Implementation Guide for CDA Release 2.0
Consolidated CDA Templates
US Realm

Produced in collaboration with:

Contents

Acknowledgments

This document contains an example of healthcare standards and specifications publication generated from UML models, using the OHT Model Driven Health Tools (MDHT). Some portions of this document may not be publicly available but are included for demonstration purposes only, therefore this version of the document is to be treated as CONFIDENTIAL by the project participants.

This demonstration document contains informtion from the following sources:

Chapter 1

INTRODUCTION

Topics:

Overview

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

Approach

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

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

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

Scope

TODO: scope of this implementation guide.

Audience

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

Organization of This Guide

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

Templates

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

Vocabulary and Value Sets

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

Use of Templates

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

Originator Responsibilities

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

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

Recipient Responsibilities

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

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

Conventions Used in This Guide

Conformance Requirements

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

Template name

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

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

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

Figure 1: Template name and "conforms to" appearance

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

The following cardinality indicators may be interpreted as follows:

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

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

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

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

Figure 2: Template-based conformance statements example

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

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

Figure 3: CCD conformance statements example

Keywords

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

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

XML Examples

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

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

Figure 4: ClinicalDocument example

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

GENERAL HEADER TEMPLATE

General Header Constraints

[ClinicalDocument: templateId 2.16.840.1.113883.10.20.22.1.1]

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 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

General Header Constraints Header Constraints

General Header Constraints Body Constraints

1. **SHALL** contain exactly one [1..1] **realmCode/@code**="US" (CONF:5249)
2. **SHALL** contain exactly one [1..1] **typeId** (CONF:5361)
3. **SHALL** contain exactly one [1..1] **id** (CONF:5363)
4. **SHALL** contain exactly one [1..1] **code** (CONF:5253)
5. **SHALL** contain exactly one [1..1] **title** (CONF:5254)
6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:5256)
7. **SHALL** contain exactly one [1..1] **confidentialityCode**, which **SHALL** be selected from ValueSet 2.16.840.1.113883.1.11.16926 *HL7 BasicConfidentialityKind* **STATIC** (CONF:5259)
8. **SHALL** contain exactly one [1..1] **languageCode**, which **SHALL** be selected from ValueSet 2.16.840.1.113883.1.11.11526 *Language* **DYNAMIC** (CONF:5372)
9. **SHALL** contain at least one [1..*] **recordTarget** (CONF:5266)

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

   a. Such recordTargets **SHALL** contain exactly one [1..1] **patientRole** (CONF:5268)
      a. This patientRole **SHALL** contain at least one [1..*] **addr** (CONF:5271)
      b. This patientRole **SHALL** contain at least one [1..*] **id** (CONF:5268)
      c. This patientRole **SHALL** contain at least one [1..*] **telecom** (CONF:5280)
      d. This patientRole **SHALL** contain exactly one [1..1] **patient** (CONF:5283)
         a. This patient **SHALL** contain exactly one [1..1] **administrativeGenderCode**, which **SHALL** be selected from ValueSet 2.16.840.1.113883.1.11.1 *Administrative Gender (HL7 V3)* **DYNAMIC** (CONF:6394)
         b. This patient **SHALL** contain exactly one [1..1] **birthTime**
         c. This patient **SHALL** contain zero or one [0..1] **ethnicGroupCode**, which **SHALL** be selected from ValueSet 2.16.840.1.113883.1.11.15836 *HITSP Ethnicity Value Set* **STATIC**
         d. This patient **SHOULD** contain zero or one [0..1] **maritalStatusCode**, which **SHOULD** be selected from ValueSet 2.16.840.1.113883.1.11.12212 *HL7 Marital Status* **STATIC** 1
         e. This patient **SHALL** contain exactly one [1..1] **name** (CONF:5284)
         f. This patient **MAY** contain zero or one [0..1] **raceCode**, which **MAY** be selected from ValueSet 2.16.840.1.113883.1.11.14914 *Race* **STATIC** 1
         g. This patient **MAY** contain zero or one [0..1] **religiousAffiliationCode**, which **MAY** be selected from ValueSet 2.16.840.1.113883.1.11.19185 *HL7 Religious Affiliation* **STATIC** 1
         h. This patient **MAY** contain zero or more [0..*] **guardian** (CONF:5325)

   a. Such guardians **SHOULD** contain zero or more [0..*] **addr**
   b. Such guardians **SHOULD** contain zero or one [0..1] **code**, which **SHOULD** be selected from ValueSet 2.16.840.1.113883.1.11.19563 *Personal Relationship Role Type* **STATIC** 1
   c. Such guardians **MAY** contain zero or more [0..*] **telecom**
   d. Such guardians **SHALL** contain zero or one [0..1] **guardianPerson** (CONF:5385)
      a. This guardianPerson **SHALL** contain at least one [1..*] **name** (CONF:5470)
  i. This patient **MAY** contain zero or one [0..1] **birthplace** (CONF:5395)
     a. This birthplace **SHALL** contain zero or one [0..1] **place** (CONF:5396)
        a. This place **SHALL** contain zero or one [0..1] **addr** (CONF:5397)
  j. This patient **SHOULD** contain zero or one [0..1] **languageCommunication** (CONF:5406)
     a. This languageCommunication **SHALL** contain exactly one [1..1] **languageCode**, which **SHALL** be selected from ValueSet 2.16.840.1.113883.1.11.11526 *Language* **DYNAMIC** (CONF:5407)
     b. This languageCommunication **MAY** contain zero or one [0..1] **preferenceInd** (CONF:5414)
     c. This languageCommunication **SHOULD** contain zero or one [0..1] **proficiencyLevelCode**, which **SHOULD** be selected from ValueSet 2.16.840.1.113883.1.11.12199 *LanguageAbilityProficiency* **STATIC**
     d. This languageCommunication **MAY** contain zero or one [0..1] **modeCode**, which **MAY** be selected from ValueSet 2.16.840.1.113883.1.11.12249 *HL7 LanguageAbilityMode* **STATIC** 1
  k. This patient **SHALL** satisfy: BirthTime precise to year
  l. This patient **SHOULD** satisfy: BirthTime precise to day
 e. This patientRole Contains zero or one [0..1] **providerOrganization**
    a. This providerOrganization **SHALL** contain at least one [1..*] **addr** (CONF:5422)
    b. This providerOrganization **SHALL** contain at least one [1..*] **id** (CONF:5417)
    c. This providerOrganization **SHALL** contain at least one [1..*] **name** (CONF:5419)
    d. This providerOrganization **SHALL** contain at least one [1..*] **telecom** (CONF:5420)
    e. This providerOrganization 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) (CONF:9996)

10. **MAY** contain exactly one [1..1] **componentOf** (CONF:9955)
    a. This componentOf **SHALL** contain exactly one [1..1] **encompassingEncounter** (CONF:9956)
       a. This encompassingEncounter **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:9958)
       b. This encompassingEncounter **SHALL** contain at least one [1..*] **id** (CONF:9959)
11. **SHALL** contain at least one [1..*] **author** (CONF:5444)
    a. Such authors Contains exactly one [1..1] **time**
    b. Such authors **SHALL** contain exactly one [1..1] **assignedAuthor** (CONF:5448)
       a. This assignedAuthor **SHALL** contain at least one [1..*] **addr** (CONF:5452)
       b. This assignedAuthor **SHALL** contain zero or one [0..1] **code** (CodeSystem: 2.16.840.1.113883.6.101 NUCC Health Care Provider Taxonomy)
       c. This assignedAuthor **SHALL** contain at least one [1..*] **id** (CONF:5449)
       d. This assignedAuthor **SHALL** contain at least one [1..*] **telecom** (CONF:5428)
       e. This assignedAuthor Contains zero or one [0..1] **assignedPerson**
          a. This assignedPerson **SHALL** contain at least one [1..*] **name** (CONF:5470)
       f. This assignedAuthor Contains zero or one [0..1] **assignedAuthoringDevice**

    a. This assignedAuthoringDevice **SHALL** contain exactly one [1..1] **`manufacturerModelName`** (CONF:9936)
    b. This assignedAuthoringDevice **SHALL** contain exactly one [1..1] **`softwareName`** (CONF:9999)
  g. This assignedAuthor This assignedAuthor **SHALL** contain exactly one [1..1] assignedPerson or assignedAuthoringDevice
  h. This assignedAuthor 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)

12. **MAY** contain zero or one [0..1] **`dataEnterer`** (CONF:5441)
  a. This dataEnterer **SHALL** contain exactly one [1..1] **`assignedEntity`** (CONF:5442)
    a. This assignedEntity **SHALL** contain at least one [1..*] **`addr`** (CONF:5460)
    b. This assignedEntity **SHOULD** contain zero or one [0..1] **`code`** (CodeSystem: `2.16.840.1.113883.6.101 NUCC Health Care Provider Taxonomy`) (CONF:9944)
    c. This assignedEntity **SHALL** contain at least one [1..*] **`id`** (CONF:5443)
    d. This assignedEntity **SHALL** contain at least one [1..*] **`telecom`** (CONF:5466)
    e. This assignedEntity **SHALL** contain exactly one [1..1] **`assignedPerson`** (CONF:5469)
      a. This assignedPerson **SHALL** contain at least one [1..*] **`name`** (CONF:5470)
    f. This assignedEntity id **SHOULD** include zero or one [0..1] id where id/@root ="2.16.840.1.113883.4.6" National Provider Identifier (CONF:9943)
13. **SHALL** contain exactly one [1..1] **`custodian`** (iv., CONF:5519)
  a. This custodian **SHALL** contain exactly one [1..1] **`assignedCustodian`** (CONF:5520)
    a. This assignedCustodian **SHALL** contain zero or one [0..1] **`representedCustodianOrganization`** (CONF:5521)
      a. This representedCustodianOrganization **SHALL** contain at least one [1..*] **`addr`** (CONF:5559)
      b. This representedCustodianOrganization **SHALL** contain at least one [1..*] **`id`** (CONF:5522)
      c. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **`name`** (CONF:5524)
      d. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **`telecom`** (CONF:5525)
      e. This representedCustodianOrganization 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)
14. **MAY** contain zero or more [0..*] **`informationRecipient`** (CONF:5565)
  a. Such informationRecipients **SHALL** contain zero or one [0..1] **`intendedRecipient`** (CONF:5566)
    a. This intendedRecipient **MAY** contain zero or one [0..1] **`informationRecipient`** (CONF:5568)
      a. This informationRecipient **SHALL** contain at least one [1..*] **`name`** (CONF:5470)
    b. This intendedRecipient **MAY** contain zero or one [0..1] **`receivedOrganization`** (CONF:5577)
      a. This receivedOrganization **SHALL** contain zero or more [0..*] **`name`** (CONF:5578)
15. **SHOULD** contain zero or one [0..1] **`legalAuthenticator`** (CONF:5579)
  a. This legalAuthenticator **SHALL** contain exactly one [1..1] **`time`** (CONF:5580)
  b. This legalAuthenticator **SHALL** contain exactly one [1..1] **`signatureCode/@code`**`="S"` (CodeSystem: `2.16.840.1.113883.5.89 Participationsignature`) (CONF:5583, CONF:5584)
  c. This legalAuthenticator Contains zero or one [0..1] **`assignedEntity`**
    a. This assignedEntity **SHALL** contain at least one [1..*] **`addr`**
    b. This assignedEntity **SHOULD** contain zero or one [0..1] **`code`** (CodeSystem: `2.16.840.1.113883.6.101 NUCC Health Care Provider Taxonomy`)
    c. This assignedEntity **SHALL** contain at least one [1..*] **`id`**
    d. This assignedEntity **SHALL** contain at least one [1..*] **`telecom`**
    e. This assignedEntity **SHALL** contain exactly one [1..1] **`assignedPerson`** (CONF:5597)
      a. This assignedPerson **SHALL** contain at least one [1..*] **`name`** (CONF:5470)

   f. This assignedEntity 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)

16. **MAY** contain zero or more [0..*] **authenticator** (CONF:5607)
   a. Such authenticators **SHALL** contain exactly one [1..1] **time** (CONF:5608)
   b. Such authenticators **SHALL** contain exactly one [1..1] **signatureCode/@code**="S" (CodeSystem: 2.16.840.1.113883.5.89 Participationsignature)
   c. Such authenticators **SHALL** contain zero or one [0..1] **assignedEntity** (CONF:5612)
      a. This assignedEntity **SHALL** contain at least one [1..*] **addr** (CONF:5616)
      b. This assignedEntity **SHOULD** contain zero or one [0..1] **code** (CodeSystem: 2.16.840.1.113883.6.101 NUCC Health Care Provider Taxonomy)
      c. This assignedEntity **SHALL** contain at least one [1..*] **id** (CONF:5613)
      d. This assignedEntity **SHALL** contain at least one [1..*] **telecom** (CONF:5622)
      e. This assignedEntity Contains zero or one [0..1] **assignedPerson**
         a. This assignedPerson **SHALL** contain at least one [1..*] **name** (CONF:5470)
      f. This assignedEntity 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)
17. **MAY** contain zero or one [0..1] **setId** (CONF:5261)
18. **MAY** contain zero or one [0..1] **versionNumber** (CONF:5264)
19. **MAY** contain zero or one [0..1] **informant** (CONF:8001)
   a. This informant Contains zero or one [0..1] **assignedEntity**
      a. This assignedEntity **SHOULD** contain zero or more [0..*] **addr** (CONF:8220)
      b. This assignedEntity **SHALL** contain zero or one [0..1] **code** (CodeSystem: 2.16.840.1.113883.6.101 NUCC Health Care Provider Taxonomy)
      c. This assignedEntity **SHOULD** contain at least one [1..*] **id** (a., CONF:9945)
      d. This assignedEntity **SHALL** contain zero or one [0..1] **assignedPerson** (CONF:8221)
         a. This assignedPerson **SHALL** contain at least one [1..*] **name** (CONF:5470)
      e. This assignedEntity 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)
   b. This informant Contains zero or one [0..1] **relatedEntity**
      a. This relatedEntity **SHOULD** contain zero or more [0..*] **addr** (CONF:8220)
      b. This relatedEntity **SHALL** contain zero or one [0..1] **relatedPerson** (CONF:8221)
         a. This relatedPerson **SHALL** contain at least one [1..*] **name** (CONF:5470)
   c. This informant **SHALL** satisfy: contain exactly one [1..1] assignedEntity OR exactly one [1..1] relatedEntity (CONF:8002)
20. **MAY** contain zero or more [0..*] **participant** (CONF:10003)
   a. Such participants **MAY** contain zero or one [0..1] **time** (CONF:10004)
   b. Such participants Such participants, if present, **SHALL** have an associatedPerson or scopingOrganization element under participant/associatedEntity.
   c. Such participants 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.
21. **MAY** contain zero or more [0..*] **inFulfillmentOf** (CONF:9952)
   a. Such inFulfillmentOfs **SHALL** contain exactly one [1..1] **order** (CONF:9953)
      a. This order **SHALL** contain at least one [1..*] **id** (CONF:9954)
22. **SHALL** satisfy: 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.
23. **SHALL** satisfy: 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.FIELDED), but is used with the effectiveTime element.

24. **SHALL** satisfy: 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.

General Header Constraints Example

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <realmCode code="US"/>
  <typeId root="2.16.840.1.113883.1.3"/>
  <templateId root="2.16.840.1.113883.10.20.22.1.1"/>
  <id root="2141696605"/>
  <code code="Value"/>
  <title/>
  <effectiveTime/>
  <confidentialityCode codeSystem="2.16.840.1.113883.5.25"
 codeSystemName="ConfidentialityCode"/>
  <languageCode/>
  <setId root="8aaf7a55-82d7-48dd-bd59-3586124685b5"/>
  <versionNumber value="1"/>
  <recordTarget>
    <patientRole>
      <id root="509204785"/>
      <addr/>
      <telecom/>
      <patient>
        <name/>
        <administrativeGenderCode codeSystem="2.16.840.1.113883.5.1"
 codeSystemName="AdministrativeGenderCode"/>
        <birthTime/>
        <maritalStatusCode codeSystem="2.16.840.1.113883.5.2"
 codeSystemName="MaritalStatus"/>
        <religiousAffiliationCode code="Value"/>
        <raceCode code="Value"/>
        <ethnicGroupCode codeSystem="2.16.840.1.113883.6.238"
 codeSystemName="Race and Ethnicity - CDC"/>
        <guardian>
          <code codeSystem="2.16.840.1.113883.5.111"
 codeSystemName="RoleCode"/>
          <addr/>
          <telecom/>
          <guardianPerson/>
        </guardian>
        <birthplace>
          <place/>
        </birthplace>
        <languageCommunication>
          <languageCode/>
          <modeCode code="Value"/>
          <proficiencyLevelCode codeSystem="2.16.840.1.113883.5.61"
 codeSystemName="LanguageAbilityProficiency"/>
          <preferenceInd/>
        </languageCommunication>
      </patient>
      <providerOrganization>
        <id root="571427422"/>
        <name/>
        <telecom/>
        <addr/>
      </providerOrganization>
```

```
    </patientRole>
  </recordTarget>
  <author>
    <time/>
    <assignedAuthor>
      <id root="146622489"/>
      <code codeSystem="2.16.840.1.113883.6.101" codeSystemName="NUCC Health
Care Provider Taxonomy"/>
      <addr/>
      <telecom/>
      <assignedPerson>
        <name/>
      </assignedPerson>
      <assignedAuthoringDevice>
        <manufacturerModelName/>
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DOCUMENT-LEVEL TEMPLATES

Consultation Note

[ClinicalDocument: templateId 2.16.840.1.113883.10.20.22.1.4]

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.

Consultation Note Header Constraints

Consultation Note Body Constraints

1. **SHALL** conform to *General Header Constraints* template (templateId: 2.16.840.1.113883.10.20.22.1.1) (CONF:9477, CONF:10039)
2. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet 2.16.840.1.113883.11.20.9.31 *ConsultDocumentType* **STATIC** (CONF:5253)
   - 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 at least one [1..*] **inFulfillmentOf** (CONF:8382)

   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.

   a. Such inFulfillmentOfs **SHALL** contain exactly one [1..1] **order** (CONF:9953)

      a. This order **SHALL** contain at least one [1..*] **id** (CONF:9954)
4. **SHALL** contain exactly one [1..1] **componentOf** (CONF:8386)

   a. This componentOf **SHALL** contain exactly one [1..1] **encompassingEncounter** (CONF:8387)

      a. This encompassingEncounter **MAY** contain zero or one [0..1] **responsibleParty** (CONF:8391)

         a. This responsibleParty **SHALL** contain zero or one [0..1] **assignedEntity**, where its type is CDA Assigned Entity (CONF:8394)

   b. This responsibleParty The responsibleParty element, if present, **SHALL** contain an assignedEntity element which **SHALL** contain an assignedPerson element, a representedOrganization element, or both. (CONF:8394)
  b. This encompassingEncounter **SHALL** contain exactly one [1..1] **`effectiveTime`** (CONF:8389)
  c. This encompassingEncounter **SHALL** contain exactly one [1..1] **`id`** (CONF:8388)
  d. This encompassingEncounter **MAY** contain zero or more [0..*] **`encounterParticipant`** (CONF:8392)
     a. Such encounterParticipants **SHALL** contain zero or one [0..1] **`assignedEntity`**, where its type is CDA Assigned Entity (CONF:8396)
     b. Such encounterParticipants The responsibleParty element, if present, **SHALL** contain an assignedEntity element which **SHALL** contain an assignedPerson element, a representedOrganization element, or both. (CONF:8396)
5. **MAY** contain zero or one [0..1] **`assessmentAndPlanSection`** (CONF:9491)
   a. Contains exactly one [1..1] *Assessment And Plan Section* (templateId: `2.16.840.1.113883.10.20.22.2.9`)
6. **MAY** contain zero or one [0..1] **`assessmentSection`** (CONF:9487)
   a. Contains exactly one [1..1] *Assessment Section* (templateId: `2.16.840.1.113883.10.20.22.2.8`)
7. **MAY** contain zero or one [0..1] **`planOfCareSection`** (CONF:9489)
   a. Contains exactly one [1..1] *Plan Of Care Section* (templateId: `2.16.840.1.113883.10.20.22.2.10`)
8. **MAY** contain zero or one [0..1] **`historyOfPresentIllness`** (CONF:9493)
   a. Contains exactly one [1..1] *History Of Present Illness Section* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.4`)
9. **MAY** contain zero or one [0..1] **`physicalExamSection`** (CONF:9495)
   a. Contains exactly one [1..1] *Physical Exam Section* (templateId: `2.16.840.1.113883.10.20.2.10`)
10. **MAY** contain zero or one [0..1] **`reasonForReferralSection`** (CONF:9498)
    a. Contains exactly one [1..1] *Reason For Referral Section* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.1`)
11. **MAY** contain zero or one [0..1] **`reasonForVisitSection`** (CONF:9500)
    a. Contains exactly one [1..1] *Reason For Visit Section* (templateId: `2.16.840.1.113883.10.20.22.2.12`)
12. **MAY** contain zero or one [0..1] **`allergiesSection`** (CONF:9507)
    a. Contains exactly one [1..1] *Allergies Section Entries Optional* (templateId: `2.16.840.1.113883.10.20.22.2.6`)
13. **MAY** contain zero or one [0..1] **`chiefComplaintSection`** (CONF:9509)
    a. Contains exactly one [1..1] *Chief Complaint Section* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1`)
14. **MAY** contain zero or one [0..1] **`chiefComplaintAndReasonForVisitSection`** (CONF:10029)
    a. Contains exactly one [1..1] *Chief Complaint And Reason For Visit Section* (templateId: `2.16.840.1.113883.10.20.22.2.13`)
15. **MAY** contain zero or one [0..1] **`familyHistorySection`** (CONF:9513)
    a. Contains exactly one [1..1] *Family History Section* (templateId: `2.16.840.1.113883.10.20.22.2.15`)
16. **MAY** contain zero or one [0..1] **`generalStatusSection`** (CONF:9515)
    a. Contains exactly one [1..1] *General Status Section* (templateId: `2.16.840.1.113883.10.20.2.5`)
17. **MAY** contain zero or one [0..1] **`historyOfPastIllnessSection`** (CONF:9517)
    a. Contains exactly one [1..1] *History Of Past Illness Section* (templateId: `2.16.840.1.113883.10.20.22.2.20`)

18. **MAY** contain zero or one [0..1] **`immunizationsSection`** (CONF:9519)
    a. Contains exactly one [1..1] *Immunizations Section* (templateId: `2.16.840.1.113883.10.20.22.2.2.1`)
19. **MAY** contain zero or one [0..1] **`medicationsSectionEntriesOptional`** (CONF:9521))
    a. Contains exactly one [1..1] *Medications Section Entries Optional* (templateId: `2.16.840.1.113883.10.20.22.2.1`)
20. **MAY** contain zero or one [0..1] **`problemSectionEntriesOptional`** (CONF:9523)
    a. Contains exactly one [1..1] *Problem Section Entries Optional* (templateId: `2.16.840.1.113883.10.20.22.2.5`)
21. **MAY** contain zero or one [0..1] **`proceduresSectionEntriesOptional`** (CONF:9525)
    a. Contains exactly one [1..1] *Procedures Section Entries Optional* (templateId: `2.16.840.1.113883.10.20.22.2.7`)
22. **MAY** contain zero or one [0..1] **`resultsSectionEntriesOptional`** (CONF:9527)
    a. Contains exactly one [1..1] *Results Section Entries Optional* (templateId: `2.16.840.1.113883.10.20.22.2.3`)
23. **MAY** contain zero or one [0..1] **`reviewOfSystemsSection`** (CONF:9529)
    a. Contains exactly one [1..1] *Review Of Systems Section* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.18`)
24. **MAY** contain zero or one [0..1] **`socialHistorySection`** (CONF:9531)
    a. Contains exactly one [1..1] *Social History Section* (templateId: `2.16.840.1.113883.10.20.22.2.17`)
25. **MAY** contain zero or one [0..1] **`vitalSignsSectionEntriesOptional`** (CONF:9533)
    a. Contains exactly one [1..1] *Vital Signs Section Entries Optional* (templateId: `2.16.840.1.113883.10.20.22.2.4`)
26. **SHALL** include an Assessment and Plan Section, or an Assessment Section and a Plan Section (CONF:9501)
27. **SHALL NOT** include an Assessment/Plan Section when an Assessment Section and a Plan of Care Section are present (CONF:10028)
28. **SHALL NOT** include a Chief Complaint and Reason for Visit Section with either a Chief Complaint Section or a Reason for Visit Section.

Consultation Note Example

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Continuity Of Care Document

[ClinicalDocument: templateId `2.16.840.1.113883.10.20.22.1.2`]

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 . 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 . More specific use cases, such as a Discharge Summary or Progress Note, are available as alternative documents in this guide.

Continuity Of Care Document Header Constraints

Continuity Of Care Document Body Constraints

1. **SHALL** conform to *General Header Constraints* template (templateId: `2.16.840.1.113883.10.20.22.1.1`)
2. **SHALL** contain exactly one [1..1] **`code/@code`**`="34133-9"` *Summarization of Episode Note* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:8451)
3. **SHALL** contain exactly one [1..1] **`languageCode`** (CONF-5)
4. **SHALL** contain exactly one [1..1] **`documentationOf`** (CONF:8452)
   a. This documentationOf **SHALL** contain exactly one [1..1] **`serviceEvent`** (CONF:8480)
      a. This serviceEvent **SHALL** contain zero or one [0..1] **`@classCode`**`="PCPR"` (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:8453)
      b. This serviceEvent **SHALL** contain zero or one [0..1] **`effectiveTime`** (CONF:8481)

   c. This serviceEvent **SHOULD** contain zero or more [0..*] **`performer`** (CONF:8482)
      a. Such performers **SHALL** contain exactly one [1..1] **`@typeCode="PRF"`** (CONF:8458)
      b. Such performers **MAY** contain zero or one [0..1] **`assignedEntity`** (CONF:8459)
         a. This assignedEntity **MAY** contain zero or one [0..1] **`code`** (CodeSystem: `2.16.840.1.113883.6.101 NUCC Health Care Provider Taxonomy`) (CONF:8461)
         b. This assignedEntity **SHALL** contain at least one [1..*] **`id`** (CONF:10027)
         c. This assignedEntity **SHOULD** include zero or one [0..1] id where id/@root ="2.16.840.1.113883.4.6" National Provider Identifier (CONF:10027)
   d. This serviceEvent This effectiveTime **SHALL** contain exactly one [1..1] low (CONF:8454)
   e. This serviceEvent This effectiveTime **SHALL** contain exactly one [1..1] high (CONF:8455)
5. **SHALL** contain at least one [1..*] **`author`** (CONF:9442)
   a. Such authors **SHALL** contain exactly one [1..1] **`assignedAuthor`** (CONF:9443)
      a. This assignedAuthor **SHALL** contain exactly one [1..1] assignedPerson or exactly one one [1..1] representedOrganization. (CONF:8456)
      b. This assignedAuthor 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)
6. **SHALL** contain exactly one [1..1] **`allergiesSection`** (CONF:9445)
   a. Contains exactly one [1..1] *Allergies Section* (templateId: `2.16.840.1.113883.10.20.22.2.6.1`)
7. **SHALL** contain exactly one [1..1] **`medicationsSection`** (CONF:9447)
   a. Contains exactly one [1..1] *Medications Section* (templateId: `2.16.840.1.113883.10.20.22.2.1.1`)
8. **SHALL** contain exactly one [1..1] **`problemSection`** (CONF:9449)
   a. Contains exactly one [1..1] *Problem Section* (templateId: `2.16.840.1.113883.10.20.22.2.5.1`)
9. **SHALL** contain exactly one [1..1] **`proceduresSection`** (CONF:9451)
   a. Contains exactly one [1..1] *Procedures Section* (templateId: `2.16.840.1.113883.10.20.22.2.7.1`)
10. **SHALL** contain exactly one [1..1] **`resultsSection`** (CONF:9453)
    a. Contains exactly one [1..1] *Results Section* (templateId: `2.16.840.1.113883.10.20.22.2.3.1`)
11. **MAY** contain zero or one [0..1] **`advanceDirectivesSection`** (CONF:9455)
    a. Contains exactly one [1..1] *Advance Directives Section* (templateId: `2.16.840.1.113883.10.20.22.2.21.1`)
12. **MAY** contain zero or one [0..1] **`encountersSection`** (CONF:9457)
    a. Contains exactly one [1..1] *Encounters Section* (templateId: `2.16.840.1.113883.10.20.22.2.22.1`)
13. **MAY** contain zero or one [0..1] **`familyHistorySection`** (CONF:9459)
    a. Contains exactly one [1..1] *Family History Section* (templateId: `2.16.840.1.113883.10.20.22.2.15`)
14. **MAY** contain zero or one [0..1] **`functionalStatusSection`** (CONF:9461)
    a. Contains exactly one [1..1] *Functional Status Section* (templateId: `2.16.840.1.113883.10.20.22.2.14`)
15. **MAY** contain zero or one [0..1] **`immunizationsSectionEntriesOptional`** (CONF:9463)
    a. Contains exactly one [1..1] *Immunizations Section Entries Optional* (templateId: `2.16.840.1.113883.10.20.22.2.2`)
16. **MAY** contain zero or one [0..1] **`medicalEquipmentSection`** (CONF:9466)
    a. Contains exactly one [1..1] *Medical Equipment Section* (templateId: `2.16.840.1.113883.10.20.22.2.23`)

17. **MAY** contain zero or one [0..1] **`payersSection`** (CONF:9468)
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18. **MAY** contain zero or one [0..1] **`planOfCareSection`** (CONF:9470)
    a. Contains exactly one [1..1] *Plan Of Care Section* (templateId: `2.16.840.1.113883.10.20.22.2.10`)
19. **MAY** contain zero or one [0..1] **`socialHistorySection`** (CONF:9472)
    a. Contains exactly one [1..1] *Social History Section* (templateId: `2.16.840.1.113883.10.20.22.2.17`)
20. **MAY** contain zero or one [0..1] **`vitalSignsSectionEntriesOptional`** (CONF:9474)
    a. Contains exactly one [1..1] *Vital Signs Section Entries Optional* (templateId: `2.16.840.1.113883.10.20.22.2.4`)

Continuity Of Care Document Example

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codeSystemName="LOINC"/>
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```

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```

Diagnostic Imaging Report

[ClinicalDocument: templateId `2.16.840.1.113883.10.20.22.1.5`]

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.

Diagnostic Imaging Report Header Constraints

Diagnostic Imaging Report Body Constraints

1. **SHALL** conform to *General Header Constraints* template (templateId: `2.16.840.1.113883.10.20.22.1.1`) (CONF:9405, CONF:10041)
2. **SHALL** contain exactly one [1..1] **`code`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.11.20.9.32` *`DIRDocumentTypeCodes`* **DYNAMIC** (CONF:8408)
   - 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.
3. **SHALL** contain exactly one [1..1] **`id`** (CONF:5363)
4. **SHALL** contain [0..0] **`informant`** (CONF:8410)
5. **MAY** contain zero or more [0..*] **`informationRecipient`** (CONF:8411)
   - The physician requesting the imaging procedure (ClincalDocument/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.
   - 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.
6. **MAY** contain zero or one [0..1] **`participant`** (CONF:8414)
   a. This participant **SHALL** contain exactly one [1..1] **`associatedEntity`** (CONF:8415)

   a. This associatedEntity **SHALL** contain exactly one [1..1] **`associatedPerson`** (CONF:8415)
      a. This associatedPerson **SHALL** contain exactly one [1..1] **`name`** (CONF:9406)

7. **MAY** contain zero or one [0..1] **`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 and 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.

   a.

8. **SHALL** contain exactly one [1..1] **`documentationOf`** (CONF:8416)
   a. This documentationOf **SHALL** contain exactly one [1..1] **`serviceEvent`** (CONF:8431)
      a. This serviceEvent **SHALL** contain exactly one [1..1] **`@classCode="ACT"`** *Act* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:8430)
      b. This serviceEvent **SHALL** contain exactly one [1..1] **`code`** (CONF:8419)

         The value of serviceEvent/code SHALL NOT conflict with the CliniricalDocument/code. When transforming from DICOM SR documents that do not contain a procedure code, an appropriate nullFlavor SHALL be used on serviceEvent/code.
      c. This serviceEvent **SHOULD** contain at least one [1..*] **`id`** (CONF:8418)
      d. This serviceEvent **SHOULD** contain zero or more [0..*] **`performer`**, where its type is *Physician Reading Study Performer* (CONF:8422)
         a. Contains exactly one [1..1] *Physician Reading Study Performer* (templateId: `2.16.840.1.113883.10.20.6.2.1`)

9. **MAY** contain zero or one [0..1] **`relatedDocument`** (CONF:8432)

   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.
   a. This relatedDocument The relatedDocument/id/@root attribute **SHALL** be a syntactically correct OID, and **SHALL NOT** be a UUID. (CONF:10030)

10. **MAY** contain zero or one [0..1] **`componentOf`** (CONF:8434)
    a. This componentOf **SHALL** contain zero or one [0..1] **`encompassingEncounter`** (CONF:8449)
       a. This encompassingEncounter **SHALL** contain exactly one [1..1] **`effectiveTime`** (CONF:8437)
       b. This encompassingEncounter **SHALL** contain zero or more [0..*] **`id`** (CONF:8435)

          In the case of transformed DICOM SR documents, an appropriate null flavor MAY be used if the id is unavailable.
       c. This encompassingEncounter **SHOULD** contain zero or one [0..1] **`encounterParticipant`**, where its type is *Physicianof Record Participant* (CONF:8448)
          a. Contains exactly one [1..1] *Physicianof Record Participant* (templateId: `2.16.840.1.113883.10.20.6.2.2`)

   d. This encompassingEncounter **MAY** contain zero or one [0..1] **`responsibleParty`** (CONF:8438)
      a. This responsibleParty **SHALL** contain zero or one [0..1] **`assignedEntity`** (CONF:9407)
         a. This assignedEntity **SHOULD** contain zero or one [0..1] assignedPerson OR contain zero or one [0..1] representedOrganization (CONF:8439)

11. **SHALL** contain exactly one [1..1] **`findingsSection`** (CONF:8776)
    a. Contains exactly one [1..1] *Findings Section* (templateId: `2.16.840.1.113883.10.20.6.1.2`)
12. 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)
13. 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
14. 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)
15. The section/code **SHOULD** be selected from LOINC or DICOM for sections not listed in the DIR Section Type Codes table (CONF:9410)
16. All sections defined in the DIR Section Type Codes table **SHALL** be top-level sections (CONF:9411)
17. 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 inthe DIR Section Type Codes table (CONF:9412)
18. 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)
19. 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)
20. 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
21. If clinical statements are present, the section/text **SHALL** represent faithfully all such statements and **MAY** contain additional text

Diagnostic Imaging Report Example

```
<?xml version="1.0" encoding="UTF-8"?>
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 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
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```

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```

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

Discharge Summary

[ClinicalDocument: templateId `2.16.840.1.113883.10.20.22.1.8`]

Discharge Summary Header Constraints

Discharge Summary Body Constraints

1. **SHALL** conform to *General Header Constraints* template (templateId: `2.16.840.1.113883.10.20.22.1.1`)
2. **SHALL** contain exactly one [1..1] **`code`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.11.20.4.1` *`DischargeSummaryDocumentTypeCode`* **DYNAMIC**
3. **MAY** contain exactly one [1..1] **`hospitalAdmissionMedicationsSectionEntriesOptional`** (CONF:10111)
   a. Contains exactly one [1..1] *Hospital Admission Medications Section Entries Optional* (templateId: `2.16.840.1.113883.10.20.22.2.44`)
4. **SHALL** contain exactly one [1..1] **`hospitalAdmissionDiagnosisSection`** (CONF:9928)
   a. Contains exactly one [1..1] *Hospital Admission Diagnosis Section* (templateId: `2.16.840.1.113883.10.20.22.2.43`)
5. **MAY** contain zero or one [0..1] **`advanceDirectivesSection`** (C48-[CT2-4])

   a. Contains exactly one [1..1] *Advance Directives Section* (templateId: `2.16.840.1.113883.10.20.22.2.21.1`)
6. **SHALL** contain exactly one [1..1] **`allergiesSection`** (CONF:9542)
   a. Contains exactly one [1..1] *Allergies Section* (templateId: `2.16.840.1.113883.10.20.22.2.6.1`)
7. **SHALL** contain exactly one [1..1] **`hospitalDischargeDiagnosisSection`** (CONF:9546)
   a. Contains exactly one [1..1] *Hospital Discharge Diagnosis Section* (templateId: `2.16.840.1.113883.10.20.22.2.24`)
8. **MAY** contain zero or one [0..1] **`dischargeDietSection`** (CONF:9558)
   a. Contains exactly one [1..1] *Discharge Diet Section* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.33`)
9. **SHALL** contain exactly one [1..1] **`hospitalDischargeMedicationsSectionEntriesOptional`** (CONF:9548)
   a. Contains exactly one [1..1] *Hospital Discharge Medications Section Entries Optional* (templateId: `2.16.840.1.113883.10.20.22.2.11`)
10. **MAY** contain zero or one [0..1] **`functionalStatusSection`** (CONF:9562)
    a. Contains exactly one [1..1] *Functional Status Section* (templateId: `2.16.840.1.113883.10.20.22.2.14`)
11. **MAY** contain exactly one [1..1] **`historyOfPresentIllnessSection`** (CONF:9566)
    a. Contains exactly one [1..1] *History Of Present Illness Section* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.4`)
12. **SHALL** contain exactly one [1..1] **`hospitalCourseSection`** (CONF:9544)
    a. Contains exactly one [1..1] *Hospital Course Section* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.5`)
13. **MAY** contain exactly one [1..1] **`medicalEquipmentSection`** (C48-[CT2-13])
    a. Contains exactly one [1..1] *Medical Equipment Section* (templateId: `2.16.840.1.113883.10.20.22.2.23`)
14. **MAY** contain zero or one [0..1] **`physicalExamSection`** (C48-[CT2-15])
    a. Contains exactly one [1..1] *Physical Exam Section* (templateId: `2.16.840.1.113883.10.20.2.10`)
15. **SHALL** contain exactly one [1..1] **`planOfCareSection`** (CONF:9550)
    a. Contains exactly one [1..1] *Plan Of Care Section* (templateId: `2.16.840.1.113883.10.20.22.2.10`)
16. **MAY** contain exactly one [1..1] **`historyOfPastIllnessSection`** (CONF:9564)
    a. Contains exactly one [1..1] *History Of Past Illness Section* (templateId: `2.16.840.1.113883.10.20.22.2.20`)
17. **MAY** contain exactly one [1..1] **`vitalSignsSection`** (CONF:9584)
    a. Contains exactly one [1..1] *Vital Signs Section* (templateId: `2.16.840.1.113883.10.20.22.2.4.1`)
18. **SHALL** contain exactly one [1..1] **`componentOf`** (CONF:9539)
    a. This componentOf **SHALL** contain exactly one [1..1] **`encompassingEncounter`** (CONF:8472)
       a. This encompassingEncounter **SHALL** contain zero or one [0..1] **`dischargeDispositionCode`**, which **SHALL** be selected from ValueSet **STATIC** (CONF:8476)
       b. This encompassingEncounter **SHALL** contain exactly one [1..1] **`effectiveTime`** (CONF:8473, CONF:8475)
       c. This encompassingEncounter **MAY** contain zero or one [0..1] **`responsibleParty`** (CONF:8479)
          a. This responsibleParty **SHALL** contain zero or one [0..1] **`assignedEntity`**, where its type is CDA Assigned Entity (CONF:8479)
          b. This responsibleParty The responsibleParty element, if present, **SHALL** contain an assignedEntity element which **SHALL** contain an assignedPerson element, a representedOrganization element, or both. (CONF:8479)
       d. This encompassingEncounter **MAY** contain zero or one [0..1] **`encounterParticipant`** (CONF:8478)

   a. This encounterParticipant **SHALL** contain zero or one [0..1] **`assignedEntity`**, where its type is CDA Assigned Entity (CONF:8478)
   b. This encounterParticipant The responsibleParty element, if present, **SHALL** contain an assignedEntity element which **SHALL** contain an assignedPerson element, a representedOrganization element, or both. (CONF:8478)
 e. This encompassingEncounter This encompassingEncounter **SHALL** contain exactly one [1..1] effectiveTime/low (CONF:8473)
 f. This encompassingEncounter This encompassingEncounter **SHALL** contain exactly one [1..1] effectiveTime/high (CONF:8475)

19. **MAY** contain zero or one [0..1] **`chiefComplaintAndReasonForVisitSection`** (CONF:9556)
    a. Contains exactly one [1..1] *Chief Complaint And Reason For Visit Section* (templateId: `2.16.840.1.113883.10.20.22.2.13`)
20. **MAY** contain zero or one [0..1] **`chiefComplaintSection`** (CONF:9554)
    a. Contains exactly one [1..1] *Chief Complaint Section* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1`)
21. **MAY** contain zero or one [0..1] **`familyHistorySection`** (CONF:9560)
    a. Contains exactly one [1..1] *Family History Section* (templateId: `2.16.840.1.113883.10.20.22.2.15`)
22. **MAY** contain zero or one [0..1] **`hospitalConsultationsSection`** (CONF:9924)
    a. Contains exactly one [1..1] *Hospital Consultations Section* (templateId: `2.16.840.1.113883.10.20.22.2.42`)
23. **MAY** contain zero or one [0..1] **`hospitalDischargeInstructionsSection`** (CONF:9926)
    a. Contains exactly one [1..1] *Hospital Discharge Instructions Section* (templateId: `2.16.840.1.113883.10.20.22.2.41`)
24. **MAY** contain zero or one [0..1] **`hospitalDischargePhysicalSection`** (CONF:9568)
    a. Contains exactly one [1..1] *Hospital Discharge Physical Section* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.26`)
25. **MAY** contain zero or one [0..1] **`hospitalDischargeStudiesSummarySection`** (CONF:9570)
    a. Contains exactly one [1..1] *Hospital Discharge Studies Summary Section* (templateId: `2.16.840.1.113883.10.20.22.2.16`)
26. **MAY** contain zero or one [0..1] **`immunizationsSectionEntriesOptional`** (CONF:9572)
    a. Contains exactly one [1..1] *Immunizations Section Entries Optional* (templateId: `2.16.840.1.113883.10.20.22.2.2`)
27. **MAY** contain zero or one [0..1] **`problemSectionEntriesOptional`** (CONF:9574)
    a. Contains exactly one [1..1] *Problem Section Entries Optional* (templateId: `2.16.840.1.113883.10.20.22.2.5`)
28. **MAY** contain zero or one [0..1] **`proceduresSectionEntriesOptional`** (CONF:9576)
    a. Contains exactly one [1..1] *Procedures Section Entries Optional* (templateId: `2.16.840.1.113883.10.20.22.2.7`)
29. **MAY** contain zero or one [0..1] **`reasonForVisitSection`** (CONF:9578)
    a. Contains exactly one [1..1] *Reason For Visit Section* (templateId: `2.16.840.1.113883.10.20.22.2.12`)
30. **MAY** contain zero or one [0..1] **`reviewOfSystemsSection`** (CONF:9580)
    a. Contains exactly one [1..1] *Review Of Systems Section* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.18`)
31. **MAY** contain zero or one [0..1] **`socialHistorySection`** (CONF:9582)
    a. Contains exactly one [1..1] *Social History Section* (templateId: `2.16.840.1.113883.10.20.22.2.17`)

32. **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)

Discharge Summary Example

```
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History And Physical Note

[ClinicalDocument: templateId `2.16.840.1.113883.10.20.22.1.3`]

A History and Physical 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 History and Physical Note.

