTime updated to SHALL [1..1]	1. CCD templateId no longer required  2. @classCode updated to CLUSTER  3. code updated to 46680005 from 2.16.840.1.113883.6.9 6  4. statusCode updated to "completed"  5. effectiveTime updated to SHALL [1..1]

<b>Title (templateId)</b>	<b>Previous templateId</b>	<b>Changes from IHE</b>	<b>Changes from HITSP C83</b>	<b>Changes from CCD</b>
Vital Signs Observation (2.16.840.1.11388 3.10.20.22.4.27)	1.3.6.1.4.1.19376.1.5.3.1.4.13.2 (IHE)	<ol style="list-style-type: none"> <li>1. IHE templateId(s) no longer required</li> <li>2. id updated to SHALL [1..*]</li> <li>3. code replaced with value from value set 2.16.840.1.113883.3.88.12.80.62</li> <li>4. text updated to SHOULD [0..1]</li> <li>5. text/reference/@value updated to SHOULD [0..1]</li> <li>6. statusCode updated to SHALL [1..1] 'completed'</li> <li>7. effectiveTime updated to SHALL [1..1]</li> </ol>	New requirement, no mappings required	New requirement, no mappings required

**Table 279: Procedures Section Changes**

<b>Title (templateId)</b>	<b>Previous templateId</b>	<b>Changes from IHE</b>	<b>Changes from HITSP C83</b>	<b>Changes from CCD</b>
Procedures Section (Entries Optional) (2.16.840.1.11388 3.10.20.22.2.7)	2.16.840.1.113883.10.20.1.12 (CCD)	No equivalent template	No equivalent template	1.CCD templateId no longer required 2.Remove title requirements CONF-425 and CONF 426 3.Add SHALL requirement for text
Procedures Section (Entries Required) (2.16.840.1.11388 3.10.20.22.2.7.1)	2.16.840.1.113883.10.20.1.12 (CCD) 1.3.6.1.4.1.19376.1.5.3.1.3.11 (IHE) 1.3.6.1.4.1.19376.1.5.3.1.3.12 (IHE) 2.16.840.1.113883.3.88.11.83.145 (C83)	1.IHE templateId(s) no longer required 2.Explicit that multiple entries are allowed. 3.Remove constraint for References Entry 4.Add text SHALL be [1..1] present	1.C83 templateId(s) no longer required 2.Add SHALL be [1..1] present and @code='45719-4' LOINC. 3.Add text SHALL be [1..1] present	1.CCD templateId no longer required 2.Remove title requirements CONF-425 and CONF 426 3.Add text SHALL be [1..1] present 4.Add requirement for at least one Procedure Activity Act, Procedure Activity Observation, or Procedure Activity Procedure.
Procedure Activity Procedure Entry (2.16.840.1.11388 3.10.20.22.4.14)	2.16.840.1.113883.10.20.1.29 (CCD) 2.16.840.1.113883.11.83.17 (C83) 1.3.6.1.4.1.19376.1.5.3.1.4.19 (C83)	No template supplied in guide.	1. C83 templateId(s) no longer required. 2. Constrain @classCode to PROC 3. Replace @moodCode with value from 2.16.840.1.113883.11.20.9.18 4. Relax code/originalText to SHOULD contain reference/@value 5. Add statusCode SHALL be [1..1] present from 2.16.840.1.113883.11.20.9.22 6. Add priorityCode MAY be [0..1] present from 2.16.840.1.113883.1.11.16866 6. Add priorityCode MAY be [0..1] present from 2.16.840.1.113883.1.11.16866 7. Add priorityCode MAY be [0..1] present from 2.16.840.1.113883.1.11.16866 8. Constrain methodCode to MAY [0..1] 9. Replace targetSiteCode with	1.CCD templateId no longer required 2.Constrain @classCode to PROC 3.Replace @moodCode with value from 2.16.840.1.113883.11.20.9.18 4.Add code SHOULD contain originalText 5.Add code/originalText SHOULD contain reference/@value 6.Replace statusCode with value from 2.16.840.1.113883.11.20.9.22 7.Add priorityCode MAY [0..1] be present from 2.16.840.1.113883.1.11.16866 8.Constrain methodCode to MAY [0..1] 9.Replace targetSiteCode with

<b>Title (templateId)</b>	<b>Previous templateId</b>	<b>Changes from IHE</b>	<b>Changes from HITSP C83</b>	<b>Changes from CCD</b>
			<p>7. Add methodCode MAY be [0..1] present</p> <p>8. Add specimen and children MAY be [0..*] present.</p> <p>9. Add required attributes for performer/assignedEntity</p> <p>10. Add MAY [0..*] participant/@typeCode='DEV' and allow corresponding Product Instance</p> <p>11. Add MAY [0..*] participant/@typeCode='LOC' and allow corresponding Service Delivery Location</p> <p>12. Add MAY [0..1] entryRelationship with @typeCode='COMP' @inversionInd='TRUE' to encounter with required id.</p> <p>13. Add MAY [0..1] entryRelationship with @typeCode='SUBJ' @inversionInd='TRUE' to Instructions with required templateId.</p> <p>14. Add MAY [0..1] entryRelationship with @typeCode='RSON' to Indication with required templateId.</p> <p>15. Add MAY [0..1] entryRelationship with @typeCode='COMP' to</p>	<p>SHOULD [0..1] from 2.16.840.1.113883.3.88.12.322 1.8.9</p> <p>10. Add required attributes for performer/assignedEntity</p> <p>11. Add MAY [0..*] participant/@typeCode='DEV' and allow corresponding Product Instance</p> <p>12. Add MAY [0..1] entryRelationship with @typeCode='COMP' @inversionInd='TRUE' to encounter with required templateId.</p> <p>13. Add required attributes for entryRelationship/encounter</p> <p>14. Replace templateId for Encounter Location with that of Service Delivery Location</p> <p>15. Constrain entryRelationship to instructions to [0..1]</p> <p>16. Replace Instructions templateId with 2.16.840.1.113883.10.20.22.4. 20</p> <p>17. Add templateId 2.16.840.1.113883.10.20.22.4. 19 entryRelationship/Indication (if required) and remove existing templateId(s).</p> <p>18. Replace 2.16.840.1.113883.10.20.1.24. 20 templateId with 2.16.840.1.113883.10.20.22.4. 16 Medication Activity and constrain to MAY be [0..1]</p>

<b>Title (templateId)</b>	<b>Previous templateId</b>	<b>Changes from IHE</b>	<b>Changes from HITSP C83</b>	<b>Changes from CCD</b>
			Medication Activity with required templateId.	present.
ProcedureActivity Observation Entry (2.16.840.1.11388 3.10.20.22.4.13)	2.16.840.1.113883.10.20.1.29 (CCD) 2.16.840.1.113883.11.83.17 (C83) 1.3.6.1.4.1.19376.1.5.3.1.4.19 (C83)	No template supplied in guide.	Same as 2.16.840.1.113883.11.83.17 changes EXCEPT: 1. Constrain @classCode to OBS 2. specimen and children MAY be [0..*] present constraint is not applicable 3. participant/@typeCode='DEV' and corresponding Product Instance template are not applicable.	Same as 2.16.840.1.113883.10.20.1.29 changes EXCEPT: 1.Constrain @classCode to OBS 2.specimen and children MAY be [0..*] present constraint is not applicable 3.participant/@typeCode='DEV' and corresponding Product Instance template are not applicable.
ProcedureActivity Act Entry (2.16.840.1.11388 3.10.20.22.4.12)	2.16.840.1.113883.10.20.1.29 (CCD) 2.16.840.1.113883.11.83.17 (C83) 1.3.6.1.4.1.19376.1.5.3.1.4.19 (C83)	No template supplied in guide.	Same as 2.16.840.1.113883.11.83.17 changes EXCEPT: 1. Constrain @classCode to ACT 2. specimen and children MAY be [0..*] present constraint is not applicable 3. participant/@typeCode='DEV' and corresponding Product Instance template are not applicable. 4. methodCode constraint is not applicable 5. targetSiteCode constraint is not applicable	Same as 2.16.840.1.113883.10.20.1.29 changes EXCEPT: 1.Constrain @classCode to ACT 2.specimen and children MAY be [0..*] present constraint is not applicable 3.participant/@typeCode='DEV' and corresponding Product Instance template are not applicable. 4.methodCode constraint is not applicable 5.targetSiteCode constraint is not applicable

<b>Title (templateId)</b>	<b>Previous templateId</b>	<b>Changes from IHE</b>	<b>Changes from HITSP C83</b>	<b>Changes from CCD</b>
Service Delivery Location Entry (2.16.840.1.11388 3.10.20.22.4.32)	2.16.840.1.113883.10.20.1.45 (CCD)	No equivalent template.	No equivalent template.	<ol style="list-style-type: none"> <li>CCD templateId no longer required.</li> <li>Constrain code to SHALL be [1..1] from 2.16.840.1.113883.1.11.20275</li> <li>Update addr to SHOULD be [0..1] present</li> <li>Update telecom to SHOULD be [0..1] present</li> <li>Add playingEntity/name MAY be [0..1] present.</li> </ol>
Product Instance Entry (2.16.840.1.11388 3.10.20.22.4.37)	2.16.840.1.113883.10.20.1.53 (CCD) 1.3.6.1.4.1.19376.1.5.3.1.4.7. 2 (IHE)	<ol style="list-style-type: none"> <li>IHE templateId(s) no longer required.</li> <li>Replace entire IHE template with Consolidated template and templateId. (differences in classes in templates – IHE product entry cannot be attached to procedures in CDA)</li> </ol>	<ol style="list-style-type: none"> <li>C83 templateId(s) no longer required.</li> <li>Replace entire C83 template with Consolidated template and templateId. (differences in classes in templates – C83 product form cannot be attached to procedures in CDA)</li> </ol>	<ol style="list-style-type: none"> <li>CCD templateId no longer required.</li> <li>Replace entire CCD template with Consolidated template and templateId. (differences in classes in templates – CCD product instance cannot be attached to procedures in CDA)</li> </ol>

