

Surrogate EHR Environment (SEE)  
Transfer of Care Implementation Guide, Release 1.1

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# Introduction

The Massachusetts Long-Term and Post-Acute Care (MASS LTPAC) providers play an important role when a patient is transitioned between a skilled nursing facility and hospital or when a patient is sent home for home health services. The Massachusetts Health Information Exchange (MASS HIE) is an avenue for exchanging critical MASS LTPAC data between these settings. The MASS LTPAC community identified critical data elements for a transfer in care during the Improving Massachusetts Post-Acute Care Transfers (IMPACT) project. The approximately 480 IMPACT data elements were mapped to 20 existing Clinical Document Architecture (CDA) template sections to build this *Surrogate EHR Environment (SEE) Transfer of Care Implementation Guide.*

## Purpose

This document describes constraints on the CDA header and body elements for the Transfer of Care Document from the IMPACT data elements identified by MASS LTPAC providers. A Transfer of Care Document standardizes critical information for exchange when a patient moves from a LTPAC setting to a hospital or to a home healthcare setting, as well as for reuse in quality measurement, public health assessment, research, and reimbursement processes.

This implementation guide (IG) has not been through the Health Level Seven (HL7) balloting and publishing process nor been accepted by any national group. It provides a standardized means to exchange critical information identified in the IMPACT data set among LTPAC providers in the MASS HIE community.

## Audience

The audiences for this implementation guide are the architects, developers, and implementers of healthcare information technology (HIT) systems in the MASS HIE who wish to create or process a Transfer of Care Document according to this specification. This is guide is intended to provide guidance to implementers of the Surrogate EHR Environment (SEE) tool.[[2]](#footnote-2)

Business analysts and policy managers in the MASS HIE community can also benefit from a basic understanding of the use of CDA templates across multiple implementation use cases.

## Approach

The approach taken here is consistent with balloted implementation guides for CDA. These publications view the ultimate implementation specification as a series of layered constraints. CDA itself is a set of constraints on the HL7 Reference Information Model (RIM) defined in the CDA Release 2 (CDA R2) Refined Message Information Model (RMIM). Implementation guides such as this add constraints to CDA through conformance statements that further define and restrict the sequence and cardinality of CDA objects and the vocabulary sets for coded elements.

This implementation guide is a conformance profile, as described in the “Refinement and Localization”[[3]](#footnote-3) section of the *HL7 Version 3 Interoperability Standards*. The base standard for this implementation guide is the *HL7 Clinical Document Architecture, Release 2.0.*[[4]](#footnote-4) As defined in that document, this implementation guide is both an annotation profile and a localization profile. It does not describe every aspect of CDA.

Development of this implementation guide included a review and analysis of the IMPACT data elements in relation to existing templates in the *HL7 Implementation Guide for CDA® Release 2: IHE Health Story Consolidation, Release 1.1 - US Realm*[[5]](#footnote-5) (Consolidated CDA or C-CDA) which is the standard referenced in the final rules for Stage 1 Meaningful Use.[[6]](#footnote-6) This standard includes exchanges that comply with the Health Information Technology for Economic and Clinical Health (HITECH) provisions of the American Recovery and Reinvestment Act of 2009.[[7]](#footnote-7) Additional analysis included previously balloted clinical exchange standards and published guides which contained similar LTPAC data elements such as the *Framework for Questionnaire Assessments* [[8]](#footnote-8), *Long-Term Post-Acute Care (LTPAC) Summary[[9]](#footnote-9)*, and *HL7 Implementation Guide for CDA® R2: Quality Reporting Document Architecture, DSTU Release 2 (QRDA).*[[10]](#footnote-10)

Mapping IMPACT data elements to C-CDA and LTPAC Summary templates allowed for reuse of these existing templates. Establishment of reusable templates through standards development organizations promotes the templates for future inclusion in Meaningful Use. This implementation guide also contains further guidance for elements that did not map to C-CDA templates. These remaining data elements were mapped to CDA question answer pattern entry templates. Further details on the differences between the modeling styles are explained in the [Model of Use vs. Model of Meaning Section](#_Model_of_Use_1).