History And Physical Note Header Constraints

History And Physical Note Body Constraints

1. **SHALL** conform to *General Header Constraints* template (templateId: `2.16.840.1.113883.10.20.22.1.1`) (CONF:9968)
2. **SHALL** contain exactly one [1..1] **`code`**, which **SHALL** be selected from ValueSet `3.2.16.840.1.113883.1.11.20.22` *`HPDocumentType`* **DYNAMIC** (CONF:5253)
3. **MAY** contain zero or more [0..*] **`inFulfillmentOf`** (4., CONF:8336, CONF:8337)
   - 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 HP Note may be in partial fulfillment of that referral.
4. **SHALL** contain exactly one [1..1] **`componentOf`** (CONF:8338)
   a. This componentOf **SHALL** contain zero or one [0..1] **`encompassingEncounter`** (CONF:8339)
      a. This encompassingEncounter **SHALL** contain exactly one [1..1] **`effectiveTime`** (ii., CONF:8341)
      b. This encompassingEncounter **SHALL** contain exactly one [1..1] **`id`** (i., CONF:8340)

   c. This encompassingEncounter **MAY** contain zero or one [0..1] **`location`**, where its type is CDA Location (CONF:8344)
   d. This encompassingEncounter **MAY** contain zero or one [0..1] **`responsibleParty`** (iv., CONF:8345)
      a. This responsibleParty **SHALL** contain zero or one [0..1] **`assignedEntity`**, where its type is CDA Assigned Entity (CONF:8348)
      b. This responsibleParty The responsibleParty element, if present, **SHALL** contain an assignedEntity element which **SHALL** contain an assignedPerson element, a representedOrganization element, or both. (CONF:8348)
   e. This encompassingEncounter **MAY** contain zero or one [0..1] **`encounterParticipant`** (v., CONF:8342)
      a. This encounterParticipant **SHALL** contain zero or one [0..1] **`assignedEntity`**, where its type is CDA Assigned Entity (CONF:8343)
      b. This encounterParticipant The responsibleParty element, if present, **SHALL** contain an assignedEntity element which **SHALL** contain an assignedPerson element, a representedOrganization element, or both. (CONF:8343)
5. **SHALL** contain zero or one [0..1] **`allergiesSectionEntriesOptional`** (CONF:9602)
   a. Contains exactly one [1..1] *Allergies Section Entries Optional* (templateId: `2.16.840.1.113883.10.20.22.2.6`)
6. **MAY** contain zero or one [0..1] **`assessmentSection`** (CONF:9605)
   a. Contains exactly one [1..1] *Assessment Section* (templateId: `2.16.840.1.113883.10.20.22.2.8`)
7. **MAY** contain zero or one [0..1] **`planOfCareSection`** (CONF:9607)
   a. Contains exactly one [1..1] *Plan Of Care Section* (templateId: `2.16.840.1.113883.10.20.22.2.10`)
8. **MAY** contain zero or one [0..1] **`assessmentAndPlanSection`** (CONF:9987)
   a. Contains exactly one [1..1] *Assessment And Plan Section* (templateId: `2.16.840.1.113883.10.20.22.2.9`)
9. **MAY** contain zero or one [0..1] **`chiefComplaintSection`** (CONF:9611)
   a. Contains exactly one [1..1] *Chief Complaint Section* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1`)
10. **MAY** contain zero or one [0..1] **`chiefComplaintAndReasonForVisitSection`** (CONF:9613)
    a. Contains exactly one [1..1] *Chief Complaint And Reason For Visit Section* (templateId: `2.16.840.1.113883.10.20.22.2.13`)
11. **SHALL** contain exactly one [1..1] **`familyHistorySection`** (CONF:9615)
    a. Contains exactly one [1..1] *Family History Section* (templateId: `2.16.840.1.113883.10.20.22.2.15`)
12. **SHALL** contain exactly one [1..1] **`generalStatusSection`** (CONF:9617)
    a. Contains exactly one [1..1] *General Status Section* (templateId: `2.16.840.1.113883.10.20.2.5`)
13. **SHALL** contain exactly one [1..1] **`historyOfPastIllnessSection`** (CONF:9619)
    a. Contains exactly one [1..1] *History Of Past Illness Section* (templateId: `2.16.840.1.113883.10.20.22.2.20`)
14. **SHALL** contain exactly one [1..1] **`medicationsSectionEntriesOptional`** (CONF:9623)
    a. Contains exactly one [1..1] *Medications Section Entries Optional* (templateId: `2.16.840.1.113883.10.20.22.2.1`)
15. **SHALL** contain zero or one [0..1] **`physicalExamSection`** (CONF:9625)
    a. Contains exactly one [1..1] *Physical Exam Section* (templateId: `2.16.840.1.113883.10.20.2.10`)
16. **SHALL** contain exactly one [1..1] **`reasonForVisitSection`** (CONF:9627)
    a. Contains exactly one [1..1] *Reason For Visit Section* (templateId: `2.16.840.1.113883.10.20.22.2.12`)

17. **SHALL** contain exactly one [1..1] **`resultsSectionEntriesOptional`** (CONF:9629)
    a. Contains exactly one [1..1] *Results Section Entries Optional* (templateId: `2.16.840.1.113883.10.20.22.2.3`)
18. **SHALL** contain exactly one [1..1] **`reviewOfSystemsSection`** (CONF:9631)
    a. Contains exactly one [1..1] *Review Of Systems Section* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.18`)
19. **SHALL** contain exactly one [1..1] **`socialHistorySection`** (CONF:9633)
    a. Contains exactly one [1..1] *Social History Section* (templateId: `2.16.840.1.113883.10.20.22.2.17`)
20. **SHOULD** contain exactly one [1..1] **`historyOfPresentIllnessSection`** (CONF:9621)
    a. Contains exactly one [1..1] *History Of Present Illness Section* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.4`)
21. **MAY** contain zero or one [0..1] **`immunizationsSectionEntriesOptional`** (CONF:9637)
    a. Contains exactly one [1..1] *Immunizations Section Entries Optional* (templateId: `2.16.840.1.113883.10.20.22.2.2`)
22. **MAY** contain zero or one [0..1] **`problemSectionEntriesOptional`** (CONF:9639)
    a. Contains exactly one [1..1] *Problem Section Entries Optional* (templateId: `2.16.840.1.113883.10.20.22.2.5`)
23. **MAY** contain zero or one [0..1] **`proceduresSectionEntriesOptional`** (CONF:9641)
    a. Contains exactly one [1..1] *Procedures Section Entries Optional* (templateId: `2.16.840.1.113883.10.20.22.2.7`)
24. **SHALL** contain exactly one [1..1] **`vitalSignsSectionEntriesOptional`** (CONF:9635)
    a. Contains exactly one [1..1] *Vital Signs Section Entries Optional* (templateId: `2.16.840.1.113883.10.20.22.2.4`)
25. **SHALL** include an Assessment and Plan Section, or an Assessment Section and a Plan Section (CONF:9986)
26. **SHALL NOT** include an Assessment/Plan Section when an Assessment Section and a Plan of Care Section are present
27. **SHALL** include a Chief Complaint and Reason for Visit Section, Chief Complaint Section, or a Reason for Visit Section (CONF:9642)
28. **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)

History And Physical Note Example

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```

Operative Note

[ClinicalDocument: templateId `2.16.840.1.113883.10.20.22.1.7`]

The Operative Note Fluids section may be used to record fluids administered during the surgical procedure.

Operative Note Header Constraints

Operative Note Body Constraints

1. **SHALL** conform to *General Header Constraints* template (templateId: `2.16.840.1.113883.10.20.22.1.1`) (CONF:9914, CONF:10047)
2. **SHALL** contain exactly one [1..1] **`code`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.11.20.1.1` *`SurgicalOperationNoteDocumentTypeCode`* **DYNAMIC** (CONF:8484)
3. **SHALL** contain at least one [1..*] **`documentationOf`** (CONF:8486)
   a. Such documentationOfs **SHALL** contain exactly one [1..1] **`serviceEvent`** (CONF:8493)
      a. This serviceEvent Contains zero or one [0..1] **`performer`**

      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.

      a. This performer **SHALL** contain exactly one [1..1] **`@typeCode`** (CONF:8495)
      b. This performer **SHALL** contain zero or one [0..1] **`functionCode`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.3.88.12.3221.4` *`ProviderType`* **DYNAMIC** (CONF:8522, CONF:8523)

      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.

- **b.** This serviceEvent **SHALL** contain zero or one [0..1] **`code`** (i., CONF:8487)
- **c.** This serviceEvent **SHALL** contain zero or one [0..1] **`effectiveTime`** (CONF:8494)
- **d.** This serviceEvent 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)
- **e.** This serviceEvent The serviceEvent/effectiveTime **SHALL** be present with effectiveTime/low (CONF:8488)
- **f.** This serviceEvent If a width is not present, the serviceEvent/effectiveTime **SHALL** include effectiveTime/high. (CONF:10058)
- **g.** This serviceEvent 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)
- **h.** This serviceEvent Any assistants **SHALL** be identified and **SHALL** be identified as secondary performers (SPRF)

4. **SHALL** contain zero or one [0..1] **`anesthesiaSection`** (CONF:9883)
   - **a.** Contains exactly one [1..1] *Anesthesia Section* (templateId: `2.16.840.1.113883.10.20.22.2.25`)
5. **SHALL** contain zero or one [0..1] **`complicationsSection`** (CONF:9885)
   - **a.** Contains exactly one [1..1] *Complications Section* (templateId: `2.16.840.1.113883.10.20.22.2.37`)
6. **SHALL** contain zero or one [0..1] **`postoperativeDiagnosisSection`** (CONF:9913)
   - **a.** Contains exactly one [1..1] *Postoperative Diagnosis Section* (templateId: `2.16.840.1.113883.10.20.22.2.35`)
7. **SHALL** contain zero or one [0..1] **`preoperativeDiagnosisSection`** (CONF:9888)
   - **a.** Contains exactly one [1..1] *Preoperative Diagnosis Section* (templateId: `2.16.840.1.113883.10.20.22.2.34`)
8. **SHALL** contain zero or one [0..1] **`procedureEstimatedBloodLossSection`** (CONF:9890)
   - **a.** Contains exactly one [1..1] *Procedure Estimated Blood Loss Section* (templateId: `2.16.840.1.113883.10.20.18.2.9`)
9. **SHALL** contain zero or one [0..1] **`procedureFindingsSection`** (CONF:9892)
   - **a.** Contains exactly one [1..1] *Procedure Findings Section* (templateId: `2.16.840.1.113883.10.20.22.2.28`)
10. **SHALL** contain zero or one [0..1] **`procedureSpecimensTakenSection`** (CONF:9894)
    - **a.** Contains exactly one [1..1] *Procedure Specimens Taken Section* (templateId: `2.16.840.1.113883.10.20.22.2.31`)
11. **SHALL** contain zero or one [0..1] **`procedureDescriptionSection`** (CONF:9896)
    - **a.** Contains exactly one [1..1] *Procedure Description Section* (templateId: `2.16.840.1.113883.10.20.22.2.27`)
12. **MAY** contain zero or one [0..1] **`procedureImplantsSection`** (CONF:9898)
    - **a.** Contains exactly one [1..1] *Procedure Implants Section* (templateId: `2.16.840.1.113883.10.20.22.2.40`)
13. **MAY** contain zero or one [0..1] **`operativeNoteFluidSection`** (CONF:9900)
    - **a.** Contains exactly one [1..1] *Operative Note Fluid Section* (templateId: `2.16.840.1.113883.10.20.7.12`)

14. **MAY** contain zero or one [0..1] **`operativeNoteSurgicalProcedureSection`** (CONF:9902)
    a. Contains exactly one [1..1] *Operative Note Surgical Procedure Section* (templateId: `2.16.840.1.113883.10.20.7.14`)
15. **MAY** contain zero or one [0..1] **`planOfCareSection`** (CONF:9904)
    a. Contains exactly one [1..1] *Plan Of Care Section* (templateId: `2.16.840.1.113883.10.20.22.2.10`)
16. **MAY** contain zero or one [0..1] **`plannedProcedureSection`** (CONF:9906)
    a. Contains exactly one [1..1] *Planned Procedure Section* (templateId: `2.16.840.1.113883.10.20.22.2.30`)
17. **MAY** contain zero or one [0..1] **`procedureDispositionSection`** (CONF:9908)
    a. Contains exactly one [1..1] *Procedure Disposition Section* (templateId: `2.16.840.1.113883.10.20.18.2.12`)
18. **MAY** contain zero or one [0..1] **`procedureIndicationsSection`** (CONF:9910)
    a. Contains exactly one [1..1] *Procedure Indications Section* (templateId: `2.16.840.1.113883.10.20.22.2.29`)
19. **MAY** contain zero or one [0..1] **`surgicalDrainsSection`** (CONF:9912)
    a. Contains exactly one [1..1] *Surgical Drains Section* (templateId: `2.16.840.1.113883.10.20.7.13`)

Operative Note Example

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Procedure Note

[ClinicalDocument: templateId `2.16.840.1.113883.10.20.22.1.6`]

Procedure Note Header Constraints

Procedure Note Body Constraints

1. **SHALL** conform to *General Header Constraints* template (templateId: `2.16.840.1.113883.10.20.22.1.1`) (CONF:9969, CONF:10049)
2. **SHALL** contain exactly one [1..1] **`code`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.11.20.6.1` *`ProcedureNoteDocumentTypeCodes`* **DYNAMIC** (CONF:5253)
3. **MAY** contain exactly one [1..1] **`participant`** (CONF:8505)
   a. This participant **SHALL** contain exactly one [1..1] **`typeId`**
4. **SHOULD** contain zero or one [0..1] **`componentOf`** (CONF:8499)
   a. This componentOf **SHOULD** contain zero or one [0..1] **`encompassingEncounter`** (CONF:8501)
      a. This encompassingEncounter **SHALL** contain at least one [1..*] **`location`**
         a. Such locations **SHALL** contain zero or one [0..1] **`healthCareFacility`**
            a. This healthCareFacility **SHALL** contain zero or more [0..*] **`id`** (b., CONF:8500)
      b. This encompassingEncounter **MAY** contain zero or one [0..1] **`encounterParticipant`** (CONF:8502)
         a. This encounterParticipant **SHALL** contain exactly one [1..1] **`@typeCode`**`="REF"` (CONF:8503)
      c. This encompassingEncounter **SHALL** contain zero or one [0..1] **`code`** (CONF:8501)
5. **SHALL** contain exactly one [1..1] **`participant`** (CONF:8508)
   a.
6. **SHALL** contain zero or one [0..1] **`participant`** (CONF:8507)
   a. This participant Contains zero or one [0..1] **`associatedEntity`**

   a. This associatedEntity **SHALL** contain zero or one [0..1] **associatedPerson**, where its type is CDA Person (CONF:8508)
7. **MAY** contain zero or one [0..1] **assessmentSection** (CONF:9645)
   a. Contains exactly one [1..1] *Assessment Section* (templateId: 2.16.840.1.113883.10.20.22.2.8)
8. **MAY** contain zero or one [0..1] **planOfCareSection** (CONF:9647)
   a. Contains exactly one [1..1] *Plan Of Care Section* (templateId: 2.16.840.1.113883.10.20.22.2.10)
9. **MAY** contain zero or one [0..1] **assessmentAndPlanSection** (CONF:9649)
   a. Contains exactly one [1..1] *Assessment And Plan Section* (templateId: 2.16.840.1.113883.10.20.22.2.9)
10. **SHALL** contain zero or one [0..1] **complicationsSection** (CONF:9802)
    a. Contains exactly one [1..1] *Complications Section* (templateId: 2.16.840.1.113883.10.20.22.2.37)
11. **SHALL** contain exactly one [1..1] **postprocedureDiagnosisSection** (CONF:9850)
    a. Contains exactly one [1..1] *Postprocedure Diagnosis Section* (templateId: 2.16.840.1.113883.10.20.22.2.36)
12. **SHALL** contain exactly one [1..1] **procedureDescriptionSection** (CONF:9805)
    a. Contains exactly one [1..1] *Procedure Description Section* (templateId: 2.16.840.1.113883.10.20.22.2.27)
13. **SHALL** contain exactly one [1..1] **procedureIndicationsSection** (CONF:9807)
    a. Contains exactly one [1..1] *Procedure Indications Section* (templateId: 2.16.840.1.113883.10.20.22.2.29)
14. **MAY** contain zero or one [0..1] **allergiesSectionEntriesOptional** (CONF:9809)
    a. Contains exactly one [1..1] *Allergies Section Entries Optional* (templateId: 2.16.840.1.113883.10.20.22.2.6)
15. **MAY** contain zero or one [0..1] **anesthesiaSection** (CONF:9811)
    a. Contains exactly one [1..1] *Anesthesia Section* (templateId: 2.16.840.1.113883.10.20.22.2.25)
16. **MAY** contain zero or one [0..1] **chiefComplaintSection** (CONF:9813)
    a. Contains exactly one [1..1] *Chief Complaint Section* (templateId: 1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1)
17. **MAY** contain zero or one [0..1] **chiefComplaintAndReasonForVisitSection** (CONF:9815)
    a. Contains exactly one [1..1] *Chief Complaint And Reason For Visit Section* (templateId: 2.16.840.1.113883.10.20.22.2.13)
18. **MAY** contain zero or one [0..1] **familyHistorySection** (CONF:9817)
    a. Contains exactly one [1..1] *Family History Section* (templateId: 2.16.840.1.113883.10.20.22.2.15)
19. **MAY** contain zero or one [0..1] **historyOfPastIllnessSection** (CONF:9819)
    a. Contains exactly one [1..1] *History Of Past Illness Section* (templateId: 2.16.840.1.113883.10.20.22.2.20)
20. **MAY** contain zero or one [0..1] **historyOfPresentIllnessSection** (CONF:9821)
    a. Contains exactly one [1..1] *History Of Present Illness Section* (templateId: 1.3.6.1.4.1.19376.1.5.3.1.3.4)
21. **MAY** contain zero or one [0..1] **medicalHistorySection** (CONF:9823)
    a. Contains exactly one [1..1] *Medical History Section* (templateId: 2.16.840.1.113883.10.20.22.2.39)
22. **MAY** contain zero or one [0..1] **medicationsSectionEntriesOptional** (CONF:9825)
    a. Contains exactly one [1..1] *Medications Section Entries Optional* (templateId: 2.16.840.1.113883.10.20.22.2.1)

23. **MAY** contain zero or one [0..1] **`medicationsAdministeredSection`** (CONF:9827)
    a. Contains exactly one [1..1] *Medications Administered Section* (templateId: `2.16.840.1.113883.10.20.22.2.38`)
24. **MAY** contain zero or one [0..1] **`physicalExamSection`** (CONF:9829)
    a. Contains exactly one [1..1] *Physical Exam Section* (templateId: `2.16.840.1.113883.10.20.2.10`)
25. **MAY** contain zero or one [0..1] **`plannedProcedureSection`** (CONF:9831)
    a. Contains exactly one [1..1] *Planned Procedure Section* (templateId: `2.16.840.1.113883.10.20.22.2.30`)
26. **MAY** contain zero or one [0..1] **`procedureDispositionSection`** (CONF:9833)
    a. Contains exactly one [1..1] *Procedure Disposition Section* (templateId: `2.16.840.1.113883.10.20.18.2.12`)
27. **MAY** contain zero or one [0..1] **`procedureEstimatedBloodLossSection`** (CONF:9835)
    a. Contains exactly one [1..1] *Procedure Estimated Blood Loss Section* (templateId: `2.16.840.1.113883.10.20.18.2.9`)
28. **MAY** contain zero or one [0..1] **`procedureFindingsSection`** (CONF:9837)
    a. Contains exactly one [1..1] *Procedure Findings Section* (templateId: `2.16.840.1.113883.10.20.22.2.28`)
29. **MAY** contain zero or one [0..1] **`procedureImplantsSection`** (CONF:9839)
    a. Contains exactly one [1..1] *Procedure Implants Section* (templateId: `2.16.840.1.113883.10.20.22.2.40`)
30. **MAY** contain zero or one [0..1] **`procedureSpecimensTakenSection`** (CONF:9841)
    a. Contains exactly one [1..1] *Procedure Specimens Taken Section* (templateId: `2.16.840.1.113883.10.20.22.2.31`)
31. **MAY** contain zero or one [0..1] **`proceduresSectionEntriesOptional`** (CONF:9843)
    a. Contains exactly one [1..1] *Procedures Section Entries Optional* (templateId: `2.16.840.1.113883.10.20.22.2.7`)
32. **MAY** contain zero or one [0..1] **`reasonForVisitSection`** (CONF:9845)
    a. Contains exactly one [1..1] *Reason For Visit Section* (templateId: `2.16.840.1.113883.10.20.22.2.12`)
33. **MAY** contain zero or one [0..1] **`reviewOfSystemsSection`** (CONF:9847)
    a. Contains exactly one [1..1] *Review Of Systems Section* (templateId: `1.3.6.1.4.1.19376.1.5.3.1.3.18`)
34. **MAY** contain zero or one [0..1] **`socialHistorySection`** (CONF:9849)
    a. Contains exactly one [1..1] *Social History Section* (templateId: `2.16.840.1.113883.10.20.22.2.17`)
35. **SHALL** include an Assessment and Plan Section, or an Assessment Section and a Plan Section (CONF:9643)
36. **SHALL NOT** include an Assessment/Plan Section when an Assessment Section and a Plan of Care Section are present (CONF:10064)
37. **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)

Procedure Note Example

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```

Progress Note

[ClinicalDocument: templateId `2.16.840.1.113883.10.20.22.1.9`]

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

Progress Note Header Constraints

Progress Note Body Constraints

1. **SHALL** conform to *General Header Constraints* template (templateId: `2.16.840.1.113883.10.20.22.1.1`) (CONF:9483)
2. **SHALL** contain exactly one [1..1] **`code`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.11.20.8.1` *`ProgressNoteDocumentTypeCode`* **DYNAMIC** (CONF:7589)
   - 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", using post-coordination for 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. **SHOULD** contain zero or one [0..1] **`documentationOf`** (CONF:7603)
   a. This documentationOf **SHALL** contain zero or one [0..1] **`serviceEvent`**
      a. This serviceEvent **SHALL** contain exactly one [1..1] **`@classCode`**`="PCPR"` (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:7604)
      b. This serviceEvent **SHOULD** contain exactly one [1..1] **`effectiveTime`** (CONF:9481)
4. **SHALL** contain zero or one [0..1] **`componentOf`**
   a. This componentOf Contains zero or one [0..1] **`encompassingEncounter`**
      a. This encompassingEncounter **SHALL** contain exactly one [1..1] **`effectiveTime`** (CONF:7598)
      b. This encompassingEncounter **SHALL** contain at least one [1..*] **`id`** (CONF:7597)
      c. This encompassingEncounter **SHALL** contain zero or one [0..1] **`location`**

    a. This location Contains exactly one [1..1] **healthCareFacility**
        a. This healthCareFacility **SHALL** contain exactly one [1..1] **id** (CONF:7611)
5. **MAY** contain zero or one [0..1] **assessmentSection**
    a. Contains exactly one [1..1] *Assessment Section* (templateId: 2.16.840.1.113883.10.20.22.2.8)
6. **MAY** contain zero or one [0..1] **planOfCareSection**
    a. Contains exactly one [1..1] *Plan Of Care Section* (templateId: 2.16.840.1.113883.10.20.22.2.10)
7. **MAY** contain zero or one [0..1] **assessmentAndPlanSection**
    a. Contains exactly one [1..1] *Assessment And Plan Section* (templateId: 2.16.840.1.113883.10.20.22.2.9)
8. **MAY** contain zero or one [0..1] **allergiesSectionEntriesOptional**
    a. Contains exactly one [1..1] *Allergies Section Entries Optional* (templateId: 2.16.840.1.113883.10.20.22.2.6)
9. **MAY** contain zero or one [0..1] **chiefComplaintSection**
    a. Contains exactly one [1..1] *Chief Complaint Section* (templateId: 1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1)
10. **MAY** contain zero or one [0..1] **interventionsSection**
    a. Contains exactly one [1..1] *Interventions Section* (templateId: 2.16.840.1.113883.10.20.21.2.3)
11. **MAY** contain zero or one [0..1] **medicationsSectionEntriesOptional**
    a. Contains exactly one [1..1] *Medications Section Entries Optional* (templateId: 2.16.840.1.113883.10.20.22.2.1)
12. **MAY** contain zero or one [0..1] **objectiveSection**
    a. Contains exactly one [1..1] *Objective Section* (templateId: 2.16.840.1.113883.10.20.21.2.1)
13. **MAY** contain zero or one [0..1] **physicalExamSection**
    a. Contains exactly one [1..1] *Physical Exam Section* (templateId: 2.16.840.1.113883.10.20.2.10)
14. **MAY** contain zero or one [0..1] **problemSectionEntriesOptional**
    a. Contains exactly one [1..1] *Problem Section Entries Optional* (templateId: 2.16.840.1.113883.10.20.22.2.5)
15. **MAY** contain zero or one [0..1] **resultsSectionEntriesOptional**
    a. Contains exactly one [1..1] *Results Section Entries Optional* (templateId: 2.16.840.1.113883.10.20.22.2.3)
16. **MAY** contain zero or one [0..1] **reviewOfSystemsSection**
    a. Contains exactly one [1..1] *Review Of Systems Section* (templateId: 1.3.6.1.4.1.19376.1.5.3.1.3.18)
17. **MAY** contain zero or one [0..1] **subjectiveSection**
    a. Contains exactly one [1..1] *Subjective Section* (templateId: 2.16.840.1.113883.10.20.21.2.2)
18. **MAY** contain zero or one [0..1] **vitalSignsSectionEntriesOptional**
    a. Contains exactly one [1..1] *Vital Signs Section Entries Optional* (templateId: 2.16.840.1.113883.10.20.22.2.4)
19. **SHALL** include an Assessment and Plan Section, or an Assessment Section and a Plan Section (CONF:8704)
20. **SHALL NOT** include an Assessment/Plan Section when an Assessment Section and a Plan of Care Section are present (CONF:10069)

Progress Note Example

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 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
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                  <entryRelationship>
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```

```
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codeSystemName="LOINC" displayName="Status"/>
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codeSystemName="LOINC" displayName="CHIEF COMPLAINT"/>
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codeSystemName="LOINC" displayName="History of medication use"/>
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        <confidentialityCode code="Value"/>
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            <code code="1448091450"/>
```

```
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                  <effectiveTime value="20120325"/>
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codeSystemName="SNOMEDCT"/>
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                        <high value="2012"/>
                      </effectiveTime>
                      <languageCode/>
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              </entryRelationship>
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                  <realmCode/>
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                  <id root="478281080"/>
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                      <statusCode code="completed"/>
                      <effectiveTime>
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                        <high value="2012"/>
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                      <languageCode/>
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```

```
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                    </effectiveTime>
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codeSystemName="SNOMEDCT"/>
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                    <entryRelationship>
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                      <act/>
                    </entryRelationship>
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                    </entryRelationship>
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            </entryRelationship>
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                <realmCode/>
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codeSystemName="SNOMEDCT"/>
                <statusCode code="completed"/>
                <effectiveTime>
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                </effectiveTime>
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```

```
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codeSystemName="SNOMEDCT"/>
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                <effectiveTime>
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            </entryRelationship>
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        </entry>
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    </component>
    <component>
      <section>
        <realmCode/>
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        <templateId root="2.16.840.1.113883.10.20.21.2.1"/>
        <id root="567265639"/>
        <code code="61149-1" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Objective"/>
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```

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          <code code="29545-1" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="PHYSICAL EXAMINATION"/>
          <title/>
          <confidentialityCode code="Value"/>
          <languageCode/>
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      <component>
        <section>
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          <id root="1086309398"/>
          <code code="11450-4" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Problem List"/>
          <title/>
          <confidentialityCode code="Value"/>
          <languageCode/>
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              <realmCode/>
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              <templateId root="2.16.840.1.113883.10.20.22.4.3"/>
              <id root="1915317630"/>
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codeSystemName="HL7ActClass" displayName="Concern"/>
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              <languageCode/>
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codeSystemName="SNOMEDCT"/>
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                    <high value="2012"/>
                  </effectiveTime>
                  <languageCode/>
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codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"
displayName="Age At Onset"/>
                      <statusCode code="completed"/>
                      <effectiveTime>
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```

```
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                    <id root="492151472"/>
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codeSystemName="LOINC" displayName="Health status"/>
                    <statusCode code="completed"/>
                    <effectiveTime>
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                    </effectiveTime>
                    <languageCode/>
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                    <id root="2082871990"/>
                    <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Status"/>
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                    <effectiveTime>
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                    </effectiveTime>
                    <languageCode/>
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                </entryRelationship>
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          </act>
        </entry>
      </section>
    </component>
    <component>
      <section>
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        <templateId root="2.16.840.1.113883.10.20.22.2.3"/>
        <id root="1010528900"/>
        <code code="30954-2" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Relevant diagnostic tests and/or
laboratory data"/>
        <title/>
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        <languageCode/>
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            <templateId root="2.16.840.1.113883.10.20.22.4.1"/>
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            <code code="1170759342"/>
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                    <high value="2012"/>
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                  <languageCode/>
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          </entry>
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      <component>
        <section>
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          <id root="1063616026"/>
          <code code="10187-3" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="REVIEW OF SYSTEMS"/>
          <title/>
          <confidentialityCode code="Value"/>
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        <section>
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codeSystemName="LOINC" displayName="Subjective"/>
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          <code code="8716-3" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC"/>
          <title/>
          <confidentialityCode code="Value"/>
          <languageCode/>
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            <organizer classCode="CLUSTER" moodCode="EVN">
              <realmCode/>
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              <templateId root="2.16.840.1.113883.10.20.22.4.26"/>
              <id root="1414186336"/>
              <code code="46680005" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT" displayName="Vital signs"/>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
```

```
              </effectiveTime>
              <component>
                <observation classCode="OBS" moodCode="EVN">
                  <realmCode/>
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                  <templateId root="2.16.840.1.113883.10.20.22.4.27"/>
                  <id root="1267828512"/>
                  <code codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <languageCode/>
                </observation>
              </component>
            </organizer>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Unstructured Document

[ClinicalDocument: templateId `2.16.840.1.113883.10.20.21.1.10`]

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 .

Unstructured Document Header Constraints

Unstructured Document Body Constraints

1. **SHALL** conform to *General Header Constraints* template (templateId: `2.16.840.1.113883.10.20.22.1.1`) (CONF:9970)
2. **SHALL** contain exactly one [1..1] **`recordTarget`** (CONF:7643)
   a. This recordTarget Contains zero or one [0..1] **`patientRole`**
      a. This patientRole **SHALL** contain exactly one [1..1] **`id`** (CONF:7643)
3. **SHALL** contain exactly one [1..1] **`author`** (CONF:7640)
   a. This author Contains zero or one [0..1] **`assignedAuthor`**

   a. This assignedAuthor **SHALL** contain exactly one [1..1] **`addr`** (CONF:7641)
   b. This assignedAuthor **SHALL** contain exactly one [1..1] **`telecom`** (CONF:7642)

4. **SHALL** contain zero or one [0..1] **`component`**

   a.

5. **SHALL** contain exactly one [1..1] **`custodian`** (CONF:7645)

   a. This custodian **SHALL** contain zero or one [0..1] **`assignedCustodian`** (CONF:7645)

      a. This assignedCustodian Contains zero or one [0..1] **`representedCustodianOrganization`**

         a. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **`addr`** (CONF:7651)
         b. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **`id`** (CONF:7648)
         c. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **`name`** (CONF:7649)
         d. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **`telecom`** (CONF:7650)

Unstructured Document Example

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <realmCode code="US"/>
  <typeId root="2.16.840.1.113883.1.3"/>
  <templateId root="2.16.840.1.113883.10.20.22.1.1"/>
  <templateId root="2.16.840.1.113883.10.20.21.1.10"/>
  <id root="1898110677"/>
  <code code="Value"/>
  <title/>
  <effectiveTime/>
  <confidentialityCode codeSystem="2.16.840.1.113883.5.25"
 codeSystemName="ConfidentialityCode"/>
  <languageCode/>
  <setId root="aaf5b45c-3e64-46a5-bbfd-a380760a21ee"/>
  <versionNumber value="1"/>
  <recordTarget>
    <patientRole>
      <id root="1850403982"/>
    </patientRole>
  </recordTarget>
  <author>
    <time/>
    <assignedAuthor>
      <id root="207734139"/>
      <addr/>
      <telecom/>
    </assignedAuthor>
  </author>
  <custodian>
    <assignedCustodian>
      <representedCustodianOrganization>
        <id root="644139844"/>
        <name/>
        <telecom/>
        <addr/>
      </representedCustodianOrganization>
    </assignedCustodian>
  </custodian>
  <component/>
</ClinicalDocument>
```

SECTION-LEVEL TEMPLATES

Advance Directives Section

Advance Directives Section

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.

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

Optional Entries

[Section: templateId `2.16.840.1.113883.10.20.22.2.21`]

The following constraints apply to a Advance Directives Section in which entries are not required.

1. **SHALL** contain exactly one [1..1] **`code/@code`**`="42348-3"` *Advance Directives* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7929)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:7930)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7931)
4. **MAY** contain zero or one [0..1] **`advanceDirectiveObservation`** (CONF:7957, CONF:8800)
   a. Contains exactly one [1..1] *Advance Directive Observation* (templateId: `2.16.840.1.113883.10.20.22.4.48`)

Required Entries

[Section: templateId `2.16.840.1.113883.10.20.22.2.3.1`]

The following constraints apply to a Advance Directives Section in which entries are required.

1. **SHALL** conform to *Advance Directives Section Entries Optional* template (templateId: `2.16.840.1.113883.10.20.22.2.21`)
2. **SHALL** contain exactly one [1..1] **`code/@code`**`="42348-3"` *Advance directives* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:8644)
3. **SHALL** contain exactly one [1..1] **`title`** (2., CONF:8645)
4. **SHALL** contain exactly one [1..1] **`text`** (2., CONF:8646)
5. **MAY** contain zero or one [0..1] **`advanceDirectiveObservation`** (CONF:7957, CONF:8800)
   a. Contains exactly one [1..1] *Advance Directive Observation* (templateId: `2.16.840.1.113883.10.20.22.4.48`)
6. **SHALL** contain at least one [1..*] **`advanceDirectiveObservation`** (CONF:8647, 2., CONF:8801)
   a. Contains exactly one [1..1] *Advance Directive Observation* (templateId: `2.16.840.1.113883.10.20.22.4.48`)
7. **SHALL** satisfy: Contains a case-insensitive language-insensitive text string containing 'advance directives'.

Advance Directives Section Table

Advance Directives Section Sample

The following XML snippet is a sample for Advance Directives Section Entries Optional

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.21"/>
  <templateId root="2.16.840.1.113883.10.20.22.2.21.1"/>
  <id root="87230850"/>
  <code code="42348-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Advance directives"/>
  <title/>
  <text/>
  <entry>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.48"/>
      <id root="549144068"/>
      <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
    </observation>
  </entry>
</section>
```

Figure 5: Advance Directives Section Entries Optional example

Allergies Section

Allergies Section

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.

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.

Optional Entries

[Section: templateId `2.16.840.1.113883.10.20.22.2.6`]

The following constraints apply to a Allergies Section in which entries are not required.

1. **SHALL** contain exactly one [1..1] **`code/@code`**`="48765-2"` *Allergies, adverse reactions, alerts* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7801)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:7802)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7803)
4. **SHOULD** contain zero or more [0..*] **`allergyProblemAct`** (CONF:7804, CONF:7805)
   a. Contains exactly one [1..1] *Allergy Problem Act* (templateId: `2.16.840.1.113883.10.20.22.4.30`)

Required Entries

[Section: templateId `2.16.840.1.113883.10.20.22.2.3.1`]

The following constraints apply to a Allergies Section in which entries are required.

1. **SHALL** conform to *Allergies Section Entries Optional* template (templateId: `2.16.840.1.113883.10.20.22.2.6`)
2. **SHALL** contain exactly one [1..1] **`code/@code`**`="48765-2"` *Allergies, adverse reactions, alerts* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7528)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:7534)
4. **SHALL** contain exactly one [1..1] **`text`** (CONF:7530)
5. **SHOULD** contain zero or more [0..*] **`allergyProblemAct`** (CONF:7804, CONF:7805)
   a. Contains exactly one [1..1] *Allergy Problem Act* (templateId: `2.16.840.1.113883.10.20.22.4.30`)
6. **SHALL** contain at least one [1..*] **`allergyProblemAct`** (CONF:7531, CONF:7532)
   a. Contains exactly one [1..1] *Allergy Problem Act* (templateId: `2.16.840.1.113883.10.20.22.4.30`)

Allergies Section Table

Allergies Section Sample

The following XML snippet is a sample for Allergies Section Entries Optional

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.6"/>
  <templateId root="2.16.840.1.113883.10.20.22.2.6.1"/>
  <id root="286091689"/>
  <code code="48765-2" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Allergies, adverse reactions, alerts"/>
  <title/>
  <text/>
  <entry>
    <act classCode="ACT" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.30"/>
      <id root="365351607"/>
      <code code="48765-2" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Allergies, adverse reactions, alerts"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.7"/>
          <id root="606757733"/>
          <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"
 codeSystemName="HL7ActCode"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
              <id root="292051222"/>
              <code code="1705521199"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
```

```
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.8"/>
                  <id root="1595332601"/>
                  <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="HL7ActCode" displayName="Severity observation"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <procedure classCode="PROC">
                  <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
                  <id root="380252891"/>
                  <code code="633315555"/>
                  <text>Text Value</text>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <substanceAdministration/>
                  </entryRelationship>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                  <entryRelationship>
                    <encounter/>
                  </entryRelationship>
                </procedure>
              </entryRelationship>
              <entryRelationship>
                <substanceAdministration classCode="SBADM">
                  <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
                  <id root="1089992018"/>
                  <code code="708897160"/>
                  <text>Text Value</text>
                  <effectiveTime value="20120325"/>
                  <consumable/>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
```

```
                    <supply/>
                  </entryRelationship>
                </substanceAdministration>
              </entryRelationship>
            </observation>
          </entryRelationship>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.8"/>
              <id root="1155579351"/>
              <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="HL7ActCode" displayName="Severity observation"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </observation>
          </entryRelationship>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.28"/>
              <id root="2048426662"/>
              <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Status"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </observation>
          </entryRelationship>
        </observation>
      </entryRelationship>
    </act>
  </entry>
</section>
```

Figure 6: Allergies Section Entries Optional example

Anesthesia Section

Anesthesia Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.25`]

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] **`code/@code`**`="59774-0"` (CodeSystem: `2.16.840.1.113883.6.1` `LOINC`) (CONF:8067)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:8069)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:8068)
4. **MAY** contain zero or more [0..*] **`procedureActivityProcedure`** (CONF:8092)
   a. Contains exactly one [1..1] *Procedure Activity Procedure* (templateId: `2.16.840.1.113883.10.20.22.4.14`)
5. **MAY** contain zero or more [0..*] **`medicationActivity`** (CONF:8094)

a. Contains exactly one [1..1] *Medication Activity* (templateId: `2.16.840.1.113883.10.20.22.4.16`)

Anesthesia Section

Anesthesia Section Table

Anesthesia Section Sample

The following XML snippet is a sample for Anesthesia Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.25"/>
  <id root="500773613"/>
  <code code="59774-0" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC"/>
  <title/>
  <text/>
  <entry>
    <procedure classCode="PROC">
      <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
      <id root="2145026095"/>
      <code code="410153885"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
          <id root="607350400"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <substanceAdministration classCode="SBADM">
          <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
          <id root="1742181961"/>
          <code code="2129018073"/>
          <text>Text Value</text>
          <effectiveTime value="20120325"/>
          <consumable/>
          <entryRelationship>
            <supply classCode="SPLY" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
              <id root="1750613621"/>
              <code code="2080872894"/>
              <text>Text Value</text>
              <effectiveTime value="20120325"/>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
```

```
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="1764238531"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </act>
              </entryRelationship>
            </supply>
          </entryRelationship>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
              <id root="2046062287"/>
              <code code="584529413"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.8"/>
                  <id root="1977045188"/>
                  <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="HL7ActCode" displayName="Severity observation"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <procedure classCode="PROC">
                  <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
                  <id root="1906740120"/>
                  <code code="2020244465"/>
                  <text>Text Value</text>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <substanceAdministration/>
                  </entryRelationship>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                  <entryRelationship>
                    <encounter/>
                  </entryRelationship>
                </procedure>
```

```
            </entryRelationship>
            <entryRelationship>
              <substanceAdministration classCode="SBADM">
                <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
                <id root="2060364368"/>
                <code code="1374787563"/>
                <text>Text Value</text>
                <effectiveTime value="20120325"/>
                <consumable/>
                <entryRelationship>
                  <supply/>
                </entryRelationship>
                <entryRelationship>
                  <observation/>
                </entryRelationship>
                <entryRelationship>
                  <act/>
                </entryRelationship>
                <entryRelationship>
                  <observation/>
                </entryRelationship>
                <entryRelationship>
                  <supply/>
                </entryRelationship>
              </substanceAdministration>
            </entryRelationship>
          </observation>
        </entryRelationship>
        <entryRelationship>
          <act classCode="ACT" moodCode="INT">
            <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
            <id root="1143088911"/>
            <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
            <text>Text Value</text>
            <statusCode code="completed"/>
            <effectiveTime>
              <low value="2012"/>
              <high value="2012"/>
            </effectiveTime>
          </act>
        </entryRelationship>
        <entryRelationship>
          <observation classCode="OBS" moodCode="EVN">
            <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
            <id root="811052255"/>
            <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
            <text>Text Value</text>
            <statusCode code="completed"/>
            <effectiveTime>
              <low value="2012"/>
              <high value="2012"/>
            </effectiveTime>
          </observation>
        </entryRelationship>
        <entryRelationship>
          <supply classCode="SPLY" moodCode="EVN">
            <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
            <id root="1323313384"/>
            <code code="1577355492"/>
            <text>Text Value</text>
            <effectiveTime value="20120325"/>
            <entryRelationship>
```

```
                <supply classCode="SPLY" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
                  <id root="1627801362"/>
                  <code code="276440276"/>
                  <text>Text Value</text>
                  <effectiveTime value="20120325"/>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                </supply>
              </entryRelationship>
            </supply>
          </entryRelationship>
        </substanceAdministration>
      </entryRelationship>
      <entryRelationship>
        <act classCode="ACT" moodCode="INT">
          <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
          <id root="2072143658"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </act>
      </entryRelationship>
      <entryRelationship>
        <encounter>
          <id root="1268712978"/>
          <code code="484597627"/>
          <text>Text Value</text>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </encounter>
      </entryRelationship>
    </procedure>
  </entry>
  <entry>
    <substanceAdministration classCode="SBADM">
      <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
      <id root="1265660017"/>
      <code code="923836138"/>
      <text>Text Value</text>
      <effectiveTime value="20120325"/>
      <consumable/>
      <entryRelationship>
        <supply classCode="SPLY" moodCode="INT">
          <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
          <id root="1096368038"/>
          <code code="504747167"/>
          <text>Text Value</text>
          <effectiveTime value="20120325"/>
          <entryRelationship>
            <act classCode="ACT" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
              <id root="608324188"/>
              <code codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
              <text>Text Value</text>
```

```
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </act>
          </entryRelationship>
        </supply>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
          <id root="29274259"/>
          <code code="2023046741"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.8"/>
              <id root="307786035"/>
              <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="HL7ActCode" displayName="Severity observation"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </observation>
          </entryRelationship>
          <entryRelationship>
            <procedure classCode="PROC">
              <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
              <id root="1535126804"/>
              <code code="1447546836"/>
              <text>Text Value</text>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
                  <id root="689157038"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <substanceAdministration classCode="SBADM">
                  <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
                  <id root="1092665045"/>
```

```
                  <code code="313272036"/>
                  <text>Text Value</text>
                  <effectiveTime value="20120325"/>
                  <consumable/>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                </substanceAdministration>
              </entryRelationship>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="1253642662"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </act>
              </entryRelationship>
              <entryRelationship>
                <encounter>
                  <id root="36389087"/>
                  <code code="70238525"/>
                  <text>Text Value</text>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </encounter>
              </entryRelationship>
            </procedure>
          </entryRelationship>
          <entryRelationship>
            <substanceAdministration classCode="SBADM">
              <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
              <id root="1937444914"/>
              <code code="1505647300"/>
              <text>Text Value</text>
              <effectiveTime value="20120325"/>
              <consumable/>
              <entryRelationship>
                <supply classCode="SPLY" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
                  <id root="1037767357"/>
                  <code code="357893413"/>
                  <text>Text Value</text>
                  <effectiveTime value="20120325"/>
                  <entryRelationship>
```

```
                    <act/>
                  </entryRelationship>
                </supply>
              </entryRelationship>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
                  <id root="1021812051"/>
                  <code code="1731016214"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <procedure/>
                  </entryRelationship>
                  <entryRelationship>
                    <substanceAdministration/>
                  </entryRelationship>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="925166813"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </act>
              </entryRelationship>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
                  <id root="1815843548"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <supply classCode="SPLY" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
                  <id root="345120813"/>
                  <code code="1394237533"/>
                  <text>Text Value</text>
                  <effectiveTime value="20120325"/>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
```

```
                </supply>
              </entryRelationship>
            </substanceAdministration>
          </entryRelationship>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <act classCode="ACT" moodCode="INT">
          <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
          <id root="1113205500"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </act>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
          <id root="1109380276"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <supply classCode="SPLY" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
          <id root="462832901"/>
          <code code="1961019020"/>
          <text>Text Value</text>
          <effectiveTime value="20120325"/>
          <entryRelationship>
            <supply classCode="SPLY" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
              <id root="1559271045"/>
              <code code="551058252"/>
              <text>Text Value</text>
              <effectiveTime value="20120325"/>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="1728344378"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </act>
              </entryRelationship>
            </supply>
          </entryRelationship>
```

```
        </supply>
      </entryRelationship>
    </substanceAdministration>
  </entry>
</section>
```