**Table 280: Medications Section Changes**

<b>Title (templateId)</b>	<b>Previous templateId</b>	<b>Changes from IHE</b>	<b>Changes from HITSP C83</b>	<b>Changes from CCD</b>
Medications Section (Entries Optional) (2.16.840.1.113883.10.20.22.2.1)	2.16.840.1.113883.10.20.1.8 (CCD)	No equivalent template	No equivalent template	<ol style="list-style-type: none"> <li>CCD templateId no longer required</li> <li>title updated to not require inclusion of "medication"</li> <li>text updated to SHALL [1..1] be present</li> </ol>

<b>Title (templateId)</b>	<b>Previous templateId</b>	<b>Changes from IHE</b>	<b>Changes from HITSP C83</b>	<b>Changes from CCD</b>
				<ul style="list-style-type: none"> <li>4. entry should be present and contain Medication Activity</li> <li>5. entry should be present and contain Medication Use – None Known. This is in place of the simple statement that absence of known medications SHALL be explicitly asserted</li> </ul>
Medications Section (Entries Required) (2.16.840.1.113883.10.20.22.2.1.1)	1.3.6.1.4.1.19376.1.5.3.1.3.19 (IHE) 2.16.840.1.113883.3.88.11.83.112 (C83)	<ul style="list-style-type: none"> <li>1. IHE templateId(s) no longer required</li> <li>2. title updated to SHALL [1..1] be present</li> <li>3. text updated to SHALL [1..1] be present</li> <li>4. entry SHALL be present and contain Medication Activity or and contain Medication Use – None Known</li> </ul>	<ul style="list-style-type: none"> <li>1. C83 templateId(s) no longer required</li> <li>2. title updated to SHALL [1..1] be present</li> <li>3. text updated to SHALL [1..1] be present</li> <li>4. entry SHALL be present and contain Medication Activity or and contain Medication Use – None Known</li> </ul>	No equivalent template
Medication Activity (2.16.840.1.113883.10.20.1.24.4.16)	2.16.840.1.113883.10.20.1.24 (CCD) 1.3.6.1.4.1.19376.1.5.3.1.4.7 (IHE) 1.3.6.1.4.1.19376.1.5.3.1.4.7.1 (IHE) 1.3.6.1.4.1.19376.1.5.3.1.4.8 (IHE) 1.3.6.1.4.1.19376.1.5.3.1.4.9 (IHE) 1.3.6.1.4.1.19376.1.5.3.1.4.10 (IHE) 1.3.6.1.4.1.19376.1.5.3.1.4.11 (IHE) 2.16.840.1.113883.3.88.11.83.8 (C83)	<ul style="list-style-type: none"> <li>1. IHE templateId(s) no longer required</li> <li>2. @moodCode changed to require value from 2.16.840.1.113883.11.20.9.18 (effect is same).</li> <li>3. id SHALL [1..*] be present</li> <li>4. relax code to MAY BE [0..1] present, and use template Medication Use – None Known to assert no meds.</li> <li>5. Relax text/reference/@value to SHOULD [0..1] be present.</li> <li>6. Add statusCode SHALL be [1..1] present</li> <li>7. effectiveTime updated to SHALL be [1..1] present</li> </ul>	<ul style="list-style-type: none"> <li>1. C83 templateId(s) no longer required</li> <li>2. @moodCode changed to require value from 2.16.840.1.113883.11.20.9.18 (effect is same).</li> <li>3. id SHALL [1..*] be present</li> <li>4. relax entry SHALL to SHOULD be present and contain Medication Activity</li> <li>5. Relax text/reference/@value to SHOULD [0..1] be present.</li> <li>6. Add statusCode SHOULD be [1..1] present</li> <li>7. effectiveTime updated to SHOULD [0..*]. See guides for usage.</li> </ul>	<ul style="list-style-type: none"> <li>1. CCD templateId no longer required</li> <li>2. @classsCode updated to SHALL [1..1] be 'SBADM'</li> <li>3. @moodCode changed to require value from 2.16.840.1.113883.11.20.9.18 (effect is same).</li> <li>4. code may be present</li> <li>5. add text SHOULD [0..1] be present.</li> <li>6. Replace statusCode SHOULD with SHALL be [1..1] present.</li> <li>7. effectiveTime updated to SHALL be [1..1] present and SHOULD [0..*]. See guides for usage.</li> </ul>

<b>Title (templateId)</b>	<b>Previous templateId</b>	<b>Changes from IHE</b>	<b>Changes from HITSP C83</b>	<b>Changes from CCD</b>
		<p>6. Relax statusCode to SHALL be [1..1] present</p> <p>7. effectiveTime updated to SHALL be [1..1] present and SHOULD [0..*]. See guides for usage.</p> <p>8. Add repeatNumber MAY [0..1] be present</p> <p>9. Constrain routeCode to values from 2.16.840.1.113883.3.88.12.321.8.7</p> <p>10. Constrain approachSiteCode to values from 2.16.840.1.113883.3.88.12.321.8.9</p> <p>11. Simplify doseQuantity to single element. See guides for usage.</p> <p>12. Update rateQuantity to MAY be [0..1] present. See guides for usage.</p> <p>13. Update rateQuantity to contain @unit from 2.16.840.1.113883.1.11.12839</p> <p>14. add constraint that exactly one doseQuantity or rateQuantity SHOULD be present</p> <p>15. add maxDoseQuantity MAY be [0..1] present</p> <p>16. add administrationUnitCode MAY be [0..1] present</p> <p>17. update consumable to</p>	<p>and SHOULD [0..*]. See guides for usage.</p> <p>8. Add repeatNumber MAY [0..1] be present</p> <p>9. Update routeCode constraint to MAY be [0..1]</p> <p>10. update doseQuantity to SHOULD be [0..1] present</p> <p>11. add rateQuantity MAY be [0..1] present and contain @unit from 2.16.840.1.113883.1.11.12839</p> <p>12. add constraint that exactly one doseQuantity or rateQuantity SHOULD be present</p> <p>13. update maxDoseQuantity to MAY be [0..1] present</p> <p>14. update consumable to include Medication Information template. C83 templateId is no longer required.</p> <p>15. Add performer MAY be [0..1] be present.</p> <p>16. Update participant to Drug Vehicle template, replacing inline constraints.</p> <p>17. Replace entryRelationship/[RSON] distal end with Indication template. CCD templateId no longer required.</p> <p>18. Replace entryRelationship/[SUBJ] distal end with Instructions template. CCD templateId(s) no</p>	<p>8. Add repeatNumber MAY [0..1] be present</p> <p>9. Relax routeCode to MAY be [0..1] present and update to values from 2.16.840.1.113883.3.88.12.321.8.7</p> <p>10. approachSiteCode MAY be [0..1] present with values from 2.16.840.1.113883.3.88.12.321.8.9</p> <p>11. add doseQuantity SHOULD [0..1] contain @unit and be from 2.16.840.1.113883.1.11.12839</p> <p>12. update rateQuantity to MAY be [0..1] present and contain @unit from 2.16.840.1.113883.1.11.12839</p> <p>13. add administrationUnitCode MAY be [0..1] present</p> <p>14. add consumable SHALL [1..1] to include Medication Information</p> <p>15. update performer MAY be [0..1] be present.</p> <p>16. Add participant MAY be [0..*] present to Drug Vehicle</p> <p>17. Replace entryRelationship/[RSON] distal end with Indication template. CCD templateId no longer required.</p> <p>18. Replace entryRelationship/[SUBJ] distal end with Instructions template. CCD templateId(s) no</p>

<b>Title (templateId)</b>	<b>Previous templateId</b>	<b>Changes from IHE</b>	<b>Changes from HITSP C83</b>	<b>Changes from CCD</b>
		<p>include Medication Information template. IHE templateId is no longer required.</p> <p>18.Add performer MAY be [0..1] be present.</p> <p>19.Add participant MAY be [0..*] present to Drug Vehicle</p> <p>20.Replace entryRelationship/[RSO N] distal Act with Indication template. IHE templateId no longer required.</p> <p>21.Replace entryRelationship/[SUBJ ] distal end with Instructions template. IHE templateId no longer required.</p> <p>22.Replace entryRelationship/[REFR ] distal end with Medication Supply Order template. IHE templateId(s) no longer required.</p> <p>23.Add entryRelationship/[REFR ] to Medication Dispense template MAY be [0..1] present.</p> <p>24.Add entryRelationship/[CAUS] to Reaction Observation template MAY be [0..1] present.</p>	<p>entryRelationship/[SUBJ] distal end with Instructions template. C83 templateId(s) no longer required.</p> <p>19.Replace entryRelationship/[REFR] distal end with Medication Supply Order template. C83 templateId(s) no longer required.</p> <p>20.Replace entryRelationship/[REFR] with Medication Dispense template. C83 templateId(s) no longer required.</p> <p>21.Replace entryRelationship/[CAUS] with Reaction Observation template. C83 templateId(s) no longer required.</p> <p>22.Add precondition to Precondition for Substance Administration template.</p>	<p>longer required.</p> <p>19.Replace entryRelationship/[REFR] distal end with Medication Supply Order template. CCD templateId(s) no longer required.</p> <p>20.Add entryRelationship/[REFR] to Medication Dispense template MAY be [0..1] present.</p> <p>21.Add entryRelationship/[CAUS] to Reaction Observation template MAY be [0..1] present.</p> <p>22.Add precondition to Precondition for Substance Administration template.</p>