## CDA R2

CDA R2 is “… a document markup standard that specifies the structure and semantics of ‘clinical documents’ for the purpose of exchange” [HL7 CDA Release 2, Section 1.1; see [References](#_References_2)]. Clinical documents, according to CDA, have the following characteristics:

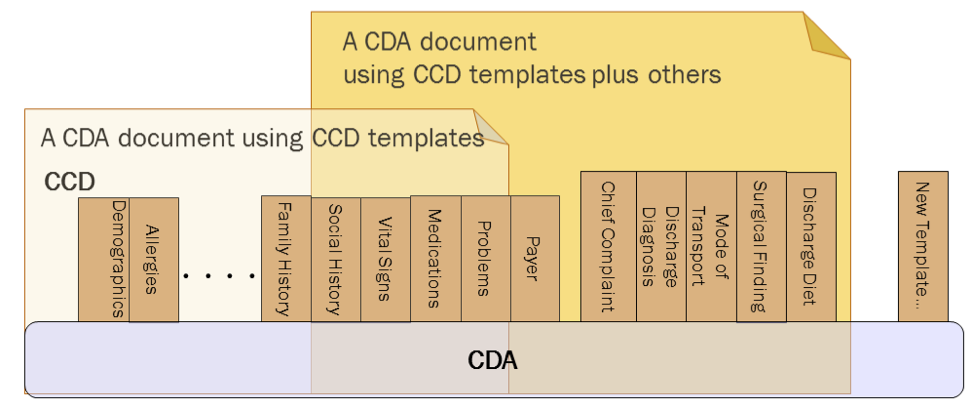
* Persistence
* Stewardship
* Potential for authentication
* Context
* Wholeness
* Human readability

CDA defines a header for classification and management and a document body that carries the clinical record. While the header metadata are prescriptive and designed for consistency across all instances, the body is highly generic, leaving the designation of semantic requirements to implementation.

## Templated CDA

CDA R2 can be constrained by mechanisms defined in the “Refinement and Localization”[[11]](#footnote-11) section of the *HL7 Version 3 Interoperability Standards*. The mechanism most commonly used to constrain CDA is referred to as “templated CDA”. In this approach, a library of modular CDA templates is constructed such that templates can be reused across any number of CDA document types, as shown in the following figure.

Figure : Templated CDA



There are many different kinds of templates that might be created. Among them, the most common are:

* **Document-level templates**: These templates constrain fields in the CDA header, and define containment relationships to CDA sections. For example, a History-and-Physical document-level template might require that the patient’s name be present, and that the document contain a Physical Exam section.
* **Section-level templates**: These templates constrain fields in the CDA section, and define containment relationships to CDA entries. For example, a Physical-exam section-level template might require that the section/code be fixed to a particular LOINC code, and that the section contain a Systolic Blood Pressure observation.
* **Entry-level templates**: These templates constrain the CDA clinical statement model in accordance with real world observations and acts. For example, a Systolic-blood-pressure entry-level template defines how the CDA Observation class is constrained (how to populate observation/code, how to populate observation/value, etc.) to represent the notion of a systolic blood pressure.

A CDA implementation guide (such as this one) includes reference to those templates that are applicable. On the implementation side, a CDA instance populates the templateId field where it wants to assert conformance to a given template. On the receiving side, the recipient can then not only test the instance for conformance against the CDA XML schema, but can also test the instance for conformance against asserted templates.

## Background

Using Interventions to Reduce Acute Care Transfers (INTERACT)[[12]](#footnote-12) II as a prototype for a Transfer of Care document, the Massachusetts Department of Public Health Director of Patient Safety and Quality convened representatives from home health agencies, emergency medical technicians (EMTs), skilled nursing and extended care facilities, emergency departments and other medical facilities to create a “Universal Transfer Form” (UTF).[[13]](#footnote-13) The UTF provides a set of 175 clinical data elements applicable to all care transitions for exchanging data during transitions between acute providers and post-acute care settings.

The IMPACT project validated the electronic UTF form and then converted this form into an electronic CDA-based tool that is similar was similar to the Continuity of Care Document (CCD). The UTF dataset was incorporated into the IMPACT data set which expanded to include 350 data elements derived from a survey of groups who received patients in any of the high-priority transition scenarios among selected acute and post-acute care sites. The 350 data elements were tested using paper forms followed by refinement and expansion.

The data set underwent two more revisions. The first was the incorporation of feedback from multiple State and National groups and the second was the inclusion of the Home Health Agency (HHA) Plan of Care data elements and the data types required to exchange a Care Plan. The total of approximately 480 IMPACT data element identified by community providers serve as the data set for the current project.