Figure 7: Anesthesia Section example

Assessment And Plan Section

Assessment And Plan Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.9`]

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] **`code/@code`**`="51847-2"` *ASSESSMENT AND PLAN* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7706)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:7707)
3. **MAY** contain zero or more [0..*] **`planOfCareActivityAct`** (CONF:8798)
    a. Contains exactly one [1..1] *Plan Of Care Activity Act* (templateId: `2.16.840.1.113883.10.20.22.4.39`)

Assessment And Plan Section

Assessment And Plan Section Table

Assessment And Plan Section Sample

The following XML snippet is a sample for Assessment And Plan Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.9"/>
  <id root="1637225182"/>
  <code code="51847-2" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="ASSESSMENT AND PLAN"/>
  <title/>
  <text/>
  <entry>
    <act classCode="ACT">
      <templateId root="2.16.840.1.113883.10.20.22.4.39"/>
      <id root="1796589492"/>
      <code code="492303026"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
    </act>
  </entry>
</section>
```

Figure 8: Assessment And Plan Section example

Assessment Section

Assessment Section

Assessment Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.8`]

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 zero or one [0..1] **`code/@code`**`="51848-0"` *Assessments* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:10382)
2. **SHALL** contain zero or one [0..1] **`text`** (CONF:7713)

Assessment Section

Assessment Section Table

Assessment Section Sample

The following XML snippet is a sample for Assessment Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.8"/>
  <id root="1251714082"/>
  <code code="51848-0" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Assessments"/>
  <title/>
  <text/>
</section>
```

Figure 9: Assessment Section example

Chief Complaint And Reason For Visit Section

Chief Complaint And Reason For Visit Section

Chief Complaint And Reason For Visit Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.13`]

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] **`code/@code`**`="46239-0"` *Chief Complaint and Reason for Visit* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7841)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:7843)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:7842)

Chief Complaint And Reason For Visit Section

Chief Complaint And Reason For Visit Section Table

Chief Complaint And Reason For Visit Section Sample

The following XML snippet is a sample for Chief Complaint And Reason For Visit Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.13"/>
  <id root="2137414117"/>
  <code code="46239-0" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Chief Complaint and Reason for Visit"/>
  <title/>
  <text/>
</section>
```

Figure 10: Chief Complaint And Reason For Visit Section example

Chief Complaint Section

Chief Complaint Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1`]

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

1. **SHALL** contain exactly one [1..1] **`code/@code`**`="10154-3"` *CHIEF COMPLAINT* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7833)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:7835)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:7834)

Chief Complaint Section

Chief Complaint Section Table

Chief Complaint Section Sample

The following XML snippet is a sample for Chief Complaint Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1"/>
  <id root="381417977"/>
  <code code="10154-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="CHIEF COMPLAINT"/>
  <title/>
  <text/>
</section>
```

Figure 11: Chief Complaint Section example

Complications Section

Complications Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.37`]

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] **`code/@code`**`="55109-3"` *Complications* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:8175)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:8176)

3. **SHALL** contain exactly one [1..1] **`text`** (CONF:8177)
4. **MAY** contain zero or more [0..*] **`problemObservation`** (CONF:8795, CONF:8796)
   a. Contains exactly one [1..1] *Problem Observation* (templateId: `2.16.840.1.113883.10.20.22.4.4`)
5. There **SHALL** be a statement providing details of the complication(s) or it **SHALL** explicitly state there were no complications. (CONF:8797)

Complications Section

Complications Section Table

Complications Section Sample

The following XML snippet is a sample for Complications Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.37"/>
  <id root="213281856"/>
  <code code="55109-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Complications"/>
  <title/>
  <text/>
  <entry>
    <observation moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
      <id root="1581234631"/>
      <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.31"/>
          <id root="182905007"/>
          <code code="445518008" codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT" displayName="Age At Onset"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.5"/>
          <id root="952952833"/>
          <code code="11323-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Health status"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
```

```
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.6"/>
          <id root="1034675009"/>
          <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Status"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
    </observation>
  </entry>
</section>
```

Figure 12: Complications Section example

DICOM Object Catalog Section

DICOM Object Catalog Section

[Section: templateId `2.16.840.1.113883.10.20.6.1.1`]

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 zero or one [0..1] **`code/@code`**`="121181"` *Dicom Object Catalog* (CodeSystem: `1.2.840.10008.2.16.4 DCM`) (CONF:8526)
2. **SHALL** contain zero or one [0..1] **`studyAct`** (CONF:8530, CONF:10501)
   a. Contains exactly one [1..1] *Study Act* (templateId: `2.16.840.1.113883.10.20.6.2.6`)
3. 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)

DICOM Object Catalog Section

DICOM Object Catalog Section Table

DICOM Object Catalog Section Sample

The following XML snippet is a sample for DICOM Object Catalog Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.6.1.1"/>
  <id root="1678082880"/>
  <code code="121181" codeSystem="1.2.840.10008.2.16.4" codeSystemName="DCM"
 displayName="Dicom Object Catalog"/>
  <title/>
  <entry>
    <act classCode="ACT" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.6.2.6"/>
      <id root="2093151967"/>
      <code code="113014" codeSystem="1.2.840.10008.2.16.4"
 codeSystemName="DCM"/>
```

```
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <entryRelationship>
        <act classCode="ACT" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.63"/>
          <id root="1606461577"/>
          <code code="113015" codeSystem="1.2.840.10008.2.16.4"
 codeSystemName="DCM"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <entryRelationship>
            <observation classCode="DGIMG" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.6.2.8"/>
              <id root="1850193165"/>
              <code code="708630158"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.6.2.9"/>
                  <id root="18707746"/>
                  <code code="1913318638"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <observation classCode="ROIBND" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.6.2.10"/>
                  <id root="1507555108"/>
                  <code code="121190" codeSystem="1.2.840.10008.2.16.4"
 codeSystemName="DCM" displayName="Referenced Frames"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                </observation>
              </entryRelationship>
            </observation>
          </entryRelationship>
        </act>
      </entryRelationship>
    </act>
  </entry>
</section>
```

Figure 13: DICOM Object Catalog Section example

Discharge Diet Section

Discharge Diet Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.33`]

This section records a narrative description of the expectations for diet, including proposals, goals, and order requests for monitoring, tracking, or improving the dietary control 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] **`code/@code`**`="42344-2"` *Discharge Diet* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7976)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:7977)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7978)

Discharge Diet Section

Discharge Diet Section Table

Discharge Diet Section Sample

The following XML snippet is a sample for Discharge Diet Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.33"/>
  <id root="430227803"/>
  <code code="42344-2" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Discharge Diet"/>
  <title/>
  <text/>
</section>
```

Figure 14: Discharge Diet Section example

Encounters Section

Encounters Section

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.

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.

Optional Entries

[Section: templateId `2.16.840.1.113883.10.20.22.2.22`]

The following constraints apply to a Encounters Section in which entries are not required.

1. **SHALL** contain exactly one [1..1] **`code/@code`**`="46240-8"` *Encounters* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7941)

2. **SHALL** contain exactly one [1..1] **`title`** (CONF:7942)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7943)
4. **SHOULD** contain zero or more [0..*] **`encounterActivities`** (CONF:7951, CONF:8802)
   a. Contains exactly one [1..1] *Encounter Activities* (templateId: `2.16.840.1.113883.10.20.22.4.49`)

Required Entries

[Section: templateId `2.16.840.1.113883.10.20.22.2.3.1`]

The following constraints apply to a Encounters Section in which entries are required.

1. **SHALL** conform to *Encounters Section Entries Optional* template (templateId: `2.16.840.1.113883.10.20.22.2.22`)
2. **SHALL** contain exactly one [1..1] **`code/@code`**`="46240-8"` *Encounters* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:8706)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:8707)
4. **SHALL** contain exactly one [1..1] **`text`** (CONF:8708)
5. **SHOULD** contain zero or more [0..*] **`encounterActivities`** (CONF:7951, CONF:8802)
   a. Contains exactly one [1..1] *Encounter Activities* (templateId: `2.16.840.1.113883.10.20.22.4.49`)
6. **SHALL** contain at least one [1..*] **`encounterActivities`** (CONF:8709, CONF:8803)
   a. Contains exactly one [1..1] *Encounter Activities* (templateId: `2.16.840.1.113883.10.20.22.4.49`)

Encounters Section Table

Encounters Section Sample

The following XML snippet is a sample for Encounters Section Entries Optional

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.22"/>
  <templateId root="2.16.840.1.113883.10.20.22.2.22.1"/>
  <id root="613168524"/>
  <code code="46240-8" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Encounters"/>
  <title/>
  <text/>
  <entry>
    <encounter classCode="ENC" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.49"/>
      <id root="2098915534"/>
      <code codeSystem="2.16.840.1.113883.6.12" codeSystemName="CPT-4"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
          <id root="11758376"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
```

```
        </observation>
      </entryRelationship>
    </encounter>
  </entry>
</section>
```

Figure 15: Encounters Section Entries Optional example

Family History Section

Family History Section

Family History Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.15`]

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] **`code/@code`**`="10157-6"` *Family History* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7933)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:7934)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7935)
4. **MAY** contain zero or more [0..*] **`familyHistory`** (CONF:7955)
   a. Contains exactly one [1..1] *Family History Organizer* (templateId: `2.16.840.1.113883.10.20.22.4.45`)

Family History Section

Family History Section Table

Family History Section Sample

The following XML snippet is a sample for Family History Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.15"/>
  <id root="1568274541"/>
  <code code="10157-6" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Family History"/>
  <title/>
  <text/>
  <entry>
    <organizer classCode="CLUSTER" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.45"/>
      <id root="1266231331"/>
      <code code="1661321950"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <component>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.46"/>
          <id root="519801496"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <text>Text Value</text>
          <statusCode code="completed"/>
```

```
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.31"/>
              <id root="1208524501"/>
              <code code="445518008" codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT" displayName="Age At Onset"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </observation>
          </entryRelationship>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.47"/>
              <id root="1656906922"/>
              <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"
 codeSystemName="HL7ActCode" displayName="Assertion"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </observation>
          </entryRelationship>
        </observation>
      </component>
    </organizer>
  </entry>
</section>
```

Figure 16: Family History Section example

Findings Section

Findings Section

[Section: templateId `2.16.840.1.113883.10.20.6.1.2`]

1. 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)

Findings Section

Findings Section Table

Findings Section Sample

The following XML snippet is a sample for Findings Section

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

```
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.6.1.2"/>
  <id root="220877945"/>
  <title/>
</section>
```

Figure 17: Findings Section example

Functional Status Section

Functional Status Section

Functional Status Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.14`]

Functional Status 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.

Functional Statuses can be expressed in 3 different forms. They can occur as a Problem, a Result or as text. Text can be employed if and only if the Functional Status is neither a Problem nor a Result. Functional Statuses expressed as Problems include relevant clinical conditions, diagnoses, symptoms and findings. Results are the interpretation or conclusion derived from a clinical assessment or test battery, such as the Instrumental Activities of Daily Living (IADL) scale or the Functional Status Index (FSI).

1. **SHALL** contain exactly one [1..1] **`code/@code`**`="47420-5"` *Functional status assessment* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7921)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:7922)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7923)
4. **MAY** contain zero or more [0..*] **`problemObservation`** (CONF:9080)
   a. Contains exactly one [1..1] *Problem Observation* (templateId: `2.16.840.1.113883.10.20.22.4.4`)
5. **MAY** contain zero or more [0..*] **`resultObservation`** (CONF:9082)
   a. Contains exactly one [1..1] *Result Observation* (templateId: `2.16.840.1.113883.10.20.22.4.2`)

Functional Status Section

Functional Status Section Table

Functional Status Section Sample

The following XML snippet is a sample for Functional Status Section

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

```
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.14"/>
  <id root="1155440902"/>
  <code code="47420-5" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Functional status assessment"/>
  <title/>
  <text/>
  <entry>
    <observation moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
      <id root="1342365926"/>
      <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.31"/>
          <id root="525496918"/>
          <code code="445518008" codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT" displayName="Age At Onset"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.5"/>
          <id root="716360853"/>
          <code code="11323-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Health status"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.6"/>
          <id root="1338734620"/>
          <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Status"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
    </observation>
  </entry>
  <entry>
```

```
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.2"/>
      <id root="2027498093"/>
      <code code="1160810214"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
    </observation>
  </entry>
</section>
```

Figure 18: Functional Status Section example

General Status Section

General Status Section

[Section: templateId `2.16.840.1.113883.10.20.2.5`]

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] **`code/@code`**`="10210-3"` *GENERAL STATUS* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7986)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:7987)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7988)

General Status Section

General Status Section Table

General Status Section Sample

The following XML snippet is a sample for General Status Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.2.5"/>
  <id root="586200667"/>
  <code code="10210-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="GENERAL STATUS"/>
  <title/>
  <text/>
</section>
```

Figure 19: General Status Section example

History Of Past Illness Section

History Of Past Illness Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.20`]

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] **`code/@code`**`="11348-0"` *HISTORY OF PAST ILLNESS* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:7830)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7831)
4. **MAY** contain zero or more [0..*] **`problemObservation`** (CONF:8792)
   a. Contains exactly one [1..1] *Problem Observation* (templateId: `2.16.840.1.113883.10.20.22.4.4`)

History Of Past Illness Section

History Of Past Illness Section Table

History Of Past Illness Section Sample

The following XML snippet is a sample for History Of Past Illness Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.20"/>
  <id root="1347939883"/>
  <code code="11348-0" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="HISTORY OF PAST ILLNESS"/>
  <title/>
  <text/>
  <entry>
    <observation moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
      <id root="1935706445"/>
      <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.31"/>
          <id root="1053110023"/>
          <code code="445518008" codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT" displayName="Age At Onset"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.5"/>
          <id root="489428228"/>
```

```
          <code code="11323-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Health status"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.6"/>
          <id root="1569977162"/>
          <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Status"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
    </observation>
  </entry>
</section>
```

Figure 20: History Of Past Illness Section example

History Of Present Illness Section

History Of Present Illness Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.4`]

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] **`code/@code`**`="10164-2"` *HISTORY OF PRESENT ILLNESS* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7849)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:7850)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7851)

History Of Present Illness Section

History Of Present Illness Section Table

History Of Present Illness Section Sample

The following XML snippet is a sample for History Of Present Illness Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.4"/>
  <id root="1012387339"/>
  <code code="10164-2" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="HISTORY OF PRESENT ILLNESS"/>
  <title/>
  <text/>
```

```
</section>
```

Figure 21: History Of Present Illness Section example

Hospital Admission Diagnosis Section

Hospital Admission Diagnosis Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.43`]

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] **`code/@code`**`="46241-6"` *HOSPITAL ADMISSION DX* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:9932)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:9933)
4. **SHOULD** contain zero or one [0..1] **`hospitalAdmissionDiagnosis`** (CONF:9934, CONF:9935)
   a. Contains exactly one [1..1] *Hospital Admission Diagnosis* (templateId: `2.16.840.1.113883.10.20.22.4.34`)

Hospital Admission Diagnosis Section

Hospital Admission Diagnosis Section Table

Hospital Admission Diagnosis Section Sample

The following XML snippet is a sample for Hospital Admission Diagnosis Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.43"/>
  <id root="608576738"/>
  <code code="46241-6" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="HOSPITAL ADMISSION DX"/>
  <title/>
  <text/>
  <entry>
    <act classCode="ACT" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.34"/>
      <id root="792069670"/>
      <code code="46241-6" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Admission diagnosis"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <entryRelationship>
        <observation moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
          <id root="1612647653"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
```

```
            <high value="2012"/>
          </effectiveTime>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.31"/>
              <id root="1207318237"/>
              <code code="445518008" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT" displayName="Age At Onset"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </observation>
          </entryRelationship>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.5"/>
              <id root="1339179846"/>
              <code code="11323-3" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Health status"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </observation>
          </entryRelationship>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.6"/>
              <id root="718947651"/>
              <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Status"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </observation>
          </entryRelationship>
        </observation>
      </entryRelationship>
    </act>
  </entry>
</section>
```

Figure 22: Hospital Admission Diagnosis Section example

Hospital Consultations Section

Hospital Consultations Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.42`]

The Hospital Consultations section records consultations that occurred during the admission.

1. **SHALL** contain exactly one [1..1] **`code/@code`**`="18841-7"` (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:9916)

2. **SHALL** contain exactly one [1..1] **`text`** (CONF:9918)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:9917)

Hospital Consultations Section

Hospital Consultations Section Table

Hospital Consultations Section Sample

The following XML snippet is a sample for Hospital Consultations Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.42"/>
  <id root="1913643255"/>
  <code code="18841-7" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC"/>
  <title/>
  <text/>
</section>
```

Figure 23: Hospital Consultations Section example

Hospital Course Section

Hospital Course Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.5`]

The Hospital Course section describes the sequence of events from admission to discharge in a hospital facility.

1. **SHALL** contain exactly one [1..1] **`code/@code`**`="8648-8"` *Hospital Course* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7853)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:7854)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7855)

Hospital Course Section

Hospital Course Section Table

Hospital Course Section Sample

The following XML snippet is a sample for Hospital Course Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.5"/>
  <id root="1769279039"/>
  <code code="8648-8" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Hospital Course"/>
  <title/>
  <text/>
</section>
```

Figure 24: Hospital Course Section example

Hospital Discharge Diagnosis Section

Hospital Discharge Diagnosis Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.24`]

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] **`code/@code`**`="11535-2"` *Hospital Discharge Diagnosis* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7980)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:7981)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7982)
4. **SHOULD** contain zero or one [0..1] **`hospitalDischargeDiagnosis`** (CONF:7984)
   a. Contains exactly one [1..1] *Hospital Discharge Diagnosis* (templateId: `2.16.840.1.113883.10.20.22.4.33`)

Hospital Discharge Diagnosis Section

Hospital Discharge Diagnosis Section Table

Hospital Discharge Diagnosis Section Sample

The following XML snippet is a sample for Hospital Discharge Diagnosis Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.24"/>
  <id root="1807443028"/>
  <code code="11535-2" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Hospital Discharge Diagnosis"/>
  <title/>
  <text/>
  <entry>
    <act classCode="ACT" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.33"/>
      <id root="1145058663"/>
      <code code="11535-2" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Hospital Discharge Diagnosis"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <entryRelationship>
        <observation moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
          <id root="1036392552"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
```

```
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.31"/>
              <id root="919295377"/>
              <code code="445518008" codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT" displayName="Age At Onset"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </observation>
          </entryRelationship>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.5"/>
              <id root="63833295"/>
              <code code="11323-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Health status"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </observation>
          </entryRelationship>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.6"/>
              <id root="1406007145"/>
              <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Status"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </observation>
          </entryRelationship>
        </observation>
      </entryRelationship>
    </act>
  </entry>
</section>
```

Figure 25: Hospital Discharge Diagnosis Section example

Hospital Discharge Instructions Section

Hospital Discharge Instructions Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.41`]

The Hospital Discharge Instructions section records instructions at discharge.

1. **SHALL** contain exactly one [1..1] **`code/@code`**`="8653-8"` *Hospital Discharge Instructions* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:9920)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:9922)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:9921)

Hospital Discharge Instructions Section

Hospital Discharge Instructions Section Table

Hospital Discharge Instructions Section Sample

The following XML snippet is a sample for Hospital Discharge Instructions Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.41"/>
  <id root="1175283753"/>
  <code code="8653-8" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Hospital Discharge Instructions"/>
  <title/>
  <text/>
</section>
```

Figure 26: Hospital Discharge Instructions Section example

Hospital Discharge Medications Section

Hospital Discharge Medications Section

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.

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.

Optional Entries

[Section: templateId `2.16.840.1.113883.10.20.22.2.11`]

The following constraints apply to a Hospital Discharge Medications Section in which entries are not required.

1. **SHALL** contain exactly one [1..1] **`code/@code`**`="10183-2"` *HOSPITAL DISCHARGE MEDICATIONS* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7817)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:7818)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7819)
4. **SHOULD** contain zero or more [0..*] **`dischargeMedication`** (CONF:7883)
   a. Contains exactly one [1..1] *Discharge Medication* (templateId: `2.16.840.1.113883.10.20.22.4.35`)

Required Entries

[Section: templateId `2.16.840.1.113883.10.20.22.2.3.1`]

The following constraints apply to a Hospital Discharge Medications Section in which entries are required.

1. **SHALL** conform to *Hospital Discharge Medications Section Entries Optional* template (templateId: `2.16.840.1.113883.10.20.22.2.11`)
2. **SHALL** contain exactly one [1..1] **`code/@code`**`="10183-2"` *HOSPITAL DISCHARGE MEDICATIONS* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7823)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:7824)
4. **SHALL** contain exactly one [1..1] **`text`** (CONF:7825)
5. **SHOULD** contain zero or more [0..*] **`dischargeMedication`** (CONF:7883)
   a. Contains exactly one [1..1] *Discharge Medication* (templateId: `2.16.840.1.113883.10.20.22.4.35`)

6. **SHALL** contain at least one [1..*] **`dischargeMedication`** (CONF:7827)
   a. Contains exactly one [1..1] *Discharge Medication* (templateId: `2.16.840.1.113883.10.20.22.4.35`)

Hospital Discharge Medications Section Table

Hospital Discharge Medications Section Sample

The following XML snippet is a sample for Hospital Discharge Medications Section Entries Optional

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.11"/>
  <templateId root="2.16.840.1.113883.10.20.22.2.11.1"/>
  <id root="1620521945"/>
  <code code="10183-2" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="HOSPITAL DISCHARGE MEDICATIONS"/>
  <title/>
  <text/>
  <entry>
    <act classCode="ACT" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.35"/>
      <id root="1529049520"/>
      <code code="10183-2" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Discharge Medication"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <entryRelationship>
        <substanceAdministration classCode="SBADM">
          <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
          <id root="1878847043"/>
          <code code="617403623"/>
          <text>Text Value</text>
          <effectiveTime value="20120325"/>
          <consumable/>
          <entryRelationship>
            <supply classCode="SPLY" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
              <id root="1555715451"/>
              <code code="1268189470"/>
              <text>Text Value</text>
              <effectiveTime value="20120325"/>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="690801568"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </act>
              </entryRelationship>
            </supply>
          </entryRelationship>
```

```
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
              <id root="58855575"/>
              <code code="1058425276"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.8"/>
                  <id root="701234753"/>
                  <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="HL7ActCode" displayName="Severity observation"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <procedure classCode="PROC">
                  <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
                  <id root="1165953416"/>
                  <code code="71593758"/>
                  <text>Text Value</text>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <substanceAdministration/>
                  </entryRelationship>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                  <entryRelationship>
                    <encounter/>
                  </entryRelationship>
                </procedure>
              </entryRelationship>
              <entryRelationship>
                <substanceAdministration classCode="SBADM">
                  <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
                  <id root="311504375"/>
                  <code code="437927423"/>
                  <text>Text Value</text>
                  <effectiveTime value="20120325"/>
                  <consumable/>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                  <entryRelationship>
                    <observation/>
```

```
                </entryRelationship>
                <entryRelationship>
                  <act/>
                </entryRelationship>
                <entryRelationship>
                  <observation/>
                </entryRelationship>
                <entryRelationship>
                  <supply/>
                </entryRelationship>
              </substanceAdministration>
            </entryRelationship>
          </observation>
        </entryRelationship>
        <entryRelationship>
          <act classCode="ACT" moodCode="INT">
            <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
            <id root="2122921333"/>
            <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
            <text>Text Value</text>
            <statusCode code="completed"/>
            <effectiveTime>
              <low value="2012"/>
              <high value="2012"/>
            </effectiveTime>
          </act>
        </entryRelationship>
        <entryRelationship>
          <observation classCode="OBS" moodCode="EVN">
            <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
            <id root="1474094490"/>
            <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
            <text>Text Value</text>
            <statusCode code="completed"/>
            <effectiveTime>
              <low value="2012"/>
              <high value="2012"/>
            </effectiveTime>
          </observation>
        </entryRelationship>
        <entryRelationship>
          <supply classCode="SPLY" moodCode="EVN">
            <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
            <id root="865182112"/>
            <code code="508841659"/>
            <text>Text Value</text>
            <effectiveTime value="20120325"/>
            <entryRelationship>
              <supply classCode="SPLY" moodCode="INT">
                <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
                <id root="938100513"/>
                <code code="2050339638"/>
                <text>Text Value</text>
                <effectiveTime value="20120325"/>
                <entryRelationship>
                  <act/>
                </entryRelationship>
              </supply>
            </entryRelationship>
          </supply>
        </entryRelationship>
      </substanceAdministration>
```

```
      </entryRelationship>
    </act>
  </entry>
</section>
```

Figure 27: Hospital Discharge Medications Section Entries Optional example

Hospital Discharge Physical Section

Hospital Discharge Physical Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.26`]

The Hospital Discharge Physical section records a narrative description of the patient's physical findings.

1. **SHALL** contain exactly one [1..1] **`code/@code`**`="10184-0"` *Hospital Discharge Physical* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7972)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:7973)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7974)

Hospital Discharge Physical Section

Hospital Discharge Physical Section Table

Hospital Discharge Physical Section Sample

The following XML snippet is a sample for Hospital Discharge Physical Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.26"/>
  <id root="118067402"/>
  <code code="10184-0" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Hospital Discharge Physical"/>
  <title/>
  <text/>
</section>
```

Figure 28: Hospital Discharge Physical Section example

Hospital Discharge Studies Summary Section

Hospital Discharge Studies Summary Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.16`]

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] **`code/@code`**`="11493-4"` *Hospital Discharge Studies Summary* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:7912)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7913)

Hospital Discharge Studies Summary Section

Hospital Discharge Studies Summary Section Table

Hospital Discharge Studies Summary Section Sample

The following XML snippet is a sample for Hospital Discharge Studies Summary Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.16"/>
  <id root="824049873"/>
  <code code="11493-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Hospital Discharge Studies Summary"/>
  <title/>
  <text/>
</section>
```

Figure 29: Hospital Discharge Studies Summary Section example

Immunizations Section

Immunizations Section

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.

Optional Entries

[Section: templateId `2.16.840.1.113883.10.20.22.2.2`]

The following constraints apply to a Immunizations Section in which entries are not required.

1. **SHALL** contain exactly one [1..1] **`code/@code`**`="11369-6"` (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7966)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:7967)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7968)
4. **SHOULD** contain zero or more [0..*] **`immunizationActivity`** (CONF:7969, CONF:7970)
   a. Contains exactly one [1..1] *Immunization Activity* (templateId: `2.16.840.1.113883.10.20.22.4.52`)

Required Entries

[Section: templateId `2.16.840.1.113883.10.20.22.2.3.1`]

The following constraints apply to a Immunizations Section in which entries are required.

1. **SHALL** conform to *Immunizations Section Entries Optional* template (templateId: `2.16.840.1.113883.10.20.22.2.2`)

2. **SHALL** contain exactly one [1..1] **`code/@code`**`="11369-6"` (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:9016)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:9017)
4. **SHALL** contain exactly one [1..1] **`text`** (CONF:9018)
5. **SHOULD** contain zero or more [0..*] **`immunizationActivity`** (CONF:7969, CONF:7970)
   a. Contains exactly one [1..1] *Immunization Activity* (templateId: `2.16.840.1.113883.10.20.22.4.52`)
6. **SHALL** contain at least one [1..*] **`immunization`** (CONF:9019, CONF:9020)
   a. Contains exactly one [1..1] *Immunization Activity* (templateId: `2.16.840.1.113883.10.20.22.4.52`)

Immunizations Section Table

Immunizations Section Sample

The following XML snippet is a sample for Immunizations Section Entries Optional

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.2"/>
  <templateId root="2.16.840.1.113883.10.20.22.2.2.1"/>
  <id root="617951049"/>
  <code code="11369-6" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC"/>
  <title/>
  <text/>
  <entry>
    <substanceAdministration classCode="SBADM" negationInd="false">
      <templateId root="2.16.840.1.113883.10.20.22.4.52"/>
      <id root="641669232"/>
      <code code="345108617"/>
      <text>Text Value</text>
      <effectiveTime value="20120325"/>
      <consumable/>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
          <id root="1507340504"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <act classCode="ACT" moodCode="INT">
          <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
          <id root="816065037"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </act>
```

```
      </entryRelationship>
      <entryRelationship>
        <supply classCode="SPLY" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
          <id root="538499567"/>
          <code code="1159516542"/>
          <text>Text Value</text>
          <effectiveTime value="20120325"/>
          <entryRelationship>
            <supply classCode="SPLY" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
              <id root="271684689"/>
              <code code="1333066419"/>
              <text>Text Value</text>
              <effectiveTime value="20120325"/>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="112781749"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </act>
              </entryRelationship>
            </supply>
          </entryRelationship>
        </supply>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
          <id root="472531837"/>
          <code code="339624521"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.8"/>
              <id root="898899898"/>
              <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="HL7ActCode" displayName="Severity observation"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </observation>
          </entryRelationship>
          <entryRelationship>
            <procedure classCode="PROC">
              <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
              <id root="179953036"/>
              <code code="461099515"/>
              <text>Text Value</text>
```

```
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
                  <id root="476270936"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <substanceAdministration classCode="SBADM">
                  <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
                  <id root="1897875438"/>
                  <code code="274559824"/>
                  <text>Text Value</text>
                  <effectiveTime value="20120325"/>
                  <consumable/>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                </substanceAdministration>
              </entryRelationship>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="2040462394"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </act>
              </entryRelationship>
              <entryRelationship>
                <encounter>
                  <id root="1516003720"/>
                  <code code="1593990770"/>
                  <text>Text Value</text>
```

```
                <effectiveTime>
                  <low value="2012"/>
                  <high value="2012"/>
                </effectiveTime>
              </encounter>
            </entryRelationship>
          </procedure>
        </entryRelationship>
        <entryRelationship>
          <substanceAdministration classCode="SBADM">
            <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
            <id root="1900847854"/>
            <code code="145048324"/>
            <text>Text Value</text>
            <effectiveTime value="20120325"/>
            <consumable/>
            <entryRelationship>
              <supply classCode="SPLY" moodCode="INT">
                <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
                <id root="1971973850"/>
                <code code="1356854979"/>
                <text>Text Value</text>
                <effectiveTime value="20120325"/>
                <entryRelationship>
                  <act/>
                </entryRelationship>
              </supply>
            </entryRelationship>
            <entryRelationship>
              <observation classCode="OBS" moodCode="EVN">
                <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
                <id root="9084557"/>
                <code code="878732632"/>
                <text>Text Value</text>
                <statusCode code="completed"/>
                <effectiveTime>
                  <low value="2012"/>
                  <high value="2012"/>
                </effectiveTime>
                <entryRelationship>
                  <observation/>
                </entryRelationship>
                <entryRelationship>
                  <procedure/>
                </entryRelationship>
                <entryRelationship>
                  <substanceAdministration/>
                </entryRelationship>
              </observation>
            </entryRelationship>
            <entryRelationship>
              <act classCode="ACT" moodCode="INT">
                <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                <id root="734202128"/>
                <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                <text>Text Value</text>
                <statusCode code="completed"/>
                <effectiveTime>
                  <low value="2012"/>
                  <high value="2012"/>
                </effectiveTime>
              </act>
            </entryRelationship>
```

```
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
                  <id root="261880481"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <supply classCode="SPLY" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
                  <id root="1320486120"/>
                  <code code="661099290"/>
                  <text>Text Value</text>
                  <effectiveTime value="20120325"/>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                </supply>
              </entryRelationship>
            </substanceAdministration>
          </entryRelationship>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.53"/>
          <id root="818681086"/>
          <code codeSystem="2.16.840.1.113883.5.8" codeSystemName="ActReason"/
>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <supply classCode="SPLY" moodCode="INT">
          <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
          <id root="1197495096"/>
          <code code="421186358"/>
          <text>Text Value</text>
          <effectiveTime value="20120325"/>
          <entryRelationship>
            <act classCode="ACT" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
              <id root="1638754467"/>
              <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </act>
```

```
          </entryRelationship>
        </supply>
      </entryRelationship>
    </substanceAdministration>
  </entry>
</section>
```

Figure 30: Immunizations Section Entries Optional example

Instructions Section

Instructions Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.45`]

The Instructions section records instructions given to a patient.

1. **SHALL** contain exactly one [1..1] **`code/@code`**`="69730-0"` *Instructions* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:10113)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:10115)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:10114)
4. **SHOULD** contain zero or more [0..*] **`instructions`** (CONF:10116, CONF:10117)
   a. Contains exactly one [1..1] *Instructions* (templateId: `2.16.840.1.113883.10.20.22.4.20`)

Instructions Section

Instructions Section Table

Instructions Section Sample

The following XML snippet is a sample for Instructions Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.45"/>
  <id root="1047817619"/>
  <code code="69730-0" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Instructions"/>
  <title/>
  <text/>
  <entry>
    <act classCode="ACT" moodCode="INT">
      <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
      <id root="902416548"/>
      <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
    </act>
  </entry>
</section>
```

Figure 31: Instructions Section example

Interventions Section

Interventions Section

[Section: templateId `2.16.840.1.113883.10.20.21.2.3`]

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] **`code/@code`**`="62387-6"` (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:8681)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:8683)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:8682)

Interventions Section

Interventions Section Table

Interventions Section Sample

The following XML snippet is a sample for Interventions Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.21.2.3"/>
  <id root="2009805362"/>
  <code code="62387-6" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC"/>
  <title/>
  <text/>
</section>
```

Figure 32: Interventions Section example

Medical Equipment Section

Medical Equipment Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.23`]

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] **`code/@code`**`="46264-8"` *Medical Equipment* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7945)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:7946)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7947)
4. **SHOULD** contain zero or more [0..*] **`nonMedicinalSupplyActivity`** (CONF:7948.CONF:8755)
   a. Contains exactly one [1..1] *Non Medicinal Supply Activity* (templateId: `2.16.840.1.113883.10.20.22.4.50`)

Medical Equipment Section

Medical Equipment Section Table

Medical Equipment Section Sample

The following XML snippet is a sample for Medical Equipment Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.23"/>
  <id root="95201131"/>
  <code code="46264-8" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Medical Equipment"/>
  <title/>
  <text/>
  <entry>
    <supply classCode="SPLY">
      <templateId root="2.16.840.1.113883.10.20.22.4.50"/>
      <id root="1375833476"/>
      <code code="611912055"/>
      <text>Text Value</text>
      <effectiveTime value="20120325"/>
    </supply>
  </entry>
</section>
```

Figure 33: Medical Equipment Section example

Medical History Section

Medical History Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.39`]

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] **`code/@code`**`="11329-0"` (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:8161)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:8163)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:8162)

Medical History Section

Medical History Section Table

Medical History Section Sample

The following XML snippet is a sample for Medical History Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.39"/>
```

```
  <id root="806819642"/>
  <code code="11329-0" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC"/>
  <title/>
  <text/>
</section>
```

Figure 34: Medical History Section example

Medications Administered Section

Medications Administered Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.38`]

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] **`code/@code`**`="29549-3"` *Medications Administered* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:8153)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:8155)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:8154)
4. **MAY** contain zero or more [0..*] **`medicationActivity`** (CONF:8156)
   a. Contains exactly one [1..1] *Medication Activity* (templateId: `2.16.840.1.113883.10.20.22.4.16`)

Medications Administered Section

Medications Administered Section Table

Medications Administered Section Sample

The following XML snippet is a sample for Medications Administered Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.38"/>
  <id root="565018107"/>
  <code code="29549-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Medications Administered"/>
  <title/>
  <text/>
  <entry>
    <substanceAdministration classCode="SBADM">
      <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
      <id root="1151789184"/>
      <code code="1862496974"/>
      <text>Text Value</text>
      <effectiveTime value="20120325"/>
      <consumable/>
      <entryRelationship>
        <supply classCode="SPLY" moodCode="INT">
          <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
          <id root="121952946"/>
          <code code="667916354"/>
          <text>Text Value</text>
          <effectiveTime value="20120325"/>
          <entryRelationship>
            <act classCode="ACT" moodCode="INT">
```

```
              <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
              <id root="860712714"/>
              <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </act>
          </entryRelationship>
        </supply>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
          <id root="1932587553"/>
          <code code="1092415693"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.8"/>
              <id root="1258104936"/>
              <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="HL7ActCode" displayName="Severity observation"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </observation>
          </entryRelationship>
          <entryRelationship>
            <procedure classCode="PROC">
              <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
              <id root="963027427"/>
              <code code="1726966182"/>
              <text>Text Value</text>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
                  <id root="2031894943"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </observation>
```

```
              </entryRelationship>
              <entryRelationship>
                <substanceAdministration classCode="SBADM">
                  <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
                  <id root="1761776829"/>
                  <code code="1645184910"/>
                  <text>Text Value</text>
                  <effectiveTime value="20120325"/>
                  <consumable/>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                </substanceAdministration>
              </entryRelationship>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="411945838"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </act>
              </entryRelationship>
              <entryRelationship>
                <encounter>
                  <id root="1670024050"/>
                  <code code="1228811491"/>
                  <text>Text Value</text>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </encounter>
              </entryRelationship>
            </procedure>
          </entryRelationship>
          <entryRelationship>
            <substanceAdministration classCode="SBADM">
              <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
              <id root="259515446"/>
              <code code="2032828317"/>
              <text>Text Value</text>
              <effectiveTime value="20120325"/>
              <consumable/>
              <entryRelationship>
                <supply classCode="SPLY" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
```

```
                  <id root="773238950"/>
                  <code code="926506833"/>
                  <text>Text Value</text>
                  <effectiveTime value="20120325"/>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                </supply>
              </entryRelationship>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
                  <id root="1580526770"/>
                  <code code="833494886"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <procedure/>
                  </entryRelationship>
                  <entryRelationship>
                    <substanceAdministration/>
                  </entryRelationship>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="1069163189"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </act>
              </entryRelationship>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
                  <id root="382723535"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <supply classCode="SPLY" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
                  <id root="518021258"/>
                  <code code="1031082961"/>
```

```
                  <text>Text Value</text>
                  <effectiveTime value="20120325"/>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                </supply>
              </entryRelationship>
            </substanceAdministration>
          </entryRelationship>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <act classCode="ACT" moodCode="INT">
          <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
          <id root="114928125"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </act>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
          <id root="2004621273"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <supply classCode="SPLY" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
          <id root="4180402"/>
          <code code="1114117375"/>
          <text>Text Value</text>
          <effectiveTime value="20120325"/>
          <entryRelationship>
            <supply classCode="SPLY" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
              <id root="1736568426"/>
              <code code="27586238"/>
              <text>Text Value</text>
              <effectiveTime value="20120325"/>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="678682974"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
```

```
                  </effectiveTime>
                </act>
              </entryRelationship>
            </supply>
          </entryRelationship>
        </supply>
      </entryRelationship>
    </substanceAdministration>
  </entry>
</section>
```

Figure 35: Medications Administered Section example

Medications Section

Medications Section

Medications Section

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.

Optional Entries

[Section: templateId `2.16.840.1.113883.10.20.22.2.1`]

The following constraints apply to a Medications Section in which entries are not required.

1. **SHALL** contain exactly one [1..1] **`code/@code="10160-0"`** *History of medication use* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7792)
2. **SHALL** contain exactly one [1..1] **`title`** = "Medications" (CONF:7793)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7794)
4. **SHOULD** contain zero or more [0..*] **`medicationActivity`** (CONF:7795, CONF:7573)
   a. Contains exactly one [1..1] *Medication Activity* (templateId: `2.16.840.1.113883.10.20.22.4.16`)
5. If medication use is unknown, the appropriate nullFlavor **MAY** be present (see unknown information in Section 1)

Required Entries

[Section: templateId `2.16.840.1.113883.10.20.22.2.3.1`]

The following constraints apply to a Medications Section in which entries are required.

1. **SHALL** conform to *Medications Section Entries Optional* template (templateId: `2.16.840.1.113883.10.20.22.2.1`)
2. **SHALL** contain exactly one [1..1] **`code/@code="10160-0"`** *History of medication use* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7569)
3. **SHALL** contain exactly one [1..1] **`title`** = "Medications" (CONF:7793)
4. **SHALL** contain exactly one [1..1] **`text`** (CONF:7571)
5. **SHOULD** contain zero or more [0..*] **`medicationActivity`** (CONF:7795, CONF:7573)
   a. Contains exactly one [1..1] *Medication Activity* (templateId: `2.16.840.1.113883.10.20.22.4.16`)
6. **SHALL** contain at least one [1..*] **`medication`** (CONF:7572, CONF:7573)
   a. Contains exactly one [1..1] *Medication Activity* (templateId: `2.16.840.1.113883.10.20.22.4.16`)
7. If medication use is unknown, the appropriate nullFlavor **MAY** be present (see unknown information in Section 1)
8. If medication use is unknown, the appropriate nullFlavor **MAY** be present (see unknown information in Section 1)

Medications Section Table

Medications Section Sample

The following XML snippet is a sample for Medications Section Entries Optional

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.1"/>
  <templateId root="2.16.840.1.113883.10.20.22.2.1.1"/>
  <id root="1471950848"/>
  <code code="10160-0" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="History of medication use"/>
  <title>MedicationsMedications</title>
  <text/>
  <entry>
    <substanceAdministration classCode="SBADM">
      <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
      <id root="1590205034"/>
      <code code="2046713367"/>
      <text>Text Value</text>
      <effectiveTime value="20120325"/>
      <consumable/>
      <entryRelationship>
        <supply classCode="SPLY" moodCode="INT">
          <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
          <id root="1329858603"/>
          <code code="1081924990"/>
          <text>Text Value</text>
          <effectiveTime value="20120325"/>
          <entryRelationship>
            <act classCode="ACT" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
              <id root="889229691"/>
              <code codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </act>
          </entryRelationship>
        </supply>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
          <id root="587001457"/>
          <code code="1524531805"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.8"/>
              <id root="477440575"/>
              <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
 codeSystemName="HL7ActCode" displayName="Severity observation"/>
```

```
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </observation>
          </entryRelationship>
          <entryRelationship>
            <procedure classCode="PROC">
              <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
              <id root="774613901"/>
              <code code="751355501"/>
              <text>Text Value</text>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
                  <id root="1643141086"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <substanceAdministration classCode="SBADM">
                  <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
                  <id root="205665512"/>
                  <code code="400664316"/>
                  <text>Text Value</text>
                  <effectiveTime value="20120325"/>
                  <consumable/>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                </substanceAdministration>
              </entryRelationship>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="2020463132"/>
```

```
                <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                <text>Text Value</text>
                <statusCode code="completed"/>
                <effectiveTime>
                  <low value="2012"/>
                  <high value="2012"/>
                </effectiveTime>
              </act>
            </entryRelationship>
            <entryRelationship>
              <encounter>
                <id root="1818190835"/>
                <code code="298449900"/>
                <text>Text Value</text>
                <effectiveTime>
                  <low value="2012"/>
                  <high value="2012"/>
                </effectiveTime>
              </encounter>
            </entryRelationship>
          </procedure>
        </entryRelationship>
        <entryRelationship>
          <substanceAdministration classCode="SBADM">
            <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
            <id root="1227305790"/>
            <code code="1649205820"/>
            <text>Text Value</text>
            <effectiveTime value="20120325"/>
            <consumable/>
            <entryRelationship>
              <supply classCode="SPLY" moodCode="INT">
                <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
                <id root="253574722"/>
                <code code="1093033063"/>
                <text>Text Value</text>
                <effectiveTime value="20120325"/>
                <entryRelationship>
                  <act/>
                </entryRelationship>
              </supply>
            </entryRelationship>
            <entryRelationship>
              <observation classCode="OBS" moodCode="EVN">
                <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
                <id root="234753796"/>
                <code code="930830434"/>
                <text>Text Value</text>
                <statusCode code="completed"/>
                <effectiveTime>
                  <low value="2012"/>
                  <high value="2012"/>
                </effectiveTime>
                <entryRelationship>
                  <observation/>
                </entryRelationship>
                <entryRelationship>
                  <procedure/>
                </entryRelationship>
                <entryRelationship>
                  <substanceAdministration/>
                </entryRelationship>
              </observation>
```

```
              </entryRelationship>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="975240542"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </act>
              </entryRelationship>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
                  <id root="1333073988"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <supply classCode="SPLY" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
                  <id root="1288603373"/>
                  <code code="1774350521"/>
                  <text>Text Value</text>
                  <effectiveTime value="20120325"/>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                </supply>
              </entryRelationship>
            </substanceAdministration>
          </entryRelationship>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <act classCode="ACT" moodCode="INT">
          <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
          <id root="1030923422"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </act>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
          <id root="1545787579"/>
```

```
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <supply classCode="SPLY" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
          <id root="990120305"/>
          <code code="141157178"/>
          <text>Text Value</text>
          <effectiveTime value="20120325"/>
          <entryRelationship>
            <supply classCode="SPLY" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
              <id root="1493970192"/>
              <code code="1732036100"/>
              <text>Text Value</text>
              <effectiveTime value="20120325"/>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="1783132799"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </act>
              </entryRelationship>
            </supply>
          </entryRelationship>
        </supply>
      </entryRelationship>
    </substanceAdministration>
  </entry>
</section>
```

Figure 36: Medications Section Entries Optional example

Objective Section

Objective Section

[Section: templateId `2.16.840.1.113883.10.20.21.2.1`]

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] **`code/@code`**`="61149-1"` *Objective* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7870)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:7872)

3. **SHALL** contain exactly one [1..1] **`title`** (CONF:7871)

Objective Section

Objective Section Table

Objective Section Sample

The following XML snippet is a sample for Objective Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.21.2.1"/>
  <id root="1936978677"/>
  <code code="61149-1" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Objective"/>
  <title/>
  <text/>
</section>
```

Figure 37: Objective Section example

Operative Note Fluid Section

Operative Note Fluid Section

[Section: templateId `2.16.840.1.113883.10.20.7.12`]

The Operative Note Fluids section may be used to record fluids administered during the surgical procedure.