<b>Title (templateId)</b>	<b>Previous templateId</b>	<b>Changes from IHE</b>	<b>Changes from HITSP C83</b>	<b>Changes from CCD</b>
		<p>25. Update precondition to use Precondition for Substance Administration template. Remove existing precondition elements.</p> <p>26. Remove entryRelationship/[COMP] constraint.</p>		
Medication Use – None Known (2.16.840.1.113883.10.20.22.4.29)		No equivalent template.	No equivalent template.	No equivalent template.
Medication Information (2.16.840.1.113883.10.20.22.4.23)	2.16.840.1.113883.10.20.1.53 (CCD) 1.3.6.1.4.1.19376.1.5.3.1.4.7.2 (IHE) 2.16.840.1.113883.3.88.11.83.8.2 (C83)	<ol style="list-style-type: none"> <li>1. IHE templateId(s) no longer required</li> <li>2. consumable/manufacturedProduct/manufacturedMaterial/code SHALL be selected from 2.16.1.113883.3.88.12.80.17. Remove any conflicting code constraints.</li> </ol>	<ol style="list-style-type: none"> <li>1. C83 templateId(s) no longer required.</li> <li>2. consumable/manufacturedProduct/manufacturedMaterial/code SHALL be selected from 2.16.1.113883.3.88.12.80.17. Remove any conflicting code constraints.</li> </ol>	<ol style="list-style-type: none"> <li>1. CCD templateId no longer required</li> <li>2. consumable/manufacturedProduct/manufacturedMaterial/code SHALL be selected from 2.16.1.113883.3.88.12.80.17. Remove any conflicting code constraints.</li> </ol>
Drug Vehicle (2.16.840.1.113883.10.20.22.4.24)		No equivalent template.	<ol style="list-style-type: none"> <li>1. relax name element to MAY be [0..1] present (in playingEntity)</li> <li>2. update code element to SHALL be [1..1] present (in playingEntity).</li> </ol>	No equivalent template.
Indication (2.16.840.1.113883.10.20.22.4.19)	2.16.840.1.113883.10.20.1.27 (CCD) 1.3.6.1.4.1.19376.1.5.3.1.4.4.1 (IHE) 2.16.840.1.113883.10.20.1.28 (C83)	<ol style="list-style-type: none"> <li>1. IHE templateId(s) no longer required.</li> <li>2. Replace IHE template with Indication template.</li> </ol>	<ol style="list-style-type: none"> <li>1. C83 templateId(s) no longer required.</li> <li>2. Remove observation/text constraint</li> </ol>	<ol style="list-style-type: none"> <li>1. CCD templateId(s) no longer required.</li> <li>2. Replace CCD template with Indication.</li> </ol>

<b>Title (templateId)</b>	<b>Previous templateId</b>	<b>Changes from IHE</b>	<b>Changes from HITSP C83</b>	<b>Changes from CCD</b>
Instructions (2.16.840.1.113 883.10.20.22.4. 20)	2.16.840.1.113883.10.20.1.49 (CCD) 1.3.6.1.4.1.19376.1.5.3.1.4.3 (IHE)	<ul style="list-style-type: none"> <li>1. IHE templateId(s) no longer required.</li> <li>2. Remove code SHOULD be 'PINSTRUCT' codeSystem 1.3.6.1.4.1.19376.1.5.3.2</li> </ul>	<ul style="list-style-type: none"> <li>1. C83 templateId(s) no longer required</li> <li>2. Remove code SHOULD be 'PINSTRUCT' codeSystem 1.3.6.1.4.1.19376.1.5.3.2</li> </ul>	<ul style="list-style-type: none"> <li>1. CCD templateId(s) no longer required.</li> <li>2. Add text SHOULD be [0..1] present and add dependent constraints</li> <li>3. Add statusCode SHALL be [1..1] present with value 'completed'.</li> </ul>
Precondition for Substance Administration (2.16.840.1.113 883.10.20.22.4. 25)		No equivalent template.	No equivalent template.	No equivalent template.
Reaction Observation (2.16.840.1.113 883.10.20.22.4. 9)	2.16.840.1.113883.10.20.1.54 (CCD) 1.3.6.1.4.1.19376.1.5.3.1.4.5 (IHE)	<ul style="list-style-type: none"> <li>1. IHE templateId(s) no longer required.</li> <li>2. Add id SHALL be [1..1] present</li> <li>3. Add code SHALL be [1..1] present</li> <li>4. Add text SHOULD be [0..1] present, and child constraints</li> <li>5. Add effectiveTime SHOULD be [0..1] present and child constraints</li> <li>6. Add value SHALL be [1..1] present with type of 'CD' and value from 2.16.3.88.12.3221.7.4</li> <li>7. Replace entryRelationship/[SUBJ]</li> </ul>	No existing template.	<ul style="list-style-type: none"> <li>1. CCD templateId(s) no longer required.</li> <li>2. Add id SHALL be [1..1] present</li> <li>3. Add code SHALL be [1..1] present</li> <li>4. Add text SHOULD be [0..1] present, and child constraints</li> <li>5. Add effectiveTime SHOULD be [0..1] present and child constraints</li> <li>6. Add value SHALL be [1..1] present with type of 'CD' and value from 2.16.3.88.12.3221.7.4</li> <li>7. Add entryRelationship/[RSON] to template Procedure Activity Procedure MAY be [0..1] present</li> </ul>

<b>Title (templateId)</b>	<b>Previous templateId</b>	<b>Changes from IHE</b>	<b>Changes from HITSP C83</b>	<b>Changes from CCD</b>
		<p>] templateId with Severity Observation 2.16.840.1.113883.10.2 0.22.4.8</p> <p>8. Add entryRelationship/[RSO N] to template Procedure Activity Procedure MAY be [0..1] present</p> <p>9. Add entryRelationship/[RSO N] to template Medication Activity MAY be [0..1] present.</p> <p>10. Remove entryRelationship/[REFR ] constraint</p> <p>11. Remove entryRelationship/[SUBJ ] to comments template constraint.</p>		<p>8. Add entryRelationship/[RSO N] to template Medication Activity MAY be [0..1] present.</p>
Severity Observation (2.16.840.1.113883.10.20.22.4.8)	2.16.840.1.113883.10.20.1.55 (CCD) 1.3.6.1.4.1.19376.1.5.3.1.4.1 (IHE)	<p>1. IHE templateId(s) no longer required.</p> <p>2. Relax text to SHOULD be [0..1] present</p> <p>3. Update value to be from 2.16.840.1.113883.3.88.12.321.6.8</p>	No existing template.	<p>1. CCD templateId(s) no longer required.</p> <p>2. Add text SHOULD be [0..1] present and child constraints.</p> <p>3. Update value to be from 2.16.840.1.113883.3.88.12.321.6.8</p>
Medication Supply Order Entry (2.16.840.1.113883.10.20.22.4.17)	2.16.840.1.113883.10.20.1.34 (CCD) 1.3.6.1.4.1.19376.1.5.3.1.4.7.3 (IHE) 2.16.840.1.113883.3.88.11.83.8.3 (C83)	<p>1. IHE templateId(s) no longer required.</p> <p>2. Constrain @moodCode to INT</p> <p>3. Update id to SHALL [1..*]</p> <p>4. Add statusCode SHALL be [1..1] present</p> <p>5. Add effectiveTime/high</p>	<p>1. C83 templateId(s) no longer required.</p> <p>2. Constrain @moodCode to INT</p> <p>3. Update statusCode to SHALL be [1..1] present</p> <p>4. Add statusCode SHALL be</p>	<p>1. CCD templateId(s) no longer required.</p> <p>2. Constrain @moodCode to INT</p> <p>3. Update statusCode to SHALL be [1..1] present</p> <p>4. Add effectiveTime/high SHOULD be [0..1] present</p> <p>5. Update repeatNumber to</p>