These data elements support five types of clinical transitions as identified by the S&I LCC Use Cases:

* Report from Outpatient testing, treatment, or procedure
* Referral to Outpatient testing, treatment, or procedure
* Shared Care Encounter Summary (Office Visit, Consultation Summary, Return from the ED to the referring facility)
* Consultation Request Clinical Summary (Referral to a consultant or the ED)
* Permanent or long-term Transfer of Care to a different facility or care team or Home Health Agency

## Current Project

This implementation guide specifies an initial, high-priority set of transfer of care templates to be used during a transfer of care within the MASS LTPAC and MASS HIE environment. This guide describes constraints on the CDA R2 header and body elements for the Transfer of Care Document in the US Realm. The Transfer of Care Document is standardized to CDA R2 and incorporates previously developed CDA templates, further constrained templates, and new templates to accommodate the IMPACT data elements.

The Transfer of Care Document provides the long-term post-acute care site with information pertinent to the care of a patient transferred to the facility. Information includes such items as the patient’s medications, problems, vital signs, procedures, lab results, and functional status. This document would be used when a patient leaves his current setting and is either transferred to another facility, such as a hospital, or to home. A provider may access or create this document using an electronic health record (EHR) or a tool that allows the generation, translating, and viewing of this information. An example of a tool is the SEE Tool which will be used in Massachusetts HIEs.[[14]](#footnote-14)

## Organization of This Guide

This guide includes a set of CDA Templates and prescribes their use within a Transfer of Care CDA document. The main chapters are:

Chapter 2: [General Header Templates](#_Question_Answer_Pattern). This chapter defines the US Realm document header constraints that apply across all of C-CDA document types.

Chapter 3: [Document-Level Templates](#_Document-Level_Templates). This chapter defines the document header constraints and section specific to the Transfer of Care Document.

Chapter 4: [Section-Level Templates](#_Section-Level_Templates). This chapter defines the section templates referenced within the Transfer of Care Document.

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

## Conformance Conventions Used in This Guide

### Templates and Conformance Statements

Conformance statements within this implementation guide are presented as constraints from Trifolia Workbench.[[15]](#footnote-15) An algorithm converts constraints recorded in Trifolia to a printable presentation. Each constraint is uniquely identified by an conformance number at or near the end of the constraint (e.g., CONF:7345). These identifiers are persistent but not sequential.

Bracketed information following each template title indicates the template type (section, observation, act, procedure, etc.), the templateId, and whether the template is [open or closed](#_Open_and_Closed_1).

Each section and entry template in the guide includes a context table. The "Used By" column indicates which documents or sections use this template, and the "Contains Entries" column indicates any entries that the template uses. Each [entry](#_Entry-Level_Templates) template also includes a constraint overview table to summarize the constraints following the table. Value set tables, where applicable, and brief XML example figures are included with most templates.

The mapping spreadsheet (MASS\_HIE\_IG\_MAPPING.xlsx) included with this guide contains a mapping for each IMPACT data element to a corresponding CDA template. The table includes a detailed mapping with an XPath navigation into the included sample file. The spreadsheet is organized by tabs with each tab representing a section in the CDA. Below is an excerpt from the Payers tab of the mapping spreadsheet.

Table : Payers Tab of the MASS HIE Mapping Spreadsheet (excerpt)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Data element | unique ID | Data Element Type | CDA Section | CDA Template | XPath ([context]/XPath) | Notes |
| [CDA Body] |  | CDA |  |  | /ClinicalDocument/component/ structuredBody |  |
| Payer Information | 7 | IDE | Payers | Payers Section | [CDA Body] //component/section/templateId [@root="2.16.840.1.113883.10.20 .22.2.18"] |  |
| [Coverage Activity] |  | CDA | Payers | Coverage Activity | [Payers Section] //entry[@typeCode="DRIV"]/act/templateId[@root="2.16.840.1 .113883.10.20.22.4.60"] | A Coverage Activity groups the policy and authorization acts within a Payers Section to order the payment sources. |
| [Policy Activity] |  | CDA | Payers | Policy Activity | [Coverage Activity] //entryRelationship[@typeCode= "COMP"]/act/templateId[@root= "2.16.840.1.113883.10.20.22.4.61"] | A policy activity represents the policy or program providing the coverage. |
| *Standard Insurance Data set* | 7.1 |  |  |  |  |  |
| [Payer Performer] |  | CDA | Payers | Policy Activity | [Policy Activty] //performer/templateId[@root= "2.16.840.1.113883.10.20.22.4.87"] |  |
| Insurance Name |  | SID | Payers | Policy Activity | [Payer Performer] //assignedEntity/represented Organization/name |  |
| Insurance Phone # |  | SID | Payers | Policy Activity | [Payer Performer] //assignedEntity/telecom |  |
| Insurance Group # |  | SID | Payers | Policy Activity | [Policy Activty] //id | This id is a unique identifier for the policy or program providing the coverage |
| Insurance Type |  | SID | Payers | Policy Activity | [Policy Activty] //code | See IG for allowed codes. |