1. **SHALL** contain exactly one [1..1] **`code/@code`**`="10216-0"` *Operative Note Fluids* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:8031)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:8033)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:8032)
4. 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)

Operative Note Fluid Section

Operative Note Fluid Section Table

Operative Note Fluid Section Sample

The following XML snippet is a sample for Operative Note Fluid Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.7.12"/>
  <id root="1989126995"/>
  <code code="10216-0" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Operative Note Fluids"/>
  <title/>
  <text/>
</section>
```

Figure 38: Operative Note Fluid Section example

Operative Note Surgical Procedure Section

Operative Note Surgical Procedure Section

[Section: templateId `2.16.840.1.113883.10.20.7.14`]

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] **`code/@code`**`="10223-6"` *Operative Note Surgical* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:8035)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:8037)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:8036)
4. If the surgical procedure section is present there **SHALL** be text indicating the procedure performed. (CONF:8054)

Operative Note Surgical Procedure Section

Operative Note Surgical Procedure Section Table

Operative Note Surgical Procedure Section Sample

The following XML snippet is a sample for Operative Note Surgical Procedure Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.7.14"/>
  <id root="92122739"/>
  <code code="10223-6" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Operative Note Surgical"/>
  <title/>
  <text/>
</section>
```

Figure 39: Operative Note Surgical Procedure Section example

Payers Section

Payers Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.18`]

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] **`code/@code`**`="48768-6"` *Payers* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7925)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:7926)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7927)
4. **SHOULD** contain zero or more [0..*] **`coverageActivity`** (CONF:7959, CONF:8905)
   a. Contains exactly one [1..1] *Coverage Activity* (templateId: `2.16.840.1.113883.10.20.22.4.60`)

Payers Section

Payers Section Table

Payers Section Sample

The following XML snippet is a sample for Payers Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.18"/>
  <id root="1450106342"/>
  <code code="48768-6" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Payers"/>
  <title/>
  <text/>
  <entry>
    <act classCode="ACT" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.60"/>
      <id root="1890027577"/>
      <code code="48768-6" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Payment Sources"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <entryRelationship>
        <act classCode="ACT" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.61"/>
          <id root="1154817878"/>
          <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <entryRelationship>
            <act>
              <templateId root="2.16.840.1.113883.10.20.1.19"/>
              <id root="1506095268"/>
              <code code="125908313"/>
              <text>Text Value</text>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </act>
          </entryRelationship>
        </act>
      </entryRelationship>
```

```
    </act>
  </entry>
</section>
```

Figure 40: Payers Section example

Physical Exam Section

Physical Exam Section

Physical Exam Section

[Section: templateId `2.16.840.1.113883.10.20.2.10`]

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] **`code/@code`**`="29545-1"` *PHYSICAL EXAMINATION* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7807)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:7808)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7809)

Physical Exam Section

Physical Exam Section Table

Physical Exam Section Sample

The following XML snippet is a sample for Physical Exam Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.2.10"/>
  <id root="399903263"/>
  <code code="29545-1" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="PHYSICAL EXAMINATION"/>
  <title/>
  <text/>
</section>
```

Figure 41: Physical Exam Section example

Plan Of Care Section

Plan Of Care Section

Plan Of Care Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.10`]

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] **`code/@code`**`="18776-5"` *Treatment plan* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7724)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:7725)
3. **MAY** contain zero or one [0..1] **`planOfCareActivityAct`** (CONF:7726.CONF:8804)
   a. Contains exactly one [1..1] *Plan Of Care Activity Act* (templateId: `2.16.840.1.113883.10.20.22.4.39`)
4. **MAY** contain zero or one [0..1] **`planOfCareActivityEncounter`** (CONF:8805, CONF:8806)
   a. Contains exactly one [1..1] *Plan Of Care Activity Encounter* (templateId: `2.16.840.1.113883.10.20.22.4.40`)
5. **MAY** contain zero or one [0..1] **`planOfCareActivityObservation`** (CONF:8808, CONF:8807)
   a. Contains exactly one [1..1] *Plan Of Care Activity Observation* (templateId: `2.16.840.1.113883.10.20.1.25`)
6. **MAY** contain zero or one [0..1] **`planOfCareActivityProcedure`** (CONF:8809, CONF:8810)
   a. Contains exactly one [1..1] *Plan Of Care Activity Procedure* (templateId: `2.16.840.1.113883.10.20.22.4.41`)
7. **MAY** contain zero or one [0..1] **`planOfCareActivitySubstanceAdministration`** (CONF:8811, CONF:8812)
   a. Contains exactly one [1..1] *Plan Of Care Activity Substance Administration* (templateId: `2.16.840.1.113883.10.20.1.25`)
8. **MAY** contain zero or one [0..1] **`planOfCareActivitySupply`** (CONF:8813, CONF:8814)
   a. Contains exactly one [1..1] *Plan Of Care Activity Supply* (templateId: `2.16.840.1.113883.10.20.22.4.43`)

Plan Of Care Section

Plan Of Care Section Table

Plan Of Care Section Sample

The following XML snippet is a sample for Plan Of Care Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.10"/>
  <id root="928775625"/>
  <code code="18776-5" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Treatment plan"/>
  <title/>
  <text/>
  <entry>
    <act classCode="ACT">
      <templateId root="2.16.840.1.113883.10.20.22.4.39"/>
      <id root="978399482"/>
      <code code="985764266"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
    </act>
```

```
  </entry>
  <entry>
    <encounter classCode="ENC">
      <templateId root="2.16.840.1.113883.10.20.22.4.40"/>
      <id root="1763283430"/>
      <code code="1332605924"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
    </encounter>
  </entry>
  <entry>
    <observation classCode="OBS">
      <templateId root="2.16.840.1.113883.10.20.1.25"/>
      <id root="118233406"/>
      <code code="55918899"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
    </observation>
  </entry>
  <entry>
    <procedure classCode="PROC">
      <templateId root="2.16.840.1.113883.10.20.22.4.41"/>
      <id root="1610257348"/>
      <code code="1280341086"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
    </procedure>
  </entry>
  <entry>
    <substanceAdministration classCode="SBADM">
      <templateId root="2.16.840.1.113883.10.20.1.25"/>
      <id root="1698058358"/>
      <code code="1470822396"/>
      <text>Text Value</text>
      <effectiveTime value="20120325"/>
      <consumable/>
    </substanceAdministration>
  </entry>
  <entry>
    <supply classCode="SPLY">
      <templateId root="2.16.840.1.113883.10.20.22.4.43"/>
      <id root="1863178578"/>
      <code code="1370367786"/>
      <text>Text Value</text>
      <effectiveTime value="20120325"/>
    </supply>
  </entry>
</section>
```

Figure 42: Plan Of Care Section example

Planned Procedure Section

Planned Procedure Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.30`]

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] **`code/@code`**`="59772-4"` *Planned Procedure* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:8083)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:8085)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:8084)
4. **MAY** contain zero or more [0..*] **`planOfCareActivityProcedure`** (CONF:8744, CONF:8766)
   a. Contains exactly one [1..1] *Plan Of Care Activity Procedure* (templateId: `2.16.840.1.113883.10.20.22.4.41`)

Planned Procedure Section

Planned Procedure Section Table

Planned Procedure Section Sample

The following XML snippet is a sample for Planned Procedure Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.30"/>
  <id root="1732107939"/>
  <code code="59772-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Planned Procedure"/>
  <title/>
  <text/>
  <entry>
    <procedure classCode="PROC">
      <templateId root="2.16.840.1.113883.10.20.22.4.41"/>
      <id root="1989755073"/>
      <code code="1471172032"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
    </procedure>
  </entry>
</section>
```

Figure 43: Planned Procedure Section example

Postoperative Diagnosis Section

Postoperative Diagnosis Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.35`]

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] **`code/@code`**`="10218-6"` *Postoperative Diagnosis* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:8102)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:8104)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:8103)

Postoperative Diagnosis Section

Postoperative Diagnosis Section Table

Postoperative Diagnosis Section Sample

The following XML snippet is a sample for Postoperative Diagnosis Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.35"/>
  <id root="642384740"/>
  <code code="10218-6" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Postoperative Diagnosis"/>
  <title/>
  <text/>
</section>
```

Figure 44: Postoperative Diagnosis Section example

Postprocedure Diagnosis Section

Postprocedure Diagnosis Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.36`]

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 zero or one [0..1] **`code/@code`**`="59769-0"` *Postprocedure Diagnosis* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:8169)
2. **SHALL** contain zero or one [0..1] **`text`** (CONF:8171)
3. **SHALL** contain zero or one [0..1] **`title`** (CONF:8170)
4. **SHOULD** contain zero or one [0..1] **`postprocedureDiagnosis`** (CONF:8762, CONF:8764)
   a. Contains exactly one [1..1] *Postprocedure Diagnosis* (templateId: `2.16.840.1.113883.10.20.22.4.51`)

Postprocedure Diagnosis Section

Postprocedure Diagnosis Section Table

Postprocedure Diagnosis Section Sample

The following XML snippet is a sample for Postprocedure Diagnosis Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.36"/>
  <id root="795896729"/>
  <code code="59769-0" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Postprocedure Diagnosis"/>
```

```
 <title/>
 <text/>
 <entry>
   <act classCode="ACT" moodCode="EVN">
     <templateId root="2.16.840.1.113883.10.20.22.4.51"/>
     <id root="663808306"/>
     <code code="59769-0" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Postprocedure Diagnosis"/>
     <text>Text Value</text>
     <effectiveTime>
       <low value="2012"/>
       <high value="2012"/>
     </effectiveTime>
     <entryRelationship>
       <observation moodCode="EVN">
         <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
         <id root="2038560748"/>
         <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
         <text>Text Value</text>
         <statusCode code="completed"/>
         <effectiveTime>
           <low value="2012"/>
           <high value="2012"/>
         </effectiveTime>
         <entryRelationship>
           <observation classCode="OBS" moodCode="EVN">
             <templateId root="2.16.840.1.113883.10.20.22.4.31"/>
             <id root="207598740"/>
             <code code="445518008" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT" displayName="Age At Onset"/>
             <text>Text Value</text>
             <statusCode code="completed"/>
             <effectiveTime>
               <low value="2012"/>
               <high value="2012"/>
             </effectiveTime>
           </observation>
         </entryRelationship>
         <entryRelationship>
           <observation classCode="OBS" moodCode="EVN">
             <templateId root="2.16.840.1.113883.10.20.22.4.5"/>
             <id root="2104803446"/>
             <code code="11323-3" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Health status"/>
             <text>Text Value</text>
             <statusCode code="completed"/>
             <effectiveTime>
               <low value="2012"/>
               <high value="2012"/>
             </effectiveTime>
           </observation>
         </entryRelationship>
         <entryRelationship>
           <observation classCode="OBS" moodCode="EVN">
             <templateId root="2.16.840.1.113883.10.20.22.4.6"/>
             <id root="949334967"/>
             <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Status"/>
             <text>Text Value</text>
             <statusCode code="completed"/>
             <effectiveTime>
               <low value="2012"/>
               <high value="2012"/>
```

```
            </effectiveTime>
          </observation>
        </entryRelationship>
      </observation>
    </entryRelationship>
  </act>
 </entry>
</section>
```

Figure 45: Postprocedure Diagnosis Section example

Preoperative Diagnosis Section

Preoperative Diagnosis Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.34`]

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] **`code/@code`**`="10219-4"` *Preoperative Diagnosis* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:8098)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:8100)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:8099)
4. **SHOULD** contain zero or one [0..1] **`preoperativeDiagnosis`** (CONF:10096, CONF:10097)
   a. Contains exactly one [1..1] *Preoperative Diagnosis* (templateId: `2.16.840.1.113883.10.20.22.4.65`)

Preoperative Diagnosis Section

Preoperative Diagnosis Section Table

Preoperative Diagnosis Section Sample

The following XML snippet is a sample for Preoperative Diagnosis Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.34"/>
  <id root="1019920241"/>
  <code code="10219-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Preoperative Diagnosis"/>
  <title/>
  <text/>
  <entry>
    <act classCode="ACT" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.65"/>
      <id root="98478918"/>
      <code code="10219-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <entryRelationship>
        <observation moodCode="EVN">
```

```
          <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
          <id root="228353836"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.31"/>
              <id root="1628880871"/>
              <code code="445518008" codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT" displayName="Age At Onset"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </observation>
          </entryRelationship>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.5"/>
              <id root="1131935245"/>
              <code code="11323-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Health status"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </observation>
          </entryRelationship>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.6"/>
              <id root="1981502976"/>
              <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Status"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </observation>
          </entryRelationship>
        </observation>
      </entryRelationship>
    </act>
  </entry>
</section>
```

Figure 46: Preoperative Diagnosis Section example

Problem Section

Problem Section

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.

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.

Optional Entries

[Section: templateId `2.16.840.1.113883.10.20.22.2.5`]

The following constraints apply to a Problem Section in which entries are not required.

1. **SHALL** contain exactly one [1..1] **`code/@code`**`="11450-4"` *Problem List* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7878)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:7879)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7880)
4. **SHOULD** contain zero or more [0..*] **`problemConcern`** (CONF:7882)
   a. Contains exactly one [1..1] *Problem Concern Act* (templateId: `2.16.840.1.113883.10.20.22.4.3`)

Required Entries

[Section: templateId `2.16.840.1.113883.10.20.22.2.3.1`]

The following constraints apply to a Problem Section in which entries are required.

1. **SHALL** conform to *Problem Section Entries Optional* template (templateId: `2.16.840.1.113883.10.20.22.2.5`)
2. **SHALL** contain exactly one [1..1] **`code/@code`**`="11450-4"` *Problem List* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:9180)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:9181)
4. **SHALL** contain exactly one [1..1] **`text`** (CONF:9182)
5. **SHOULD** contain zero or more [0..*] **`problemConcern`** (CONF:7882)
   a. Contains exactly one [1..1] *Problem Concern Act* (templateId: `2.16.840.1.113883.10.20.22.4.3`)
6. **SHALL** contain at least one [1..*] **`problemConcern`** (CONF:9183)
   a. Contains exactly one [1..1] *Problem Concern Act* (templateId: `2.16.840.1.113883.10.20.22.4.3`)

Problem Section Table

Problem Section Sample

The following XML snippet is a sample for Problem Section Entries Optional

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.5"/>
  <templateId root="2.16.840.1.113883.10.20.22.2.5.1"/>
  <id root="1868626414"/>
  <code code="11450-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Problem List"/>
  <title/>
  <text/>
  <entry>
    <act classCode="ACT" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.3"/>
      <id root="1260156158"/>
      <code code="CONC" codeSystem="2.16.840.1.113883.5.6"
 codeSystemName="HL7ActClass" displayName="Concern"/>
      <text>Text Value</text>
```

```
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <entryRelationship>
        <observation moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
          <id root="462755578"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.31"/>
              <id root="1014135810"/>
              <code code="445518008" codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT" displayName="Age At Onset"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </observation>
          </entryRelationship>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.5"/>
              <id root="2016206360"/>
              <code code="11323-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Health status"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </observation>
          </entryRelationship>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.6"/>
              <id root="152481043"/>
              <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Status"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </observation>
          </entryRelationship>
        </observation>
      </entryRelationship>
    </act>
  </entry>
```

```
</section>
```

Figure 47: Problem Section Entries Optional example

Procedure Description Section

Procedure Description Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.27`]

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] **`code/@code`**`="29554-3"` *Procedure Description* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:8063)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:8065)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:8064)

Procedure Description Section

Procedure Description Section Table

Procedure Description Section Sample

The following XML snippet is a sample for Procedure Description Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.27"/>
  <id root="1760879304"/>
  <code code="29554-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Procedure Description"/>
  <title/>
  <text/>
</section>
```

Figure 48: Procedure Description Section example

Procedure Disposition Section

Procedure Disposition Section

[Section: templateId `2.16.840.1.113883.10.20.18.2.12`]

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 patent was transferred to for the next level of care.

1. **SHALL** contain exactly one [1..1] **`code/@code`**`="59775-7"` *Procedure Disposition* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:8071)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:8073)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:8072)

Procedure Disposition Section

Procedure Disposition Section Table

Procedure Disposition Section Sample

The following XML snippet is a sample for Procedure Disposition Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.18.2.12"/>
  <id root="322482465"/>
  <code code="59775-7" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Procedure Disposition"/>
  <title/>
  <text/>
</section>
```

Figure 49: Procedure Disposition Section example

Procedure Estimated Blood Loss Section

Procedure Estimated Blood Loss Section

[Section: templateId `2.16.840.1.113883.10.20.18.2.9`]

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] **`code/@code`**`="59770-8"` *Procedure Estimated Blood Loss* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:8075)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:8077)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:8076)
4. 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)

Procedure Estimated Blood Loss Section

Procedure Estimated Blood Loss Section Table

Procedure Estimated Blood Loss Section Sample

The following XML snippet is a sample for Procedure Estimated Blood Loss Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.18.2.9"/>
  <id root="1848846314"/>
  <code code="59770-8" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Procedure Estimated Blood Loss"/>
  <title/>
  <text/>
</section>
```

Figure 50: Procedure Estimated Blood Loss Section example

Procedure Findings Section

Procedure Findings Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.28`]

The Procedure Findings section records clinically significant observations confirmed or discovered during the procedure or surgery.

1. **SHALL** contain exactly one [1..1] **`code/@code`**`="59776-5"` *Procedure Findings* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:8079)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:8081)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:8080)
4. **MAY** contain zero or more [0..*] **`problemObservation`** (CONF:8090, CONF:8091)
   a. Contains exactly one [1..1] *Problem Observation* (templateId: `2.16.840.1.113883.10.20.22.4.4`)

Procedure Findings Section

Procedure Findings Section Table

Procedure Findings Section Sample

The following XML snippet is a sample for Procedure Findings Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.28"/>
  <id root="671575937"/>
  <code code="59776-5" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Procedure Findings"/>
  <title/>
  <text/>
  <entry>
    <observation moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
      <id root="1999364607"/>
      <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.31"/>
          <id root="1559226068"/>
          <code code="445518008" codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT" displayName="Age At Onset"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
```

```
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.5"/>
          <id root="942840838"/>
          <code code="11323-3" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Health status"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.6"/>
          <id root="1013869432"/>
          <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Status"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
    </observation>
  </entry>
</section>
```

Figure 51: Procedure Findings Section example

Procedure Implants Section

Procedure Implants Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.40`]

The Procedure Implants section records any materials placed during the procedure including stents, tubes, and drains.

1. **SHALL** contain exactly one [1..1] **`code/@code`**`="59771-6"` *Procedure Implants* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:8179)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:8181)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:8180)
4. The Implants section **SHALL** include a statement providing details of the implants placed, or assert no implants were placed (CONF:8769)

Procedure Implants Section

Procedure Implants Section Table

Procedure Implants Section Sample

The following XML snippet is a sample for Procedure Implants Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.40"/>
```

```
  <id root="1664264950"/>
  <code code="59771-6" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Procedure Implants"/>
  <title/>
  <text/>
</section>
```

Figure 52: Procedure Implants Section example

Procedure Indications Section

Procedure Indications Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.29`]

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] **`code/@code`**`="59768-2"` *Procedure Indications* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:8059)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:8061)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:8060)
4. **MAY** contain zero or more [0..*] **`indication`** (CONF:8743, CONF:8765)
   a. Contains exactly one [1..1] *Indication* (templateId: `2.16.840.1.113883.10.20.22.4.19`)

Procedure Indications Section

Procedure Indications Section Table

Procedure Indications Section Sample

The following XML snippet is a sample for Procedure Indications Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.29"/>
  <id root="478909459"/>
  <code code="59768-2" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Procedure Indications"/>
  <title/>
  <text/>
  <entry>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
      <id root="83140758"/>
      <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
    </observation>
  </entry>
</section>
```

Figure 53: Procedure Indications Section example

Procedure Specimens Taken Section

Procedure Specimens Taken Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.31`]

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] **`code/@code`**`="59773-2"` *Procedure Specimens Taken* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:8087)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:8089)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:8088)
4. The Procedure Specimens Taken section **SHALL** list all specimens removed or **SHALL** explicitly state that no specimens were taken. (CONF:8742)

Procedure Specimens Taken Section

Procedure Specimens Taken Section Table

Procedure Specimens Taken Section Sample

The following XML snippet is a sample for Procedure Specimens Taken Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.31"/>
  <id root="1000278532"/>
  <code code="59773-2" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Procedure Specimens Taken"/>
  <title/>
  <text/>
</section>
```

Figure 54: Procedure Specimens Taken Section example

Procedures Section

Procedures Section

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 the alter that 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.

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 the alter that 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.

Optional Entries

[Section: templateId `2.16.840.1.113883.10.20.22.2.7`]

The following constraints apply to a Procedures Section in which entries are not required.

1. **SHALL** contain exactly one [1..1] **`code/@code`**`="47519-4"` *History of procedures* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:6272)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:6273)
3. **MAY** contain zero or more [0..*] **`procedureActivityProcedure`** (CONF:6277, CONF:8534)
   a. Contains exactly one [1..1] *Procedure Activity Procedure* (templateId: `2.16.840.1.113883.10.20.22.4.14`)
4. **MAY** contain zero or more [0..*] **`procedureAcivityObservation`** (CONF:6279)
   a. Contains exactly one [1..1] *Procedure Activity Observation* (templateId: `2.16.840.1.113883.10.20.22.4.13`)
5. **MAY** contain zero or more [0..*] **`procedureActivityAct`** (CONF:8534)
   a. Contains exactly one [1..1] *Procedure Activity Act* (templateId: `2.16.840.1.113883.10.20.22.4.12`)

Required Entries

[Section: templateId `2.16.840.1.113883.10.20.22.2.3.1`]

The following constraints apply to a Procedures Section in which entries are required.

1. **SHALL** conform to *Procedures Section Entries Optional* template (templateId: `2.16.840.1.113883.10.20.22.2.7`)
2. **SHALL** contain exactly one [1..1] **`code/@code`**`="47519-4"` *History of procedures* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7892)
3. **SHALL** contain exactly one [1..1] **`title`** = "Procedures" (CONF:7893)
4. **SHALL** contain exactly one [1..1] **`text`** (CONF:7894)
5. **MAY** contain zero or more [0..*] **`procedureActivityProcedure`** (CONF:6277, CONF:8534)
   a. Contains exactly one [1..1] *Procedure Activity Procedure* (templateId: `2.16.840.1.113883.10.20.22.4.14`)
6. **MAY** contain zero or more [0..*] **`procedureAcivityObservation`** (CONF:6279)
   a. Contains exactly one [1..1] *Procedure Activity Observation* (templateId: `2.16.840.1.113883.10.20.22.4.13`)
7. **MAY** contain zero or more [0..*] **`procedureActivityAct`** (CONF:8534)
   a. Contains exactly one [1..1] *Procedure Activity Act* (templateId: `2.16.840.1.113883.10.20.22.4.12`)
8. 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)

Procedures Section Table

Procedures Section Sample

The following XML snippet is a sample for Procedures Section Entries Optional

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

```
  <templateId root="2.16.840.1.113883.10.20.22.2.7"/>
  <templateId root="2.16.840.1.113883.10.20.22.2.7.1"/>
  <id root="69071351"/>
  <code code="47519-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="History of procedures"/>
  <title>Procedures</title>
  <text/>
</section>
```

Figure 55: Procedures Section Entries Optional example

Reason For Referral Section

Reason For Referral Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.1`]

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] **`code/@code`**`="42349-1"` *REASON FOR REFERRAL* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7845)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:7846)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7847)

Reason For Referral Section

Reason For Referral Section Table

Reason For Referral Section Sample

The following XML snippet is a sample for Reason For Referral Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.1"/>
  <id root="595909852"/>
  <code code="42349-1" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="REASON FOR REFERRAL"/>
  <title/>
  <text/>
</section>
```

Figure 56: Reason For Referral Section example

Reason For Visit Section

Reason For Visit Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.12`]

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] **`code/@code`**`="29299-5"` *Reason for Visit* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7837)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:7839)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:7838)

Reason For Visit Section

Reason For Visit Section Table

Reason For Visit Section Sample

The following XML snippet is a sample for Reason For Visit Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.12"/>
  <id root="2043843328"/>
  <code code="29299-5" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Reason for Visit"/>
  <title/>
  <text/>
</section>
```

Figure 57: Reason For Visit Section example

Results Section

Results Section

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.

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.

Optional Entries

[Section: templateId `2.16.840.1.113883.10.20.22.2.3`]

The following constraints apply to a Results Section in which entries are not required.

1. **SHALL** contain exactly one [1..1] **`code/@code`**`="30954-2"` *Relevant diagnostic tests and/or laboratory data* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7117)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:8891)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7118)
4. **SHOULD** contain zero or more [0..*] **`resultOrganizer`** (CONF:7119, CONF:7120)
   a. Contains exactly one [1..1] *Result Organizer* (templateId: `2.16.840.1.113883.10.20.22.4.1`)

Required Entries

[Section: templateId `2.16.840.1.113883.10.20.22.2.3.1`]

The following constraints apply to a Results Section in which entries are required.

1. **SHALL** conform to *Results Section Entries Optional* template (templateId: `2.16.840.1.113883.10.20.22.2.3`)
2. **SHALL** contain exactly one [1..1] **`code/@code`**`="30954-2"` *Relevant diagnostic tests and/or laboratory data* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7110)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:8892)
4. **SHALL** contain exactly one [1..1] **`text`** (CONF:7111)
5. **SHOULD** contain zero or more [0..*] **`resultOrganizer`** (CONF:7119, CONF:7120)
   a. Contains exactly one [1..1] *Result Organizer* (templateId: `2.16.840.1.113883.10.20.22.4.1`)
6. **SHALL** contain at least one [1..*] **`resultOrganizer`** (CONF:7112, CONF:7113)
   a. Contains exactly one [1..1] *Result Organizer* (templateId: `2.16.840.1.113883.10.20.22.4.1`)

Results Section Table

Results Section Sample

The following XML snippet is a sample for Results Section Entries Optional

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.3"/>
  <templateId root="2.16.840.1.113883.10.20.22.2.3.1"/>
  <id root="1175849783"/>
  <code code="30954-2" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Relevant diagnostic tests and/or
 laboratory data"/>
  <title/>
  <text/>
  <entry>
    <organizer moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.1"/>
      <id root="24464891"/>
      <code code="188301963"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <component>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.2"/>
          <id root="432569185"/>
          <code code="691898627"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
```

```
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </component>
    </organizer>
  </entry>
</section>
```

Figure 58: Results Section Entries Optional example

Review Of Systems Section

Review Of Systems Section

[Section: templateId `1.3.6.1.4.1.19376.1.5.3.1.3.18`]

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] **`code/@code`**`="10187-3"` *REVIEW OF SYSTEMS* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7813)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:7814)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7815)

Review Of Systems Section

Review Of Systems Section Table

Review Of Systems Section Sample

The following XML snippet is a sample for Review Of Systems Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.18"/>
  <id root="1682687792"/>
  <code code="10187-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="REVIEW OF SYSTEMS"/>
  <title/>
  <text/>
</section>
```

Figure 59: Review Of Systems Section example

Social History Section

Social History Section

[Section: templateId `2.16.840.1.113883.10.20.22.2.17`]

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] **`code/@code`**`="29762-2"` *Social history* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7937)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:7938)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7939)
4. **MAY** contain zero or more [0..*] **`socialHistoryObservation`** (CONF:7953)
   a. Contains exactly one [1..1] *Social History Observation* (templateId: `2.16.840.1.113883.10.20.22.4.38`)
5. **MAY** contain zero or more [0..*] **`pregnancyObservation`** (CONF:9132)
   a. Contains exactly one [1..1] *Pregnancy Observation* (templateId: `2.16.840.1.113883.10.20.15.3.8`)

Social History Section

Social History Section Table

Social History Section Sample

The following XML snippet is a sample for Social History Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.17"/>
  <id root="543990269"/>
  <code code="29762-2" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Social history"/>
  <title/>
  <text/>
  <entry>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.38"/>
      <id root="161391262"/>
      <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
    </observation>
  </entry>
  <entry>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.15.3.8"/>
      <id root="982018407"/>
      <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"
 codeSystemName="HL7ActCode" displayName="Assertion"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.15.3.1"/>
          <id root="924225214"/>
          <code code="11778-8" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
```

```
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
    </observation>
  </entry>
</section>
```

Figure 60: Social History Section example

Subjective Section

Subjective Section

Subjective Section

[Section: templateId `2.16.840.1.113883.10.20.21.2.2`]

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] **`code/@code`**`="61150-9"` *Subjective* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7874)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:7876)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:7875)
   - 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.

Subjective Section

Subjective Section Table

Subjective Section Sample

The following XML snippet is a sample for Subjective Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.21.2.2"/>
  <id root="433331010"/>
  <code code="61150-9" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Subjective"/>
  <title/>
  <text/>
</section>
```

Figure 61: Subjective Section example

Surgical Drains Section

Surgical Drains Section

Surgical Drains Section

[Section: templateId `2.16.840.1.113883.10.20.7.13`]

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] **`code/@code`**`="11537-8"` *Surgical Drains* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:8039)
2. **SHALL** contain exactly one [1..1] **`text`** (CONF:8041)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:8040)
4. 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)

Surgical Drains Section

Surgical Drains Section Table

Surgical Drains Section Sample

The following XML snippet is a sample for Surgical Drains Section

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.7.13"/>
  <id root="53879781"/>
  <code code="11537-8" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Surgical Drains"/>
  <title/>
  <text/>
</section>
```

Figure 62: Surgical Drains Section example

Vital Signs Section

Vital Signs Section

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.

Optional Entries

[Section: templateId `2.16.840.1.113883.10.20.22.2.4`]

The following constraints apply to a Vital Signs Section in which entries are not required.

1. **SHALL** contain exactly one [1..1] **`code/@code`**`="8716-3"` (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7269)
2. **SHALL** contain exactly one [1..1] **`title`** (CONF:9966)
3. **SHALL** contain exactly one [1..1] **`text`** (CONF:7270)
4. **SHOULD** contain zero or more [0..*] **`vitalSignsOrganizer`** (CONF:7271, CONF:7272)
   a. Contains exactly one [1..1] *Vital Signs Organizer* (templateId: `2.16.840.1.113883.10.20.22.4.26`)

Required Entries

[Section: templateId `2.16.840.1.113883.10.20.22.2.3.1`]

The following constraints apply to a Vital Signs Section in which entries are required.

1. **SHALL** conform to *Vital Signs Section Entries Optional* template (templateId: `2.16.840.1.113883.10.20.22.2.4`)
2. **SHALL** contain exactly one [1..1] **`code/@code`**`="8716-3"` (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7274)
3. **SHALL** contain exactly one [1..1] **`title`** (CONF:9967)
4. **SHALL** contain exactly one [1..1] **`text`** (CONF:7275)
5. **SHOULD** contain zero or more [0..*] **`vitalSignsOrganizer`** (CONF:7271, CONF:7272)
   a. Contains exactly one [1..1] *Vital Signs Organizer* (templateId: `2.16.840.1.113883.10.20.22.4.26`)
6. **SHALL** contain at least one [1..*] **`vitalSignsOrganizer`** (CONF:7276, CONF:7277)
   a. Contains exactly one [1..1] *Vital Signs Organizer* (templateId: `2.16.840.1.113883.10.20.22.4.26`)

Vital Signs Section Table

Vital Signs Section Sample

The following XML snippet is a sample for Vital Signs Section Entries Optional

```
<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.22.2.4"/>
  <templateId root="2.16.840.1.113883.10.20.22.2.4.1"/>
  <id root="581904512"/>
  <code code="8716-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC"/>
  <title/>
  <text/>
  <entry>
    <organizer classCode="CLUSTER" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.26"/>
      <id root="1153181652"/>
      <code code="46680005" codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT" displayName="Vital signs"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <component>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.27"/>
          <id root="555486569"/>
          <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </component>
    </organizer>
  </entry>
</section>
```

Figure 63: Vital Signs Section Entries Optional example

ENTRY-LEVEL TEMPLATES

Admission Medication

[Act: templateId `2.16.840.1.113883.10.20.22.4.36`]

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="ACT"` *Act* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:7698)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:7699)
3. **SHALL** contain exactly one [1..1] **`code/@code`**`="42346-7"` (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7700)
4. **SHALL** contain exactly one [1..1] **`medicationActivity`** (CONF:7701, CONF:7702, CONF:7703)
   a. Contains **`@typeCode="`**`SUBJ"` *SUBJ*
   b. Contains exactly one [1..1] *Medication Activity* (templateId: `2.16.840.1.113883.10.20.22.4.16`)

Admission Medication example

```
<?xml version="1.0" encoding="UTF-8"?>
<act xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd" classCode="ACT"
 moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.36"/>
  <id root="1096037272"/>
  <code code="42346-7" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <entryRelationship>
    <substanceAdministration classCode="SBADM">
      <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
      <id root="2114859221"/>
      <code code="1965665251"/>
      <effectiveTime value="20120325"/>
      <consumable/>
      <entryRelationship>
        <supply classCode="SPLY" moodCode="INT">
          <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
          <id root="849333914"/>
          <code code="1298328627"/>
          <effectiveTime value="20120325"/>
          <entryRelationship>
            <act classCode="ACT" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
              <id root="2140811210"/>
              <code codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </act>
          </entryRelationship>
        </supply>
```

```
     </entryRelationship>
     <entryRelationship>
       <observation classCode="OBS" moodCode="EVN">
         <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
         <id root="1085348622"/>
         <code code="1543985511"/>
         <statusCode code="completed"/>
         <effectiveTime>
           <low value="2012"/>
           <high value="2012"/>
         </effectiveTime>
         <entryRelationship>
           <observation classCode="OBS" moodCode="EVN">
             <templateId root="2.16.840.1.113883.10.20.22.4.8"/>
             <id root="269732070"/>
             <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="HL7ActCode" displayName="Severity observation"/>
             <statusCode code="completed"/>
             <effectiveTime>
               <low value="2012"/>
               <high value="2012"/>
             </effectiveTime>
           </observation>
         </entryRelationship>
         <entryRelationship>
           <procedure classCode="PROC">
             <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
             <id root="1960637256"/>
             <code code="2133494103"/>
             <effectiveTime>
               <low value="2012"/>
               <high value="2012"/>
             </effectiveTime>
             <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
             <entryRelationship>
               <observation classCode="OBS" moodCode="EVN">
                 <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
                 <id root="1654147059"/>
                 <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                 <statusCode code="completed"/>
                 <effectiveTime>
                   <low value="2012"/>
                   <high value="2012"/>
                 </effectiveTime>
               </observation>
             </entryRelationship>
             <entryRelationship>
               <substanceAdministration classCode="SBADM">
                 <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
                 <id root="853572730"/>
                 <code code="9569472"/>
                 <effectiveTime value="20120325"/>
                 <consumable/>
                 <entryRelationship>
                   <supply/>
                 </entryRelationship>
                 <entryRelationship>
                   <observation/>
                 </entryRelationship>
                 <entryRelationship>
                   <act/>
                 </entryRelationship>
```

```
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                </substanceAdministration>
              </entryRelationship>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="1232445506"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </act>
              </entryRelationship>
              <entryRelationship>
                <encounter>
                  <id root="764861011"/>
                  <code code="1235213836"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </encounter>
              </entryRelationship>
            </procedure>
          </entryRelationship>
          <entryRelationship>
            <substanceAdministration classCode="SBADM">
              <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
              <id root="1128728056"/>
              <code code="1261240478"/>
              <effectiveTime value="20120325"/>
              <consumable/>
              <entryRelationship>
                <supply classCode="SPLY" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
                  <id root="1069899224"/>
                  <code code="1079097952"/>
                  <effectiveTime value="20120325"/>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                </supply>
              </entryRelationship>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
                  <id root="1794924641"/>
                  <code code="488258366"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
```

```
                  <entryRelationship>
                    <procedure/>
                  </entryRelationship>
                  <entryRelationship>
                    <substanceAdministration/>
                  </entryRelationship>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="1491512645"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </act>
              </entryRelationship>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
                  <id root="1935662828"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <supply classCode="SPLY" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
                  <id root="1042892946"/>
                  <code code="244949922"/>
                  <effectiveTime value="20120325"/>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                </supply>
              </entryRelationship>
            </substanceAdministration>
          </entryRelationship>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <act classCode="ACT" moodCode="INT">
          <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
          <id root="978922816"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </act>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
```

```
          <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
          <id root="1916203430"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <supply classCode="SPLY" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
          <id root="75890909"/>
          <code code="1441738003"/>
          <effectiveTime value="20120325"/>
          <entryRelationship>
            <supply classCode="SPLY" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
              <id root="861205814"/>
              <code code="2025539526"/>
              <effectiveTime value="20120325"/>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="1427512151"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </act>
              </entryRelationship>
            </supply>
          </entryRelationship>
        </supply>
      </entryRelationship>
    </substanceAdministration>
  </entryRelationship>
</act>
```

Advance Directive Observation

[Observation: templateId `2.16.840.1.113883.10.20.22.4.48`]

Advance Directives Observatations 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.

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="OBS"` *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:8648)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:8649)
3. **SHALL** contain at least one [1..*] **`id`** (CONF:8654)
4. **SHALL** contain exactly one [1..1] **`code`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.1.11.20.2` *`Advance Directive Type Code`* **STATIC** 1 (CONF:8651)
5. **SHALL** contain exactly one [1..1] **`statusCode/@code`**`="completed"` (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:8652)
6. **SHALL** contain exactly one [1..1] **`effectiveTime`** (CONF:8656)

7. **SHOULD** contain at least one [1..*] **`participant`** (CONF:8662)
   a. Such participants **SHALL** contain exactly one [1..1] **`@typeCode`**`="VRF"` (CONF:8663)
   b. Such participants **SHALL** contain zero or one [0..1] **`time`** (CONF:8665)
   c. Such participants **SHALL** contain exactly one [1..1] **`participantRole`**, where its type is CDA Participant Role (CONF:8666)
8. **SHOULD** contain exactly one [1..1] **`participant`** (CONF:8667)
   a. This participant **SHALL** contain exactly one [1..1] **`@typeCode`**`="CST"` (CONF:8668)
   b. This participant **SHALL** contain zero or one [0..1] **`participantRole`** (CONF:8669)
      a. This participantRole **SHALL** contain zero or one [0..1] **`@classCode`**`="ROL"` (CONF:8670)
      b. This participantRole **SHOULD** contain zero or one [0..1] **`addr`** (CONF:8671)
      c. This participantRole **SHOULD** contain zero or one [0..1] **`telecom`** (CONF:8672)
      d. This participantRole **SHALL** contain exactly one [1..1] **`playingEntity`** (ii., CONF:8824)
         a. This playingEntity **SHALL** contain zero or more [0..*] **`name`** (CONF:8673)
         b. This playingEntity 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)
9. **SHOULD** contain at least one [1..*] **`reference`** (CONF:8692)
   a. Such references **SHALL** contain exactly one [1..1] **`@typeCode/@code`**`="REFR"` (CodeSystem: `2.16.840.1.113883.5.1002 HL7ActRelationshipType`)
   b. Such references **SHALL** contain exactly one [1..1] **`externalDocument`** (CONF:8693)
      a. This externalDocument **SHALL** contain at least one [1..*] **`id`** (CONF:8695)
      b. This externalDocument **MAY** contain zero or one [0..1] **`text`** (CONF:8696)
      c. This externalDocument The text, if present, **MAY** contain zero or one [0..1] @mediaType (CONF:8703)
      d. This externalDocument The text, if present, **MAY** contain zero or one [0..1] reference. a. The URL of a referenced advance directive document **MAY** be present, and **SHALL** be represented in Observation/reference/ExternalDocument/text/reference. b. If a URL is referenced, then it **SHOULD** have a corresponding linkHTML element in narrative block. (CONF:8697, CONF:8698, CONF:8699)
10. This effectiveTime **SHALL** contain exactly one [1..1] low i. If the starting time is unknown, the <low> element **SHALL** have the nullFlavor attribute set to UNK (CONF:8657, CONF:8658)
11. This effectiveTime **SHALL** contain exactly one [1..1] high. i. If the ending time is unknown, the <high> element **SHALL** have the nullFlavor attribute set to UNK. ii. If the Advance Directive does not have a specified ending time, the <high> element **SHALL** have the nullFlavor attribute set to NA. (CONF:8659, CONF:8660)

Advance Directive Observation example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.48"/>
  <id root="86242535"/>
  <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <participant typeCode="VRF">
    <time>
      <low value="2012"/>
      <high value="2012"/>
    </time>
    <participantRole>
      <playingDevice/>
      <playingEntity/>
      <scopingEntity/>
```

```
    </participantRole>
  </participant>
  <participant typeCode="CST">
    <participantRole classCode="ROL">
      <addr/>
      <telecom/>
      <playingEntity>
        <name/>
      </playingEntity>
    </participantRole>
  </participant>
  <reference typeCode="REFR">
    <externalDocument>
      <id root="838123538"/>
      <text>Text Value</text>
    </externalDocument>
  </reference>
</observation>
```

Age Observation

[Observation: templateId `2.16.840.1.113883.10.20.22.4.31`]

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").

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="OBS"` *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:7613)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:7614)
3. **SHALL** contain exactly one [1..1] **`code/@code`**`="445518008"` *Age At Onset* (CodeSystem: `2.16.840.1.113883.6.96 SNOMEDCT`) (CONF:7615)
4. **SHALL** contain exactly one [1..1] **`statusCode/@code`**`="completed"` *Completed* (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:7616)
5. **SHALL** contain exactly one [1..1] **`value`**, where its data type is PQ (CONF:7617)
6. 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)

Age Observation example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.31"/>
  <id root="1727430978"/>
  <code code="445518008" codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT" displayName="Age At Onset"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <value xsi:type="PQ"/>
</observation>
```

Allergy Observation

[Observation: templateId `2.16.840.1.113883.10.20.22.4.7`]

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 occuring 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.