<b>Title (templateId)</b>	<b>Previous templateId</b>	<b>Changes from IHE</b>	<b>Changes from HITSP C83</b>	<b>Changes from CCD</b>
		<p>SHOULD be [0..1] present</p> <p>6. Add constraint that at least 1 of product/Medication Information or product/Immunization Medication Information SHALL be [1..1] present</p> <p>7. Add entryRelationship/[SUBJ ] to Instructions MAY be [0..1] present along with child constraints</p> <p>8. Remove all other differing constraints</p>	<p>[1..1] present</p> <p>5. Add effectiveTime/high SHOULD be [0..1] present</p> <p>6. Update repeatNumber to SHOULD be [0..1] present</p> <p>7. Update quantity to SHOULD be [0..1] present</p> <p>8. Add constraint that at least 1 of product/Medication Information or product/Immunization Medication Information SHALL be [1..1] present</p> <p>9. Add entryRelationship/[SUBJ ] to Instructions MAY be [0..1] present along with child constraints</p> <p>10. Remove all other differing constraints</p>	<p>SHOULD be [0..1] present</p> <p>6. Update quantity to SHOULD be [0..1] present</p> <p>7. Add constraint that at least 1 of product/Medication Information or product/Immunization Medication Information SHALL be [1..1] present</p> <p>8. Add entryRelationship/[SUBJ ] to Instructions MAY be [0..1] present along with child constraints</p> <p>9. Remove all other differing constraints</p>
Medication Dispense Entry (2.16.840.1.113883.10.20.1.34 18)	<p>2.16.840.1.113883.10.20.1.34 (CCD)</p> <p>1.3.6.1.4.1.19376.1.5.3.1.4.7.3 (IHE)</p> <p>2.16.840.1.113883.3.88.11.83. 8.3 (C83)</p>	<p>1. IHE templateId(s) no longer required.</p> <p>2. Constrain @moodCode to EVN</p> <p>3. Update id to SHALL [1..*]</p> <p>4. Add statusCode SHALL be [1..1] present and from 2.16.840.1.113883.3.88.12.80.64</p> <p>5. Add effectiveTime SHOULD be [0..1] present</p> <p>6. Add constraint that at least 1 of</p>	<p>1. C83 templateId(s) no longer required.</p> <p>2. Constrain @moodCode to EVN</p> <p>3. Update id to SHALL [1..*]; remove additional constraints</p> <p>4. Add statusCode SHALL be [1..1] present and from 2.16.840.1.113883.3.88.12.80.64</p> <p>5. Add effectiveTime SHOULD be [0..1] present</p> <p>6. update repeatNumber SHOULD be [0..1] present</p>	<p>1. CCD templateId(s) no longer required.</p> <p>2. Constrain @moodCode to EVN</p> <p>3. Update statusCode to SHALL be [1..1] present</p> <p>4. Update repeatNumber to SHOULD be [0..1] present</p> <p>5. Update quantity to SHOULD be [0..1] present</p> <p>6. Add constraint that at least 1 of product/Medication Information or product/Immunization Medication Information SHALL be [1..1] present</p>

<b>Title (templateId)</b>	<b>Previous templateId</b>	<b>Changes from IHE</b>	<b>Changes from HITSP C83</b>	<b>Changes from CCD</b>
		<p>product/Medication Information or product/Immunization Medication Information SHALL be [1..1] present</p> <p>7. Add entryRelationship/[REFR] to Medication Supply Order MAY be [0..1] present along with child constraints</p> <p>8. Add assignedEntity/Consolidated US Realm Header Address template SHOULD be [0..1] present</p> <p>9. Remove all other differing constraints</p>	<p>7. Update quantity to SHOULD be [0..1] present</p> <p>8. Add constraint that at least 1 of product/Medication Information or product/Immunization Medication Information SHALL be [1..1] present</p> <p>9. Add performer MAY be [0..1] present</p> <p>10. Add entryRelationship/[REFR] to Medication Supply Order MAY be [0..1] present along with child constraints</p> <p>11. Add assignedEntity/Consolidated US Realm Header Address template SHOULD be [0..1] present</p> <p>12. Remove all other differing constraints</p>	<p>7. Add entryRelationship/[REFR] to Medication Supply Order MAY be [0..1] present along with child constraints</p> <p>8. Add assignedEntity/Consolidated US Realm Header Address template SHOULD be [0..1] present</p> <p>9. Remove all other differing constraints</p>

## APPENDIX C — TEMPLATE IDS IN THIS GUIDE

The following table lists all templateIds in this guide. The sections for document types include tables showing the template containment within each document type  
Unstructured Documents:

- [CCD](#)
- [Consultation Note](#)
- [Diagnostic Imaging Report](#)
- [Discharge Summary](#)
- [History and Physical](#)
- [Operative Note](#)
- [Procedure Note](#)
- [Progress Note](#)

**Table 281: Template Ids Alphabetically by Template Type**

Template Title	Template Type	templateId
<b>Header</b>		
<a href="#">US Realm Header</a>	header	2.16.840.1.113883.10.20.22.1.1
<a href="#">Physician of Record Participant</a>		2.16.840.1.113883.10.20.6.2.2
<a href="#">Physician Reading Study Performer</a>		2.16.840.1.113883.10.20.6.2.1
<a href="#">US Realm Address (AD.US.FIELDDED)</a>		2.16.840.1.113883.10.20.22.5.2
<a href="#">US Realm Date and Time (DT.US.FIELDDED)</a>		2.16.840.1.113883.10.20.22.5.3
<a href="#">US Realm Date and Time (DTM.US.FIELDDED)</a>		2.16.840.1.113883.10.20.22.5.4
<a href="#">US Realm Patient Name (PTN.US.FIELDDED)</a>		2.16.840.1.113883.10.20.22.5.1
<a href="#">US Realm Person Name (PN.US.FIELDDED)</a>		2.16.840.1.113883.10.20.22.5.1.1
<b>Documents</b>		
<a href="#">Consultation Note</a>	document	2.16.840.1.113883.10.20.22.1.4
<a href="#">Continuity of Care Document (CCD)</a>	document	2.16.840.1.113883.10.20.22.1.2
<a href="#">Diagnostic Imaging Report</a>	document	2.16.840.1.113883.10.20.22.1.5
<a href="#">Discharge Summary</a>	document	2.16.840.1.113883.10.20.22.1.8
<a href="#">History and Physical</a>	document	2.16.840.1.113883.10.20.22.1.3
<a href="#">Operative Note</a>	document	2.16.840.1.113883.10.20.22.1.7
<a href="#">Procedure Note</a>	document	2.16.840.1.113883.10.20.22.1.6
<a href="#">Progress Note</a>	document	2.16.840.1.113883.10.20.22.1.9
<a href="#">Unstructured Document</a>	document	2.16.840.1.113883.10.20.22.1.10

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<b>Sections</b>		
<a href="#">Advance Directives Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.21
<a href="#">Advance Directives Section (entries required)</a>	section	2.16.840.1.113883.10.20.22.2.21.1
<a href="#">Allergies Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.6
<a href="#">Allergies Section (entries required)</a>	section	2.16.840.1.113883.10.20.22.2.6.1
<a href="#">Anesthesia Section</a>	section	2.16.840.1.113883.10.20.22.2.25
<a href="#">Assessment and Plan Section</a>	section	2.16.840.1.113883.10.20.22.2.9
<a href="#">Assessment Section</a>	section	2.16.840.1.113883.10.20.22.2.8
<a href="#">Chief Complaint and Reason for Visit Section</a>	section	2.16.840.1.113883.10.20.22.2.13
<a href="#">Chief Complaint Section</a>	section	1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1
<a href="#">Complications Section</a>	section	2.16.840.1.113883.10.20.22.2.37
<a href="#">DICOM Object Catalog Section - DCM 121181</a>	section	2.16.840.1.113883.10.20.6.1.1
<a href="#">Discharge Diet Section</a>	section	1.3.6.1.4.1.19376.1.5.3.1.3.33
<a href="#">Encounters Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.22
<a href="#">Encounters Section (entries required)</a>	section	2.16.840.1.113883.10.20.22.2.22.1
<a href="#">Family History Section</a>	section	2.16.840.1.113883.10.20.22.2.15
<a href="#">Fetus Subject Context</a>	section	2.16.840.1.113883.10.20.6.2.3
<a href="#">Findings Section (DIR)</a>	section	2.16.840.1.113883.10.20.6.1.2
<a href="#">Functional Status Section</a>	section	2.16.840.1.113883.10.20.22.2.14
<a href="#">General Status Section</a>	section	2.16.840.1.113883.10.20.2.5
<a href="#">History of Past Illness Section</a>	section	2.16.840.1.113883.10.20.22.2.20
<a href="#">History of Present Illness Section</a>	section	1.3.6.1.4.1.19376.1.5.3.1.3.4
<a href="#">Hospital Admission Diagnosis Section</a>	section	2.16.840.1.113883.10.20.22.2.43
<a href="#">Hospital Admission Medications Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.44
<a href="#">Hospital Consultations Section</a>	section	2.16.840.1.113883.10.20.22.2.42
<a href="#">Hospital Course Section</a>	section	1.3.6.1.4.1.19376.1.5.3.1.3.5
<a href="#">Hospital Discharge Diagnosis Section</a>	section	2.16.840.1.113883.10.20.22.2.24
<a href="#">Hospital Discharge Instructions Section</a>	section	2.16.840.1.113883.10.20.22.2.41
<a href="#">Hospital Discharge Medications Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.11
<a href="#">Hospital Discharge Medications Section (entries required)</a>	section	2.16.840.1.113883.10.20.22.2.11.1
<a href="#">Hospital Discharge Physical Section</a>	section	1.3.6.1.4.1.19376.1.5.3.1.3.26
<a href="#">Hospital Discharge Studies Summary Section</a>	section	2.16.840.1.113883.10.20.22.2.16
<a href="#">Immunizations Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.2