Each column contains specific information:

* **Data element:** This column is the description of the IMPACT data element and related CDA element.
* **uniqueID:** The numbers in this column correspond to the numbers on the “1-Merged Final Dataset (10-20)” in the [IMPACT Transfer of Care Mapping.xlsx](file:///C:\Users\minigrrl\Documents\Work\Lantana\Projects\MASS%20HIE\IG\IMPACT_Transfer_of_Care_Mapping.xlsx) spreadsheet.
* **Data element type:** This identifies whether an element is an IMPACT data element (IDE) or an element in the CDA template which is designated as CDA.
* **CDA Section:** Identifies the section template to which the data element maps.
* **CDA Template:** Identifies the entry template in the section to which the data element maps.
* **XPath:** The XPath will navigate the implementer to a place in the sample file where the data elements are mapped.
* **Notes:** Additional guidance notes are provided in this column.

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

Figure : Constraints format example

**Severity Observation**

[observation: templateId 2.16.840.1.113883.10.20.22.4.8(open)]

Table xxx: Severity Observation Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Reaction Observation](#E_Reaction_Observation) (optional)  [Allergy - Intolerance Observation](#E_Allergy__Intolerance_Observation) (optional)  [Substance or Device Allergy - Intolerance Observation](#E_Substance_or_Device_Allergy__Intolera) (required) |  |

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…

Table yyy: Severity Observation Contexts

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
| Green Severity Observation | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.8'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | 7345 | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| … |  |  |  |  |  |  |

1. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7345).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7346).
3. SHALL contain exactly one [1..1] templateId (CONF:7347) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.8" (CONF:10525).
4. SHALL contain exactly one [1..1] code="SEV" Severity Observation (CodeSystem: ActCode 2.16.840.1.113883.5.4) (CONF:7349).
5. …

### Open and Closed Templates

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

Templates included in this guide are open. In order to map all the IMPACT data elements to CDA, some sections require the use of entry templates that are not explicitly stated as being contained in the section. Templates used in this manner are C-CDA templates and Questionnaire Assessment Framework patterns.[[16]](#footnote-16) See the chapter on [Questionnaire Assessment Framework Patterns](#_Questionnaire_Assessment_Framework). For [example](#F_Problem_Observation_in_Vital_Sign_Sect), the [Vital Sign Section](#S_Vital_Signs_Section_entries_optional) does not explicitly state the use of a [Problem Observation](#E_Problem_Observation) as part of the template. In another [example](#F_Other_Response_Pattern_in_Medical_Equi), the [Medical Equipment Section](#S_Medical_Equipment_Section) has no constraint to use an [Other Response Pattern](#E_Other_Response_Pattern) which is a pattern identified in the Questionnaire Assessment Framework. Both the sample file (MassHIE\_Main\_Sample\_File.xml) and the [MASS\_HIE\_IG\_MAPPING.xlsx](file:///C:\Users\minigrrl\Documents\Work\Lantana\Projects\MASS%20HIE\IG\MASS_HIE_IG_MAPPING.xlsx) spreadsheet provide specific guidance as to which templates are used in each section.

Figure : Example of Problem Observation in Vital Sign Section

<section>  
 <templateId root="2.16.840.1.113883.10.20.22.2.4.1"/>

<templateId root="2.16.840.1.113883.10.20.22.2.4"/>

<code code="8716-3" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"   
 displayName="VITAL SIGNS"/>

<title>VITAL SIGNS</title>

<text>

...