1. **SHALL** contain exactly one [1..1] **`@classCode="OBS"`** *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:7379)
2. **SHALL** contain exactly one [1..1] **`@moodCode="EVN"`** *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:7380)
3. **SHALL** contain at least one [1..*] **`id`** (CONF:7382)
4. **SHALL** contain exactly one [1..1] **`code/@code="ASSERTION"`** (CodeSystem: `2.16.840.1.113883.5.4 HL7ActCode`) (CONF:7383)
5. **SHALL** contain exactly one [1..1] **`statusCode/@code="completed"`** (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:7386)
6. **SHALL** contain exactly one [1..1] **`effectiveTime`** (CONF:7387)
7. **SHALL** contain exactly one [1..1] **`value`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.3.88.12.3221.6.2` *`Allergy/Adverse Event Type`* **DYNAMIC**, where its data type is CD (CONF:7390, CONF:9139)
8. **SHOULD** contain zero or more [0..*] **`problemEntryReactionObservationContainer`** (CONF:7447, CONF:7907, CONF:7450)
   a. Contains **`@typeCode="MFST"`** *MFST*
   b. Contains exactly one [1..1] *Reaction Observation* (templateId: `2.16.840.1.113883.10.20.22.4.9`)
9. **SHALL** contain zero or one [0..1] **`severity`** (CONF:9961, CONF:9962, CONF:9963)
   a. Contains **`@typeCode="SUBJ"`** *SUBJ*
   b. Contains exactly one [1..1] *Severity Observation* (templateId: `2.16.840.1.113883.10.20.22.4.8`)
10. **MAY** contain zero or one [0..1] **`allergyStatusObservation`** (CONF:7440, CONF:7906, CONF:7441)
    a. Contains **`@typeCode="SUBJ"`** *SUBJ*
    b. Contains exactly one [1..1] *Allergy Status Observation* (templateId: `2.16.840.1.113883.10.20.22.4.28`)
11. **SHOULD** contain zero or one [0..1] **`participant`** (CONF:7402)
12. If it is unknown when the allergy began, this effectiveTime **SHALL** contain low/ @nullFLavor="UNK" (CONF:9103)
13. If the allergy is no longer a concern, this effectiveTime **MAY** contain zero or one [0..1] high (CONF:10082)
14. value **SHOULD** contain zero or one [0..1] originalText (CONF:7422)
15. originalText, if present, **SHOULD** contain zero or one [0..1] reference/@value (CONF:7400)
16. reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (CONF:7401)
17. **SHALL** contain exactly one [1..1] @inversionInd="true" True (CONF:7446)
18. **SHALL** contain exactly one [1..1] @inversionInd="true" True (CONF:7449)
19. **SHALL** contain exactly one [1..1] @inversionInd="true" True (CONF:9964)

Allergy Observation example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.7"/>
  <id root="2062230278"/>
```

```
 <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="HL7ActCode"/>
 <statusCode code="completed"/>
 <effectiveTime>
   <low value="2012"/>
   <high value="2012"/>
 </effectiveTime>
 <value xsi:type="CD" code="1569740331"/>
 <participant>
   <participantRole>
     <playingEntity>
       <code code="Value"/>
     </playingEntity>
   </participantRole>
 </participant>
 <entryRelationship>
   <observation classCode="OBS" moodCode="EVN">
     <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
     <id root="450586057"/>
     <code code="1402948195"/>
     <statusCode code="completed"/>
     <effectiveTime>
       <low value="2012"/>
       <high value="2012"/>
     </effectiveTime>
     <value xsi:type="CD" code="489745519"/>
     <participant>
       <participantRole>
         <playingEntity>
           <code code="Value"/>
         </playingEntity>
       </participantRole>
     </participant>
     <entryRelationship>
       <observation classCode="OBS" moodCode="EVN">
         <templateId root="2.16.840.1.113883.10.20.22.4.8"/>
         <id root="616528885"/>
         <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="HL7ActCode" displayName="Severity observation"/>
         <statusCode code="completed"/>
         <effectiveTime>
           <low value="2012"/>
           <high value="2012"/>
         </effectiveTime>
         <value xsi:type="CD" code="743359497"/>
         <participant>
           <participantRole>
             <playingEntity/>
           </participantRole>
         </participant>
       </observation>
     </entryRelationship>
     <entryRelationship>
       <procedure classCode="PROC">
         <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
         <id root="770922816"/>
         <code code="195147204"/>
         <statusCode code="completed"/>
         <effectiveTime>
           <low value="2012"/>
           <high value="2012"/>
         </effectiveTime>
         <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
```

```
          <participant>
            <participantRole>
              <playingEntity/>
            </participantRole>
          </participant>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
              <id root="1149882916"/>
              <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <value xsi:type="CD" code="569560253"/>
              <participant>
                <participantRole/>
              </participant>
            </observation>
          </entryRelationship>
          <entryRelationship>
            <substanceAdministration classCode="SBADM">
              <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
              <id root="1761543706"/>
              <code code="107470599"/>
              <statusCode code="completed"/>
              <effectiveTime xsi:type="IVL_TS">
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <consumable/>
              <participant>
                <participantRole/>
              </participant>
              <entryRelationship>
                <supply classCode="SPLY" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
                  <id root="951425816"/>
                  <code code="1754376568"/>
                  <statusCode code="completed"/>
                  <effectiveTime xsi:type="IVL_TS">
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <participant/>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                </supply>
              </entryRelationship>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
                  <id root="806228632"/>
                  <code code="1371979313"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <value xsi:type="CD" code="138442686"/>
                  <participant/>
```

```
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <procedure/>
                  </entryRelationship>
                  <entryRelationship>
                    <substanceAdministration/>
                  </entryRelationship>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="1196227928"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <participant/>
                </act>
              </entryRelationship>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
                  <id root="1476546244"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <value xsi:type="CD" code="1773890198"/>
                  <participant/>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <supply classCode="SPLY" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
                  <id root="45995978"/>
                  <code code="753902508"/>
                  <statusCode code="completed"/>
                  <effectiveTime xsi:type="IVL_TS">
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <participant/>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                </supply>
              </entryRelationship>
            </substanceAdministration>
          </entryRelationship>
          <entryRelationship>
            <act classCode="ACT" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
              <id root="1679430203"/>
              <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
```

```
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <participant>
                <participantRole/>
              </participant>
            </act>
          </entryRelationship>
          <entryRelationship>
            <encounter>
              <id root="2135563965"/>
              <code code="1800508888"/>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <participant>
                <participantRole/>
              </participant>
            </encounter>
          </entryRelationship>
        </procedure>
      </entryRelationship>
      <entryRelationship>
        <substanceAdministration classCode="SBADM">
          <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
          <id root="1988517711"/>
          <code code="114203624"/>
          <statusCode code="completed"/>
          <effectiveTime xsi:type="IVL_TS">
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <consumable/>
          <participant>
            <participantRole>
              <playingEntity/>
            </participantRole>
          </participant>
          <entryRelationship>
            <supply classCode="SPLY" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
              <id root="156566394"/>
              <code code="1400797463"/>
              <statusCode code="completed"/>
              <effectiveTime xsi:type="IVL_TS">
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <participant>
                <participantRole/>
              </participant>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="91468854"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
```

```
                  <high value="2012"/>
                </effectiveTime>
                <participant/>
              </act>
            </entryRelationship>
          </supply>
        </entryRelationship>
        <entryRelationship>
          <observation classCode="OBS" moodCode="EVN">
            <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
            <id root="1445911388"/>
            <code code="1016361900"/>
            <statusCode code="completed"/>
            <effectiveTime>
              <low value="2012"/>
              <high value="2012"/>
            </effectiveTime>
            <value xsi:type="CD" code="650418429"/>
            <participant>
              <participantRole/>
            </participant>
            <entryRelationship>
              <observation classCode="OBS" moodCode="EVN">
                <templateId root="2.16.840.1.113883.10.20.22.4.8"/>
                <id root="373061244"/>
                <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="HL7ActCode" displayName="Severity observation"/>
                <statusCode code="completed"/>
                <effectiveTime>
                  <low value="2012"/>
                  <high value="2012"/>
                </effectiveTime>
                <value xsi:type="CD" code="1977912007"/>
                <participant/>
              </observation>
            </entryRelationship>
            <entryRelationship>
              <procedure classCode="PROC">
                <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
                <id root="1053985243"/>
                <code code="1951169328"/>
                <statusCode code="completed"/>
                <effectiveTime>
                  <low value="2012"/>
                  <high value="2012"/>
                </effectiveTime>
                <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                <participant/>
                <entryRelationship>
                  <observation/>
                </entryRelationship>
                <entryRelationship>
                  <substanceAdministration/>
                </entryRelationship>
                <entryRelationship>
                  <act/>
                </entryRelationship>
                <entryRelationship>
                  <encounter/>
                </entryRelationship>
              </procedure>
            </entryRelationship>
            <entryRelationship>
```

```
                <substanceAdministration classCode="SBADM">
                  <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
                  <id root="176256986"/>
                  <code code="796901484"/>
                  <statusCode code="completed"/>
                  <effectiveTime xsi:type="IVL_TS">
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <consumable/>
                  <participant/>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                </substanceAdministration>
              </entryRelationship>
            </observation>
          </entryRelationship>
          <entryRelationship>
            <act classCode="ACT" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
              <id root="80579611"/>
              <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <participant>
                <participantRole/>
              </participant>
            </act>
          </entryRelationship>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
              <id root="1565881697"/>
              <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <value xsi:type="CD" code="1580371912"/>
              <participant>
                <participantRole/>
              </participant>
            </observation>
          </entryRelationship>
          <entryRelationship>
```

```
            <supply classCode="SPLY" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
              <id root="514919144"/>
              <code code="699047580"/>
              <statusCode code="completed"/>
              <effectiveTime xsi:type="IVL_TS">
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <participant>
                <participantRole/>
              </participant>
              <entryRelationship>
                <supply classCode="SPLY" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
                  <id root="47323761"/>
                  <code code="524575686"/>
                  <statusCode code="completed"/>
                  <effectiveTime xsi:type="IVL_TS">
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <participant/>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                </supply>
              </entryRelationship>
            </supply>
          </entryRelationship>
        </substanceAdministration>
      </entryRelationship>
    </observation>
  </entryRelationship>
  <entryRelationship>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.8"/>
      <id root="1476121953"/>
      <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="HL7ActCode" displayName="Severity observation"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <value xsi:type="CD" code="302534824"/>
      <participant>
        <participantRole>
          <playingEntity>
            <code code="Value"/>
          </playingEntity>
        </participantRole>
      </participant>
    </observation>
  </entryRelationship>
  <entryRelationship>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.28"/>
      <id root="109522864"/>
      <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Status"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
```

```
        <high value="2012"/>
      </effectiveTime>
      <value xsi:type="CD" code="1633943847"/>
      <participant>
        <participantRole>
          <playingEntity>
            <code code="Value"/>
          </playingEntity>
        </participantRole>
      </participant>
    </observation>
  </entryRelationship>
</observation>
```

Allergy Problem Act

[Act: templateId `2.16.840.1.113883.10.20.22.4.30`]

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.

1. **SHALL** contain exactly one [1..1] **`@classCode="ACT"`** *Act* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:7469)
2. **SHALL** contain exactly one [1..1] **`@moodCode="EVN"`** *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:7470)
3. **SHALL** contain at least one [1..*] **`id`** (CONF:7472)
4. **SHALL** contain exactly one [1..1] **`code/@code="48765-2"`** *Allergies, adverse reactions, alerts* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7477)
5. **SHALL** contain exactly one [1..1] **`statusCode`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.3.88.12.80.68` ***`HITSP Problem Status`*** **STATIC** (CONF:7485)
   - The statusCode associated with any concern must be one of the following values:

     active: A concern that is still being tracked. **suspended**: A concern that is active, but which may be set aside. For example, this value might be used to suspend concern about a patient problem after some period of remission, but before assumption that the concern has been resolved. **aborted**: A concern that is no longer actively being tracked, but for reasons other than because the problem was resolved. This value might be used to mark a concern as being aborted after a patient leaves care against medical advice. **completed**: The problem, allergy or medical state has been resolved and the concern no longer needs to be tracked except for historical purposes.
6. **SHALL** contain exactly one [1..1] **`effectiveTime`** (CONF:7498)
   - The effectiveTime element records the starting and ending times during which the concern was active.
7. **SHALL** contain at least one [1..*] **`allergyObservation`** (CONF:7509, CONF:7915, CONF:7510)
   a. Contains **`@typeCode="SUBJ"`** *SUBJ*
   b. Contains exactly one [1..1] *Allergy Observation* (templateId: `2.16.840.1.113883.10.20.22.4.7`)
8. If statusCode = "55561003" Active, then effectiveTime **SHALL** contain [1..1] low (CONF:7504). (CONF:7504)
9. If statusCode = "413322009", then effectiveTime **SHALL** contain high [1..1] (CONF:10085). (CONF:10085)

Allergy Problem Act example

```
<?xml version="1.0" encoding="UTF-8"?>
<act xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd" classCode="ACT"
 moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.30"/>
  <id root="1839819956"/>
```

```
 <code code="48765-2" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Allergies, adverse reactions, alerts"/>
 <statusCode code="completed"/>
 <effectiveTime>
   <low value="2012"/>
   <high value="2012"/>
 </effectiveTime>
 <entryRelationship>
   <observation classCode="OBS" moodCode="EVN">
     <templateId root="2.16.840.1.113883.10.20.22.4.7"/>
     <id root="1612437169"/>
     <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="HL7ActCode"/>
     <statusCode code="completed"/>
     <effectiveTime>
       <low value="2012"/>
       <high value="2012"/>
     </effectiveTime>
     <entryRelationship>
       <observation classCode="OBS" moodCode="EVN">
         <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
         <id root="700722407"/>
         <code code="373881918"/>
         <statusCode code="completed"/>
         <effectiveTime>
           <low value="2012"/>
           <high value="2012"/>
         </effectiveTime>
         <entryRelationship>
           <observation classCode="OBS" moodCode="EVN">
             <templateId root="2.16.840.1.113883.10.20.22.4.8"/>
             <id root="1148237645"/>
             <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="HL7ActCode" displayName="Severity observation"/>
             <statusCode code="completed"/>
             <effectiveTime>
               <low value="2012"/>
               <high value="2012"/>
             </effectiveTime>
           </observation>
         </entryRelationship>
         <entryRelationship>
           <procedure classCode="PROC">
             <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
             <id root="1719049161"/>
             <code code="301891808"/>
             <statusCode code="completed"/>
             <effectiveTime>
               <low value="2012"/>
               <high value="2012"/>
             </effectiveTime>
             <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
             <entryRelationship>
               <observation classCode="OBS" moodCode="EVN">
                 <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
                 <id root="752461234"/>
                 <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                 <statusCode code="completed"/>
                 <effectiveTime>
                   <low value="2012"/>
                   <high value="2012"/>
                 </effectiveTime>
```

```
              </observation>
            </entryRelationship>
            <entryRelationship>
              <substanceAdministration classCode="SBADM">
                <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
                <id root="1455615469"/>
                <code code="1115715765"/>
                <statusCode code="completed"/>
                <effectiveTime xsi:type="IVL_TS">
                  <low value="2012"/>
                  <high value="2012"/>
                </effectiveTime>
                <consumable/>
                <entryRelationship>
                  <supply/>
                </entryRelationship>
                <entryRelationship>
                  <observation/>
                </entryRelationship>
                <entryRelationship>
                  <act/>
                </entryRelationship>
                <entryRelationship>
                  <observation/>
                </entryRelationship>
                <entryRelationship>
                  <supply/>
                </entryRelationship>
              </substanceAdministration>
            </entryRelationship>
            <entryRelationship>
              <act classCode="ACT" moodCode="INT">
                <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                <id root="415457827"/>
                <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                <statusCode code="completed"/>
                <effectiveTime>
                  <low value="2012"/>
                  <high value="2012"/>
                </effectiveTime>
              </act>
            </entryRelationship>
            <entryRelationship>
              <encounter>
                <id root="607187781"/>
                <code code="754834137"/>
                <statusCode code="completed"/>
                <effectiveTime>
                  <low value="2012"/>
                  <high value="2012"/>
                </effectiveTime>
              </encounter>
            </entryRelationship>
          </procedure>
        </entryRelationship>
        <entryRelationship>
          <substanceAdministration classCode="SBADM">
            <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
            <id root="543854293"/>
            <code code="57903782"/>
            <statusCode code="completed"/>
            <effectiveTime xsi:type="IVL_TS">
              <low value="2012"/>
```

```
                <high value="2012"/>
              </effectiveTime>
              <consumable/>
              <entryRelationship>
                <supply classCode="SPLY" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
                  <id root="2103924697"/>
                  <code code="611294786"/>
                  <statusCode code="completed"/>
                  <effectiveTime xsi:type="IVL_TS">
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                </supply>
              </entryRelationship>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
                  <id root="1023699738"/>
                  <code code="2055004629"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <procedure/>
                  </entryRelationship>
                  <entryRelationship>
                    <substanceAdministration/>
                  </entryRelationship>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="1129894742"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </act>
              </entryRelationship>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
                  <id root="426870369"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </observation>
```

```
              </entryRelationship>
              <entryRelationship>
                <supply classCode="SPLY" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
                  <id root="458277030"/>
                  <code code="1031221967"/>
                  <statusCode code="completed"/>
                  <effectiveTime xsi:type="IVL_TS">
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                </supply>
              </entryRelationship>
            </substanceAdministration>
          </entryRelationship>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.8"/>
          <id root="1967688499"/>
          <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
 codeSystemName="HL7ActCode" displayName="Severity observation"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.28"/>
          <id root="1714351299"/>
          <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Status"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
    </observation>
  </entryRelationship>
</act>
```

Allergy Status Observation

[Observation: templateId `2.16.840.1.113883.10.20.22.4.28`]

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.

1. **SHALL** contain exactly one [1..1] **`@classCode="OBS"`** *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:7318)
2. **SHALL** contain exactly one [1..1] **`@moodCode="EVN"`** *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:7319)

3. **SHALL** contain exactly one [1..1] **`code/@code`**`="33999-4"` *Status* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7320)
4. **SHALL** contain exactly one [1..1] **`statusCode/@code`**`="completed"` (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:7321)
5. **SHALL** contain exactly one [1..1] **`value`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.3.88.12.80.68` ***`HITSP Problem Status`*** **STATIC**, where its data type is CE (CONF:7322)

Allergy Status Observation example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.28"/>
  <id root="2098232659"/>
  <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Status"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <value xsi:type="CE" code="Value"/>
</observation>
```

Authorization Activity

[Act: templateId `2.16.840.1.113883.10.20.1.19`]

1. Contains exactly one [1..1] **`@classCode`**
2. Contains exactly one [1..1] **`@moodCode`**
3. Contains zero or more [0..*] **`id`**

Authorization Activity example

```
<?xml version="1.0" encoding="UTF-8"?>
<act xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.1.19"/>
  <id root="153927841"/>
  <code code="1988176074"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
</act>
```

Boundary Observation

[Observation: templateId `2.16.840.1.113883.10.20.6.2.11`]

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.

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="OBS"` *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:9282)

2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:9283)
3. **SHALL** contain exactly one [1..1] **`code/@code`**`="113036"` *Frames for Display* (CodeSystem: `1.2.840.10008.2.16.4 DCM`) (CONF:9284)
4. **SHALL** contain at least one [1..*] **`value`**, where its data type is INT (CONF:9285, CONF:9286)
   - Each numbers represents a frame for display

Boundary Observation example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.6.2.11"/>
  <id root="144793234"/>
  <code code="113036" codeSystem="1.2.840.10008.2.16.4" codeSystemName="DCM"
 displayName="Frames for Display"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <value xsi:type="INT" value="1"/>
</observation>
```

Code Observations

[Observation: templateId `2.16.840.1.113883.10.20.6.2.13`]

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.

1.

Code Observations example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.6.2.13"/>
  <id root="904005359"/>
  <code code="89355305"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
</observation>
```

Comment Activity

[Act: templateId `2.16.840.1.113883.10.20.22.4.64`]

Used to contain comments associated with any of the data within the document.

This entry allows for a comment to be supplied with each entry. For CDA this structure is usually included in the target act using the <entryRelationship> element defined in the CDA Schema, but can also be used in the <component> element when the comment appears within an <organizer>.

Any condition or allergy may be the subject of a comment.

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

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="ACT"` *Act* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF-504)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF-505)
3. **SHALL** contain exactly one [1..1] **`code/@code`**`="48767-8"` *Annotation comment* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF-506, CONF-507)
4. **SHALL** contain exactly one [1..1] **`text`**
5. **SHALL** contain exactly one [1..1] **`statusCode/@code`**`="completed"` (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF-6.3.4.6.8)
6. **SHALL** contain exactly one [1..1] **`author`** (C83-[DE-10-CDA-4])
7. **SHALL** satisfy: A related statement is made about another section or entry. In CDA the former shall be recorded inside an <entryRelationship> element occurring at the end of the entry. The containing entry is the subject (typeCode='SUBJ') of this comment, which is the inverse of the normal containment structure, thus inversionInd='true'. (CONF-6.3.4.6.3)
8. **SHALL** satisfy: The 'text' element contains a 'reference' element pointing to the narrative text section of the CDA, rather than duplicate text to avoid ambiguity. (CONF-6.3.4.6.7)
9. **SHALL** satisfy: The time of the comment creation is recorded in the 'time' element when the 'author' element is present. (CONF-6.3.4.6.10)
10. **SHALL** satisfy: The identifier of the author, and their address and telephone number must be present inside the 'id', 'addr' and 'telecom' elements when the 'author' element is present. (CONF-6.3.4.6.11)
11. **SHALL** satisfy: The author's and/or the organization's name must be present when the 'author' element is present. (CONF-6.3.4.6.12)
12. Data elements defined elsewhere in the specification **SHALL NOT** be recorded using the Comments Module. (C83-[DE-10-CDA-1])

Comment Activity example

```
<?xml version="1.0" encoding="UTF-8"?>
<act xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd" classCode="ACT"
 moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.64"/>
  <id root="697849220"/>
  <code code="48767-8" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Annotation comment"/>
  <text>Text Value</text>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <author>
    <time/>
    <assignedAuthor>
      <id root="1409866552"/>
      <assignedPerson/>
      <assignedAuthoringDevice>
        <asMaintainedEntity>
          <maintainingPerson/>
        </asMaintainedEntity>
      </assignedAuthoringDevice>
      <representedOrganization>
        <asOrganizationPartOf>
          <wholeOrganization/>
        </asOrganizationPartOf>
      </representedOrganization>
    </assignedAuthor>
  </author>
```

```
</act>
```

Coverage Activity

[Act: templateId `2.16.840.1.113883.10.20.22.4.60`]

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="ACT"` *Act* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:8872)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:8873)
3. **SHALL** contain exactly one [1..1] **`code/@code`**`="48768-6"` *Payment Sources* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:8876)
4. **SHALL** contain at least one [1..*] **`id`** (CONF:8874)
5. **SHALL** contain exactly one [1..1] **`statusCode/@code`**`="completed"` (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:8875)
6. **SHALL** contain at least one [1..*] **`policyActivity`** (CONF:8878, CONF:8879, CONF:8880)
   a. Contains **`@typeCode="`**`COMP"` *COMP*
   b. Contains exactly one [1..1] *Policy Activity* (templateId: `2.16.840.1.113883.10.20.22.4.61`)
7. **MAY** contain zero or one [0..1] sequenceNumber/@value (CONF:8973) (CONF:8973)

Coverage Activity example

```
<?xml version="1.0" encoding="UTF-8"?>
<act xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd" classCode="ACT"
 moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.60"/>
  <id root="1239754032"/>
  <code code="48768-6" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Payment Sources"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <entryRelationship>
    <act classCode="ACT" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.61"/>
      <id root="1157217936"/>
      <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <entryRelationship>
        <act>
          <templateId root="2.16.840.1.113883.10.20.1.19"/>
          <id root="2090220339"/>
          <code code="1905796211"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </act>
      </entryRelationship>
    </act>
  </entryRelationship>
</act>
```

Discharge Medication

[Act: templateId `2.16.840.1.113883.10.20.22.4.35`]

The Discharge Medications entry codes medications that the patient is intended to take (or stop) after discharge.

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="ACT"` *Act* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:7689)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:7690)
3. **SHALL** contain exactly one [1..1] **`code/@code`**`="10183-2"` *Discharge Medication* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7691)
4. **SHALL** contain exactly one [1..1] **`medicationActivity`** (CONF:7692)
   a. Contains **`@typeCode="`**`SUBJ"` *SUBJ*
   b. Contains exactly one [1..1] *Medication Activity* (templateId: `2.16.840.1.113883.10.20.22.4.16`)

Discharge Medication example

```
<?xml version="1.0" encoding="UTF-8"?>
<act xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd" classCode="ACT"
 moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.35"/>
  <id root="313259185"/>
  <code code="10183-2" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Discharge Medication"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <entryRelationship>
    <substanceAdministration classCode="SBADM">
      <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
      <id root="313460044"/>
      <code code="1052190924"/>
      <effectiveTime value="20120325"/>
      <consumable/>
      <entryRelationship>
        <supply classCode="SPLY" moodCode="INT">
          <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
          <id root="779531571"/>
          <code code="1599575161"/>
          <effectiveTime value="20120325"/>
          <entryRelationship>
            <act classCode="ACT" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
              <id root="930927934"/>
              <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </act>
          </entryRelationship>
        </supply>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
```

```
          <id root="670154070"/>
          <code code="667028830"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.8"/>
              <id root="1974666333"/>
              <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="HL7ActCode" displayName="Severity observation"/>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </observation>
          </entryRelationship>
          <entryRelationship>
            <procedure classCode="PROC">
              <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
              <id root="527667282"/>
              <code code="1453006133"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
                  <id root="1158767157"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <substanceAdministration classCode="SBADM">
                  <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
                  <id root="1461643331"/>
                  <code code="1974203864"/>
                  <effectiveTime value="20120325"/>
                  <consumable/>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
```

```
                  <supply/>
                </entryRelationship>
              </substanceAdministration>
            </entryRelationship>
            <entryRelationship>
              <act classCode="ACT" moodCode="INT">
                <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                <id root="443142849"/>
                <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                <statusCode code="completed"/>
                <effectiveTime>
                  <low value="2012"/>
                  <high value="2012"/>
                </effectiveTime>
              </act>
            </entryRelationship>
            <entryRelationship>
              <encounter>
                <id root="2019014692"/>
                <code code="1986384578"/>
                <effectiveTime>
                  <low value="2012"/>
                  <high value="2012"/>
                </effectiveTime>
              </encounter>
            </entryRelationship>
          </procedure>
        </entryRelationship>
        <entryRelationship>
          <substanceAdministration classCode="SBADM">
            <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
            <id root="1955063799"/>
            <code code="369826614"/>
            <effectiveTime value="20120325"/>
            <consumable/>
            <entryRelationship>
              <supply classCode="SPLY" moodCode="INT">
                <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
                <id root="525416273"/>
                <code code="645093975"/>
                <effectiveTime value="20120325"/>
                <entryRelationship>
                  <act/>
                </entryRelationship>
              </supply>
            </entryRelationship>
            <entryRelationship>
              <observation classCode="OBS" moodCode="EVN">
                <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
                <id root="860035513"/>
                <code code="2075554070"/>
                <statusCode code="completed"/>
                <effectiveTime>
                  <low value="2012"/>
                  <high value="2012"/>
                </effectiveTime>
                <entryRelationship>
                  <observation/>
                </entryRelationship>
                <entryRelationship>
                  <procedure/>
                </entryRelationship>
                <entryRelationship>
```

```
                    <substanceAdministration/>
                  </entryRelationship>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="1114832974"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </act>
              </entryRelationship>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
                  <id root="548835050"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <supply classCode="SPLY" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
                  <id root="1605510939"/>
                  <code code="498762601"/>
                  <effectiveTime value="20120325"/>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                </supply>
              </entryRelationship>
            </substanceAdministration>
          </entryRelationship>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <act classCode="ACT" moodCode="INT">
          <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
          <id root="328548450"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </act>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
          <id root="599079504"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
```

```
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <supply classCode="SPLY" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
          <id root="1568964727"/>
          <code code="1583771971"/>
          <effectiveTime value="20120325"/>
          <entryRelationship>
            <supply classCode="SPLY" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
              <id root="1555412525"/>
              <code code="1943383991"/>
              <effectiveTime value="20120325"/>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="670577690"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </act>
              </entryRelationship>
            </supply>
          </entryRelationship>
        </supply>
      </entryRelationship>
    </substanceAdministration>
  </entryRelationship>
</act>
```

Encounter Activities

[Encounter: templateId `2.16.840.1.113883.10.20.22.4.49`]

This clinical statement describes the interactions between the patient and clinicians. Interactions include in-person encounters, telephone conversations, and email exchanges.

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="ENC"` (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:8710)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:8711)
3. **SHALL** contain at least one [1..*] **`id`** (CONF:8713)
4. **SHOULD** contain zero or one [0..1] **`code`**, which **SHOULD** be selected from ValueSet `2.16.840.1.113883.3.88.12.80.32` *`EncounterTypeCode`* **DYNAMIC** (CONF:8714)
5. **SHALL** contain exactly one [1..1] **`effectiveTime`** (CONF:8715)
6. **MAY** contain zero or more [0..*] **`serviceDeliveryLocation`** (CONF:8739)
   a. Contains exactly one [1..1] *Service Delivery Location* (templateId: `2.16.840.1.113883.10.20.22.4.32`)
7. **MAY** contain zero or more [0..*] **`indication`** (CONF:8724)
   a. Contains **`@typeCode="`**`RSON"` *RSON*

   b. Contains exactly one [1..1] *Indication* (templateId: `2.16.840.1.113883.10.20.22.4.19`)
8. **MAY** contain zero or more [0..*] **`performer`** (CONF:8725)
9. code, if present, **SHOULD** contain zero or one [0..1] originalText (CONF:8719)
10. originalText, if present, **SHOULD** contain zero or one [0..1] reference/@value (CONF:8720)
11. 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)
12. **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)
13. EncounterActivities with target entry Service Delivery Location **SHALL** contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: 2.16.840.1.113883.5.1002 HL7ActRelationshipType) STATIC (CONF:8740)

Encounter Activities example

```
<?xml version="1.0" encoding="UTF-8"?>
<encounter xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="ENC" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.49"/>
  <id root="2027358735"/>
  <code codeSystem="2.16.840.1.113883.6.12" codeSystemName="CPT-4"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <performer>
    <assignedEntity>
      <id root="139565160"/>
      <code code="Value"/>
    </assignedEntity>
  </performer>
  <entryRelationship>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
      <id root="354299898"/>
      <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <performer>
        <assignedEntity>
          <id root="217252669"/>
          <code code="Value"/>
        </assignedEntity>
      </performer>
    </observation>
  </entryRelationship>
</encounter>
```

Estimated Date Of Delivery

[Observation: templateId `2.16.840.1.113883.10.20.15.3.1`]

This clinical statement represents the anticipated date when a woman will give birth.

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="OBS"` *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:444)

2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:445)
3. **SHALL** contain exactly one [1..1] **code/@code**="11778-8" (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:446)
4. **SHALL** contain exactly one [1..1] **statusCode/@code**="completed" (CodeSystem: 2.16.840.1.113883.5.14 ActStatus) (CONF:448)
5. **SHALL** contain exactly one [1..1] **value**, where its data type is TS (CONF:450)

Estimated Date Of Delivery example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.15.3.1"/>
  <id root="1123948084"/>
  <code code="11778-8" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <value xsi:type="TS"/>
</observation>
```

Family History Death Observation

[Observation: templateId 2.16.840.1.113883.10.20.22.4.47]

This clinical statement records whether the family member is deceased

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" *Observation* (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) (CONF:8621)
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:8622)
3. **SHALL** contain exactly one [1..1] **code/@code**="ASSERTION" *Assertion* (CodeSystem: 2.16.840.1.113883.5.4 HL7ActCode) (CONF:8624)
4. **SHALL** contain exactly one [1..1] **statusCode/@code**="completed" (CodeSystem: 2.16.840.1.113883.5.14 ActStatus) (CONF:8625)
5. **SHALL** contain exactly one [1..1] **value/@code**="419099009" *Dead* (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT), where its data type is CD (CONF:8626)

Family History Death Observation example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.47"/>
  <id root="143280304"/>
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"
 codeSystemName="HL7ActCode" displayName="Assertion"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <value xsi:type="CD" code="1262642219"/>
</observation>
```

Family History Observation

[Observation: templateId `2.16.840.1.113883.10.20.22.4.46`]

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).

1. **SHALL** contain exactly one [1..1] **`@classCode="OBS"`** *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:8586)
2. **SHALL** contain exactly one [1..1] **`@moodCode="EVN"`** *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:8587)
3. **SHALL** contain at least one [1..*] **`id`** (CONF:8592)
4. **SHALL** contain exactly one [1..1] **`code`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.3.88.12.3221.7.2` *`Problem Type`* **STATIC** 2008-12-18 (CONF:8589)
5. **SHALL** contain exactly one [1..1] **`statusCode/@code`**`="completed"` (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:8590)
6. **SHOULD** contain zero or one [0..1] **`effectiveTime`** (CONF:8593)
7. **SHALL** contain exactly one [1..1] **`value`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.3.88.12.3221.7.4` *`Problem`* **DYNAMIC**, where its data type is CD (CONF:8591)
8. **MAY** contain zero or one [0..1] **`ageObservation`** (CONF:8619)
   a. Contains **`@typeCode="SUBJ"`** *SUBJ*
   b. Contains exactly one [1..1] *Age Observation* (templateId: `2.16.840.1.113883.10.20.22.4.31`)
9. **MAY** contain zero or one [0..1] **`familyHistoryDeathObservation`** (CONF:8629)
   a. Contains **`@typeCode="CAUS"`** *CAUS*
   b. Contains exactly one [1..1] *Family History Death Observation* (templateId: `2.16.840.1.113883.10.20.22.4.47`)
10. entryRelationship with target entry Age Observation **SHALL** contain exactly one [1..1] @inversionInd="true" True (CONF:8677)

Family History Observation example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.46"/>
  <id root="1597786654"/>
  <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <value xsi:type="CD" code="34018214"/>
  <entryRelationship>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.31"/>
      <id root="1789528983"/>
      <code code="445518008" codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT" displayName="Age At Onset"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
```

```
      </effectiveTime>
      <value xsi:type="CD" code="831132602"/>
    </observation>
  </entryRelationship>
  <entryRelationship>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.47"/>
      <id root="961656619"/>
      <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"
 codeSystemName="HL7ActCode" displayName="Assertion"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <value xsi:type="CD" code="903364005"/>
    </observation>
  </entryRelationship>
</observation>
```

Family History Organizer

[Organizer: templateId `2.16.840.1.113883.10.20.22.4.45`]

The Family History Oranizer 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.

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="CLUSTER"` (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:8600)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:8601)
3. Contains exactly one [1..1] **`statusCode`**
4. **SHALL** contain at least one [1..*] **`familyHistoryObservation`** (CONF:8607)
   a. Contains exactly one [1..1] *Family History Observation* (templateId: `2.16.840.1.113883.10.20.22.4.46`)
5. **SHALL** contain exactly one [1..1] **`subject`** (CONF:8609)

Family History Organizer example

```
<?xml version="1.0" encoding="UTF-8"?>
<organizer xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="CLUSTER" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.45"/>
  <id root="257895557"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <subject>
    <relatedSubject/>
  </subject>
  <component>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.46"/>
      <id root="68847574"/>
      <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
```

```
      </effectiveTime>
      <subject>
        <relatedSubject/>
      </subject>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.31"/>
          <id root="2100883827"/>
          <code code="445518008" codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT" displayName="Age At Onset"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <subject>
            <relatedSubject/>
          </subject>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.47"/>
          <id root="1691979576"/>
          <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"
 codeSystemName="HL7ActCode" displayName="Assertion"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <subject>
            <relatedSubject/>
          </subject>
        </observation>
      </entryRelationship>
    </observation>
  </component>
</organizer>
```

Health Status Observation

[Observation: templateId `2.16.840.1.113883.10.20.22.4.5`]

The Health Status Observation records information about the current health status of the patient.

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="OBS"` *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:9057)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:9072)
3. **SHALL** contain exactly one [1..1] **`code/@code`**`="11323-3"` *Health status* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:9073)
4. **SHOULD** contain zero or one [0..1] **`text`** (CONF:9270)
5. **SHALL** contain exactly one [1..1] **`statusCode/@code`**`="completed"` *Completed* (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:9074)
6. **SHALL** contain exactly one [1..1] **`value`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.3.88.12.80.68` *`HITSP Problem Status`* **STATIC**, where its data type is CD (CONF:9075)
7. text, if present, **SHOULD** contain zero or one [0..1] reference/@value (CONF:9271)
8. 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)

Health Status Observation example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.5"/>
  <id root="1027409473"/>
  <code code="11323-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Health status"/>
  <text>Text Value</text>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <value xsi:type="CD" code="577692422"/>
</observation>
```

Hospital Admission Diagnosis

[Act: templateId `2.16.840.1.113883.10.20.22.4.34`]

The Hospital Admission Diagnosis entry describes the relevant problems or diagnoses at the time of admission.

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="ACT"` *Act* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`)
3. **SHALL** contain exactly one [1..1] **`code/@code`**`="46241-6"` *Admission diagnosis* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7673)
4. **SHALL** contain at least one [1..*] **`problemObservation`** (CONF:7674, CONF:7675, CONF:7676)
   a. Contains **`@typeCode="`**`SUBJ"` *SUBJ*
   b. Contains exactly one [1..1] *Problem Observation* (templateId: `2.16.840.1.113883.10.20.22.4.4`)

Hospital Admission Diagnosis example

```
<?xml version="1.0" encoding="UTF-8"?>
<act xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd" classCode="ACT"
 moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.34"/>
  <id root="1216722765"/>
  <code code="46241-6" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Admission diagnosis"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <entryRelationship>
    <observation moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
      <id root="1682471437"/>
      <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.31"/>
```

```
          <id root="1548755974"/>
          <code code="445518008" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT" displayName="Age At Onset"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.5"/>
          <id root="1014832891"/>
          <code code="11323-3" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Health status"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.6"/>
          <id root="460811444"/>
          <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Status"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
    </observation>
  </entryRelationship>
</act>
```

Hospital Discharge Diagnosis

[Act: templateId `2.16.840.1.113883.10.20.22.4.33`]

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.

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="ACT"` *Act* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:7663)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:7664)
3. **SHALL** contain exactly one [1..1] **`code/@code`**`="11535-2"` *Hospital Discharge Diagnosis* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7665)
4. **SHALL** contain at least one [1..*] **`problemObservation`** (CONF:7669)
   a. Contains **`@typeCode="`**`SUBJ"` *SUBJ*
   b. Contains exactly one [1..1] *Problem Observation* (templateId: `2.16.840.1.113883.10.20.22.4.4`)

Hospital Discharge Diagnosis example

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

```
<act xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd" classCode="ACT"
 moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.33"/>
  <id root="1278706331"/>
  <code code="11535-2" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Hospital Discharge Diagnosis"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <entryRelationship>
    <observation moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
      <id root="304332889"/>
      <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.31"/>
          <id root="967278791"/>
          <code code="445518008" codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT" displayName="Age At Onset"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.5"/>
          <id root="913066946"/>
          <code code="11323-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Health status"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.6"/>
          <id root="2085126346"/>
          <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Status"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
    </observation>
  </entryRelationship>
</act>
```

Immunization Activity

[SubstanceAdministration: templateId `2.16.840.1.113883.10.20.22.4.52`]

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.

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="SBADM"` (CodeSystem: `2.16.840.1.113883.5.6` `HL7ActClass`) (CONF:8826)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.11.20.9.18` *`MoodCodeEvnInt`* **STATIC** 2011-04-03 (CONF:8827)
3. **SHALL** contain exactly one [1..1] **`@negationInd`**`="false"` (CONF:8985)
   - @negationInd="true" shall be used to represent the immunization was not given. (CONF:8986).
4. **SHALL** contain at least one [1..*] **`id`** (CONF:8829)
5. **MAY** contain zero or one [0..1] **`code`** (CONF:8830)
6. **SHALL** contain exactly one [1..1] **`statusCode`** (CONF:8833)
7. **SHALL** contain exactly one [1..1] **`effectiveTime`** (CONF:8834)
8. **MAY** contain zero or one [0..1] **`routeCode`**, which **MAY** be selected from ValueSet `2.16.840.1.113883.3.88.12.3221.8.7` *`Medication Route FDA Value Set`* **STATIC** 1 (CONF:8839)
9. **MAY** contain zero or one [0..1] **`approachSiteCode`**, which **MAY** be selected from ValueSet `2.16.840.1.113883.3.88.12.3221.8.9` *`Body Site Value Set`* **STATIC** 2 (CONF:8840)
10. **SHOULD** contain zero or one [0..1] **`doseQuantity`** (CONF:8841)
11. **MAY** contain zero or one [0..1] **`drugVehicle`** (CONF:8850, CONF:8851, CONF:8852)
    a. Contains exactly one [1..1] *Drug Vehicle* (templateId: `2.16.840.1.113883.10.20.22.4.24`)
12. **MAY** contain zero or one [0..1] **`indication`** (CONF:8853, CONF:8854, CONF:8855)
    a. Contains **`@typeCode="`**`RSON"` *RSON*
    b. Contains exactly one [1..1] *Indication* (templateId: `2.16.840.1.113883.10.20.22.4.19`)
13. **MAY** contain zero or one [0..1] **`instructions`** (CONF:8856, CONF:8857, CONF:8858)
    a. Contains **`@typeCode="`**`SUBJ"` *SUBJ*
    b. Contains exactly one [1..1] *Instructions* (templateId: `2.16.840.1.113883.10.20.22.4.20`)
14. **MAY** contain zero or one [0..1] **`medicationDispense`** (CONF:8863, CONF:8864, CONF:8865)
    a. Contains **`@typeCode="`**`REFR"` *REFR*
    b. Contains exactly one [1..1] *Medication Dispense* (templateId: `2.16.840.1.113883.10.20.22.4.18`)
15. **MAY** contain zero or one [0..1] **`reactionObservation`** (CONF:8866, CONF:8867, CONF:8868)
    a. Contains **`@typeCode="`**`CAUS"` *CAUS*

   b. Contains exactly one [1..1] *Reaction Observation* (templateId: `2.16.840.1.113883.10.20.22.4.9`)
16. **MAY** contain zero or one [0..1] **`precondition`** (CONF:8869, CONF:8870, CONF:8871)
   a. Contains exactly one [1..1] *Precondition For Substance Administration* (templateId: `2.16.840.1.113883.10.20.22.4.25`)
17. **MAY** contain zero or one [0..1] **`immunizationRefusalReason`** (CONF:8988, CONF:8989, CONF:8990)
   a. Contains **`@typeCode="`**`RSON"` *RSON*
   b. Contains exactly one [1..1] *Immunization Refusal Reason* (templateId: `2.16.840.1.113883.10.20.22.4.53`)
18. **SHALL** contain exactly one [1..1] **`consumable`** (CONF:8847)
   a. This consumable **SHALL** contain exactly one [1..1] **`manufacturedProduct`**, where its type is *Immunization Medication Information* (CONF:8848)
      a. Contains exactly one [1..1] *Immunization Medication Information* (templateId: `2.16.840.1.113883.10.20.22.4.54`)
19. **SHOULD** contain zero or one [0..1] **`text`** (CONF:8831)
20. **MAY** contain zero or one [0..1] **`repeatNumber`** (CONF:8838)
   - 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).
21. **MAY** contain zero or one [0..1] **`administrationUnitCode`**, which **MAY** be selected from ValueSet `2.16.840.1.113883.3.88.12.3221.8.11` *`Medication Product Form`* **STATIC** 1 (CONF:8846)
22. **SHOULD** contain zero or one [0..1] **`performer`** (CONF:8849)
23. **MAY** contain zero or one [0..1] **`medicationSupplyOrder`** (CONF:8860, CONF:8861, CONF:8862)
   a. Contains **`@typeCode="`**`REFR"` *REFR*
   b. Contains exactly one [1..1] *Medication Supply Order* (templateId: `2.16.840.1.113883.10.20.22.4.17`)
24. This text, if present, **SHOULD** contain zero or one [0..1] reference/@value. (CONF:8832)
25. 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)
26. 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)
27. **SHALL** contain exactly one [1..1] @inversionInd="true" True (CONF:8858)
28. participant with target entry Drug Vehicle **SHALL** contain exactly one [1..1] @typeCode="CSM" (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:8851)
29. Precondition for Substance Adminstration **SHALL** contain exactly one [1..1] @typeCode="PRCN" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:8870)