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Immunizations Section (entries required)</a>	section	2.16.840.1.113883.10.20.22.2.2.1
<a href="#">Implants Section</a>	section	2.16.840.1.113883.10.20.22.2.33
<a href="#">Instructions Section</a>	section	2.16.840.1.113883.10.20.22.2.45
<a href="#">Interventions Section</a>	section	2.16.840.1.113883.10.20.21.2.3
<a href="#">Medical (General) History Section</a>	section	2.16.840.1.113883.10.20.22.2.39
<a href="#">Medical Equipment Section</a>	section	2.16.840.1.113883.10.20.22.2.23
<a href="#">Medications Administered Section</a>	section	2.16.840.1.113883.10.20.22.2.38
<a href="#">Medications Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.1
<a href="#">Medications Section (entries required)</a>	section	2.16.840.1.113883.10.20.22.2.1.1
<a href="#">Objective Section</a>	section	2.16.840.1.113883.10.20.21.2.1
<a href="#">Observer Context</a>	section	2.16.840.1.113883.10.20.6.2.4
<a href="#">Operative Note Fluids Section</a>	section	2.16.840.1.113883.10.20.7.12
<a href="#">Operative Note Surgical Procedure Section</a>	section	2.16.840.1.113883.10.20.7.14
<a href="#">Payers Section</a>	section	2.16.840.1.113883.10.20.22.2.18
<a href="#">Physical Exam Section</a>	section	2.16.840.1.113883.10.20.2.10
<a href="#">Plan of Care Section</a>	section	2.16.840.1.113883.10.20.22.2.10
<a href="#">Planned Procedure Section</a>	section	2.16.840.1.113883.10.20.22.2.30
<a href="#">Postoperative Diagnosis Section</a>	section	2.16.840.1.113883.10.20.22.2.35
<a href="#">Postprocedure Diagnosis Section</a>	section	2.16.840.1.113883.10.20.22.2.36
<a href="#">Preoperative Diagnosis Section</a>	section	2.16.840.1.113883.10.20.22.2.34
<a href="#">Problem Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.5
<a href="#">Problem Section (entries required)</a>	section	2.16.840.1.113883.10.20.22.2.5.1
<a href="#">Procedure Description Section</a>	section	2.16.840.1.113883.10.20.22.2.27
<a href="#">Procedure Disposition Section</a>	section	2.16.840.1.113883.10.20.18.2.12
<a href="#">Procedure Estimated Blood Loss Section</a>	section	2.16.840.1.113883.10.20.18.2.9
<a href="#">Procedure Findings Section</a>	section	2.16.840.1.113883.10.20.22.2.28
<a href="#">Procedure Implants Section</a>	section	2.16.840.1.113883.10.20.22.2.40
<a href="#">Procedure Indications Section</a>	section	2.16.840.1.113883.10.20.22.2.29
<a href="#">Procedure Specimens Taken Section</a>	section	2.16.840.1.113883.10.20.22.2.31
<a href="#">Procedures Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.7
<a href="#">Procedures Section (entries required)</a>	section	2.16.840.1.113883.10.20.22.2.7.1
<a href="#">Reason for Referral Section</a>	section	1.3.6.1.4.1.19376.1.5.3.1.3.1
<a href="#">Reason for Visit Section</a>	section	2.16.840.1.113883.10.20.22.2.12
<a href="#">Results Section (entries optional)</a>	section	2.16.840.1.113883.10.20.22.2.3
<a href="#">Results Section (entries required)</a>	section	2.16.840.1.113883.10.20.22.2.3.1
<a href="#">Review of Systems Section</a>	section	1.3.6.1.4.1.19376.1.5.3.1.3.18
<a href="#">Social History Section</a>	section	2.16.840.1.113883.10.20.22.2.17

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#"><u>Subjective Section</u></a>	section	2.16.840.1.113883.10.20.21.2.2
<a href="#"><u>Surgery Description Section</u></a>	section	2.16.840.1.113883.10.20.22.2.26
<a href="#"><u>Surgical Drains Section</u></a>	section	2.16.840.1.113883.10.20.7.13
<a href="#"><u>Vital Signs Section (entries optional)</u></a>	section	2.16.840.1.113883.10.20.22.2.4
<a href="#"><u>Vital Signs Section (entries required)</u></a>	section	2.16.840.1.113883.10.20.22.2.4.1
<b>Entries</b>		
<a href="#"><u>Admission Medication</u></a>	entry	2.16.840.1.113883.10.20.22.4.36
<a href="#"><u>Advance Directive Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.48
<a href="#"><u>Age Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.31
<a href="#"><u>Allergy Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.7
<a href="#"><u>Allergy Problem Act</u></a>	entry	2.16.840.1.113883.10.20.22.4.30
<a href="#"><u>Allergy Status Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.28
<a href="#"><u>Boundary Observation</u></a>	entry	2.16.840.1.113883.10.20.6.2.11
<a href="#"><u>Code Observations</u></a>	entry	2.16.840.1.113883.10.20.6.2.13
<a href="#"><u>Comment Activity</u></a>	entry	2.16.840.1.113883.10.20.22.4.64
<a href="#"><u>Coverage Activity</u></a>	entry	2.16.840.1.113883.10.20.22.4.60
<a href="#"><u>Discharge Medication</u></a>	entry	2.16.840.1.113883.10.20.22.4.35
<a href="#"><u>Drug Vehicle</u></a>	entry	2.16.840.1.113883.10.20.22.4.24
<a href="#"><u>Encounter Activities</u></a>	entry	2.16.840.1.113883.10.20.22.4.49
<a href="#"><u>Estimated Date of Delivery</u></a>	entry	2.16.840.1.113883.10.20.15.3.1
<a href="#"><u>Family History Death Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.47
<a href="#"><u>Family History Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.46
<a href="#"><u>Family History Organizer</u></a>	entry	2.16.840.1.113883.10.20.22.4.45
<a href="#"><u>Health Status Observation</u></a>	entry	2.16.840.1.113883.10.20.22.4.5
<a href="#"><u>Hospital Admission Diagnosis</u></a>	entry	2.16.840.1.113883.10.20.22.4.34
<a href="#"><u>Hospital Discharge Diagnosis</u></a>	entry	2.16.840.1.113883.10.20.22.4.33
<a href="#"><u>Immunization Activity</u></a>	entry	2.16.840.1.113883.10.20.22.4.52
<a href="#"><u>Immunization Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.54
<a href="#"><u>Immunization Refusal Reason</u></a>	entry	2.16.840.1.113883.10.20.22.4.53
<a href="#"><u>Indication</u></a>	entry	2.16.840.1.113883.10.20.22.4.19
<a href="#"><u>Instructions</u></a>	entry	2.16.840.1.113883.10.20.22.4.20
<a href="#"><u>Medication Activity</u></a>	entry	2.16.840.1.113883.10.20.22.4.16
<a href="#"><u>Medication Dispense</u></a>	entry	2.16.840.1.113883.10.20.22.4.18
<a href="#"><u>Medication Information</u></a>	entry	2.16.840.1.113883.10.20.22.4.23
<a href="#"><u>Medication Supply Order</u></a>	entry	2.16.840.1.113883.10.20.22.4.17
<a href="#"><u>Medication Use - None Known (deprecated)</u></a>	entry	2.16.840.1.113883.10.20.22.4.29
<a href="#"><u>Non-Medicinal Supply Activity</u></a>	entry	2.16.840.1.113883.10.20.22.4.50

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Plan of Care Activity Act</a>	entry	2.16.840.1.113883.10.20.22.4.39
<a href="#">Plan of Care Activity Encounter</a>	entry	2.16.840.1.113883.10.20.22.4.40
<a href="#">Plan of Care Activity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.44
<a href="#">Plan of Care Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.41
<a href="#">Plan of Care Activity Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.42
<a href="#">Plan of Care Activity Supply</a>	entry	2.16.840.1.113883.10.20.22.4.43
<a href="#">Policy Activity</a>	entry	2.16.840.1.113883.10.20.22.4.61
<a href="#">Postprocedure Diagnosis</a>	entry	2.16.840.1.113883.10.20.22.4.51
<a href="#">Precondition for Substance Administration</a>	entry	2.16.840.1.113883.10.20.22.4.25
<a href="#">Pregnancy Observation</a>	entry	2.16.840.1.113883.10.20.15.3.8
<a href="#">Preoperative Diagnosis</a>	entry	2.16.840.1.113883.10.20.22.4.65
<a href="#">Problem Concern Act (Condition)</a>	entry	2.16.840.1.113883.10.20.22.4.3
<a href="#">Problem Observation</a>	entry	2.16.840.1.113883.10.20.22.4.4
<a href="#">Problem Status</a>	entry	2.16.840.1.113883.10.20.22.4.6
<a href="#">Procedure Activity Act</a>	entry	2.16.840.1.113883.10.20.22.4.12
<a href="#">Procedure Activity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.13
<a href="#">Procedure Activity Procedure</a>	entry	2.16.840.1.113883.10.20.22.4.14
<a href="#">Procedure Context</a>	entry	2.16.840.1.113883.10.20.6.2.5
<a href="#">Product Instance</a>	entry	2.16.840.1.113883.10.20.22.4.37
<a href="#">Purpose of Reference Observation</a>	entry	2.16.840.1.113883.10.20.6.2.9
<a href="#">Quantity Measurement Observation</a>	entry	2.16.840.1.113883.10.20.6.2.14
<a href="#">Reaction Observation</a>	entry	2.16.840.1.113883.10.20.22.4.9
<a href="#">Referenced Frames Observation</a>	entry	2.16.840.1.113883.10.20.6.2.10
<a href="#">Result Observation</a>	entry	2.16.840.1.113883.10.20.22.4.2
<a href="#">Result Organizer</a>	entry	2.16.840.1.113883.10.20.22.4.1
<a href="#">Series Act</a>	entry	2.16.840.1.113883.10.20.22.4.63
<a href="#">Service Delivery Location</a>	entry	2.16.840.1.113883.10.20.22.4.32
<a href="#">Severity Observation</a>	entry	2.16.840.1.113883.10.20.22.4.8
<a href="#">Social History Observation</a>	entry	2.16.840.1.113883.10.20.22.4.38
<a href="#">Sop Instance Observation</a>	entry	2.16.840.1.113883.10.20.6.2.8
<a href="#">Study Act</a>	entry	2.16.840.1.113883.10.20.6.2.6
<a href="#">Text Observation</a>	entry	2.16.840.1.113883.10.20.6.2.12
<a href="#">Vital Sign Observation</a>	entry	2.16.840.1.113883.10.20.22.4.27
<a href="#">Vital Signs Organizer</a>	entry	2.16.840.1.113883.10.20.22.4.26

## APPENDIX D — CODE SYSTEMS IN THIS GUIDE

The following table lists all the code systems in this guide. The next two appendices list all value sets (vocabularies) and single-value bindings.