</text>

<!-- 10.4.1.1.x IMPACT Data Element: Vital Signs -->

<entry typeCode="DRIV">

<organizer classCode="CLUSTER" moodCode="EVN">

<!-- Vital signs organizer template -->

<templateId root="2.16.840.1.113883.10.20.22.4.26"/>

<id root="c6f88320-67ad-11db-bd13-0800200c9a66"/>

<code code="46680005" codeSystem="2.16.840.1.113883.6.96"   
 codeSystemName="SNOMED -CT" displayName="Vital signs"/>

<statusCode code="completed"/>

<effectiveTime value="20120407"/>

<component>

<!-- Height -->

<observation classCode="OBS" moodCode="EVN">

<!-- Vital Sign Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.27"/>

...

</component>

<component>

<!-- Oxygen Saturation -->

<observation classCode="OBS" moodCode="EVN">

<!-- Vital Sign Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.27"/>

<id root="c6f88321-67ad-11db-bd13-0800200c9a66"/>

...

</observation>

</component>

<component>

<!-- Respiratory rate -->

<observation classCode="OBS" moodCode="EVN">

<!-- Vital Sign Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.27"/>

...

</observation>

</component>

</organizer>

</entry>

<entry typeCode="DRIV">  
 <observation classCode="OBS" moodCode="EVN">  
 <!-- C-CDA Problem observation template id -->  
 <templateId root="2.16.840.1.113883.10.20.22.4.4"/>  
 <id root="fc6831ae-2481-4eee-847d-ace805dc7cb8"/>  
 <!-- Problem Type -->  
 <code code="8884-9" displayName="Heart Rate Rhythm"

codeSystem="2.16.840.1.113883.6.1"  
 codeSystemName="LOINC"/>  
 <statusCode code="completed"/>  
 <effectiveTime value="20120407"/>  
 <value xsi:type="CD" code="248651005"

codeSystem="2.16.840.1.113883.6.96"  
 codeSystemName="SNOMED-CT" displayName="heart irregularly

irregular"/>  
 </observation>  
 </entry>

</section>

Figure : Example of Other Response Pattern in Medical Equipment Section

<section>

<!-- Medical equipment section -->

<templateId root="2.16.840.1.113883.10.20.22.2.23"/>

<code code="46264-8" codeSystem="2.16.840.1.113883.6.1"/>

<!-- 10.16.x High Risk Devices, Catheters, Stents -->

<title>MEDICAL EQUIPMENT</title>

<text>

...

</text>

<entry>

<observation classCode="OBS" moodCode="EVN">

<!-- \*\* Question Answer Pattern \*\* -->

<templateId root="2.16.840.1.113883.10.20.25.4.5"/>

<!-- \*\* Other Response Pattern \*\* -->

<templateId root="2.16.840.1.113883.10.20.25.4.6"/>

<code nullFlavor="NA">

<originalText>Suctioning</originalText>

<translation nullFlavor="NA"/>

</code>

<statusCode code="completed"/>

<value xsi:type="ST">Do not use</value>

</observation>

</entry>

</section>

### Keywords

The keywords shall, should, may, need not, should not, and shall not in this document are to be interpreted as described in the *HL7 Version 3 Publishing Facilitator's Guide*[[17]](#footnote-17):

* shall: an absolute requirement
* shall not: an absolute prohibition against inclusion
* should/should not: best practice or recommendation. There may be valid reasons to ignore an item, but the full implications must be understood and carefully weighed before choosing a different course
* may/need not: truly optional; can be included or omitted as the author decides with no implications

The keyword “shall” allows the use of nullFlavor unless the requirement is on an attribute or the use of nullFlavor is explicitly precluded.

### Cardinality

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

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

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

Figure : Constraints format – only one allowed

1. SHALL contain exactly one [1..1] **participant** (CONF:2777).

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

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

Figure : Constraints format – only one like this allowed

1. SHALL contain exactly one [1..1] **participant** (CONF:2777) such that it

a. SHALL contain exactly one [1..1] **@typeCode**="LOC" (CodeSystem:

2.16.840.1.113883.5.90 HL7ParticipationType) (CONF:2230).

### Optional and Required with Cardinality

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

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

*Required* means that the number of allowable occurrences of an element must be at least 1; the cardinality will be expressed as [m..n] where m >=1 and n >=1 for example [1..1] or [1..\*]. In these cases, the element must be present in the instance. If an element is required, but is not known (and would otherwise be omitted if it were optional), it must be represented by a [nullFlavor](#_Null_Flavor_2).