Immunization Activity example

```
<?xml version="1.0" encoding="UTF-8"?>
<substanceadministration xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="SBADM" negationInd="false">
  <templateId root="2.16.840.1.113883.10.20.22.4.52"/>
  <id root="1540940130"/>
  <code code="579681262"/>
  <text>Text Value</text>
  <statusCode code="completed"/>
  <effectiveTime value="20120325"/>
  <repeatNumber value="1"/>
  <routeCode code="Value"/>
  <approachSiteCode code="42901237"/>
  <doseQuantity/>
```

```
<administrationUnitCode code="Value"/>
<consumable>
  <manufacturedProduct>
    <id root="1608687788"/>
    <manufacturedMaterial>
      <code code="Value"/>
      <lotNumberText/>
    </manufacturedMaterial>
    <manufacturerOrganization>
      <asOrganizationPartOf>
        <wholeOrganization/>
      </asOrganizationPartOf>
    </manufacturerOrganization>
  </manufacturedProduct>
</consumable>
<performer>
  <assignedEntity>
    <id root="804408576"/>
    <assignedPerson/>
    <representedOrganization>
      <asOrganizationPartOf>
        <wholeOrganization/>
      </asOrganizationPartOf>
    </representedOrganization>
  </assignedEntity>
</performer>
<entryRelationship>
  <observation classCode="OBS" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
    <id root="1191251431"/>
    <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
    <text>Text Value</text>
    <statusCode code="completed"/>
    <effectiveTime>
      <low value="2012"/>
      <high value="2012"/>
    </effectiveTime>
    <repeatNumber value="1"/>
    <performer>
      <assignedEntity>
        <id root="677352783"/>
        <assignedPerson/>
        <representedOrganization>
          <asOrganizationPartOf/>
        </representedOrganization>
      </assignedEntity>
    </performer>
    <precondition>
      <criterion/>
    </precondition>
  </observation>
</entryRelationship>
<entryRelationship>
  <act classCode="ACT" moodCode="INT">
    <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
    <id root="1920769807"/>
    <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
    <text>Text Value</text>
    <statusCode code="completed"/>
    <effectiveTime>
      <low value="2012"/>
      <high value="2012"/>
    </effectiveTime>
    <performer>
```

```
        <assignedEntity>
          <id root="1334104355"/>
          <assignedPerson/>
          <representedOrganization>
            <asOrganizationPartOf/>
          </representedOrganization>
        </assignedEntity>
      </performer>
      <precondition>
        <criterion/>
      </precondition>
    </act>
  </entryRelationship>
  <entryRelationship>
    <supply classCode="SPLY" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
      <id root="1808904550"/>
      <code code="1104686905"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime value="20120325"/>
      <repeatNumber value="1"/>
      <performer>
        <assignedEntity>
          <id root="1309515205"/>
          <assignedPerson/>
          <representedOrganization>
            <asOrganizationPartOf/>
          </representedOrganization>
        </assignedEntity>
      </performer>
      <entryRelationship>
        <supply classCode="SPLY" moodCode="INT">
          <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
          <id root="1673440645"/>
          <code code="1992831664"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime value="20120325"/>
          <repeatNumber value="1"/>
          <performer>
            <assignedEntity>
              <id root="1117953141"/>
              <assignedPerson/>
              <representedOrganization/>
            </assignedEntity>
          </performer>
          <entryRelationship>
            <act classCode="ACT" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
              <id root="1515539233"/>
              <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <performer>
                <assignedEntity/>
              </performer>
              <precondition>
                <criterion/>
```

```
            </precondition>
          </act>
        </entryRelationship>
        <precondition>
          <criterion/>
        </precondition>
      </supply>
    </entryRelationship>
    <precondition>
      <criterion/>
    </precondition>
  </supply>
 </entryRelationship>
 <entryRelationship>
   <observation classCode="OBS" moodCode="EVN">
     <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
     <id root="1441946339"/>
     <code code="1818230592"/>
     <text>Text Value</text>
     <statusCode code="completed"/>
     <effectiveTime>
       <low value="2012"/>
       <high value="2012"/>
     </effectiveTime>
     <repeatNumber value="1"/>
     <performer>
       <assignedEntity>
         <id root="1784146647"/>
         <assignedPerson/>
         <representedOrganization>
           <asOrganizationPartOf/>
         </representedOrganization>
       </assignedEntity>
     </performer>
     <entryRelationship>
       <observation classCode="OBS" moodCode="EVN">
         <templateId root="2.16.840.1.113883.10.20.22.4.8"/>
         <id root="666471350"/>
         <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="HL7ActCode" displayName="Severity observation"/>
         <text>Text Value</text>
         <statusCode code="completed"/>
         <effectiveTime>
           <low value="2012"/>
           <high value="2012"/>
         </effectiveTime>
         <repeatNumber value="1"/>
         <performer>
           <assignedEntity>
             <id root="289553046"/>
             <assignedPerson/>
             <representedOrganization/>
           </assignedEntity>
         </performer>
         <precondition>
           <criterion/>
         </precondition>
       </observation>
     </entryRelationship>
     <entryRelationship>
       <procedure classCode="PROC">
         <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
         <id root="326977359"/>
         <code code="1404618583"/>
```

```
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <approachSiteCode code="2055354677"/>
          <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
          <performer>
            <assignedEntity>
              <id root="1081588577"/>
              <assignedPerson/>
              <representedOrganization/>
            </assignedEntity>
          </performer>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
              <id root="1576900727"/>
              <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <repeatNumber value="1"/>
              <performer>
                <assignedEntity/>
              </performer>
              <precondition>
                <criterion/>
              </precondition>
            </observation>
          </entryRelationship>
          <entryRelationship>
            <substanceAdministration classCode="SBADM">
              <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
              <id root="1021870730"/>
              <code code="1599007909"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime value="20120325"/>
              <repeatNumber value="1"/>
              <routeCode code="Value"/>
              <approachSiteCode code="1079001170"/>
              <doseQuantity/>
              <administrationUnitCode code="Value"/>
              <consumable>
                <manufacturedProduct/>
              </consumable>
              <performer>
                <assignedEntity/>
              </performer>
              <entryRelationship>
                <supply classCode="SPLY" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
                  <id root="2033443309"/>
                  <code code="647775261"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime value="20120325"/>
```

```
                  <repeatNumber value="1"/>
                  <performer/>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                  <precondition/>
                </supply>
              </entryRelationship>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
                  <id root="426004645"/>
                  <code code="1548256596"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <repeatNumber value="1"/>
                  <performer/>
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                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <procedure/>
                  </entryRelationship>
                  <entryRelationship>
                    <substanceAdministration/>
                  </entryRelationship>
                  <precondition/>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="84894801"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <performer/>
                  <precondition/>
                </act>
              </entryRelationship>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
                  <id root="278056396"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <repeatNumber value="1"/>
                  <performer/>
                  <precondition/>
```

```
              </observation>
            </entryRelationship>
            <entryRelationship>
              <supply classCode="SPLY" moodCode="EVN">
                <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
                <id root="1628311987"/>
                <code code="2096241284"/>
                <text>Text Value</text>
                <statusCode code="completed"/>
                <effectiveTime value="20120325"/>
                <repeatNumber value="1"/>
                <performer/>
                <entryRelationship>
                  <supply/>
                </entryRelationship>
                <precondition/>
              </supply>
            </entryRelationship>
            <precondition>
              <criterion/>
            </precondition>
          </substanceAdministration>
        </entryRelationship>
        <entryRelationship>
          <act classCode="ACT" moodCode="INT">
            <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
            <id root="906905785"/>
            <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
            <text>Text Value</text>
            <statusCode code="completed"/>
            <effectiveTime>
              <low value="2012"/>
              <high value="2012"/>
            </effectiveTime>
            <performer>
              <assignedEntity/>
            </performer>
            <precondition>
              <criterion/>
            </precondition>
          </act>
        </entryRelationship>
        <entryRelationship>
          <encounter>
            <id root="1880043916"/>
            <code code="1849093799"/>
            <text>Text Value</text>
            <statusCode code="completed"/>
            <effectiveTime>
              <low value="2012"/>
              <high value="2012"/>
            </effectiveTime>
            <performer>
              <assignedEntity/>
            </performer>
            <precondition>
              <criterion/>
            </precondition>
          </encounter>
        </entryRelationship>
        <precondition>
          <criterion/>
        </precondition>
```

```
        </procedure>
      </entryRelationship>
      <entryRelationship>
        <substanceAdministration classCode="SBADM">
          <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
          <id root="1511998522"/>
          <code code="575469644"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime value="20120325"/>
          <repeatNumber value="1"/>
          <routeCode code="Value"/>
          <approachSiteCode code="1632018724"/>
          <doseQuantity/>
          <administrationUnitCode code="Value"/>
          <consumable>
            <manufacturedProduct>
              <id root="158481640"/>
              <manufacturedMaterial/>
              <manufacturerOrganization/>
            </manufacturedProduct>
          </consumable>
          <performer>
            <assignedEntity>
              <id root="2098330050"/>
              <assignedPerson/>
              <representedOrganization/>
            </assignedEntity>
          </performer>
          <entryRelationship>
            <supply classCode="SPLY" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
              <id root="604275094"/>
              <code code="2146909773"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime value="20120325"/>
              <repeatNumber value="1"/>
              <performer>
                <assignedEntity/>
              </performer>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="1960453670"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <performer/>
                  <precondition/>
                </act>
              </entryRelationship>
              <precondition>
                <criterion/>
              </precondition>
            </supply>
          </entryRelationship>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
```

```
              <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
              <id root="471510493"/>
              <code code="448250521"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <repeatNumber value="1"/>
              <performer>
                <assignedEntity/>
              </performer>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.8"/>
                  <id root="1377562678"/>
                  <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="HL7ActCode" displayName="Severity observation"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <repeatNumber value="1"/>
                  <performer/>
                  <precondition/>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <procedure classCode="PROC">
                  <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
                  <id root="1600937862"/>
                  <code code="893089272"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <approachSiteCode code="624309379"/>
                  <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <performer/>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <substanceAdministration/>
                  </entryRelationship>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                  <entryRelationship>
                    <encounter/>
                  </entryRelationship>
                  <precondition/>
                </procedure>
              </entryRelationship>
              <entryRelationship>
                <substanceAdministration classCode="SBADM">
                  <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
                  <id root="1554240394"/>
```

```
                <code code="899382725"/>
                <text>Text Value</text>
                <statusCode code="completed"/>
                <effectiveTime value="20120325"/>
                <repeatNumber value="1"/>
                <routeCode code="Value"/>
                <approachSiteCode code="294030662"/>
                <doseQuantity/>
                <administrationUnitCode code="Value"/>
                <consumable/>
                <performer/>
                <entryRelationship>
                  <supply/>
                </entryRelationship>
                <entryRelationship>
                  <observation/>
                </entryRelationship>
                <entryRelationship>
                  <act/>
                </entryRelationship>
                <entryRelationship>
                  <observation/>
                </entryRelationship>
                <entryRelationship>
                  <supply/>
                </entryRelationship>
                <precondition/>
              </substanceAdministration>
            </entryRelationship>
            <precondition>
              <criterion/>
            </precondition>
          </observation>
        </entryRelationship>
        <entryRelationship>
          <act classCode="ACT" moodCode="INT">
            <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
            <id root="973349154"/>
            <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
            <text>Text Value</text>
            <statusCode code="completed"/>
            <effectiveTime>
              <low value="2012"/>
              <high value="2012"/>
            </effectiveTime>
            <performer>
              <assignedEntity/>
            </performer>
            <precondition>
              <criterion/>
            </precondition>
          </act>
        </entryRelationship>
        <entryRelationship>
          <observation classCode="OBS" moodCode="EVN">
            <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
            <id root="1842969204"/>
            <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
            <text>Text Value</text>
            <statusCode code="completed"/>
            <effectiveTime>
              <low value="2012"/>
```

```
              <high value="2012"/>
            </effectiveTime>
            <repeatNumber value="1"/>
            <performer>
              <assignedEntity/>
            </performer>
            <precondition>
              <criterion/>
            </precondition>
          </observation>
        </entryRelationship>
        <entryRelationship>
          <supply classCode="SPLY" moodCode="EVN">
            <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
            <id root="1225697723"/>
            <code code="682062221"/>
            <text>Text Value</text>
            <statusCode code="completed"/>
            <effectiveTime value="20120325"/>
            <repeatNumber value="1"/>
            <performer>
              <assignedEntity/>
            </performer>
            <entryRelationship>
              <supply classCode="SPLY" moodCode="INT">
                <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
                <id root="772308633"/>
                <code code="557691306"/>
                <text>Text Value</text>
                <statusCode code="completed"/>
                <effectiveTime value="20120325"/>
                <repeatNumber value="1"/>
                <performer/>
                <entryRelationship>
                  <act/>
                </entryRelationship>
                <precondition/>
              </supply>
            </entryRelationship>
            <precondition>
              <criterion/>
            </precondition>
          </supply>
        </entryRelationship>
        <precondition>
          <criterion/>
        </precondition>
      </substanceAdministration>
    </entryRelationship>
    <precondition>
      <criterion/>
    </precondition>
  </observation>
</entryRelationship>
<entryRelationship>
  <observation classCode="OBS" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.53"/>
    <id root="1856850215"/>
    <code codeSystem="2.16.840.1.113883.5.8" codeSystemName="ActReason"/>
    <text>Text Value</text>
    <statusCode code="completed"/>
    <effectiveTime>
      <low value="2012"/>
      <high value="2012"/>
```

```
      </effectiveTime>
      <repeatNumber value="1"/>
      <performer>
        <assignedEntity>
          <id root="1001245282"/>
          <assignedPerson/>
          <representedOrganization>
            <asOrganizationPartOf/>
          </representedOrganization>
        </assignedEntity>
      </performer>
      <precondition>
        <criterion/>
      </precondition>
    </observation>
  </entryRelationship>
  <entryRelationship>
    <supply classCode="SPLY" moodCode="INT">
      <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
      <id root="2105372813"/>
      <code code="1282349710"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime value="20120325"/>
      <repeatNumber value="1"/>
      <performer>
        <assignedEntity>
          <id root="66107295"/>
          <assignedPerson/>
          <representedOrganization>
            <asOrganizationPartOf/>
          </representedOrganization>
        </assignedEntity>
      </performer>
      <entryRelationship>
        <act classCode="ACT" moodCode="INT">
          <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
          <id root="1603036300"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <performer>
            <assignedEntity>
              <id root="429426272"/>
              <assignedPerson/>
              <representedOrganization/>
            </assignedEntity>
          </performer>
          <precondition>
            <criterion/>
          </precondition>
        </act>
      </entryRelationship>
      <precondition>
        <criterion/>
      </precondition>
    </supply>
  </entryRelationship>
  <precondition>
```

```
    <criterion/>
  </precondition>
</substanceadministration>
```

Immunization Refusal Reason

[Observation: templateId `2.16.840.1.113883.10.20.22.4.53`]

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="OBS"` *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:8991)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:8992)
3. **SHALL** contain exactly one [1..1] **`code`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.1.11.19717` *`No Immunization Reason Value Set`* **STATIC** 1 (CONF:8995)
4. **SHALL** contain at least one [1..*] **`id`** (CONF:8994)
5. **SHALL** contain zero or one [0..1] **`statusCode/@code`**`="completed"` (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:8996)

Immunization Refusal Reason example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.53"/>
  <id root="1627250582"/>
  <code codeSystem="2.16.840.1.113883.5.8" codeSystemName="ActReason"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
</observation>
```

Indication

[Observation: templateId `2.16.840.1.113883.10.20.22.4.19`]

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

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="OBS"` *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:7480)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:7481)
3. **SHALL** contain exactly one [1..1] **`id`** (CONF:7483)
4. **SHOULD** contain zero or one [0..1] **`code`**, which **SHOULD** be selected from ValueSet `2.16.840.1.113883.3.88.12.3221.7.2` *`Problem Type`* **STATIC** 2008-12-18 (CONF:7484)
5. **SHALL** contain exactly one [1..1] **`statusCode/@code`**`="completed"` (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:7487)
6. **SHOULD** contain zero or one [0..1] **`effectiveTime`** (CONF:7488)
7. **SHOULD** contain zero or one [0..1] **`value`**, which **SHOULD** be selected from ValueSet `2.16.840.1.113883.3.88.12.3221.7.4` *`Problem`* **DYNAMIC**, where its data type is CD (CONF:7489, CONF:7991)
8. **MAY** satisfy: Set the observation/id equal to an ID on the problem list to signify that problem as an indication (CONF:9321)

9. The value element **MAY** contain @nullFlavor (CONF:10088)
10. 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)

Indication example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
  <id root="2106550563"/>
  <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <value xsi:type="CD" code="2083779007"/>
</observation>
```

Instructions

[Act: templateId `2.16.840.1.113883.10.20.22.4.20`]

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.

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="ACT"` *Act* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:7391)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="INT"` (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:7392)
3. **SHALL** contain exactly one [1..1] **`code`**, which **SHALL** be selected from ValueSet `4. 2.16.840.1.113883.11.20.9.34` *`PatientEducation`* **DYNAMIC** (CONF:7394)
4. **SHOULD** contain zero or one [0..1] **`text`** (CONF:7395)
5. **SHALL** contain zero or one [0..1] **`statusCode/@code`**`="completed"` (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:7396)
6. This text, if present, **SHOULD** contain zero or one [0..1] reference/@value (CONF:7397) (CONF:7397)
7. 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)

Instructions example

```
<?xml version="1.0" encoding="UTF-8"?>
<act xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd" classCode="ACT"
 moodCode="INT">
  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
  <id root="7194304"/>
  <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
  <text>Text Value</text>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
</act>
```

Medication Activity

[SubstanceAdministration: templateId `2.16.840.1.113883.10.20.22.4.16`]

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.

1. **SHALL** contain exactly one [1..1] **`@classCode="SBADM"`** (CodeSystem: `2.16.840.1.113883.5.6` `HL7ActClass`) (CONF:7496)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.11.20.9.18` *`MoodCodeEvnInt`* **STATIC** 2011-04-03 (CONF:7497)
3. **SHALL** contain at least one [1..*] **`id`** (CONF:7500)
4. **MAY** contain zero or one [0..1] **`code`** (CONF:7506)
5. **SHALL** contain exactly one [1..1] **`statusCode`** (CONF:7507)
6. **MAY** contain zero or one [0..1] **`routeCode`**, which **MAY** be selected from ValueSet `2.16.840.1.113883.3.88.12.3221.8.7` *`Medication Route FDA Value Set`* **STATIC** 1 (CONF:7514)
7. **MAY** contain zero or one [0..1] **`approachSiteCode`**, which **MAY** be selected from ValueSet `2.16.840.1.113883.3.88.12.3221.8.9` *`Body Site Value Set`* **STATIC** 2 (CONF:7515)
8. **SHOULD** contain zero or one [0..1] **`doseQuantity`** (CONF:7516)
   - 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) 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
9. **MAY** contain zero or one [0..1] **`rateQuantity`** (CONF:7517)
10. **MAY** contain zero or one [0..1] **`maxDoseQuantity`** (CONF:7518)
11. **MAY** contain zero or one [0..1] **`administrationUnitCode`**, which **MAY** be selected from ValueSet `2.16.840.1.113883.3.88.12.3221.8.11` *`Medication Product Form`* **STATIC** 1 (CONF:7519)
12. **MAY** contain zero or one [0..1] **`performer`** (CONF:7522)
13. **MAY** contain zero or one [0..1] **`instructions`** (CONF:7541)
    a. Contains **`@typeCode="SUBJ"`** *SUBJ*
    b. Contains exactly one [1..1] *Instructions* (templateId: `2.16.840.1.113883.10.20.22.4.20`)
14. **MAY** contain at least one [1..*] **`medicationSupplyOrder`** (CONF:7545)
    a. Contains **`@typeCode="REFR"`** *REFR*
    b. Contains exactly one [1..1] *Medication Supply Order* (templateId: `2.16.840.1.113883.10.20.22.4.17`)
15. **MAY** contain zero or one [0..1] **`reactionObservation`** (CONF:7548)
    a. Contains **`@typeCode="CAUS"`** *CAUS*
    b. Contains exactly one [1..1] *Reaction Observation* (templateId: `2.16.840.1.113883.10.20.22.4.9`)
16. **MAY** contain zero or more [0..*] **`indication`** (CONF:7538)
    a. Contains **`@typeCode="RSON"`** *RSON*
    b. Contains exactly one [1..1] *Indication* (templateId: `2.16.840.1.113883.10.20.22.4.19`)
17. **MAY** contain zero or one [0..1] **`medicationDispense`** (CONF:7554)
    a. Contains **`@typeCode="REFR"`** *REFR*
    b. Contains exactly one [1..1] *Medication Dispense* (templateId: `2.16.840.1.113883.10.20.22.4.18`)
18. **MAY** contain zero or more [0..*] **`precondition`** (CONF:7546)

   a. Contains exactly one [1..1] *Precondition For Substance Administration* (templateId: `2.16.840.1.113883.10.20.22.4.25`)
19. **MAY** contain zero or more [0..*] **`drugVehicle`** (CONF:7523)
   a. Contains exactly one [1..1] *Drug Vehicle* (templateId: `2.16.840.1.113883.10.20.22.4.24`)
20. **SHOULD** contain zero or one [0..1] **`text`** (CONF:7501)
21. **MAY** contain zero or one [0..1] **`repeatNumber`** (CONF:7555)
   - 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 substance administration event means that the current administration is the 3rd in a series
22. **SHALL** contain exactly one [1..1] **`consumable`** (CONF:7520)
   a. This consumable **SHALL** contain exactly one [1..1] **`manufacturedProduct`**, where its type is *Medication Information* (CONF:7521)
      a. Contains exactly one [1..1] *Medication Information* (templateId: `2.16.840.1.113883.10.20.22.4.23`)
23. Medication Activity **SHOULD** include doseQuantity OR rateQuantity
24. text, if present, **SHOULD** contain zero or one [0..1] reference/@value (CONF:7502)
25. 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)
26. **SHALL** contain exactly one [1..1] effectiveTime such that it **SHALL** contain exactly one [1..1] @xsi:type = "IVL_TS" (CONF:7508, CONF:9104)
27. effectiveTime with @xsi:type="IVL_TS" **SHALL** contain exactly one [1..1] low
28. effectiveTime with @xsi:type="IVL_TS" **SHALL** contain exactly one [1..1] high
29. **SHOULD** contain zero or one [0..1] effectiveTime such that it **SHALL** contain exactly one [1..1] @xsi:type = "PIVL_TS" or "EIVL_TS" (CONF:7513, CONF:9105)
30. effectiveTime with @xsi:type = "PIVL_TS" or "EIVL_TS" **SHALL** contain exactly one [1..1] @operator="A" and (CONF:9106)
31. 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)
32. participant with target entry Drug Vehicle **SHALL** contain exactly one [1..1] @typeCode="CSM" (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:7524)
33. entryRelationship with target entry Instructions **SHALL** contain exactly one [1..1] @inversionInd="true" True (CONF:7542)
34. Precondition for Substance Administration **SHALL** contain exactly one [1..1] @typeCode="PRCN" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:7550)

Medication Activity example

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```
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```

Medication Dispense

[Supply: templateId `2.16.840.1.113883.10.20.22.4.18`]

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="SPLY"` (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:7451)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:7452)
3. **SHOULD** contain zero or one [0..1] **`effectiveTime`** (CONF:7456)
4. **SHALL** contain at least one [1..*] **`id`** (CONF:7454)
5. **SHOULD** contain zero or one [0..1] **`repeatNumber`** (CONF:7457)
   - 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
6. **SHALL** contain exactly one [1..1] **`statusCode`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.3.88.12.80.64` *`Medication Fill Status`* **STATIC** 1 (CONF:7455)

7. **MAY** contain zero or one [0..1] **`performer`**
8. **MAY** contain zero or one [0..1] **`medicationSupplyOrder`** (CONF:7473, CONF:7474, CONF:7476)
   a. Contains **`@typeCode="`**`REFR`**`"`** *REFR*
   b. Contains exactly one [1..1] *Medication Supply Order* (templateId: `2.16.840.1.113883.10.20.22.4.17`)
9. **SHOULD** contain zero or one [0..1] **`quantity`** (CONF:7458)
10. **SHALL** contain exactly one [1..1] **`assignedEntity`** (CONF:7467)
11. **SHALL** contain zero or one [0..1] **`product`** (CONF:7459, CONF:9331)
    a. This product supply act **SHALL** contain one product/Medication Information or one product/Immunization Medication Information template (CONF:7460, CONF:9332, CONF:9333)

Medication Dispense example

```
<?xml version="1.0" encoding="UTF-8"?>
<supply xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd" classCode="SPLY"
 moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
  <id root="909232494"/>
  <statusCode code="completed"/>
  <effectiveTime value="20120325"/>
  <repeatNumber value="1"/>
  <quantity/>
  <product>
    <manufacturedProduct/>
  </product>
  <performer>
    <assignedEntity>
      <id root="1210040472"/>
      <assignedPerson/>
      <representedOrganization>
        <asOrganizationPartOf>
          <wholeOrganization/>
        </asOrganizationPartOf>
      </representedOrganization>
    </assignedEntity>
  </performer>
  <entryRelationship>
    <supply classCode="SPLY" moodCode="INT">
      <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
      <id root="804859917"/>
      <statusCode code="completed"/>
      <effectiveTime value="20120325"/>
      <repeatNumber value="1"/>
      <quantity/>
      <product>
        <manufacturedProduct/>
      </product>
      <performer>
        <assignedEntity>
          <id root="1437422167"/>
          <assignedPerson/>
          <representedOrganization>
            <asOrganizationPartOf/>
          </representedOrganization>
        </assignedEntity>
      </performer>
      <entryRelationship>
        <act classCode="ACT" moodCode="INT">
          <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
          <id root="160842853"/>
```

```
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <performer>
            <assignedEntity>
              <id root="859972599"/>
              <assignedPerson/>
              <representedOrganization/>
            </assignedEntity>
          </performer>
        </act>
      </entryRelationship>
    </supply>
  </entryRelationship>
</supply>
```

Medication Supply Order

[Supply: templateId `2.16.840.1.113883.10.20.22.4.17`]

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="SPLY"` (CodeSystem: `2.16.840.1.113883.5.6` `HL7ActClass`) (CONF:7427)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="INT"` (CodeSystem: `2.16.840.1.113883.5.1001` `HL7ActMood`) (CONF:7428)
3. **SHOULD** contain zero or one [0..1] **`effectiveTime`** (CONF:7433)
4. **SHOULD** contain zero or one [0..1] **`quantity`** (CONF:7436)
5. **SHOULD** contain zero or one [0..1] **`repeatNumber`** (CONF:7434)
   - 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)
6. **SHALL** contain exactly one [1..1] **`statusCode`** (CONF:7432)
7. **SHALL** contain at least one [1..*] **`id`** (CONF:7430)
8. **SHALL** contain zero or one [0..1] **`product`** (CONF:7439, CONF:9334)
   a. This product supply act **SHALL** contain one product/Medication Information or one product/Immunization Medication Information template (CONF:7437, CONF:9335, CONF:9336)
9. **MAY** contain zero or one [0..1] **`author`** (CONF:7438)
10. **MAY** contain zero or one [0..1] **`instructions`** (CONF:7442, CONF:7444)
    a. Contains **`@typeCode="`**`SUBJ"` *SUBJ*
    b. Contains exactly one [1..1] *Instructions* (templateId: `2.16.840.1.113883.10.20.22.4.20`)
11. This entryRelationship, if present, **SHALL** contain exactly one [1..1] @inversionInd="true" True (CONF:7445)

Medication Supply Order example

```
<?xml version="1.0" encoding="UTF-8"?>
<supply xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd" classCode="SPLY"
 moodCode="INT">
  <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
  <id root="541953143"/>
  <statusCode code="completed"/>
  <effectiveTime value="20120325"/>
  <repeatNumber value="1"/>
  <quantity/>
  <product>
    <manufacturedProduct/>
```

```
  </product>
  <author>
    <time/>
    <assignedAuthor>
      <id root="602437347"/>
      <assignedPerson/>
      <assignedAuthoringDevice>
        <asMaintainedEntity>
          <maintainingPerson/>
        </asMaintainedEntity>
      </assignedAuthoringDevice>
      <representedOrganization>
        <asOrganizationPartOf>
          <wholeOrganization/>
        </asOrganizationPartOf>
      </representedOrganization>
    </assignedAuthor>
  </author>
  <entryRelationship>
    <act classCode="ACT" moodCode="INT">
      <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
      <id root="1758339582"/>
      <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <author>
        <time/>
        <assignedAuthor>
          <id root="255606372"/>
          <assignedPerson/>
          <assignedAuthoringDevice>
            <asMaintainedEntity/>
          </assignedAuthoringDevice>
          <representedOrganization>
            <asOrganizationPartOf/>
          </representedOrganization>
        </assignedAuthor>
      </author>
    </act>
  </entryRelationship>
</supply>
```

Non Medicinal Supply Activity

[Supply: templateId `2.16.840.1.113883.10.20.22.4.50`]

This template records non-medicinal supplies provided, such as medical equipment

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="SPLY"` (CodeSystem: `2.16.840.1.113883.5.6` `HL7ActClass`) (CONF:8745)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.11.20.9.18` *`MoodCodeEvnInt`* **STATIC** 2011-04-03 (CONF:8746)
3. **SHALL** contain at least one [1..*] **`id`** (CONF:8748)
4. **SHALL** contain exactly one [1..1] **`statusCode`** (CONF:8749)
5. **SHOULD** contain zero or one [0..1] **`effectiveTime`** (CONF:8750)
6. **SHOULD** contain exactly one [1..1] **`quantity`** (CONF:8751)
7. **SHALL** contain zero or one [0..1] **`productInstance`** (CONF:8753)
   a. Contains exactly one [1..1] *Product Instance* (templateId: `2.16.840.1.113883.10.20.22.4.37`)

8. **SHOULD** contain zero or one [0..1] effectiveTime/high (CONF:8750)
9. participant with target entry Product Instance **SHALL** contain exactly one [1..1] @typeCode="PRD" Product (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:8754)

Non Medicinal Supply Activity example

```
<?xml version="1.0" encoding="UTF-8"?>
<supply xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd" classCode="SPLY">
  <templateId root="2.16.840.1.113883.10.20.22.4.50"/>
  <id root="636174059"/>
  <statusCode code="completed"/>
  <effectiveTime value="20120325"/>
  <quantity/>
</supply>
```

Plan Of Care Activity Act

[Act: templateId `2.16.840.1.113883.10.20.22.4.39`]

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="ACT"` **`/@code`**`=""` (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:8538)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.11.20.9.23` *`Plan of Care moodCode (Act/Encounter/Procedure)`* **STATIC** (CONF:8539)
3. **SHALL** contain at least one [1..*] **`id`** (CONF:8539)

Plan Of Care Activity Act example

```
<?xml version="1.0" encoding="UTF-8"?>
<act xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd" classCode="ACT">
  <templateId root="2.16.840.1.113883.10.20.22.4.39"/>
  <id root="1103022246"/>
  <code code="1806592280"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
</act>
```

Plan Of Care Activity Encounter

[Encounter: templateId `2.16.840.1.113883.10.20.22.4.40`]

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="ENC"` **`/@code`**`=""` (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:8564)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.11.20.9.23` *`Plan of Care moodCode (Act/Encounter/Procedure)`* **STATIC** (CONF:8565)
3. **SHALL** contain at least one [1..*] **`id`** (CONF:8567)

Plan Of Care Activity Encounter example

```
<?xml version="1.0" encoding="UTF-8"?>
<encounter xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="ENC">
  <templateId root="2.16.840.1.113883.10.20.22.4.40"/>
  <id root="1980203916"/>
  <effectiveTime>
```

```
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
</encounter>
```

Plan Of Care Activity Observation

[Observation: templateId `2.16.840.1.113883.10.20.1.25`]

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="OBS"` **`/@code`**`=""` (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:8581)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.11.20.9.25` *`Plan of Care moodCode (Observation)`* **STATIC** (CONF:8582)
3. **SHALL** contain at least one [1..*] **`id`** (CONF:8584)

Plan Of Care Activity Observation example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="OBS">
  <templateId root="2.16.840.1.113883.10.20.1.25"/>
  <id root="679387987"/>
  <code code="1919588255"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
</observation>
```

Plan Of Care Activity Procedure

[Procedure: templateId `2.16.840.1.113883.10.20.22.4.41`]

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="PROC"` **`/@code`**`=""` (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:8568)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.11.20.9.23` *`Plan of Care moodCode (Act/Encounter/Procedure)`* **STATIC** (CONF:8569)
3. **SHALL** contain at least one [1..*] **`id`** (CONF:8571)

Plan Of Care Activity Procedure example

```
<?xml version="1.0" encoding="UTF-8"?>
<procedure xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="PROC">
  <templateId root="2.16.840.1.113883.10.20.22.4.41"/>
  <id root="939092387"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
</procedure>
```

Plan Of Care Activity Substance Administration

[SubstanceAdministration: templateId `2.16.840.1.113883.10.20.1.25`]

1. **SHALL** contain exactly one [1..1] **@classCode**="SBADM" **/@code**="" (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) (CONF:8572)
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet 2.16.840.1.113883.11.20.9.24 *Plan of Care moodCode (SubstanceAdministration/Supply)* **STATIC** (CONF:8573)
3. **SHALL** contain at least one [1..*] **id** (CONF:8575)

Plan Of Care Activity Substance Administration example

```
<?xml version="1.0" encoding="UTF-8"?>
<substanceadministration xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="SBADM">
  <templateId root="2.16.840.1.113883.10.20.1.25"/>
  <id root="1792506923"/>
  <effectiveTime value="20120325"/>
  <consumable/>
</substanceadministration>
```

Plan Of Care Activity Supply

[Supply: templateId 2.16.840.1.113883.10.20.22.4.43]

1. **SHALL** contain exactly one [1..1] **@classCode**="SPLY" (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) (CONF:8577)
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet 2.16.840.1.113883.11.20.9.24 *Plan of Care moodCode (SubstanceAdministration/Supply)* **STATIC** (CONF:8578)
3. **SHALL** contain at least one [1..*] **id** (CONF:8580)

Plan Of Care Activity Supply example

```
<?xml version="1.0" encoding="UTF-8"?>
<supply xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd" classCode="SPLY">
  <templateId root="2.16.840.1.113883.10.20.22.4.43"/>
  <id root="1645832459"/>
  <effectiveTime value="20120325"/>
</supply>
```

Policy Activity

[Act: templateId 2.16.840.1.113883.10.20.22.4.61]

A policy activity represents the policy or program providing the coverage.

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" *Act* (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) (CONF:8898)
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:8899)
3. **SHOULD** contain exactly one [1..1] **code**, which **SHOULD** be selected from ValueSet 2.16.840.1.113883.3.88.12.3221.5.2 *Health Insurance Type Value Set* **STATIC** 20081218 (CONF:8903)
   a. The code, if present, **SHOULD** contain zero or one [0..1] code, where the @code **SHOULD** be selected from ValueSet Health Insurance Type Value Set 2.16.840.1.113883.3.88.12.3221.5.2 DYNAMIC (CONF:8904)
4. **SHALL** contain at least one [1..*] **id** (CONF:8901, CONF:10119)
   - This id is a unique identifier for the policy or program providing the coverage (CONF:10119)
5. **SHALL** contain zero or one [0..1] **statusCode/@code**="completed" *Completed* (CodeSystem: 2.16.840.1.113883.5.14 ActStatus) (CONF:8902)

6. **SHALL** contain at least one [1..*] **`authorizationActivity`** (CONF:8939, CONF:8940)
   a. Contains **`@typeCode="`**`REFR`**`"`** *REFR*
   b. Contains exactly one [1..1] *Authorization Activity* (templateId: `2.16.840.1.113883.10.20.1.19`)
7. **SHALL** contain exactly one [1..1] **`performer`**
   a. This performer **SHALL** contain exactly one [1..1] **`@typeCode`**`="PRF"` (CONF:8907)
   b. This performer **SHALL** contain exactly one [1..1] **`assignedEntity`** (CONF:8908)
      a. This assignedEntity **SHALL** contain at least one [1..*] **`id`** (CONF:8909)
      b. This assignedEntity **SHALL** contain zero or one [0..1] **`code`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.1.11.10416` *`FinanciallyResponsiblePartyType`* **DYNAMIC** (CONF:8914, CONF:8915)
      c. This assignedEntity **MAY** contain zero or one [0..1] **`addr`** (CONF:8910, CONF:10481)
      d. This assignedEntity **MAY** contain zero or one [0..1] **`telecom`** (CONF:8910)
      e. This assignedEntity **SHOULD** contain zero or one [0..1] **`representedOrganization`** (CONF:8912)
         a. This representedOrganization **SHOULD** contain zero or one [0..1] **`name`** (CONF:8913)
      f. This assignedEntity 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:10481)
8. **SHALL** contain zero or one [0..1] **`performer`**
   a. This performer **SHOULD** contain exactly one [1..1] **`@typeCode`**`="PRF"` (CONF:8961)
   b. This performer **SHOULD** contain exactly one [1..1] **`time`** (CONF:8963)
   c. This performer **SHALL** contain exactly one [1..1] **`assignedEntity`** (CONF:8962)
      a. This assignedEntity **SHOULD** contain zero or one [0..1] **`code/@code`**`="GUAR"` (CodeSystem: `2.16.840.1.113883.5.111 RoleCode`) (CONF:8968, CONF:10566)
      b. This assignedEntity **SHOULD** contain zero or one [0..1] **`addr`** (CONF:8964, CONF:10482)

         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:10482)
      c. This assignedEntity **SHOULD** contain zero or one [0..1] **`telecom`** (CONF:8965)
      d. This assignedEntity **SHOULD** include assignedEntity/assignedPerson/name AND/OR assignedEntity/representedOrganization/name (CONF:8967)
      e. This assignedEntity 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:10482)
9. **SHALL** contain exactly one [1..1] **`participant`** (CONF:8916)
   a. This participant **SHALL** contain exactly one [1..1] **`@typeCode`**`="COV"` (CONF:8917)
   b. This participant **SHOULD** contain zero or one [0..1] **`time`** (CONF:8918)
   c. This participant **SHALL** contain exactly one [1..1] **`participantRole`** (CONF:8921)
      a. This participantRole **SHALL** contain at least one [1..*] **`id`** (CONF:8922)
      b. This participantRole **SHALL** contain zero or one [0..1] **`code`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.1.11.18877` *`Coverage Role Type Value Set`* **DYNAMIC** (CONF:8923, CONF:8924)
      c. This participantRole **SHOULD** contain zero or one [0..1] **`addr`** (CONF:8956)
      d. This participantRole **SHOULD** contain zero or one [0..1] **`playingEntity`** (CONF:8932)
         a. This playingEntity **SHALL** contain exactly one [1..1] **`name`** (CONF:8930)
   d. This participant The time, if present, **SHOULD** contain zero or one [0..1] low (CONF:8919)
   e. This participant The time, if present, **SHOULD** contain zero or one [0..1] high (CONF:8920)
10. **SHOULD** contain zero or one [0..1] **`participant`** (CONF:8934)
   a. This participant **SHALL** contain exactly one [1..1] **`@typeCode`**`="HLD"` (CONF:8935)
   b. This participant **MAY** contain zero or one [0..1] **`time`** (CONF:8938)
   c. This participant **SHALL** contain exactly one [1..1] **`participantRole`** (CONF:8936)

a. This participantRole **SHALL** contain at least one [1..*] **`id`** (CONF:8937)

This id is a unique identifier for the subscriber of the coverage (CONF:10120)

b. This participantRole **SHOULD** contain zero or one [0..1] **`addr`** (CONF:8925)

Policy Activity example

```
<?xml version="1.0" encoding="UTF-8"?>
<act xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd" classCode="ACT"
 moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.61"/>
  <id root="1766551521"/>
  <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <performer typeCode="PRF">
    <templateId root="null"/>
    <assignedEntity>
      <id root="1021644814"/>
      <code codeSystem="2.16.840.1.113883.5.110"
 codeSystemName="HL7RoleClass"/>
      <addr/>
      <telecom/>
      <representedOrganization>
        <name/>
      </representedOrganization>
    </assignedEntity>
  </performer>
  <performer typeCode="PRF">
    <time>
      <low value="2012"/>
      <high value="2012"/>
    </time>
    <assignedEntity>
      <id root="1487875637"/>
      <code code="GUAR" codeSystem="2.16.840.1.113883.5.111"
 codeSystemName="RoleCode"/>
      <addr/>
      <telecom/>
    </assignedEntity>
  </performer>
  <participant typeCode="COV">
    <time>
      <low value="2012"/>
      <high value="2012"/>
    </time>
    <participantRole>
      <id root="515396991"/>
      <code codeSystem="2.16.840.1.113883.5.111" codeSystemName="RoleCode"/>
      <addr/>
      <playingEntity>
        <name/>
      </playingEntity>
    </participantRole>
  </participant>
  <participant typeCode="HLD">
    <time>
      <low value="2012"/>
      <high value="2012"/>
```

```
   </time>
   <participantRole>
     <id root="1761599550"/>
     <addr/>
   </participantRole>
 </participant>
 <entryRelationship>
   <act>
     <templateId root="2.16.840.1.113883.10.20.1.19"/>
     <id root="1214976620"/>
     <code code="2081907530"/>
     <statusCode code="completed"/>
     <effectiveTime>
       <low value="2012"/>
       <high value="2012"/>
     </effectiveTime>
     <performer typeCode="PRF">
       <templateId root="null"/>
       <assignedEntity>
         <id root="33437415"/>
         <code codeSystem="2.16.840.1.113883.5.110"
codeSystemName="HL7RoleClass"/>
         <addr/>
         <telecom/>
         <representedOrganization>
           <name/>
         </representedOrganization>
       </assignedEntity>
     </performer>
     <performer typeCode="PRF">
       <time>
         <low value="2012"/>
         <high value="2012"/>
       </time>
       <assignedEntity>
         <id root="1009234482"/>
         <code code="GUAR" codeSystem="2.16.840.1.113883.5.111"
codeSystemName="RoleCode"/>
         <addr/>
         <telecom/>
       </assignedEntity>
     </performer>
     <participant typeCode="COV">
       <time>
         <low value="2012"/>
         <high value="2012"/>
       </time>
       <participantRole>
         <id root="2102117147"/>
         <code codeSystem="2.16.840.1.113883.5.111"
codeSystemName="RoleCode"/>
         <addr/>
         <playingEntity>
           <name/>
         </playingEntity>
       </participantRole>
     </participant>
     <participant typeCode="HLD">
       <time>
         <low value="2012"/>
         <high value="2012"/>
       </time>
       <participantRole>
         <id root="1841119611"/>
```

```
          <addr/>
        </participantRole>
      </participant>
    </act>
  </entryRelationship>
</act>
```

Postprocedure Diagnosis

[Act: templateId `2.16.840.1.113883.10.20.22.4.51`]

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.

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="ACT"` *Act* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:8756)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:8757)
3. **SHALL** contain exactly one [1..1] **`code/@code`**`="59769-0"` *Postprocedure Diagnosis* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:8758)
4. **SHALL** contain at least one [1..*] **`problemObservation`** (CONF:8759, CONF:8760, CONF:8767)
   a. Contains **`@typeCode="`**`SUBJ"` *SUBJ*
   b. Contains exactly one [1..1] *Problem Observation* (templateId: `2.16.840.1.113883.10.20.22.4.4`)

Postprocedure Diagnosis example

```
<?xml version="1.0" encoding="UTF-8"?>
<act xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd" classCode="ACT"
 moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.51"/>
  <id root="268084914"/>
  <code code="59769-0" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Postprocedure Diagnosis"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <entryRelationship>
    <observation moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
      <id root="174377966"/>
      <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.31"/>
          <id root="965675637"/>
          <code code="445518008" codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT" displayName="Age At Onset"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
```

```
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.5"/>
          <id root="118842856"/>
          <code code="11323-3" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Health status"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.6"/>
          <id root="2042776704"/>
          <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Status"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
    </observation>
  </entryRelationship>
</act>
```

Pregnancy Observation

[Observation: templateId `2.16.840.1.113883.10.20.15.3.8`]

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.

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="OBS"` *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:451)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:452)
3. **SHALL** contain exactly one [1..1] **`code/@code`**`="ASSERTION"` *Assertion* (CodeSystem: `2.16.840.1.113883.5.4 HL7ActCode`) (CONF:454)
4. **SHALL** contain exactly one [1..1] **`statusCode/@code`**`="completed"` (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:455)
5. **SHALL** contain exactly one [1..1] **`value/@code`**`="77386006"` *Pregnant* (CodeSystem: `2.16.840.1.113883.6.96 SNOMEDCT`), where its data type is CD (CONF:457)
   - The value of the observation shall be recording using a data type appropriate to the coded observation according to the table provided by IHE PCC specification.
6. **SHOULD** contain zero or one [0..1] **`effectiveTime`** (CONF:2018)
7. **SHALL** contain exactly one [1..1] **`estimatedDateOfDelivery`** (CONF-459, CONF-460)
   a. Contains **`@typeCode="`**`REFR"` *REFR*
   b. Contains exactly one [1..1] *Estimated Date Of Delivery* (templateId: `2.16.840.1.113883.10.20.15.3.1`)

Pregnancy Observation example

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

```
  <templateId root="2.16.840.1.113883.10.20.15.3.8"/>
  <id root="1207982835"/>
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"
 codeSystemName="HL7ActCode" displayName="Assertion"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <value xsi:type="CD" code="1345957724"/>
  <entryRelationship>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.15.3.1"/>
      <id root="480024237"/>
      <code code="11778-8" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <value xsi:type="CD" code="1372046518"/>
    </observation>
  </entryRelationship>
</observation>
```

Preoperative Diagnosis

[Act: templateId `2.16.840.1.113883.10.20.22.4.65`]

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="ACT"` *Act* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:10090)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:10091)
3. **SHALL** contain exactly one [1..1] **`code/@code`**`="10219-4"` (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:10092)
4. **SHALL** contain exactly one [1..1] **`problemObservation`** (CONF:10093, CONF:10094, CONF:10095)
   a. Contains **`@typeCode="`**`SUBJ"` *SUBJ*
   b. Contains exactly one [1..1] *Problem Observation* (templateId: `2.16.840.1.113883.10.20.22.4.4`)

Preoperative Diagnosis example

```
<?xml version="1.0" encoding="UTF-8"?>
<act xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd" classCode="ACT"
 moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.65"/>
  <id root="558734637"/>
  <code code="10219-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <entryRelationship>
    <observation moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
      <id root="568150856"/>
      <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
      <statusCode code="completed"/>
```

```
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.31"/>
          <id root="833348996"/>
          <code code="445518008" codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT" displayName="Age At Onset"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.5"/>
          <id root="764354182"/>
          <code code="11323-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Health status"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.6"/>
          <id root="1095671954"/>
          <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Status"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
    </observation>
  </entryRelationship>
</act>
```

Problem Concern Act

[Act: templateId `2.16.840.1.113883.10.20.22.4.3`]

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.

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="ACT"` *Act* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:9024)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:9025)
3. **SHALL** contain at least one [1..*] **`id`** (CONF:9026)

4. **SHALL** contain exactly one [1..1] **`code/@code`**`="CONC"` *Concern* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:9440)
5. **SHALL** contain exactly one [1..1] **`statusCode`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.11.20.9.19` *`ProblemActStatusCode`* **STATIC** 2011-09-09 (CONF:9029)
   - The statusCode associated with any concern must be one of the following values:

     active: A concern that is still being tracked. **suspended**: A concern that is active, but which may be set aside. For example, this value might be used to suspend concern about a patient problem after some period of remission, but before assumption that the concern has been resolved. **aborted**: A concern that is no longer actively being tracked, but for reasons other than because the problem was resolved. This value might be used to mark a concern as being aborted after a patient leaves care against medical advice. **completed**: The problem, allergy or medical state has been resolved and the concern no longer needs to be tracked except for historical purposes.
6. **SHALL** contain exactly one [1..1] **`effectiveTime`** (CONF:9030)
   - The effectiveTime element records the starting and ending times during which the concern was active on the Problem List.
7. **SHALL** contain at least one [1..*] **`problemObservation`** (CONF:9036)
   a. Contains **`@typeCode="`**`SUBJ"` *SUBJ*
   b. Contains exactly one [1..1] *Problem Observation* (templateId: `2.16.840.1.113883.10.20.22.4.4`)
8. effectiveTime **SHALL** contain exactly one [1..1] low (CONF:9032)
9. effectiveTime **SHOULD** contain zero or one [0..1] high (CONF:9033)

Problem Concern Act example

```
<?xml version="1.0" encoding="UTF-8"?>
<act xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd" classCode="ACT"
 moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.3"/>
  <id root="1319098243"/>
  <code code="CONC" codeSystem="2.16.840.1.113883.5.6"
 codeSystemName="HL7ActClass" displayName="Concern"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <entryRelationship>
    <observation moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
      <id root="1297875119"/>
      <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.31"/>
          <id root="2088164725"/>
          <code code="445518008" codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT" displayName="Age At Onset"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
```

```
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.5"/>
          <id root="262444706"/>
          <code code="11323-3" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Health status"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.6"/>
          <id root="2121248794"/>
          <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Status"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
    </observation>
  </entryRelationship>
</act>
```

Problem Observation

[Observation: templateId `2.16.840.1.113883.10.20.22.4.4`]

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".

1. **SHALL** contain exactly one [1..1] **`@classCode`** (CONF:9041)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:9042)
3. **MAY** contain zero or one [0..1] **`@negationInd`** (CONF:10139)
   - negationInd="true" SHALL be used to represent that the problem was not observed
4. **SHALL** contain at least one [1..*] **`id`** (CONF:9043)
5. **SHALL** contain exactly one [1..1] **`code`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.3.88.12.3221.7.2` *`Problem Type`* **STATIC** 2008-12-18 (CONF:9045)
6. **SHOULD** contain zero or one [0..1] **`text`** (CONF:9185)
7. **SHALL** contain exactly one [1..1] **`statusCode/@code`**`="completed"` *Completed* (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:9049)
8. **SHOULD** contain zero or one [0..1] **`effectiveTime`** (CONF:9050)

9. **SHALL** contain exactly one [1..1] **`value`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.3.88.12.3221.7.4` *`Problem`* **DYNAMIC**, where its data type is CD (CONF:9058)
10. **MAY** contain zero or one [0..1] **`ageObservation`** (CONF:9059)
    a. Contains **`@typeCode="`**`SUBJ`**`"`** *SUBJ*
    b. Contains exactly one [1..1] *Age Observation* (templateId: `2.16.840.1.113883.10.20.22.4.31`)
11. **MAY** contain zero or one [0..1] **`problemStatus`** (CONF:9063)
    a. Contains **`@typeCode="`**`REFR`**`"`** *REFR*
    b. Contains exactly one [1..1] *Problem Status* (templateId: `2.16.840.1.113883.10.20.22.4.6`)
12. **MAY** contain zero or one [0..1] **`healthStatusObservation`** (CONF:9067)
    a. Contains **`@typeCode="`**`REFR`**`"`** *REFR*
    b. Contains exactly one [1..1] *Health Status Observation* (templateId: `2.16.840.1.113883.10.20.22.4.5`)
13. The text, if present, **SHOULD** contain zero or one [0..1] reference/@value (CONF:9187)
14. 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)
15. onset date **SHALL** be recorded in the low element of the effectiveTime element when known (CONF:9051)
16. resolution date **SHALL** be recorded in the high element of the effectiveTime element when known (CONF:9052)
17. 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)
18. value **MAY** contain zero or one [0..1] @nullFlavor (CONF:10141)
19. 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)
20. entryRelationship with target entry Age Observation **SHALL** contain exactly one [1..1] @inversionInd="true" True (CONF:9069)

Problem Observation example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
  <id root="1187056504"/>
  <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
  <text>Text Value</text>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <value xsi:type="CD" code="633971586"/>
  <entryRelationship>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.31"/>
      <id root="1256133473"/>
      <code code="445518008" codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT" displayName="Age At Onset"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <value xsi:type="CD" code="1971305795"/>
    </observation>
```

```
  </entryRelationship>
  <entryRelationship>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.5"/>
      <id root="1023947117"/>
      <code code="11323-3" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Health status"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <value xsi:type="CD" code="1513670651"/>
    </observation>
  </entryRelationship>
  <entryRelationship>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.6"/>
      <id root="313872502"/>
      <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Status"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <value xsi:type="CD" code="1357883326"/>
    </observation>
  </entryRelationship>
</observation>
```

Problem Status

[Observation: templateId `2.16.840.1.113883.10.20.22.4.6`]

The Problem Status records whether the indicated problem is active, inactive, or resolved.