**Table 282: Code Systems in This Guide**

Code System OID	Code System Name
1.0.3166.1	ISO 3166-1 Country Codes
1.2.840.10008.2.16.4	DCM
2.16.840.1.113883.1.11.11526	Internet Society Language
2.16.840.1.113883.12.292	Vaccines administered (CVX)
2.16.840.1.113883.5.1	Administrative Gender
2.16.840.1.113883.5.1001	ActMood
2.16.840.1.113883.5.1076	Religious Affiliation
2.16.840.1.113883.5.110	RoleClass
2.16.840.1.113883.5.111	RoleCode
2.16.840.1.113883.5.1119	AddressUse
2.16.840.1.113883.5.14	ActStatus
2.16.840.1.113883.5.2	MaritalStatus
2.16.840.1.113883.6.1	LOINC
2.16.840.1.113883.6.101	NUCC Health Care Provider Taxonomy
2.16.840.1.113883.6.104	ICD9 CM Procedures
2.16.840.1.113883.6.12	CPT-4
2.16.840.1.113883.5.25	Confidentiality Code
2.16.840.1.113883.3.26.1.1	National Cancer Institute (NCI) Thesaurus
2.16.840.1.113883.6.231	US Postal Codes
2.16.840.1.113883.6.238	Race and Ethnicity - CDC
2.16.840.1.113883.6.259	HealthcareServiceLocation
2.16.840.1.113883.5.4	ActCode
2.16.840.1.113883.5.43	EntityNamePartQualifier
2.16.840.1.113883.5.45	EntityNameUse
2.16.840.1.113883.6.255.1336	ASC X12
2.16.840.1.113883.5.60	LanguageAbilityMode
2.16.840.1.113883.5.61	LanguageAbilityProficiency
2.16.840.1.113883.3.26.1.5	NDF-RT
2.16.840.1.113883.5.7	ActPriority
2.16.840.1.113883.4.9	Unique Ingredient Identifier (UNII)
2.16.840.1.113883.5.8	ActReason
2.16.840.1.113883.5.83	ObservationInterpretation
2.16.840.1.113883.5.88	ParticipationFunction
2.16.840.1.113883.5.89	Participationsignature

2.16.840.1.113883.6.8	Unified Code for Units of Measure (UCUM)
2.16.840.1.113883.6.88	RXNorm
2.16.840.1.113883.6.92	FIPS 5-2 (State)
2.16.840.1.113883.6.96	SNOMED CT

## APPENDIX E — VALUE SETS IN THIS GUIDE

The following table lists all the value sets (vocabularies) in this guide.

**Table 283: Value Sets in This Guide**

ValueSet OID	ValueSet Name	Binding
2.16.840.1.113883.1.11.16866	ActPriority	DYNAMIC
2.16.840.1.113883.1.11.1	Administrative Gender (HL7 V3)	DYNAMIC
2.16.840.1.113883.1.11.20.2	AdvanceDirectiveTypeCode	STATIC
2.16.840.1.113883.11.20.9.21	AgePQ_UCUM	DYNAMIC
2.16.840.1.113883.3.88.12.3221.6.2	Allergy/Adverse Event Type	DYNAMIC
2.16.840.1.113883.3.88.12.3221.8.9	Body Site Value Set	DYNAMIC
2.16.840.1.113883.11.20.9.31	ConsultDocumentType	DYNAMIC
2.16.840.1.113883.3.88.12.80.63	CountryValueSet	DYNAMIC
2.16.840.1.113883.1.11.18877	Coverage Role Type Value Set	DYNAMIC
2.16.840.1.113883.11.20.9.28	DICOMPurposeOfReference	DYNAMIC
2.16.840.1.113883.11.20.9.30	DICOMQuantityMeasurementType Codes	DYNAMIC
2.16.840.1.113883.11.20.9.32	DIRDocumentTypeCodes	DYNAMIC
2.16.840.1.113883.11.20.9.29	DIRQuantityMeasurementTypeCodes	DYNAMIC
2.16.840.1.113883.11.20.4.1	DischargeSummary DocumentTypeCode	DYNAMIC
2.16.840.1.113883.3.88.12.80.32	EncounterTypeCode	DYNAMIC
2.16.840.1.113883.1.11.15913	EntityNameUse	STATIC
2.16.840.1.113883.11.20.9.26	EntityPersonNamePartQualifier	STATIC
2.16.840.1.113883.1.11.19579	FamilyHistoryRelatedSubjectCode	DYNAMIC
2.16.840.1.113883.1.11.10416	FinanciallyResponsiblePartyType	DYNAMIC
2.16.840.1.113883.3.88.12.3221.5.2	Health Insurance Type Value Set	DYNAMIC
2.16.840.1.114222.4.11.1066	Healthcare Provider Taxonomy (NUCC – HIPAA)	DYNAMIC
2.16.840.1.113883.1.11.20275	HealthcareServiceLocation	DYNAMIC
2.16.840.1.113883.1.11.15836	HITSP Ethnicity Value Set	DYNAMIC
2.16.840.1.113883.3.88.12.80.62	HITSP Vital Sign Result Type	DYNAMIC
2.16.840.1.113883.3.88.12.80.68	HITSPPProblemStatus	DYNAMIC
2.16.840.1.113883.1.11.16926	HL7 BasicConfidentialityKind	STATIC
2.16.840.1.113883.1.11.12249	HL7 LanguageAbilityMode	DYNAMIC

<b>ValueSet OID</b>	<b>ValueSet Name</b>	<b>Binding</b>
2.16.840.1.113883.1.11.12212	HL7 Marital Status	DYNAMIC
2.16.840.1.113883.1.11.19185	HL7 Religious Affiliation	DYNAMIC
2.16.840.1.113883.1.11.20.22	HPDocumentType	DYNAMIC
2.16.840.1.113883.11.20.9.33	INDRoleclassCodes	STATIC
2.16.840.1.113883.3.88.12.80.20	Ingredient Name	DYNAMIC
2.16.840.1.113883.1.11.11526	Language	DYNAMIC
2.16.840.1.113883.1.11.12199	LanguageAbilityProficiency	DYNAMIC
2.16.840.1.113883.3.88.12.80.16	Medication Brand Name	DYNAMIC
2.16.840.1.113883.3.88.12.80.17	Medication Clinical Drug	DYNAMIC
2.16.840.1.113883.3.88.12.80.18	Medication Drug Class	DYNAMIC
2.16.840.1.113883.3.88.12.80.64	Medication Fill Status	DYNAMIC
2.16.840.1.113883.3.88.12.3221.8.11	Medication Product Form	DYNAMIC
2.16.840.1.113883.3.88.12.3221.8.7	Medication Route FDA Value Set	DYNAMIC
2.16.840.1.113883.11.20.9.18	MoodCodeEvnInt	STATIC
2.16.840.1.113883.1.11.19717	No Immunization Reason Value Set	DYNAMIC
2.16.840.1.113883.3.88.12.80.33	NUBC UB-04 FL17-Patient Status	DYNAMIC
2.16.840.1.113883.11.20.9.34	Patient Education	DYNAMIC
2.16.840.1.113883.1.11.19563	Personal Relationship Role Type	DYNAMIC
2.16.840.1.113883.11.20.9.23	Plan of Care moodCode (Act/Encounter/Procedure)	STATIC
2.16.840.1.113883.11.20.9.25	Plan of Care moodCode (Observation)	STATIC
2.16.840.1.113883.11.20.9.24	Plan of Care moodCode (SubstanceAdministration/Supply)	STATIC
2.16.840.1.113883.1.11.10637	PostalAddressUse	STATIC
2.16.840.1.113883.3.88.12.80.2	PostalCodeValueSet	DYNAMIC
2.16.840.1.113883.3.88.12.3221.7.4	Problem	STATIC
2.16.840.1.113883.3.88.12.3221.6.8	Problem Severity	DYNAMIC
2.16.840.1.113883.3.88.12.3221.7.2	Problem Type	STATIC
2.16.840.1.113883.11.20.9.19	ProblemAct statusCode	STATIC
2.16.840.1.113883.3.88.12.80.28	Procedure	DYNAMIC
2.16.840.1.113883.11.20.9.22	ProcedureAct statusCode	DYNAMIC
2.16.840.1.113883.11.20.6.1	ProcedureNoteDocument TypeCodes	DYNAMIC
2.16.840.1.113883.11.20.8.1	ProgressNoteDocumentTypeCode	DYNAMIC

<b>ValueSet OID</b>	<b>ValueSet Name</b>	<b>Binding</b>
2.16.840.1.113883.3.88.12.3221.4	Provider Type	DYNAMIC
2.16.840.1.113883.1.11.14914	Race	DYNAMIC
2.16.840.1.113883.3.88.12.80.60	Social History Type Set Definition	STATIC
2.16.840.1.113883.3.88.12.80.1	StateValueSet	DYNAMIC
2.16.840.1.113883.11.20.7.1	SupportedFileFormats	STATIC
2.16.840.1.113883.11.20.1.1	SurgicalOperationNote DocumentTypeCode	DYNAMIC
2.16.840.1.113883.11.20.9.20	Telecom Use (US Realm Header)	DYNAMIC
2.16.840.1.113883.1.11.12839	UCUM Units of Measure (case sensitive)	DYNAMIC
2.16.840.1.113883.3.88.12.80.22	Vaccine Administered Value Set	DYNAMIC

## APPENDIX F — SINGLE-VALUE BINDINGS IN THIS GUIDE

**Table 284: Single-value Bindings in This Guide**

<b>Code</b>	<b>Display Name</b>	<b>Code System OID</b>
121181	Dicom Object Catalog	1.2.840.10008.2.16.4
182904002	Drug treatment unknown	2.16.840.1.113883.6.96
397659008	Age at Onset	2.16.840.1.113883.6.96
412307009	Drug vehicle	2.16.840.1.113883.6.96
419099009	Dead	2.16.840.1.113883.6.96
46680005	Vital Signs	2.16.840.1.113883.6.96
77386006	Pregnant	2.16.840.1.113883.6.96
ASSERTION	Assertion	2.16.840.1.113883.5.4
SEV	Severity Observation	2.16.840.1.113883.5.4
S		2.16.840.1.113883.5.89

## APPENDIX G — EXTENSIONS TO CDA R2

Where there is a need to communicate information for which there is no suitable representation in CDA R2, extensions to CDA R2 have been developed. These extensions are described above in the context of the section where they are used. This section serves to summarize the extensions and provide implementation guidance.

Extensions created for this guide include:

- sdtc:raceCode - The raceCode extension allows for multiple races to be reported for a patient.
- sdtc:id - The id extension in the family history organizer on the related subject allows for unique identification of the family member(s).
- sdtc:deceasedInd - The deceasedInd extension (= “true” or “false”) in the family history organizer on the related subject is used inside to indicate if a family member is deceased.
- sdtc:deceasedTime - The deceasedTime extension in the family history organizer on the related subject allows for reporting the date and time a family member died.
- sdtc:birthTime - The `<sdtc:birthTime>` element allows for the birth date of any person to be recorded. The purpose of this extension is to allow the recording of the subscriber or member of a health plan in cases where the health plan eligibility system has different information on file than the provider does for the patient.
- sdtc:dischargeDispositionCode - The `sdtc:dischargeDispositionCode` element allows the provider to record a discharge disposition in an encounter activity.

To resolve issues that need to be addressed by extension, the developers of this guide chose to approach extensions as follows:

- An extension is a collection of element or attribute declarations and rules for their application to the CDA Release 2.0.
- All extensions are optional. An extension may be used, but need not be under this guide.
- A single namespace for all extension elements or attributes that may be used by this guide will be defined.
- The namespace for extensions created by the HL7 Structured Documents Working Group (formerly Structured Documents Technical Committee) shall be `urn:hl7-org:sdtc`.
- This namespace shall be used as the namespace for any extension elements or attributes that are defined by this implementation guide.
- Each extension element shall use the same HL7 vocabularies and data types used by CDA Release 2.0.
- Each extension element shall use the same conventions for order and naming as is used by the current HL7 tooling.

- An extension element shall appear in the XML where the expected RIM element of the same name would have appeared had that element not been otherwise constrained from appearing in the CDA XML schema.

## APPENDIX H — XDS-SD AND US REALM CLINICAL DOCUMENT HEADER COMPARISON

The following table can help the implementer familiar with XDS-SD decide whether to assert conformance to Unstructured Documents and the US Realm Clinical Document Header constraints specified in this guide. [See [References](#) for a link to XDS-SD (Cross-Transaction Specifications and Content Specifications, Scanned Documents Module).]

Areas where this Unstructured Document specification and the Clinical Document Header constraints are more restrictive than XDS-SD have been highlighted in yellow.

**Table 285: Comparison of XDS-SD and Clinical Document Header**

CDA	XDS-SD	Clinical Document Header
ClinicalDocument	SHALL	SHALL
ClinicalDocument/ realmcode	SHALL	SHALL
ClinicalDocument/ typeId	SHALL	SHALL
ClinicalDocument/ templateId	SHALL	SHALL
ClinicalDocument/ id	SHALL	SHALL
ClinicalDocument/ code	SHALL	SHALL
ClinicalDocument/ title	SHOULD	SHALL
ClinicalDocument/ effectiveTime	SHALL	SHALL
ClinicalDocument/ confidentialityCode	SHALL	SHALL
ClinicalDocument/ languageCode	SHALL	SHALL
ClinicalDocument/ documentationOf/ serviceEvent/ effectiveTime	SHALL	Not required
ClinicalDocument/ recordTarget	SHALL	SHALL
ClinicalDocument/ recordTarget/ patientRole	SHALL	SHALL
ClinicalDocument/ recordTarget/ patientRole/ addr	SHALL	SHALL
ClinicalDocument/ recordTarget/ patientRole/ telecom	Not required	SHALL
ClinicalDocument/ recordTarget/ patientRole/ patient/ name	SHALL	SHALL
ClinicalDocument/ recordTarget/ patientRole/ patient/ administrativeGenderCode	SHALL	SHALL
ClinicalDocument/ recordTarget/ patientRole/ patient/ birthTime	SHALL	SHALL
ClinicalDocument/ author/ time	Not required	SHALL
ClinicalDocument/ author/ assignedAuthor	SHALL	SHALL

<b>CDA</b>	<b>XDS-SD</b>	<b>Clinical Document Header</b>
ClinicalDocument/ author/ assignedAuthor/ id	assignedPerson: <b>SHOULD</b> assignedAuthoringDevice: SHALL	SHALL
ClinicalDocument/ author/ assignedAuthor/ addr	<b>Not required</b>	<b>SHALL</b>
ClinicalDocument/ author/ assignedAuthor/ telecom	<b>Not required</b>	<b>SHALL</b>
ClinicalDocument/ custodian	SHALL	SHALL
ClinicalDocument/ custodian/ assignedCustodian/ representedCustodianOrganization/ name	SHALL	SHALL
ClinicalDocument/ custodian/ assignedCustodian/ representedCustodianOrganization/ addr	SHALL	SHALL
ClinicalDocument/ custodian/ assignedCustodian/ representedCustodianOrganization/ telecom	<b>Not required</b>	<b>SHALL</b>
ClinicalDocument/ author (scanner)	SHALL	
ClinicalDocument/ author/ assignedAuthor/ authoringDevice (scanner)	SHALL	
ClinicalDocument/ dataEnterer	SHALL	
ClinicalDocument/ legalAuthenticator	SHOULD	
ClinicalDocument/ component/ nonXMLBody	SHALL	

## APPENDIX I — MIME MULTIPART/RELATED MESSAGES

The following text is taken from the Claims Attachments Implementation Guide (AIS00000) in Section 2.4  
[http://www.hl7.org/documentcenter/public/wg/ca/CDAR2AIS000R030\\_ImplementationGuideDraft.pdf](http://www.hl7.org/documentcenter/public/wg/ca/CDAR2AIS000R030_ImplementationGuideDraft.pdf). For up-to-date guidance, refer to the latest edition of that specification.

### **MIME Multipart/Related Messages**

An attachment is comprised of the CDA document, including any supporting files necessary to render the attested content of the document. Two Internet request for comments (RFCs) are needed to properly construct the mime multipart message. When supporting files are needed, the collection of information shall be organized using a MIME multipart/related package constructed according to RFC 2557. Within the MIME package, supporting files must be encoded using Base-64. RFC-4648 should be used when encoding the contents of the MIME package using Base-64. Finally, RFC-2392 may be used to reference other content that appears in the same X12 transaction to use the same content to answer multiple questions for a single claim. Internet RFCs can be downloaded from the RFC editor page at <http://www.rfc-editor.org>.

### **RFC-2557 MIME Encapsulation of Aggregate Documents, Such as HTML (MHTML)**

This RFC describes how to construct a MIME multipart/related package, and how URLs are resolved within content items of that package. RFC-2557 can be obtained at:  
<http://www.rfc-editor.org/rfc/rfc2557.txt>

A MIME multipart/related package is made up of individual content items. Each content item has a MIME header identifying the item. Each content item is delimited from other content items using a string of application specified text. In addition, there must be an ending boundary. The actual content is recorded between these delimiter strings using a BASE-64 encoding of the content item. There is also a MIME header for the entire package.

The first content item of a multipart/related message supporting attachments is the CDA document, containing the header and structured or non-structured body. Subsequent content items included in this package will contain additional content that appears within the body of the document. The CDA document will reference these additional content items by their URLs.

### **Referencing Supporting Files in Multipart/Related Messages**

Because the CDA document and its supporting files may have already existed in a clinical information system, references may already exist within the CDA document to URLs that are not accessible outside of the clinical information system that created the document. When the CDA document is sent via attachments, these URLs may no longer be accessible by the receiving information system. Therefore, each content item that is referenced by a URL within the CDA document must be included as a content item in the MIME package. Each content item may specify the URL by which it is

known using the Content-Location header. The receiver of this MIME package shall translate URL references according the RFC-2557. This will ensure resolution of the original URL to the correct content item within the MIME package. Thus, URL references contained within an original document need not be rewritten when the CDA package is transmitted. Instead, these URLs are simply supplied as the value of the Content-Location header in the MIME package.