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="OBS"` *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:7357)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:7358)
3. **SHALL** contain exactly one [1..1] **`code/@code`**`="33999-4"` *Status* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:7361)
4. **SHOULD** contain zero or one [0..1] **`text`** (CONF:7362)
5. **SHALL** contain exactly one [1..1] **`statusCode/@code`**`="completed"` *Completed* (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:7364)
6. **SHALL** contain exactly one [1..1] **`value`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.3.88.12.80.68` ***`HITSP Problem Status`*** **STATIC**, where its data type is CD (CONF:7365)
7. text, if present, **SHOULD** contain zero or one [0..1] reference/@value (CONF:7363)
8. 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)

Problem Status example

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

```
  <templateId root="2.16.840.1.113883.10.20.22.4.6"/>
  <id root="326011344"/>
  <code code="33999-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Status"/>
  <text>Text Value</text>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <value xsi:type="CD" code="695163034"/>
</observation>
```

Procedure Activity Act

[Act: templateId `2.16.840.1.113883.10.20.22.4.12`]

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.

1. **SHALL** contain exactly one [1..1] **`@classCode="ACT"`** *Act* (CodeSystem: `2.16.840.1.113883.5.6` `HL7ActClass`) (CONF:8289)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.11.20.9.18` *`MoodCodeEvnInt`* **STATIC** 2011-04-03 (CONF:8290)
3. **SHALL** contain at least one [1..*] **`id`** (CONF:8292)
4. **SHALL** contain exactly one [1..1] **`code`** (CONF:8293)
5. **SHALL** contain zero or one [0..1] **`statusCode`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.11.20.9.22` *`ProcedureActStatusCode`* **DYNAMIC** (CONF:8298)
6. **SHOULD** contain zero or one [0..1] **`effectiveTime`** (CONF:8299)
7. **MAY** contain zero or one [0..1] **`priorityCode`**, which **MAY** be selected from ValueSet `2.16.840.1.113883.1.11.16866` *`ActPriority`* **STATIC** (CONF:8300)
8. **SHOULD** contain zero or more [0..*] **`performer`** (CONF:8301)
9. **MAY** contain zero or more [0..*] **`serviceDeliveryLocation`** (CONF:8313)
   a. Contains exactly one [1..1] *Service Delivery Location* (templateId: `2.16.840.1.113883.10.20.22.4.32`)
10. **MAY** contain zero or more [0..*] **`procedureEncounter`** (CONF:8317)
    a. Contains **`@typeCode="COMP"`** *COMP*
11. **MAY** contain zero or one [0..1] **`instructions`** (CONF:8325)
    a. Contains **`@typeCode="SUBJ"`** *SUBJ*
    b. Contains exactly one [1..1] *Instructions* (templateId: `2.16.840.1.113883.10.20.22.4.20`)
12. **MAY** contain zero or more [0..*] **`indication`** (CONF:8328)
    a. Contains **`@typeCode="RSON"`** *RSON*
    b. Contains exactly one [1..1] *Indication* (templateId: `2.16.840.1.113883.10.20.22.4.19`)
13. **MAY** contain zero or one [0..1] **`medicationActivity`** (CONF:8329)
    a. Contains **`@typeCode="COMP"`** *COMP*
    b. Contains exactly one [1..1] *Medication Activity* (templateId: `2.16.840.1.113883.10.20.22.4.16`)
14. 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)
15. code **SHOULD** contain zero or one [0..1] originalText (CONF:8295)
16. originalText, if present, **SHOULD** contain zero or one [0..1] reference/@value (CONF:8296)

17. 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)
18. entryRelationship with target class encounter **SHALL** contain exactly one [1..1] @inversionInd="true" (CONF:8316)
19. participant with target class Service Delivery Location **SHALL** contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: 2.16.840.1.113883.5.1002 HL7ActRelationshipType) STATIC (CONF:8312)
20. entryRelationship with target class Instructions **SHALL** contain exactly one [1..1] @inversionInd="true" (CONF:8324)

Procedure Activity Act example

```
<?xml version="1.0" encoding="UTF-8"?>
<act xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd" classCode="ACT">
  <templateId root="2.16.840.1.113883.10.20.22.4.12"/>
  <id root="276966008"/>
  <code code="683764280"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <priorityCode code="Value"/>
  <performer>
    <assignedEntity/>
  </performer>
  <entryRelationship>
    <encounter>
      <id root="1466520827"/>
      <code code="255265083"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <priorityCode code="Value"/>
      <performer>
        <assignedEntity/>
      </performer>
    </encounter>
  </entryRelationship>
  <entryRelationship>
    <act classCode="ACT" moodCode="INT">
      <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
      <id root="186112069"/>
      <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <priorityCode code="Value"/>
      <performer>
        <assignedEntity/>
      </performer>
    </act>
  </entryRelationship>
  <entryRelationship>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
      <id root="723889219"/>
      <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
      <statusCode code="completed"/>
```

```
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <priorityCode code="Value"/>
      <performer>
        <assignedEntity/>
      </performer>
    </observation>
  </entryRelationship>
  <entryRelationship>
    <substanceAdministration classCode="SBADM">
      <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
      <id root="462477919"/>
      <code code="1895359272"/>
      <statusCode code="completed"/>
      <effectiveTime xsi:type="IVL_TS">
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <priorityCode code="Value"/>
      <consumable/>
      <performer>
        <assignedEntity/>
      </performer>
      <entryRelationship>
        <supply classCode="SPLY" moodCode="INT">
          <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
          <id root="1621656615"/>
          <code code="1177573167"/>
          <statusCode code="completed"/>
          <effectiveTime xsi:type="IVL_TS">
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <priorityCode code="Value"/>
          <performer>
            <assignedEntity/>
          </performer>
          <entryRelationship>
            <act classCode="ACT" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
              <id root="2144248651"/>
              <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <priorityCode code="Value"/>
              <performer>
                <assignedEntity/>
              </performer>
            </act>
          </entryRelationship>
        </supply>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
          <id root="1059894143"/>
          <code code="2011943878"/>
          <statusCode code="completed"/>
```

```
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <priorityCode code="Value"/>
          <performer>
            <assignedEntity/>
          </performer>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.8"/>
              <id root="924943804"/>
              <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="HL7ActCode" displayName="Severity observation"/>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <priorityCode code="Value"/>
              <performer>
                <assignedEntity/>
              </performer>
            </observation>
          </entryRelationship>
          <entryRelationship>
            <procedure classCode="PROC">
              <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
              <id root="1415084729"/>
              <code code="492823076"/>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <priorityCode code="Value"/>
              <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
              <performer>
                <assignedEntity/>
              </performer>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
                  <id root="1404003278"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <priorityCode code="Value"/>
                  <performer/>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <substanceAdministration classCode="SBADM">
                  <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
                  <id root="2135631884"/>
                  <code code="1936428528"/>
                  <statusCode code="completed"/>
                  <effectiveTime xsi:type="IVL_TS">
                    <low value="2012"/>
```

```
                  <high value="2012"/>
                </effectiveTime>
                <priorityCode code="Value"/>
                <consumable/>
                <performer/>
                <entryRelationship>
                  <supply/>
                </entryRelationship>
                <entryRelationship>
                  <observation/>
                </entryRelationship>
                <entryRelationship>
                  <act/>
                </entryRelationship>
                <entryRelationship>
                  <observation/>
                </entryRelationship>
                <entryRelationship>
                  <supply/>
                </entryRelationship>
              </substanceAdministration>
            </entryRelationship>
            <entryRelationship>
              <act classCode="ACT" moodCode="INT">
                <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                <id root="1790533072"/>
                <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                <statusCode code="completed"/>
                <effectiveTime>
                  <low value="2012"/>
                  <high value="2012"/>
                </effectiveTime>
                <priorityCode code="Value"/>
                <performer/>
              </act>
            </entryRelationship>
            <entryRelationship>
              <encounter>
                <id root="110649685"/>
                <code code="691424444"/>
                <statusCode code="completed"/>
                <effectiveTime>
                  <low value="2012"/>
                  <high value="2012"/>
                </effectiveTime>
                <priorityCode code="Value"/>
                <performer/>
              </encounter>
            </entryRelationship>
          </procedure>
        </entryRelationship>
        <entryRelationship>
          <substanceAdministration classCode="SBADM">
            <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
            <id root="264335474"/>
            <code code="1664735579"/>
            <statusCode code="completed"/>
            <effectiveTime xsi:type="IVL_TS">
              <low value="2012"/>
              <high value="2012"/>
            </effectiveTime>
            <priorityCode code="Value"/>
            <consumable/>
```

```
              <performer>
                <assignedEntity/>
              </performer>
              <entryRelationship>
                <supply classCode="SPLY" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
                  <id root="727470046"/>
                  <code code="1432948640"/>
                  <statusCode code="completed"/>
                  <effectiveTime xsi:type="IVL_TS">
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <priorityCode code="Value"/>
                  <performer/>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                </supply>
              </entryRelationship>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
                  <id root="441522227"/>
                  <code code="2073059048"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <priorityCode code="Value"/>
                  <performer/>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <procedure/>
                  </entryRelationship>
                  <entryRelationship>
                    <substanceAdministration/>
                  </entryRelationship>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="253162188"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <priorityCode code="Value"/>
                  <performer/>
                </act>
              </entryRelationship>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
                  <id root="1859284942"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
```

```
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <priorityCode code="Value"/>
                  <performer/>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <supply classCode="SPLY" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
                  <id root="1704087516"/>
                  <code code="874302157"/>
                  <statusCode code="completed"/>
                  <effectiveTime xsi:type="IVL_TS">
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <priorityCode code="Value"/>
                  <performer/>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                </supply>
              </entryRelationship>
            </substanceAdministration>
          </entryRelationship>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <act classCode="ACT" moodCode="INT">
          <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
          <id root="1915803915"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <priorityCode code="Value"/>
          <performer>
            <assignedEntity/>
          </performer>
        </act>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
          <id root="1757358532"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <priorityCode code="Value"/>
          <performer>
            <assignedEntity/>
          </performer>
        </observation>
      </entryRelationship>
```

```
      <entryRelationship>
        <supply classCode="SPLY" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
          <id root="2100667824"/>
          <code code="1240336118"/>
          <statusCode code="completed"/>
          <effectiveTime xsi:type="IVL_TS">
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <priorityCode code="Value"/>
          <performer>
            <assignedEntity/>
          </performer>
          <entryRelationship>
            <supply classCode="SPLY" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
              <id root="1909769428"/>
              <code code="1031826247"/>
              <statusCode code="completed"/>
              <effectiveTime xsi:type="IVL_TS">
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <priorityCode code="Value"/>
              <performer>
                <assignedEntity/>
              </performer>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="305072067"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <priorityCode code="Value"/>
                  <performer/>
                </act>
              </entryRelationship>
            </supply>
          </entryRelationship>
        </supply>
      </entryRelationship>
    </substanceAdministration>
  </entryRelationship>
</act>
```

Procedure Activity Observation

[Observation: templateId `2.16.840.1.113883.10.20.22.4.13`]

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.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" *Observation* (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) (CONF:8282)
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet 2.16.840.1.113883.11.20.9.18 *MoodCodeEvnInt* **STATIC** 2011-04-03 (CONF:8237)
3. **SHALL** contain at least one [1..*] **id** (CONF:8239)
4. **SHALL** contain exactly one [1..1] **code** (CONF:8240)
5. **SHALL** contain exactly one [1..1] **statusCode**, which **SHALL** be selected from ValueSet 2.16.840.1.113883.11.20.9.22 *ProcedureActStatusCode* **DYNAMIC** (CONF:8245)
6. **SHALL** contain exactly one [1..1] **value** (CONF:8368)
7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:8246)
8. **MAY** contain zero or one [0..1] **priorityCode**, which **MAY** be selected from ValueSet 2.16.840.1.113883.1.11.16866 *ActPriority* **STATIC** (CONF:8247)
9. **MAY** contain zero or one [0..1] **methodCode** (CONF:8248)
10. **SHOULD** contain zero or more [0..*] **targetSiteCode**, which **SHOULD** be selected from ValueSet 2.16.840.1.113883.3.88.12.3221.8.9 *Body Site Value Set* **STATIC** 2
11. **SHOULD** contain zero or more [0..*] **performer** (CONF:8251)
12. **MAY** contain zero or more [0..*] **serviceDeliveryLocation** (CONF:8263)
    a. Contains exactly one [1..1] *Service Delivery Location* (templateId: 2.16.840.1.113883.10.20.22.4.32)
13. **MAY** contain zero or more [0..*] **procedureEncounter** (CONF:8264)
    a. Contains **@typeCode="**COMP" *COMP*
14. **MAY** contain zero or one [0..1] **instructions** (CONF:8275)
    a. Contains **@typeCode="**SUBJ" *SUBJ*
    b. Contains exactly one [1..1] *Instructions* (templateId: 2.16.840.1.113883.10.20.22.4.20)
15. **MAY** contain zero or more [0..*] **indication** (CONF:8278)
    a. Contains **@typeCode="**RSON" *RSON*
    b. Contains exactly one [1..1] *Indication* (templateId: 2.16.840.1.113883.10.20.22.4.19)
16. **MAY** contain zero or one [0..1] **medicationActivity** (CONF:8281)
    a. Contains **@typeCode="**COMP" *COMP*
    b. Contains exactly one [1..1] *Medication Activity* (templateId: 2.16.840.1.113883.10.20.22.4.16)
17. 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)
18. code **SHOULD** contain zero or one [0..1] originalText (CONF:8242)
19. originalText, if present, **SHOULD** contain zero or one [0..1] reference/@value (CONF:8243)
20. 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)
21. methodCode **SHALL NOT** conflict with the method inherent in Procedure / code (CONF:8249)
22. entryRelationship with target class encounter **SHALL** contain exactly one [1..1] @inversionInd="true" (CONF:8266)
23. participant with target class Service Delivery Location **SHALL** contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: 2.16.840.1.113883.5.1002 HL7ActRelationshipType) STATIC (CONF:8262)
24. entryRelationship with target class Instructions **SHALL** contain exactly one [1..1] @inversionInd="true" (CONF:8274)

Procedure Activity Observation example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
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              </entryRelationship>
            </supply>
          </entryRelationship>
        </supply>
      </entryRelationship>
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</observation>
```

Procedure Activity Procedure

[Procedure: templateId `2.16.840.1.113883.10.20.22.4.14`]

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.

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="PROC"` (CodeSystem: `2.16.840.1.113883.5.6` `HL7ActClass`) (CONF:7652)

2. **SHALL** contain exactly one [1..1] **`@moodCode`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.11.20.9.18` *`MoodCodeEvnInt`* **STATIC** 2011-04-03 (CONF:7653)
3. **SHALL** contain at least one [1..*] **`id`** (CONF:7655)
4. **SHALL** contain exactly one [1..1] **`code`** (CONF:7656)
5. **SHALL** contain exactly one [1..1] **`statusCode`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.11.20.9.22` *`ProcedureActStatusCode`* **DYNAMIC** (CONF:7661)
6. **SHOULD** contain zero or one [0..1] **`effectiveTime`** (CONF:7662)
7. **MAY** contain zero or more [0..*] **`specimen`** (CONF:7697)
   - This specimen is for representing specimens obtained from a procedure.
8. **MAY** contain zero or more [0..*] **`serviceDeliveryLocation`** (CONF:7767)
   a. Contains exactly one [1..1] *Service Delivery Location* (templateId: `2.16.840.1.113883.10.20.22.4.32`)
9. **SHOULD** contain zero or more [0..*] **`performer`** (CONF:7718)
10. **MAY** contain zero or one [0..1] **`medicationActivity`** (CONF:7888)
    a. Contains **`@typeCode="COMP"`** *COMP*
    b. Contains exactly one [1..1] *Medication Activity* (templateId: `2.16.840.1.113883.10.20.22.4.16`)
11. **MAY** contain zero or one [0..1] **`patientInstruction`** (CONF:7778)
    a. Contains **`@typeCode="SUBJ"`** *SUBJ*
    b. Contains exactly one [1..1] *Instructions* (templateId: `2.16.840.1.113883.10.20.22.4.20`)
12. **MAY** contain zero or more [0..*] **`indication`** (CONF:7781)
    a. Contains **`@typeCode="RSON"`** *RSON*
    b. Contains exactly one [1..1] *Indication* (templateId: `2.16.840.1.113883.10.20.22.4.19`)
13. **MAY** contain zero or one [0..1] **`priorityCode`**, which **MAY** be selected from ValueSet `2.16.840.1.113883.1.11.16866` *`ActPriority`* **STATIC** (CONF:7668)
14. **MAY** contain zero or one [0..1] **`methodCode`** (CONF:7670)
15. **SHOULD** contain zero or more [0..*] **`targetSiteCode`**, which **SHOULD** be selected from ValueSet `2.16.840.1.113883.3.88.12.3221.8.9` *`Body Site Value Set`* **STATIC** 2 (CONF:7683)
16. **MAY** contain zero or more [0..*] **`procedureEncounter`** (CONF:7770)
    a. Contains **`@typeCode="COMP"`** *COMP*
17. **MAY** contain zero or more [0..*] **`productInstance`** (CONF:7754)
    a. Contains exactly one [1..1] *Product Instance* (templateId: `2.16.840.1.113883.10.20.22.4.37`)
18. 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)
19. code **SHOULD** contain zero or one [0..1] originalText (CONF:7658)
20. originalText, if present, **SHOULD** contain zero or one [0..1] reference/@value (CONF:7659)
21. 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)
22. methodCode **SHALL NOT** conflict with the method inherent in Procedure / code (CONF:7890)
23. entryRelationship with target entry encounter **SHALL** contain exactly one [1..1] @inversionInd="true" (CONF:8009)
24. participant with target entry Product Instance **SHALL** contain exactly one [1..1] @typeCode="DEV" Device (CodeSystem: 2.16.840.1.113883.5.1002 HL7ActRelationshipType) STATIC (CONF:7752)
25. participant with target entry Service Delivery Location **SHALL** contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: 2.16.840.1.113883.5.1002 HL7ActRelationshipType) STATIC (CONF:7766)
26. entryRelationship with target entry Instructions **SHALL** contain exactly one [1..1] @inversionInd="true" (CONF:7777)

Procedure Activity Procedure example

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

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              <id root="1349658157"/>
              <code code="1312577452"/>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <priorityCode code="Value"/>
              <methodCode code="Value"/>
              <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
              <specimen>
                <specimenRole/>
              </specimen>
              <performer>
                <assignedEntity/>
              </performer>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
                  <id root="1183466551"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <priorityCode code="Value"/>
                  <methodCode code="Value"/>
                  <targetSiteCode code="1250096688"/>
                  <specimen/>
                  <performer/>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <substanceAdministration classCode="SBADM">
                  <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
                  <id root="2107146325"/>
                  <code code="45680473"/>
                  <statusCode code="completed"/>
                  <effectiveTime xsi:type="IVL_TS">
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <priorityCode code="Value"/>
                  <specimen/>
                  <consumable/>
                  <performer/>
```

```
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                </substanceAdministration>
              </entryRelationship>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="5421229"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <priorityCode code="Value"/>
                  <specimen/>
                  <performer/>
                </act>
              </entryRelationship>
              <entryRelationship>
                <encounter>
                  <id root="665957717"/>
                  <code code="858083288"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <priorityCode code="Value"/>
                  <specimen/>
                  <performer/>
                </encounter>
              </entryRelationship>
            </procedure>
          </entryRelationship>
          <entryRelationship>
            <substanceAdministration classCode="SBADM">
              <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
              <id root="2120340329"/>
              <code code="486159449"/>
              <statusCode code="completed"/>
              <effectiveTime xsi:type="IVL_TS">
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <priorityCode code="Value"/>
              <specimen>
                <specimenRole/>
              </specimen>
              <consumable/>
```

```
              <performer>
                <assignedEntity/>
              </performer>
              <entryRelationship>
                <supply classCode="SPLY" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
                  <id root="2006683810"/>
                  <code code="1039845867"/>
                  <statusCode code="completed"/>
                  <effectiveTime xsi:type="IVL_TS">
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <priorityCode code="Value"/>
                  <specimen/>
                  <performer/>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                </supply>
              </entryRelationship>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
                  <id root="754422605"/>
                  <code code="166633878"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <priorityCode code="Value"/>
                  <methodCode code="Value"/>
                  <targetSiteCode code="1672993242"/>
                  <specimen/>
                  <performer/>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <procedure/>
                  </entryRelationship>
                  <entryRelationship>
                    <substanceAdministration/>
                  </entryRelationship>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="1416664532"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <priorityCode code="Value"/>
                  <specimen/>
                  <performer/>
                </act>
              </entryRelationship>
              <entryRelationship>
```

```
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
                  <id root="1038380266"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <priorityCode code="Value"/>
                  <methodCode code="Value"/>
                  <targetSiteCode code="198882299"/>
                  <specimen/>
                  <performer/>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <supply classCode="SPLY" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
                  <id root="823521997"/>
                  <code code="606696797"/>
                  <statusCode code="completed"/>
                  <effectiveTime xsi:type="IVL_TS">
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <priorityCode code="Value"/>
                  <specimen/>
                  <performer/>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                </supply>
              </entryRelationship>
            </substanceAdministration>
          </entryRelationship>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <act classCode="ACT" moodCode="INT">
          <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
          <id root="1431322400"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <priorityCode code="Value"/>
          <specimen>
            <specimenRole/>
          </specimen>
          <performer>
            <assignedEntity/>
          </performer>
        </act>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
          <id root="539066154"/>
```

```
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <priorityCode code="Value"/>
          <methodCode code="Value"/>
          <targetSiteCode code="997591734"/>
          <specimen>
            <specimenRole/>
          </specimen>
          <performer>
            <assignedEntity/>
          </performer>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <supply classCode="SPLY" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
          <id root="2034243927"/>
          <code code="339823090"/>
          <statusCode code="completed"/>
          <effectiveTime xsi:type="IVL_TS">
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <priorityCode code="Value"/>
          <specimen>
            <specimenRole/>
          </specimen>
          <performer>
            <assignedEntity/>
          </performer>
          <entryRelationship>
            <supply classCode="SPLY" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
              <id root="851355855"/>
              <code code="1751265744"/>
              <statusCode code="completed"/>
              <effectiveTime xsi:type="IVL_TS">
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <priorityCode code="Value"/>
              <specimen>
                <specimenRole/>
              </specimen>
              <performer>
                <assignedEntity/>
              </performer>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="238187057"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <priorityCode code="Value"/>
```

```
                  <specimen/>
                  <performer/>
                </act>
              </entryRelationship>
            </supply>
          </entryRelationship>
        </supply>
      </entryRelationship>
    </substanceAdministration>
  </entryRelationship>
  <entryRelationship>
    <act classCode="ACT" moodCode="INT">
      <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
      <id root="1753257659"/>
      <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <priorityCode code="Value"/>
      <specimen>
        <specimenRole/>
      </specimen>
      <performer>
        <assignedEntity/>
      </performer>
    </act>
  </entryRelationship>
  <entryRelationship>
    <encounter>
      <id root="1425983009"/>
      <code code="1111468598"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <priorityCode code="Value"/>
      <specimen>
        <specimenRole/>
      </specimen>
      <performer>
        <assignedEntity/>
      </performer>
    </encounter>
  </entryRelationship>
</procedure>
```

Procedure Context

[Act: templateId `2.16.840.1.113883.10.20.6.2.5`]

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.

1.

Procedure Context example

```
<?xml version="1.0" encoding="UTF-8"?>
<act xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.6.2.5"/>
  <id root="1113383581"/>
  <code code="31705601"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
</act>
```

Procedure Encounter

[Encounter: templateId `null`]

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="ENC"` (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:7771)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:7772)
3. **SHALL** contain exactly one [1..1] **`id`** (CONF:7773)
4. **MAY** satisfy: Set the encounter ID to the ID of an encounter in another section to signify they are the same encounter. (CONF:7774)

Procedure Encounter example

```
<?xml version="1.0" encoding="UTF-8"?>
<encounter xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="ENC" moodCode="EVN">
  <id root="1691150484"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
</encounter>
```

Purposeof Reference Observation

[Observation: templateId `2.16.840.1.113883.10.20.6.2.9`]

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.

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="OBS"` *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:9264)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:9265)
3. **SHALL** contain exactly one [1..1] **`code`** (CONF:9267)
4. **SHOULD** contain zero or more [0..*] **`value`**, which **SHOULD** be selected from ValueSet `2.16.840.1.113883.11.20.9.28` *`DICOMPurposeOfReference`* **DYNAMIC**, where its data type is CD (CONF:9273)
   - 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

5. code **SHOULD** contain zero or one [0..1] code="ASSERTION" (CodeSystem: ActCode 2.16.840.1.113883.5.4) (CONF:9268)

Purposeof Reference Observation example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.6.2.9"/>
  <id root="351313457"/>
  <code code="288346203"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <value xsi:type="CD" code="1617326725"/>
</observation>
```

Quantity Measurement Observation

[Observation: templateId `2.16.840.1.113883.10.20.6.2.14`]

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.

1.

Quantity Measurement Observation example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.6.2.14"/>
  <id root="355681227"/>
  <code code="1288259888"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
</observation>
```

Reaction Observation

[Observation: templateId `2.16.840.1.113883.10.20.22.4.9`]

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.

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="OBS"` *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:7325)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:7326)
3. **SHALL** contain exactly one [1..1] **`id`** (CONF:7329)
4. **SHALL** contain exactly one [1..1] **`code`** (CONF:7327)
5. **SHOULD** contain zero or one [0..1] **`text`** (CONF:7330)
6. **SHALL** contain exactly one [1..1] **`statusCode/@code`**`="completed"` (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:7328)
7. **SHOULD** contain zero or one [0..1] **`effectiveTime`** (CONF:7332)

8. **SHALL** contain exactly one [1..1] **`value`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.3.88.12.3221.7.4` *`Problem`* **DYNAMIC**, where its data type is CD (CONF:7335)
9. **SHOULD** contain zero or one [0..1] **`severityObservation`** (CONF:7580, CONF:7581, CONF:7582)
   a. Contains **`@typeCode="`**`SUBJ`**`"`** *SUBJ*
   b. Contains exactly one [1..1] *Severity Observation* (templateId: `2.16.840.1.113883.10.20.22.4.8`)
10. **MAY** contain zero or more [0..*] **`procedureActivityProcedure`** (CONF:7337, CONF:7338, CONF:7339)
    - This procedure activity is intended to contain information about procedures that were performed in response to an allergy reaction CONF:7583.

    a. Contains **`@typeCode="`**`RSON`**`"`** *RSON*
    b. Contains exactly one [1..1] *Procedure Activity Procedure* (templateId: `2.16.840.1.113883.10.20.22.4.14`)
11. **MAY** contain zero or more [0..*] **`medicationActivity`** (CONF:7340, CONF:7341, CONF:7342)
    - This medication activity is intended to contain information about medications that were administered in response to an allergy reaction. (CONF:7584).

    a. Contains **`@typeCode="`**`RSON`**`"`** *RSON*
    b. Contains exactly one [1..1] *Medication Activity* (templateId: `2.16.840.1.113883.10.20.22.4.16`)
12. **SHALL** satisfy: 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)
13. text, if present, **SHOULD** contain zero or one [0..1] reference/@value (CONF:7331)
14. 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)
15. effectiveTime, if present, **SHOULD** contain zero or one [0..1] low (CONF:7333)
16. effectiveTime, if present, **SHOULD** contain zero or one [0..1] high (CONF:7334)
17. **SHALL** contain exactly one [1..1] @inversionInd="true" TRUE (CONF:10375)
18. **SHALL** contain exactly one [1..1] @inversionInd="true" True(CONF:7343). (CONF:7343)
19. **SHALL** contain exactly one [1..1] @inversionInd="true" True. (CONF:7344)

Reaction Observation example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
  <id root="1274500793"/>
  <code code="869925069"/>
  <text>Text Value</text>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <value xsi:type="CD" code="1499212615"/>
  <entryRelationship>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.8"/>
      <id root="1219885285"/>
      <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
 codeSystemName="HL7ActCode" displayName="Severity observation"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
```

```
      <value xsi:type="CD" code="220798837"/>
    </observation>
  </entryRelationship>
  <entryRelationship>
    <procedure classCode="PROC">
      <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
      <id root="2126409460"/>
      <code code="105561006"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
          <id root="1758454359"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <value xsi:type="CD" code="1573371940"/>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <substanceAdministration classCode="SBADM">
          <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
          <id root="519421715"/>
          <code code="1269410091"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime xsi:type="IVL_TS">
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <consumable/>
          <entryRelationship>
            <supply classCode="SPLY" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
              <id root="620793968"/>
              <code code="1284723075"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime xsi:type="IVL_TS">
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="1118211355"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
```

```
                    <high value="2012"/>
                  </effectiveTime>
                </act>
              </entryRelationship>
            </supply>
          </entryRelationship>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
              <id root="897321735"/>
              <code code="2129679240"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <value xsi:type="CD" code="105341589"/>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.8"/>
                  <id root="1466850275"/>
                  <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="HL7ActCode" displayName="Severity observation"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <value xsi:type="CD" code="1720572279"/>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <procedure classCode="PROC">
                  <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
                  <id root="819482052"/>
                  <code code="2068865294"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
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                  </effectiveTime>
                  <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <substanceAdministration/>
                  </entryRelationship>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                  <entryRelationship>
                    <encounter/>
                  </entryRelationship>
                </procedure>
              </entryRelationship>
              <entryRelationship>
                <substanceAdministration classCode="SBADM">
                  <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
                  <id root="45322917"/>
```

```
                <code code="519905289"/>
                <text>Text Value</text>
                <statusCode code="completed"/>
                <effectiveTime xsi:type="IVL_TS">
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                  <high value="2012"/>
                </effectiveTime>
                <consumable/>
                <entryRelationship>
                  <supply/>
                </entryRelationship>
                <entryRelationship>
                  <observation/>
                </entryRelationship>
                <entryRelationship>
                  <act/>
                </entryRelationship>
                <entryRelationship>
                  <observation/>
                </entryRelationship>
                <entryRelationship>
                  <supply/>
                </entryRelationship>
              </substanceAdministration>
            </entryRelationship>
          </observation>
        </entryRelationship>
        <entryRelationship>
          <act classCode="ACT" moodCode="INT">
            <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
            <id root="544764760"/>
            <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
            <text>Text Value</text>
            <statusCode code="completed"/>
            <effectiveTime>
              <low value="2012"/>
              <high value="2012"/>
            </effectiveTime>
          </act>
        </entryRelationship>
        <entryRelationship>
          <observation classCode="OBS" moodCode="EVN">
            <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
            <id root="1416101714"/>
            <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
            <text>Text Value</text>
            <statusCode code="completed"/>
            <effectiveTime>
              <low value="2012"/>
              <high value="2012"/>
            </effectiveTime>
            <value xsi:type="CD" code="2003475544"/>
          </observation>
        </entryRelationship>
        <entryRelationship>
          <supply classCode="SPLY" moodCode="EVN">
            <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
            <id root="556309992"/>
            <code code="1218382604"/>
            <text>Text Value</text>
            <statusCode code="completed"/>
            <effectiveTime xsi:type="IVL_TS">
```

```
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <entryRelationship>
                <supply classCode="SPLY" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
                  <id root="1109779769"/>
                  <code code="1432022610"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime xsi:type="IVL_TS">
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                </supply>
              </entryRelationship>
            </supply>
          </entryRelationship>
        </substanceAdministration>
      </entryRelationship>
      <entryRelationship>
        <act classCode="ACT" moodCode="INT">
          <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
          <id root="220366698"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </act>
      </entryRelationship>
      <entryRelationship>
        <encounter>
          <id root="491643676"/>
          <code code="518031274"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </encounter>
      </entryRelationship>
    </procedure>
  </entryRelationship>
  <entryRelationship>
    <substanceAdministration classCode="SBADM">
      <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
      <id root="617797362"/>
      <code code="1833446666"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime xsi:type="IVL_TS">
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <consumable/>
      <entryRelationship>
```

```
        <supply classCode="SPLY" moodCode="INT">
          <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
          <id root="568682636"/>
          <code code="1944395962"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime xsi:type="IVL_TS">
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <entryRelationship>
            <act classCode="ACT" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
              <id root="1297101054"/>
              <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </act>
          </entryRelationship>
        </supply>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
          <id root="1470545215"/>
          <code code="340039610"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <value xsi:type="CD" code="1698875550"/>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.22.4.8"/>
              <id root="1304504778"/>
              <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="HL7ActCode" displayName="Severity observation"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <value xsi:type="CD" code="311665656"/>
            </observation>
          </entryRelationship>
          <entryRelationship>
            <procedure classCode="PROC">
              <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
              <id root="105333972"/>
              <code code="1744267229"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
```

```
              <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
                  <id root="850264112"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <value xsi:type="CD" code="208480462"/>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <substanceAdministration classCode="SBADM">
                  <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
                  <id root="1101154950"/>
                  <code code="586140021"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime xsi:type="IVL_TS">
                    <low value="2012"/>
                    <high value="2012"/>
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                  <consumable/>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <act/>
                  </entryRelationship>
                  <entryRelationship>
                    <observation/>
                  </entryRelationship>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                </substanceAdministration>
              </entryRelationship>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="1749959161"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </act>
              </entryRelationship>
              <entryRelationship>
                <encounter>
                  <id root="1490166213"/>
                  <code code="1869308241"/>
```

```
                <text>Text Value</text>
                <statusCode code="completed"/>
                <effectiveTime>
                  <low value="2012"/>
                  <high value="2012"/>
                </effectiveTime>
              </encounter>
            </entryRelationship>
          </procedure>
        </entryRelationship>
        <entryRelationship>
          <substanceAdministration classCode="SBADM">
            <templateId root="2.16.840.1.113883.10.20.22.4.16"/>
            <id root="1192505866"/>
            <code code="164315817"/>
            <text>Text Value</text>
            <statusCode code="completed"/>
            <effectiveTime xsi:type="IVL_TS">
              <low value="2012"/>
              <high value="2012"/>
            </effectiveTime>
            <consumable/>
            <entryRelationship>
              <supply classCode="SPLY" moodCode="INT">
                <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
                <id root="1128911066"/>
                <code code="903474669"/>
                <text>Text Value</text>
                <statusCode code="completed"/>
                <effectiveTime xsi:type="IVL_TS">
                  <low value="2012"/>
                  <high value="2012"/>
                </effectiveTime>
                <entryRelationship>
                  <act/>
                </entryRelationship>
              </supply>
            </entryRelationship>
            <entryRelationship>
              <observation classCode="OBS" moodCode="EVN">
                <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
                <id root="1811058830"/>
                <code code="598283940"/>
                <text>Text Value</text>
                <statusCode code="completed"/>
                <effectiveTime>
                  <low value="2012"/>
                  <high value="2012"/>
                </effectiveTime>
                <value xsi:type="CD" code="5782133"/>
                <entryRelationship>
                  <observation/>
                </entryRelationship>
                <entryRelationship>
                  <procedure/>
                </entryRelationship>
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                </entryRelationship>
              </observation>
            </entryRelationship>
            <entryRelationship>
              <act classCode="ACT" moodCode="INT">
                <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
```

```
                  <id root="1173237529"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </act>
              </entryRelationship>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
                  <id root="2130059025"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <value xsi:type="CD" code="1047166145"/>
                </observation>
              </entryRelationship>
              <entryRelationship>
                <supply classCode="SPLY" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
                  <id root="1158784235"/>
                  <code code="34529467"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime xsi:type="IVL_TS">
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                  <entryRelationship>
                    <supply/>
                  </entryRelationship>
                </supply>
              </entryRelationship>
            </substanceAdministration>
          </entryRelationship>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <act classCode="ACT" moodCode="INT">
          <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
          <id root="44512550"/>
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </act>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.19"/>
          <id root="213898945"/>
```

```
          <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/
>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <value xsi:type="CD" code="1924297751"/>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <supply classCode="SPLY" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.18"/>
          <id root="1415818010"/>
          <code code="465935221"/>
          <text>Text Value</text>
          <statusCode code="completed"/>
          <effectiveTime xsi:type="IVL_TS">
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <entryRelationship>
            <supply classCode="SPLY" moodCode="INT">
              <templateId root="2.16.840.1.113883.10.20.22.4.17"/>
              <id root="1957612729"/>
              <code code="211366582"/>
              <text>Text Value</text>
              <statusCode code="completed"/>
              <effectiveTime xsi:type="IVL_TS">
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <entryRelationship>
                <act classCode="ACT" moodCode="INT">
                  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
                  <id root="538965269"/>
                  <code codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
                  <text>Text Value</text>
                  <statusCode code="completed"/>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </act>
              </entryRelationship>
            </supply>
          </entryRelationship>
        </supply>
      </entryRelationship>
    </substanceAdministration>
  </entryRelationship>
</observation>
```

Referenced Frames Observation

[Observation: templateId `2.16.840.1.113883.10.20.6.2.10`]

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"` (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 HL7ActMood`) (CONF:9277)
3. **SHALL** contain exactly one [1..1] **`code/@code`**`="121190"` *Referenced Frames* (CodeSystem: `1.2.840.10008.2.16.4 DCM`) (CONF:9278)
4. **SHALL** contain exactly one [1..1] **`boundaryObservation`** (CONF:9279, CONF:9280, CONF:9281)
   a. Contains **`@typeCode="`**`COMP"` *COMP*
   b. Contains exactly one [1..1] *Boundary Observation* (templateId: `2.16.840.1.113883.10.20.6.2.11`)

Referenced Frames Observation example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="ROIBND" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.6.2.10"/>
  <id root="724897017"/>
  <code code="121190" codeSystem="1.2.840.10008.2.16.4" codeSystemName="DCM"
 displayName="Referenced Frames"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <entryRelationship>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.6.2.11"/>
      <id root="331945270"/>
      <code code="113036" codeSystem="1.2.840.10008.2.16.4"
 codeSystemName="DCM" displayName="Frames for Display"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
    </observation>
  </entryRelationship>
</observation>
```

Result Observation

[Observation: templateId `2.16.840.1.113883.10.20.22.4.2`]

This clinical statement represents details of a lab, radiology, or other study performed on a patient.

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="OBS"` **`/@code`**`="OBS"` *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:7130)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` **`/@code`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:7131)
3. **SHALL** contain at least one [1..*] **`id`** (CONF:7137)
4. **SHALL** contain exactly one [1..1] **`code`** (CONF:7133)
5. **SHOULD** contain zero or one [0..1] **`text`** (CONF:7138)
   a. text, if present, **SHOULD** contain zero or one [0..1] reference/@value (CONF:7138)
      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:7139)
6. **SHALL** contain exactly one [1..1] **`statusCode/@code`**`="completed"` *Completed* (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:7134)
7. **SHALL** contain exactly one [1..1] **`effectiveTime`** (CONF:7140, CONF:7141)

- 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).

8. **SHALL** contain exactly one [1..1] **`value`** (CONF:7143)
9. **SHOULD** contain zero or more [0..*] **`interpretationCode`** (CONF:7147)
10. **MAY** contain zero or one [0..1] **`methodCode`** (CONF:7148)
11. **MAY** contain zero or one [0..1] **`targetSiteCode`**, where its data type is CE (CONF:7153)
12. The value for 'code' in a result 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) 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. (CONF:7166)
13. **SHOULD** contain zero or more [0..*] referenceRange. Such referenceRanges, if present, **SHALL** contain exactly one [1..1] observationRange. This observationRange **SHALL NOT** contain [0..0] code (CONF:7152)
14. **MAY** contain zero or one [0..1] author (CONF:7149)

Result Observation example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.2"/>
  <id root="1810255500"/>
  <code code="1008305638"/>
  <text>Text Value</text>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <interpretationCode code="Value"/>
  <methodCode code="Value"/>
  <targetSiteCode xsi:type="CE" code="Value"/>
</observation>
```

Result Organizer

[Organizer: templateId `2.16.840.1.113883.10.20.22.4.1`]

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.

1. **SHALL** contain exactly one [1..1] **`@classCode/@code`**`=""` (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:7121, CONF:7165)
2. **SHALL** contain exactly one [1..1] **`@moodCode/@code`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:7122)
3. **SHALL** contain at least one [1..*] **`id`** (CONF:7127)
4. **SHALL** contain exactly one [1..1] **`statusCode/@code`**`="completed"` *Completed* (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:7123)
5. **SHALL** contain at least one [1..*] **`resultObservation`** (CONF:7124, CONF:7125)
   a. Contains exactly one [1..1] *Result Observation* (templateId: `2.16.840.1.113883.10.20.22.4.2`)

6. **SHALL** contain exactly one [1..1] **`code`** (CONF:7128)
7. The value for 'code' in a result organizer **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). 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:7164)
8. **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)

Result Organizer example

```
<?xml version="1.0" encoding="UTF-8"?>
<organizer xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.1"/>
  <id root="1741694925"/>
  <code code="674579716"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <component>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.2"/>
      <id root="1240931934"/>
      <code code="1503041653"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
    </observation>
  </component>
</organizer>
```

SOP Instance Observation

[Observation: templateId `2.16.840.1.113883.10.20.6.2.8`]

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.

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="DGIMG"` (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:9240)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`)
3. **SHOULD** contain zero or one [0..1] **`effectiveTime`** (CONF:9250)
4. **SHALL** contain at least one [1..*] **`id`** (CONF:9242)
   - The @root contains an OID representing the DICOM SOP Instance UID
5. **SHOULD** contain zero or one [0..1] **`text`** (CONF:9246)
6. **MAY** contain zero or more [0..*] **`sOPInstanceObservation`** (CONF:9254, CONF:9255, CONF:9256)
   a. Contains **`@typeCode="`**`SUBJ"` *SUBJ*
   b. Contains exactly one [1..1] *SOP Instance Observation* (templateId: `2.16.840.1.113883.10.20.6.2.8`)

7. **MAY** contain zero or more [0..*] **`purposeofReferenceObservation`** (CONF:9257, CONF:9258, CONF:9259)
   a. Contains **`@typeCode="RSON"`** *RSON*
   b. Contains exactly one [1..1] *Purposeof Reference Observation* (templateId: `2.16.840.1.113883.10.20.6.2.9`)
8. **MAY** contain zero or more [0..*] **`referencedFramesObservation`** (CONF:9260, CONF:9261, CONF:9262)
   - This entryRelationship SHALL be present if the referenced DICOM object is a multiframe object and the reference does not apply to all frames
   a. Contains **`@typeCode="COMP"`** *COMP*
   b. Contains exactly one [1..1] *Referenced Frames Observation* (templateId: `2.16.840.1.113883.10.20.6.2.10`)
9. **SHALL** contain exactly one [1..1] **`code`** (CONF:9244)
10. The effectiveTime, if present, **SHALL** contain exactly one [1..1] @value (CONF:9251)
11. The effectiveTime, if present, **SHALL NOT** contain [0..0] low (CONF:9252)
12. The effectiveTime, if present, **SHALL NOT** contain [0..0] high (CONF:9253)
13. code **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)
14. text, if present, **SHALL** contain exactly one [1..1] @mediaType="application/dicom" (CONF:9247)
15. The text, if present, **SHALL** contain exactly one [1..1] reference (CONF:9248)
16. **SHALL** contain a @value which contains a WADO reference as a URI (CONF:9249)

SOP Instance Observation example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="DGIMG" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.6.2.8"/>
  <id root="1869773847"/>
  <code code="583774435"/>
  <text>Text Value</text>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <entryRelationship>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.6.2.9"/>
      <id root="1095447287"/>
      <code code="1965072212"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
    </observation>
  </entryRelationship>
  <entryRelationship>
    <observation classCode="ROIBND" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.6.2.10"/>
      <id root="2064758706"/>
      <code code="121190" codeSystem="1.2.840.10008.2.16.4"
 codeSystemName="DCM" displayName="Referenced Frames"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
```

```
      </effectiveTime>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.6.2.11"/>
          <id root="487156511"/>
          <code code="113036" codeSystem="1.2.840.10008.2.16.4"
 codeSystemName="DCM" displayName="Frames for Display"/>
          <text>Text Value</text>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
    </observation>
  </entryRelationship>
</observation>
```

Series Act

[Act: templateId `2.16.840.1.113883.10.20.22.4.63`]

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.

1. **SHALL** contain exactly one [1..1] **`@classCode="ACT"`** *Act* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:9222)
2. **SHALL** contain exactly one [1..1] **`@moodCode="EVN"`** *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:9223)
3. **SHALL** contain exactly one [1..1] **`code/@code="113015"`** (CodeSystem: `1.2.840.10008.2.16.4 DCM`) (CONF:9228)
4. **SHOULD** contain zero or one [0..1] **`effectiveTime`** (CONF:9235)
   - If present, the effectiveTime contains the time the series was started
5. **SHALL** contain at least one [1..*] **`id`** (CONF:9224)
6. **MAY** contain zero or one [0..1] **`text`** (CONF:9233)
   - If present, the text element contains the description of the series
7. **SHALL** contain exactly one [1..1] **`sOPInstanceObservation`** (CONF:9237, CONF:9238, CONF:9239)
   a. Contains **`@typeCode="COMP"`** *COMP*
   b. Contains exactly one [1..1] *SOP Instance Observation* (templateId: `2.16.840.1.113883.10.20.6.2.8`)
8. ids **SHALL** contain exactly one [1..1] @root (CONF:9225)
9. **SHALL** satisfy: The @root contains the OID of the study instance UID since DICOM study ids consist only of an OID (CONF:9227)
10. ids **SHALL NOT** contain [0..0] @extension (CONF:9226)
11. code **SHALL** contain exactly one [1..1] qualifier (CONF:9229)
12. This qualifier **SHALL** contain exactly one [1..1] name="121139" Modality (CodeSystem: DCM 1.2.840.10008.2.16.4) (CONF:9230)
13. This qualifier **SHALL** contain exactly one [1..1] value with @xsi:type="ANY" (CONF:9231)
14. **SHALL** satisfy: The value element code contains a modality code and codeSystem is 1.2.840.10008.2.16.4 (CONF:9232)

Series Act example

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

```
<act xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd" classCode="ACT"
 moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.63"/>
  <id root="2038530156"/>
  <code code="113015" codeSystem="1.2.840.10008.2.16.4" codeSystemName="DCM"/>
  <text>Text Value</text>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <entryRelationship>
    <observation classCode="DGIMG" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.6.2.8"/>
      <id root="1794214149"/>
      <code code="1822582326"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <entryRelationship>
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.6.2.9"/>
          <id root="1559139604"/>
          <code code="1149997991"/>
          <text>Text Value</text>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
        </observation>
      </entryRelationship>
      <entryRelationship>
        <observation classCode="ROIBND" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.6.2.10"/>
          <id root="2138489438"/>
          <code code="121190" codeSystem="1.2.840.10008.2.16.4"
 codeSystemName="DCM" displayName="Referenced Frames"/>
          <text>Text Value</text>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.6.2.11"/>
              <id root="1446620616"/>
              <code code="113036" codeSystem="1.2.840.10008.2.16.4"
 codeSystemName="DCM" displayName="Frames for Display"/>
              <text>Text Value</text>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
            </observation>
          </entryRelationship>
        </observation>
      </entryRelationship>
    </observation>
  </entryRelationship>
</act>
```

Severity Observation

[Observation: templateId `2.16.840.1.113883.10.20.22.4.8`]

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 Obervation, 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

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="OBS"` *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:7345)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:7346)
3. **SHALL** contain exactly one [1..1] **`code/@code`**`="SEV"` *Severity observation* (CodeSystem: `2.16.840.1.113883.5.4 HL7ActCode`) (CONF:7349)
4. **SHOULD** contain zero or one [0..1] **`text`** (CONF:7350)
5. **SHALL** contain exactly one [1..1] **`statusCode/@code`**`="completed"` (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:7352)
6. **SHALL** contain exactly one [1..1] **`value`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.3.88.12.3221.6.8` *`Problem Severity`* **DYNAMIC**, where its data type is CD (CONF:7356)
7. **SHOULD** contain zero or more [0..*] **`interpretationCode`**, which **SHOULD** be selected from ValueSet `2.16.840.1.113883.1.11.78` *`Observation Interpretation (HL7)`* **DYNAMIC** (CONF:9117, CONF:9118)
8. text, if present, **SHOULD** contain zero or one [0..1] reference/@value (CONF:7351)
9. 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)

Severity Observation example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.8"/>
  <id root="311199132"/>
  <code code="SEV" codeSystem="2.16.840.1.113883.5.4"
 codeSystemName="HL7ActCode" displayName="Severity observation"/>
  <text>Text Value</text>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <value xsi:type="CD" code="84091941"/>
  <interpretationCode code="Value"/>
</observation>
```

Social History Observation

[Observation: templateId `2.16.840.1.113883.10.20.22.4.38`]

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.

1. **SHALL** contain exactly one [1..1] **`@classCode="OBS"`** *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:8548)
2. **SHALL** contain exactly one [1..1] **`@moodCode="EVN"`** *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:8549)
3. **SHALL** contain at least one [1..*] **`id`** (CONF:8551)
4. **SHOULD** contain zero or one [0..1] **`code`**, which **SHOULD** be selected from ValueSet `2.16.840.1.113883.3.88.12.80.60` *`Social History Type Set Definition`* **STATIC** 1 (CONF:8558)
5. **SHALL** contain exactly one [1..1] **`statusCode/@code="completed"`** (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:8553)
6. **SHOULD** contain zero or one [0..1] **`value`** (CONF:8559)
   - 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.
7. code, if present, **SHOULD** contain zero or one [0..1] originalText (CONF:8893)
8. originalText, if present, **SHOULD** contain zero or one [0..1] reference/@value. (CONF:8894)
9. 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). (CONF:8895)

Social History Observation example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.38"/>
  <id root="1867674516"/>
  <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
</observation>
```

Study Act

[Act: templateId `2.16.840.1.113883.10.20.6.2.6`]

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.

1. **SHALL** contain exactly one [1..1] **`@classCode="ACT"`** *Act* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:9207)

2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:9208)
3. **SHALL** contain at least one [1..*] **`id`** (CONF:9210)
4. **SHALL** contain exactly one [1..1] **`code/@code`**`="113014"` (CodeSystem: `1.2.840.10008.2.16.4 DCM`) (CONF:9214)
5. **SHOULD** contain zero or one [0..1] **`effectiveTime`** (CONF:9216)
   - If present, the effectiveTime contains the time the study was started
6. **MAY** contain zero or one [0..1] **`text`** (CONF:9215)
   - If present, the text element contains the description of the study
7. **SHALL** contain zero or one [0..1] **`seriesAct`** (CONF:9219, CONF:9220, CONF:9221)
   a. Contains **`@typeCode="`**`COMP"` *COMP*
   b. Contains exactly one [1..1] *Series Act* (templateId: `2.16.840.1.113883.10.20.22.4.63`)
8. ids **SHALL** contain exactly one [1..1] @root (CONF:9213)
9. **SHALL** satisfy: The @root contains the OID of the study instance UID since DICOM study ids consist only of an OID (CONF:9212)
10. Such ids **SHALL NOT** contain [0..0] @extension (CONF:9211)

Study Act example

```
<?xml version="1.0" encoding="UTF-8"?>
<act xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd" classCode="ACT"
 moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.6.2.6"/>
  <id root="506312995"/>
  <code code="113014" codeSystem="1.2.840.10008.2.16.4" codeSystemName="DCM"/>
  <text>Text Value</text>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <entryRelationship>
    <act classCode="ACT" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.63"/>
      <id root="1061383588"/>
      <code code="113015" codeSystem="1.2.840.10008.2.16.4"
 codeSystemName="DCM"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2012"/>
        <high value="2012"/>
      </effectiveTime>
      <entryRelationship>
        <observation classCode="DGIMG" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.6.2.8"/>
          <id root="1286614711"/>
          <code code="1653159006"/>
          <text>Text Value</text>
          <effectiveTime>
            <low value="2012"/>
            <high value="2012"/>
          </effectiveTime>
          <entryRelationship>
            <observation classCode="OBS" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.6.2.9"/>
              <id root="680739174"/>
              <code code="1470425649"/>
              <text>Text Value</text>
              <effectiveTime>
                <low value="2012"/>
```

```
                <high value="2012"/>
              </effectiveTime>
            </observation>
          </entryRelationship>
          <entryRelationship>
            <observation classCode="ROIBND" moodCode="EVN">
              <templateId root="2.16.840.1.113883.10.20.6.2.10"/>
              <id root="189203804"/>
              <code code="121190" codeSystem="1.2.840.10008.2.16.4"
 codeSystemName="DCM" displayName="Referenced Frames"/>
              <text>Text Value</text>
              <effectiveTime>
                <low value="2012"/>
                <high value="2012"/>
              </effectiveTime>
              <entryRelationship>
                <observation classCode="OBS" moodCode="EVN">
                  <templateId root="2.16.840.1.113883.10.20.6.2.11"/>
                  <id root="1220825938"/>
                  <code code="113036" codeSystem="1.2.840.10008.2.16.4"
 codeSystemName="DCM" displayName="Frames for Display"/>
                  <text>Text Value</text>
                  <effectiveTime>
                    <low value="2012"/>
                    <high value="2012"/>
                  </effectiveTime>
                </observation>
              </entryRelationship>
            </observation>
          </entryRelationship>
        </observation>
      </entryRelationship>
    </act>
  </entryRelationship>
</act>
```

Text Observation

[Observation: templateId `2.16.840.1.113883.10.20.6.2.12`]

1.

Text Observation example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <templateId root="2.16.840.1.113883.10.20.6.2.12"/>
  <id root="1544569741"/>
  <code code="69113335"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
</observation>
```

Vital Sign Observation

[Observation: templateId `2.16.840.1.113883.10.20.22.4.27`]

Vital signs are represented as are other results, with additional vocabulary constraints.

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="OBS"` *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:7297)
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:7298)
3. **SHALL** contain at least one [1..*] **`id`** (CONF:7300)
4. **SHALL** contain exactly one [1..1] **`code`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.3.88.12.80.62` *`HITSP Vital Sign Result Type`* **STATIC** 1 (CONF:7301)
5. **SHALL** contain exactly one [1..1] **`statusCode/@code`**`="completed"` (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:7303)
6. **SHALL** contain exactly one [1..1] **`effectiveTime`** (CONF:7304)
   - Represents the biologically relevant time (e.g. time the specimen was obtained from the patient).
7. **SHALL** contain exactly one [1..1] **`value`**, where its data type is PQ (CONF:7305)
8. **MAY** contain zero or one [0..1] **`interpretationCode`** (CONF:7307)
   - The interpretation code may be present to provide an interpretation of the vital signs measure (e.g., High, Normal, Low, et cetera).
9. **MAY** contain zero or one [0..1] **`methodCode`** (CONF:7308)
   - The method code element may be present to indicate the method used to obtain the measure. Note that method used is distinct from, but possibly related to the target site.
10. **MAY** contain zero or one [0..1] **`targetSiteCode`** (CONF:7309)
    - The target site of the measure may be identified in the targetSiteCode element (e.g., Left arm [blood pressure], oral [temperature], et cetera).
11. **MAY** contain zero or one [0..1] **`author`** (CONF:7310)
12. **SHOULD** contain zero or one [0..1] **`text`** (CONF:7302)

Vital Sign Observation example

```
<?xml version="1.0" encoding="UTF-8"?>
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.27"/>
  <id root="738565519"/>
  <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
  <text>Text Value</text>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <value xsi:type="PQ"/>
  <interpretationCode code="Value"/>
  <methodCode code="Value"/>
  <targetSiteCode code="1359885884"/>
  <author>
    <time/>
    <assignedAuthor>
      <id root="1264253466"/>
      <assignedPerson/>
      <assignedAuthoringDevice>
        <asMaintainedEntity>
          <maintainingPerson/>
        </asMaintainedEntity>
      </assignedAuthoringDevice>
      <representedOrganization>
        <asOrganizationPartOf>
          <wholeOrganization/>
```

```
        </asOrganizationPartOf>
      </representedOrganization>
    </assignedAuthor>
  </author>
</observation>
```

Vital Signs Organizer

[Organizer: templateId `2.16.840.1.113883.10.20.22.4.26`]

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.

1. **SHALL** contain exactly one [1..1] **`@classCode`**`="CLUSTER"` (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:7279)
   - The vital signs organizer is a cluster of vital signs observations.
2. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:7280)
3. **SHALL** contain at least one [1..*] **`id`** (CONF:7282)
   - The organizer shall have an <id> element.
4. **SHALL** contain exactly one [1..1] **`code/@code`**`="46680005"` *Vital signs* (CodeSystem: `2.16.840.1.113883.6.96 SNOMEDCT`) (CONF:7283)
5. **SHALL** contain exactly one [1..1] **`statusCode/@code`**`="completed"` (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:7284)
   - The observations have all been completed.
6. **SHALL** contain exactly one [1..1] **`effectiveTime`** (CONF:7288)
   - represents clinically effective time of the measurement, which is most likely when the measurement was performed (e.g., a BP measurement). (CONF:7289).
7. **SHALL** contain at least one [1..*] **`vitalSignObservation`** (CONF:7285, CONF:7286)
   a. Contains exactly one [1..1] *Vital Sign Observation* (templateId: `2.16.840.1.113883.10.20.22.4.27`)

Vital Signs Organizer example

```
<?xml version="1.0" encoding="UTF-8"?>
<organizer xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd"
 classCode="CLUSTER" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.26"/>
  <id root="739531090"/>
  <code code="46680005" codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT" displayName="Vital signs"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2012"/>
    <high value="2012"/>
  </effectiveTime>
  <component>
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.27"/>
      <id root="110361738"/>
      <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2012"/>
```

```
        <high value="2012"/>
      </effectiveTime>
    </observation>
  </component>
</organizer>
```

REFERENCES

Act Priority

Value Set	ActPriority - 2.16.840.1.113883.1.11.16866
Code System	ActPriority - 2.16.840.1.113883.5.7

Administrative Gender (HL7 V3)

Value Set	Administrative Gender (HL7 V3) - 2.16.840.1.113883.1.11.1
Code System	AdministrativeGenderCode - 2.16.840.1.113883.5.1

Concept Code	Concept Name	Code System	Description
F		AdministrativeGenderCode	
M		AdministrativeGenderCode	
UN		AdministrativeGenderCode	

Advance Directive Type Code

Value Set	Advance Directive Type Code - 2.16.840.1.113883.1.11.20.2
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1
Definition	This identifies the type of the Advance Directive. Uses the AdvanceDirectiveTypeCode vocabulary defined by CCD.

Concept Code	Concept Name	Code System	Description
281789004	Antibiotics	SNOMEDCT	
89666000	CPR	SNOMEDCT	
225204009	IV Fluid and Support	SNOMEDCT	
52765003	Intubation	SNOMEDCT	
78823007	Life Support	SNOMEDCT	
304251008	Resuscitation	SNOMEDCT	

Age P Q_ UCUM

Value Set	AgePQ_UCUM - 2.16.840.1.113883.11.20.9.21
Code System	UCUM - Unified Code for Units of Measure - 2.16.840.1.113883.6.8

Description	A valueSet of UCUM codes for representing age value units.

Concept Code	Concept Name	Code System	Description
min	Minute	UCUM - Unified Code for Units of Measure	
h	Hour	UCUM - Unified Code for Units of Measure	
d	Day	UCUM - Unified Code for Units of Measure	
wk	Week	UCUM - Unified Code for Units of Measure	
mo	Month	UCUM - Unified Code for Units of Measure	
a	Year	UCUM - Unified Code for Units of Measure	

Allergy/Adverse Event Type

Value Set	Allergy/Adverse Event Type - 2.16.840.1.113883.3.88.12.3221.6.2
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Description	This describes the type of product and intolerance suffered by the patient http://phinvads.cdc.gov/vads/ViewValueSet.action?id=7AFDBFB5-A277-DE11-9B52-0015173D1785

Concept Code	Concept Name	Code System	Description
420134006	Propensity to adverse reactions	SNOMEDCT	
418038007	Propensity to adverse reactions to substance	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
419511003	Propensity to adverse reactions to drug	SNOMEDCT	
418471000	Propensity to adverse reactions to food	SNOMEDCT	
419199007	Allergy to substance	SNOMEDCT	
416098002	Drug allergy	SNOMEDCT	
414285001	Food allergy	SNOMEDCT	
59037007	Drug intolerance	SNOMEDCT	
235719002	Food intolerance	SNOMEDCT	

Body Site Value Set

Value Set	Body Site Value Set - 2.16.840.1.113883.3.88.12.3221.8.9
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	2
Definition	Body site value set is based upon the concepts descending from the SNOMED CT Anatomical Structure (91723000) hierarchy.

Consult Document Type

Value Set	ConsultDocumentType - 2.16.840.1.113883.11.20.9.31
Code System	LOINC - 2.16.840.1.113883.6.1

Country Value Set

Value Set	CountryValueSet - 2.16.840.1.113883.3.88.12.80.63
Code System	Country (ISO 3166-1) - 1.0.3166.1

Coverage Role Type Value Set

Value Set	Coverage Role Type Value Set - 2.16.840.1.113883.1.11.18877
Code System	RoleCode - 2.16.840.1.113883.5.111
Version	1.0

Concept Code	Concept Name	Code System	Description
FAMDEP	Family dependent	RoleCode	
FSTUD	Full-time student	RoleCode	
HANDIC	Handicapped dependent	RoleCode	

Concept Code	Concept Name	Code System	Description
INJ	Injured plaintiff	RoleCode	
PSTUD	Part-time student	RoleCode	
SELF	Self	RoleCode	
SPON		RoleCode	
STUD	Student	RoleCode	

DICOMPurposeOfReference

Value Set	DICOMPurposeOfReference - 2.16.840.1.113883.11.20.9.28
Code System	DCM - 1.2.840.10008.2.16.4

DICOM Quantity Measurement Type Codes

Value Set	DICOMQuantityMeasurementTypeCodes - 2.16.840.1.113883.11.20.9.30
Code System	DCM - 1.2.840.10008.2.16.4

DIR Document Type Codes

Value Set	DIRDocumentTypeCodes - 2.16.840.1.113883.11.20.9.32
Code System	LOINC - 2.16.840.1.113883.6.1

DIR Quantity Measurement Type Codes

Value Set	DIRQuantityMeasurementTypeCodes - 2.16.840.1.113883.11.20.9.29
Code System	SNOMEDCT - 2.16.840.1.113883.6.96

Discharge Summary Document Type Code

Value Set	DischargeSummaryDocumentTypeCode - 2.16.840.1.113883.11.20.4.1
Code System	LOINC - 2.16.840.1.113883.6.1

Encounter Type Code

Value Set	EncounterTypeCode - 2.16.840.1.113883.3.88.12.80.32
Code System	CPT-4 - 2.16.840.1.113883.6.12
Version	20081218
Source	HITSP

Definition	This value set includes only the codes of the Current Procedure and Terminology designated for Evaluation and Management (99200 - 99299).
Description	This is used to identify medical services and procedures furnished by physicians and other healthcare professionals.

Entity Name Use

Value Set	EntityNameUse - 2.16.840.1.113883.1.11.15913
Code System	EntityNameUse - 2.16.840.1.113883.5.45

Entity Person Name Part Qualifier

Value Set	EntityPersonNamePartQualifier - 2.16.840.1.113883.11.20.9.26
Code System	EntityNamePartQualifier - 2.16.840.1.113883.5.43

Family History Related Subject Code

Value Set	FamilyHistoryRelatedSubjectCode - 2.16.840.1.113883.1.11.19579
Code System	RoleCode - 2.16.840.1.113883.5.111

Financially Responsible Party Type

Value Set	FinanciallyResponsiblePartyType - 2.16.840.1.113883.1.11.10416
Code System	HL7RoleClass - 2.16.840.1.113883.5.110

HITSP Ethnicity Value Set

Value Set	HITSP Ethnicity Value Set - 2.16.840.1.113883.1.11.15836
Code System	Race and Ethnicity - CDC - 2.16.840.1.113883.6.238

HITSP Problem Status

Value Set	HITSP Problem Status - 2.16.840.1.113883.3.88.12.80.68
Code System	SNOMEDCT - 2.16.840.1.113883.6.96

Concept Code	Concept Name	Code System	Description
55561003	Active	SNOMEDCT	
73425007	Inactive	SNOMEDCT	An inactive problems refers to one that is quiescent, and may appear again in future.

Concept Code	Concept Name	Code System	Description
413322009	Resolved	SNOMEDCT	A resolved problem refers to one that used to affect a patient, but does not any more.

HITSP Vital Sign Result Type

Value Set	HITSP Vital Sign Result Type - 2.16.840.1.113883.3.88.12.80.62
Code System	LOINC - 2.16.840.1.113883.6.1
Version	1
Source	HITSP
Definition	This identifies the vital sign result type

Concept Code	Concept Name	Code System	Description
8310-5	Body temperature:Temp:Pt:^Patient:Qn:	LOINC	
8462-4	Intravascular diastolic:Pres:Pt:Arterial system:Qn:	LOINC	
8480-6	Intravascular systolic:Pres:Pt:Arterial system:Qn:	LOINC	
8287-5	Circumference.occipital-frontal:Len:Pt:Head:Qn:Tape measure	LOINC	
8867-4	Heart beat:NRat:Pt:XXX:Qn:	LOINC	
8302-2	Body height:Len:Pt:^Patient:Qn:	LOINC	
8306-3	Body height^lying:Len:Pt:^Patient:Qn:	LOINC	
2710-2	Oxygen saturation:SFr:Pt:BldC:Qn:Oximetry	LOINC	
9279-1	Breaths:NRat:Pt:Respiratory system:Qn:	LOINC	
3141-9	Body weight:Mass:Pt:^Patient:Qn:Measured	LOINC	

HL7 BasicConfidentialityKind

Value Set	HL7 BasicConfidentialityKind - 2.16.840.1.113883.1.11.16926
Code System	ConfidentialityCode - 2.16.840.1.113883.5.25
Source	HL7

HL7 LanguageAbilityMode

Value Set	HL7 LanguageAbilityMode - 2.16.840.1.113883.1.11.12249
Code System	LanguageAbilityMode - 2.16.840.1.113883.5.60
Version	1
Definition	This identifies the language ability of the individual. A value representing the method of expression of the language.

Concept Code	Concept Name	Code System	Description
ESGN	Expressed signed	LanguageAbilityMode	
ESP	Expressed spoken	LanguageAbilityMode	
EWR	Expressed written	LanguageAbilityMode	
RSGN	Received signed	LanguageAbilityMode	
RSP	Received spoken	LanguageAbilityMode	
RWR	Received written	LanguageAbilityMode	

HL7 Marital Status

Value Set	HL7 Marital Status - 2.16.840.1.113883.1.11.12212
Code System	MaritalStatus - 2.16.840.1.113883.5.2
Version	1
Definition	Marital Status is the domestic partnership status of a person.

Concept Code	Concept Name	Code System	Description
A		MaritalStatus	
D		MaritalStatus	
T		MaritalStatus	
I		MaritalStatus	
L		MaritalStatus	
M		MaritalStatus	
S		MaritalStatus	
P		MaritalStatus	
W		MaritalStatus	

HL7 Religious Affiliation

Value Set	HL7 Religious Affiliation - 2.16.840.1.113883.1.11.19185
Code System	ReligiousAffiliation - 2.16.840.1.113883.5.1076

Version	1
Definition	This reflects the spiritual faith affiliation

HP Document Type

Value Set	HPDocumentType - 3. 2.16.840.1.113883.1.11.20.22
Code System	LOINC - 2.16.840.1.113883.6.1

Health Insurance Type Value Set

Value Set	Health Insurance Type Value Set - 2.16.840.1.113883.3.88.12.3221.5.2
Code System	LOINC - 2.16.840.1.113883.6.1
Version	20081218
Source	HITSP
Definition	This value set uses the ACS X12 vocabulary for Insurance Type Code (ASC X12 Data Element 1336) and has been limited by HITSP to the value set reproduced below in Table 2-52 Health Insurance Type Value Set Definition The type of health plan covering the individual, e.g., an HMO, PPO, POS, etc.

Concept Code	Concept Name	Code System	Description
12	Medicare Secondary Working Aged Beneficiary or Spouse with Employer Group Health Plan	LOINC	
13	Medicare Secondary End-Stage Renal Disease Beneficiary in the 12 month coordination period with an employer's group health plan	LOINC	
14	Medicare Secondary, No-fault Insurance including Auto is Primary	LOINC	
15	Medicare Secondary Worker's Compensation	LOINC	
16	Medicare Secondary Public Health Service (PHS)or Other Federal Agency	LOINC	
41	Medicare Secondary Black Lung	LOINC	
42	Medicare Secondary Veteran's Administration	LOINC	

Concept Code	Concept Name	Code System	Description
43	Medicare Secondary Disabled Beneficiary Under Age 65 with Large Group Health Plan (LGHP)	LOINC	
47	Medicare Secondary, Other Liability Insurance is Primary	LOINC	
AP	Auto Insurance Policy	LOINC	
C1	Commercial	LOINC	
CO	Consolidated Omnibus Budget Reconciliation Act (COBRA)	LOINC	
CP	Medicare Conditionally Primary	LOINC	
D	Disability	LOINC	
DB	Disability Benefits	LOINC	
EP	Exclusive Provider Organization	LOINC	
FF	Family or Friends	LOINC	
GP	Group Policy	LOINC	
HM	Health Maintenance Organization (HMO)	LOINC	
HN	Health Maintenance Organization (HMO) - Medicare Risk	LOINC	
HS	Special Low Income Medicare Beneficiary	LOINC	
IN	Indemnity	LOINC	
IP	Individual Policy	LOINC	
LC	Long Term Care	LOINC	
LD	Long Term Policy	LOINC	
LI	Life Insurance	LOINC	
LT	Litigation	LOINC	
MA	Medicare Part A	LOINC	
MB	Medicare Part B	LOINC	
MC	Medicaid	LOINC	
MH	Medigap Part A	LOINC	
MI	Medigap Part B	LOINC	
MP	Medicare Primary	LOINC	

Concept Code	Concept Name	Code System	Description
OT	Other	LOINC	
PE	Property Insurance - Personal	LOINC	
PL	Personal	LOINC	
PP	Personal Payment (Cash - No Insurance)	LOINC	
PR	Preferred Provider Organization (PPO)	LOINC	
PS	Point of Service (POS)	LOINC	
QM	Qualified Medicare Beneficiary	LOINC	
RP	Property Insurance - Real	LOINC	
SP	Supplemental Policy	LOINC	
TF	Tax Equity Fiscal Responsibility Act (TEFRA)	LOINC	
WC	Workers Compensation	LOINC	
WU	Wrap Up Policy	LOINC	

Healthcare Provider Taxonomy (NUCC - HIPAA)

Value Set	Healthcare Provider Taxonomy (NUCC - HIPAA) - 2.16.840.1.114222.4.11.1066
Code System	NUCC Health Care Provider Taxonomy - 2.16.840.1.113883.6.101

Healthcare Service Location

Value Set	HealthcareServiceLocation - 2.16.840.1.113883.1.11.20275
Code System	LOINC - 2.16.840.1.113883.6.1

IND Roleclass Codes

Value Set	INDRoleclassCodes - 2.16.840.1.113883.11.20.9.33
Code System	HL7RoleClass - 2.16.840.1.113883.5.110
Description	Specific classification codes for further qualifying RoleClass codes.

Ingredient Name

Value Set	Ingredient Name - 2.16.840.1.113883.3.88.12.80.20
Code System	Unique Ingredient Identifier (UNII) - 2.16.840.1.113883.4.9

Description	Unique ingredient identifiers (UNIIs) for substances in drugs, biologics, foods, and devices. http://www.fda.gov/ForIndustry/DataStandards/StructuredProductLabeling/ucm162523.htm

Language

Value Set	Language - 2.16.840.1.113883.1.11.11526
Code System	LOINC - 2.16.840.1.113883.6.1
Version	200609
Source	The Internet Society
Source URL	http://www.ietf.org/rfc/rfc4646.txt
Definition	The value set is 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 and Frequently Asked Questions.

Language Ability Proficiency

Value Set	LanguageAbilityProficiency - 2.16.840.1.113883.1.11.12199
Code System	LanguageAbilityProficiency - 2.16.840.1.113883.5.61

Concept Code	Concept Name	Code System	Description
E	Excellent	LanguageAbilityProficiency	
F	Fair	LanguageAbilityProficiency	
G	Good	LanguageAbilityProficiency	
P	Poor	LanguageAbilityProficiency	

Medication Brand Name

Value Set	Medication Brand Name - 2.16.840.1.113883.3.88.12.80.16
Code System	RxNorm - 2.16.840.1.113883.6.88
Description	Brand names http://phinvads.cdc.gov/vads/ViewValueSet.action?id=229BEF3E-971C-DF11-B334-0015173D1785

Medication Clinical Drug

Value Set	Medication Clinical Drug - 2.16.840.1.113883.3.88.12.80.17
Code System	RxNorm - 2.16.840.1.113883.6.88
Description	Clinical drug names http://phinvads.cdc.gov/vads/ViewValueSet.action?id=239BEF3E-971C-DF11-B334-0015173D1785

Medication Drug Class

Value Set	Medication Drug Class - 2.16.840.1.113883.3.88.12.80.18
Code System	NDF-RT (Drug Classification) - 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. http://phinvads.cdc.gov/vads/ViewValueSet.action?id=77FDBFB5-A277-DE11-9B52-0015173D1785

Medication Fill Status

Value Set	Medication Fill Status - 2.16.840.1.113883.3.88.12.80.64
Code System	ActStatus - 2.16.840.1.113883.5.14
Version	1
Definition	The HL7 ActStatus has been limited by HITSP. This identifies whether the medication has been fulfilled, such as completed and aborted

Concept Code	Concept Name	Code System	Description
aborted	Aborted	ActStatus	
completed	Completed	ActStatus	

Medication Product Form

Value Set	Medication Product Form - 2.16.840.1.113883.3.88.12.3221.8.11
Code System	NCI Thesaurus - 2.16.840.1.113883.3.26.1.1
Version	1
Definition	This is the physical form of the product as presented to the individual. For example: tablet, capsule, liquid or ointment. NCI concept code for pharmaceutical dosage form: C42636

Medication Route FDA Value Set

Value Set	Medication Route FDA Value Set - 2.16.840.1.113883.3.88.12.3221.8.7
Code System	NCI Thesaurus - 2.16.840.1.113883.3.26.1.1
Version	1
Definition	Route of Administration value set is based upon FDA Drug Registration and Listing Database (FDA Orange Book) which are used in FDA structured product and labelling (SPL).

Mood Code Evn Int

Value Set	MoodCodeEvnInt - 2.16.840.1.113883.11.20.9.18
Code System	HL7ActMood - 2.16.840.1.113883.5.1001
Version	2011-04-03
Definition	Subset of HL7 ActMood codes, constrained to represent event (EVN) and intent (INT) moodes

Concept Code	Concept Name	Code System	Description
EVN	Event	HL7ActMood	
INT	Intent	HL7ActMood	

NUBC UB-04 FL17-Patient Status

Value Set	NUBC UB-04 FL17-Patient Status - 2.16.840.1.113883.3.88.12.80.33
Source	National Uniform Billing Committee (NUBC)
Source URL	www.nubc.org
Definition	See (UB-04/NUBC CURRENT UB DATA SPECIFICATIONS MANUAL) UB-04 FL14.
Description	A code indicating the priority of the admission (e.g., Emergency, Urgent, Elective, et cetera).

No Immunization Reason Value Set

Value Set	No Immunization Reason Value Set - 2.16.840.1.113883.1.11.19717
Code System	ActReason - 2.16.840.1.113883.5.8
Version	1
Source	
Definition	This identifies the reason why the immunization did not occur

Concept Code	Concept Name	Code System	Description
IMMUNE	Immunity	ActReason	
MEDPREC	medical precaution	ActReason	
OSTOCK	Out of stock	ActReason	
PATOBJ	patient objection	ActReason	
PHILISOP	philosophical objection	ActReason	
RELIG	religious objection	ActReason	
VACEFF	vaccine efficacy concerns	ActReason	
VACSAF	vaccine safety concerns	ActReason	

Observation Interpretation (HL7)

Value Set	Observation Interpretation (HL7) - 2.16.840.1.113883.1.11.78

Patient Education

Value Set	PatientEducation - 4. 2.16.840.1.113883.11.20.9.34
Code System	SNOMEDCT - 2.16.840.1.113883.6.96

Personal Relationship Role Type

Value Set	Personal Relationship Role Type - 2.16.840.1.113883.1.11.19563
Code System	RoleCode - 2.16.840.1.113883.5.111
Version	1
Definition	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

Concept Code	Concept Name	Code System	Description
ADOPT	adopted child	RoleCode	
AUNT	aunt	RoleCode	
CHILD	Child	RoleCode	
CHLDINLAW	child in-law	RoleCode	
COUSN	cousin	RoleCode	
DOMPART	domestic partner	RoleCode	
FAMMEMB	Family Member	RoleCode	
CHLDFOST	foster child	RoleCode	
GRNDCHILD	grandchild	RoleCode	
GPARNT	grandparent	RoleCode	
GRPRN	Grandparent	RoleCode	
GGRPRN	great grandparent	RoleCode	
HSIB	half-sibling	RoleCode	
MAUNT	MaternalAunt	RoleCode	
MCOUSN	MaternalCousin	RoleCode	
MGRPRN	MaternalGrandparent	RoleCode	
MGGRPRN	MaternalGreatgrandparent	RoleCode	
MUNCLE	MaternalUncle	RoleCode	
NCHILD	natural child	RoleCode	

Concept Code	Concept Name	Code System	Description
NPRN	natural parent	RoleCode	
NSIB	natural sibling	RoleCode	
NBOR	neighbor	RoleCode	
NIENEPH	niece/nephew	RoleCode	
PRN	Parent	RoleCode	
PRNINLAW	parent in-law	RoleCode	
PAUNT	PaternalAunt	RoleCode	
PCOUSN	PaternalCousin	RoleCode	
PGRPRN	PaternalGrandparent	RoleCode	
PGGRPRN	PaternalGreatgrandparent	RoleCode	
PUNCLE	PaternalUncle	RoleCode	
ROOM	Roommate	RoleCode	
SIB	Sibling	RoleCode	
SIBINLAW	sibling in-law	RoleCode	
SIGOTHR	significant other	RoleCode	
SPS	spouse	RoleCode	
STEP	step child	RoleCode	
STPPRN	step parent	RoleCode	
STPSIB	step sibling	RoleCode	
UNCLE	uncle	RoleCode	
FRND	unrelated friend	RoleCode	

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
Code System	HL7ActMood - 2.16.840.1.113883.5.1001

Plan of Care moodCode (Observation)

Value Set	Plan of Care moodCode (Observation) - 2.16.840.1.113883.11.20.9.25
Code System	HL7ActMood - 2.16.840.1.113883.5.1001

Plan of Care moodCode (SubstanceAdministration/Supply)

Value Set	Plan of Care moodCode (SubstanceAdministration/Supply) - 2.16.840.1.113883.11.20.9.24
Code System	HL7ActMood - 2.16.840.1.113883.5.1001

Postal Address Use

Value Set	PostalAddressUse - 2.16.840.1.113883.1.11.10637
Code System	AddressUse - 2.16.840.1.113883.5.1119

Postal Code Value Set

Value Set	PostalCodeValueSet - 2.16.840.1.113883.3.88.12.80.2
Code System	US Postal Codes - 2.16.840.1.113883.6.231

Problem

Value Set	Problem - 2.16.840.1.113883.3.88.12.3221.7.4
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	DYNAMIC
Source	http://phinvads.cdc.gov/vads/ViewValueSet.action?id=70FDBFB5-A277-DE11-9B52-0015173D1785
Description	Problems and diagnoses. Limited to terms decending from the Clinical Findings (404684003) or Situation with Explicit Context (243796009) hierarchies.

Problem Act Status Code

Value Set	ProblemActStatusCode - 2.16.840.1.113883.11.20.9.19
Code System	ActStatus - 2.16.840.1.113883.5.14
Version	2011-09-09
Description	This value set indicates the status of the problem concern act.

Concept Code	Concept Name	Code System	Description
active		ActStatus	
suspended		ActStatus	
aborted		ActStatus	
completed		ActStatus	

Problem Severity

Value Set	Problem Severity - 2.16.840.1.113883.3.88.12.3221.6.8
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Description	This is a description of the level of the severity of the problem.

Concept Code	Concept Name	Code System	Description
255604002	Mild	SNOMEDCT	
371923003	Mild to moderate	SNOMEDCT	
6736007	Moderate	SNOMEDCT	
371924009	Moderate to severe	SNOMEDCT	
24484000	Severe	SNOMEDCT	
399166001	Fatal	SNOMEDCT	

Problem Type

Value Set	Problem Type - 2.16.840.1.113883.3.88.12.3221.7.2
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	2008-12-18
Description	This value set indicates the level of medical judgment used to determine the existence of a problem.

Concept Code	Concept Name	Code System	Description
404684003	Finding	SNOMEDCT	
409586006	Complaint	SNOMEDCT	
282291009	Diagnosis	SNOMEDCT	
64572001	Condition	SNOMEDCT	
248536006	Functional limitation	SNOMEDCT	
418799008	Symptom	SNOMEDCT	
55607006	Problem	SNOMEDCT	

Procedure Act Status Code

Value Set	ProcedureActStatusCode - 2.16.840.1.113883.11.20.9.22
Code System	ActStatus - 2.16.840.1.113883.5.14
Definition	A ValueSet of HL7 actStatus codes for use with a procedure activity

Concept Code	Concept Name	Code System	Description
completed	Completed	ActStatus	
active	Active	ActStatus	
aborted	Aborted	ActStatus	
cancelled	Cancelled	ActStatus	

Procedure Note Document Type Codes

Value Set	ProcedureNoteDocumentTypeCodes - 2.16.840.1.113883.11.20.6.1
Code System	LOINC - 2.16.840.1.113883.6.1

Progress Note Document Type Code

Value Set	ProgressNoteDocumentTypeCode - 2.16.840.1.113883.11.20.8.1
Code System	LOINC - 2.16.840.1.113883.6.1

Provider Type

Value Set	ProviderType - 2.16.840.1.113883.3.88.12.3221.4
Code System	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.

Race

Value Set	Race - 2.16.840.1.113883.1.11.14914
Code System	Race and Ethnicity - CDC - 2.16.840.1.113883.6.238
Version	1
Definition	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.

Social History Type Set Definition

Value Set	Social History Type Set Definition - 2.16.840.1.113883.3.88.12.80.60
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1
Definition	This indicates the type of social history observation

Concept Code	Concept Name	Code System	Description
160573003	ETOH (Alcohol) Use	SNOMEDCT	
363908000	Drug Use	SNOMEDCT	
364703007	Employment	SNOMEDCT	
256235009	Exercise	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
228272008	Other Social History	SNOMEDCT	
364393001	Diet	SNOMEDCT	
229819007	Smoking	SNOMEDCT	
425400000	Toxic Exposure	SNOMEDCT	

State Value Set

Value Set	StateValueSet - 2.16.840.1.113883.3.88.12.80.1
Code System	FIPS 5-2 (State) - 2.16.840.1.113883.6.92

Supported File Formats

Value Set	SupportedFileFormats - 2.16.840.1.113883.11.20.7.1

Surgical Operation Note Document Type Code

Value Set	SurgicalOperationNoteDocumentTypeCode - 2.16.840.1.113883.11.20.1.1
Code System	LOINC - 2.16.840.1.113883.6.1

Telecom Use (US Realm Header)

Value Set	Telecom Use (US Realm Header) - 2.16.840.1.113883.11.20.9.20
Code System	AddressUse - 2.16.840.1.113883.5.1119

UCUM Units of Measure (case sensitive)

Value Set	UCUM Units of Measure (case sensitive) - 2.16.840.1.113883.1.11.12839

Vaccines Administered Value Set

Value Set	Vaccines Administered Value Set - 2.16.840.1.114222.4.11.934
Code System	Vaccines administered (CVX) - 2.16.840.1.113883.6.59
Version	3
Definition	Vaccine Name Keyword: Clinical Vaccines, Vaccine Names