This capability allows for the same content item to be referred to more than once in a MIME multipart/related package without requiring the content item to be supplied twice. However, it does not allow a separate MIME multipart/related package to contain references to information sent in a previously recorded package.

### **Referencing Documents from Other Multiparts within the Same X12 Transactions**

RFC-2392 is used when referencing content across MIME package boundaries, but still contained within the same X12 transaction (ST to SE). This can occur when the same document answers multiple questions for a single claim. Each component of a MIME package may be assigned a content identifier using the Content-ID header for the content item. For example, this header would appear as:

Content-ID: <07EE4DAC-76C4-4a98-967E-F6EF9667DED1>

This content identifier is a unique identifier for the content item, which means it must never be used to refer to any other content item. RFC-2392 defines the cid: URL scheme (http: and ftp: are two other URL schemes). This URL scheme allows for references by the Content-ID header to be resolved. The URL for the content item identified above would be:

cid:07EE4DAC-76C4-4a98-967E-F6EF9667DED1

Receivers of the MIME multipart message must be able to resolve a cid: URL to the content item that it identifies. Senders must ensure that they only refer to items that have already been transmitted to the receiver by their cid: URL. Thus, this implementation guide prohibits forward URL references using the cid: URL scheme.

Content items shall not be referenced across X12 transactions using the cid: URL scheme. For example, if the payer previously requested information using a 277, and the provider returned that information in a MIME multipart/related package in a 275, and then the payer requested additional information in another 277, the provider may not refer to the content item previously returned in the prior 275 transaction.

## APPENDIX J — ADDITIONAL PHYSICAL EXAMINATION SUBSECTIONS

Below is the list of additional optional subsections that may be used under the [Physical Examination](#) section. Most of the codes for these subsections are included in the HL7 document titled “CDAR2AIS0004R030, Additional Information Specification 0004: Clinical Reports Attachment,” which also lists [General Status \(10210-3\)](#) and [Vital Signs \(8716-3\)](#)—defined in this guide.

- 10190-7 MENTAL STATUS
- 11451-2 PSYCHIATRIC FINDINGS
- 10199-8 HEAD, PHYSICAL FINDINGS
- 10197-2 EYE, PHYSICAL FINDINGS
- 10195-6 EAR, PHYSICAL FINDINGS
- 10203-8 NOSE, PHYSICAL FINDINGS
- 11393-6 EARS & NOSE & MOUTH & THROAT, PHYSICAL FINDINGS
- 10201-2 MOUTH & THROAT & TEETH, PHYSICAL FINDINGS
- 51850-6 HEAD & EARS & EYES & NOSE & THROAT, PHYSICAL FINDINGS
- 11411-6 NECK, PHYSICAL FINDINGS
- 10207-9 THORAX & LUNGS, PHYSICAL FINDINGS
- 11391-0 CHEST, PHYSICAL FINDINGS
- 11392-8 CHEST WALL, PHYSICAL FINDINGS
- 10200-4 HEART, PHYSICAL FINDINGS
- 10193-1 BREASTS, PHYSICAL FINDINGS
- 10192-3 BACK, PHYSICAL FINDINGS
- 10191-5 ABDOMEN, PHYSICAL FINDINGS
- 10204-6 PELVIS, PHYSICAL FINDINGS
- 11403-3 GROIN, PHYSICAL FINDINGS
- 10198-0 GENITOURINARY TRACT, PHYSICAL FINDINGS
- 11400-9 GENITALIA, PHYSICAL FINDINGS
- 11401-7 GENITALIA FEMALE, PHYSICAL FINDINGS
- 11402-5 GENITALIA MALE, PHYSICAL FINDINGS
- 11388-6 BUTTOCKS, PHYSICAL FINDINGS
- 10205-3 RECTUM, PHYSICAL FINDINGS
- 10196-4 EXTREMITIES, PHYSICAL FINDINGS
- 11413-2 SHOULDER, PHYSICAL FINDINGS
- 11387-8 AXILLA, PHYSICAL FINDINGS
- 11386-0 UPPER ARM, PHYSICAL FINDINGS
- 11394-4 ELBOW, PHYSICAL FINDINGS
- 11398-5 FOREARM, PHYSICAL FINDINGS
- 11415-7 WRIST, PHYSICAL FINDINGS
- 11404-1 HAND, PHYSICAL FINDINGS
- 11406-6 HIP, PHYSICAL FINDINGS

11414-0 THIGH, PHYSICAL FINDINGS  
11407-4 KNEE, PHYSICAL FINDINGS  
11389-4 CALF, PHYSICAL FINDINGS  
11385-2 ANKLE, PHYSICAL FINDINGS  
11397-7 FOOT, PHYSICAL FINDINGS  
10209-5 BALANCE+COORDINATION, PHYSICAL FINDINGS  
10212-9 STRENGTH PHYSICAL FINDINGS  
10211-1 SENSATION, PHYSICAL FINDINGS  
10206-1 SKIN, PHYSICAL FINDINGS  
10194-9 DEEP TENDON REFLEXES, PHYSICAL FINDINGS  
10208-7 VESSELS, PHYSICAL FINDINGS  
11384-5 PHYSICAL EXAMINATION BY ORGAN SYSTEMS  
11447-0 HEMATOLOGIC+LYMPHATIC+IMMUNOLOGIC PHYSICAL FINDINGS  
11390-2 CARDIOVASCULAR SYSTEM, PHYSICAL FINDINGS  
11399-3 GASTROINTESTINAL SYSTEM, PHYSICAL FINDINGS  
10202-0 NEUROLOGIC SYSTEM, PHYSICAL FINDINGS  
11410-8 MUSCULOSKELETAL SYSTEM, PHYSICAL FINDINGS

## APPENDIX K — ADDITIONAL EXAMPLES

This appendix contains various examples of use from this guide.

### Names

**Figure 223: Correct use of name example 1**

```
<name><given>John</given><given>Q.</given><family>Doe</family></name>
```

The name element in CDA contains mixed content. In XML, this means that name can contain a mix of character data and element markup in any order. The consequence of this is that all whitespace is significant, thus tab characters, carriage returns, space characters, etc. all become “part” of the person’s name.

**Figure 224: Incorrect use of name example 1 - whitespace**

```
<name>
  <given>John</given>
  <given>Q.</given>
  <family>Doe</family>
</name>
```

**Figure 225: Incorrect use of Patient name example 2 - no tags**

```
<name>John Q. Doe</name>
```

### Addresses

**Figure 226: Correct use telecom address example**

```
<telecom use="WP" value="tel:555-555-1212"/>
```

**Figure 227: Correct use postal address example**

```
<addr use="H"><streetAddressLine>17 Daws Rd.</streetAddressLine><city>Blue
Bell</city><state>MA</state><postalCode>02368</postalCode><country>US</country>
</addr>
```

## Time

**Figure 228: Correct use of IVL\_TS example**

```
<effectiveTime>
  <low value='20110907' />
  <high value='20110909' />
</effectiveTime>
```

**Figure 229: Correct use of TS with precision to minute example**

```
<effectiveTime value='201109071023' />
```

**Figure 230: Correct use of TS with timezone offset example**

```
<effectiveTime value='201109071023-0500' />
```

**Figure 231: Incorrect use of IVL\_TS example**

```
<effectiveTime value='20110907' />
```

**Figure 232: Incorrect use of TS - insufficient precision example**

```
<effectiveTime value='20110907' /> (must be precise to the minute)
```

**Figure 233: Incorrect use of TS when timezone offset required example**

```
<effectiveTime value='20110907' />
```

Use of effectiveTime with timezone where not relevant (precise only to the day)

**Figure 234: Incorrect use of timezone offset - not enough precision example**

```
<effectiveTime value="20110907-0500" />
```

## CD

**Figure 235: Correct use of CD with no code - example**

```
<code nullFlavor='NI'>
  <originalText><reference value='#problem-1' /></originalText>
</code>
```

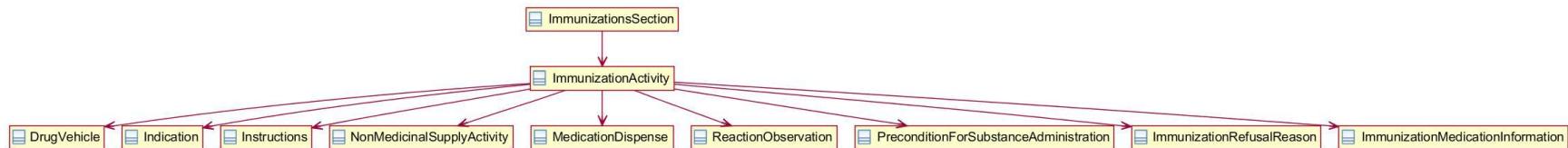
**Figure 236: Incorrect use of CD with no code - missing nullFlavor attribute example**

```
<code>
  <originalText><reference value='#problem-1' /></originalText>
</code>
```

## APPENDIX L — LARGE UML DIAGRAMS

This appendix provides larger versions of three hard-to-read UML diagrams.

**Figure 237: Immunizations section UML diagram (larger copy)**



**Figure 238: Medications section UML diagram (larger copy)**



**Figure 239: Plan of care section UML diagram (larger copy)**