### Vocabulary Conformance

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

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

Value-set bindings adhere to HL7 Vocabulary Working Group best practices, and include both a conformance verb (shall, should, may, etc.) and an indication of dynamic vs. static binding. Value-set constraints can be static, meaning that they are bound to a specified version of a value set, or dynamic, meaning that they are bound to the most current version of the value set. A simplified constraint, used when the binding is to a single code, includes the meaning of the code, as follows.

Figure : Binding to a single code

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

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

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

The above example would be properly expressed as follows.

Figure : XML expression of a single-code binding

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

<!-- or -->

<code code="11450-4" codeSystem="2.16.840.1.113883.6.1"

displayName="Problem List"

codeSystemName=”LOINC”/>

A full discussion of the representation of vocabulary is outside the scope of this document; for more information, see the *HL7 Version 3 Interoperability Standards,* Normative Edition 2010[[18]](#footnote-18) sections on Abstract Data Types and XML Data Types R1.

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

Figure : Translation code example

<code code='206525008’

displayName='neonatal necrotizing enterocolitis'  
 codeSystem='2.16.840.1.113883.6.96'

codeSystemName='SNOMED CT'>

<translation code='NEC-1'

displayName='necrotizing enterocolitis'

codeSystem='2.16.840.1.113883.19'/>

</code>

### Containment Relationships

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

For example, in the following constraint:

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

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

All other containment relationships are direct, for example:

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

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

### Null Flavor

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

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

Figure : nullFlavor example

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

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

NI No information. This is the most general and default null flavor.

NA Not applicable. Known to have no proper value (e.g., last menstrual period for a male).

UNK Unknown. A proper value is applicable, but is not known.

ASKU Asked, but not known. Information was sought, but not found (e.g., the patient was asked but did not know).

NAV Temporarily unavailable. The information is not available, but is expected to be available later.

NASK Not asked. The patient was not asked.

MSK There is information on this item available but it has not been provided by the sender due to security, privacy, or other reasons. There may be an alternate mechanism for gaining access to this information.

This above list contains those null flavors that are commonly used in clinical documents. For the full list and descriptions, see the nullFlavor vocabulary domain in the CDA normative edition[[19]](#footnote-19).

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

Figure : Attribute required

1. SHALL contain exactly one [1..1] **code/@code**="11450-4" Problem List (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7878)

or

2**.** SHALL contain exactly one [1..1] **effectiveTime/@value** (CONF:5256).

Figure : Allowed nullFlavors when element is required (with XML examples)

1. SHALL contain at least one [1..\*] id

2. SHALL contain exactly one [1..1] code

3. SHALL contain exactly one [1..1] effectiveTime

<entry>

<observation classCode="OBS" moodCode="EVN">

<id nullFlavor="**NI**"/>

<code nullFlavor="**OTH**">

<originalText>New Grading system</originalText>

</code>

<statusCode code="completed"/>

<effectiveTime nullFlavor="**UNK**"/>

<value xsi:type="CD" nullFlavor="NAV">

<originalText>Spiculated mass grade 5</originalText>

</value>

</observation>

</entry>

Figure : nullFlavor explicitly disallowed

1.SHALL contain exactly one [1..1] **effectiveTime** (CONF:5256).

a. SHALL NOT contain [0..0] nullFlavor (CONF:52580).

### Data Types

All data types used in a CDA document are described in the CDA R2 normative edition[[20]](#footnote-20). All attributes of a data type are allowed unless explicitly prohibited by this specification.

## XML Conventions Used in This Guide

### XPath Notation

Instead of the traditional dotted notation used by HL7 to represent RIM classes, this document uses XML Path Language (XPath) notation[[21]](#footnote-21) in conformance statements and elsewhere to identify the Extended Markup Language (XML) elements and attributes within the CDA document instance to which various constraints are applied. The implicit context of these expressions is the root of the document. This notation provides a mechanism that will be familiar to developers for identifying parts of an XML document.

XPath statements appear in this document in a monospace font.

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

Figure : XML document example

<author>

<assignedAuthor>

...

<code codeSystem='2.16.840.1.113883.6.96' codeSystemName='SNOMED CT'

code='17561000' displayName='Cardiologist' />

</assignedAuthor>

</author>

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

Figure : XPath expression example

author/assignedAuthor/code/@code

### XML Examples and Sample Documents

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

Figure : ClinicalDocument example

<ClinicalDocument xmls="urn:h17-org:v3">

...

</ClinicalDocument>

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

This package includes complete sample documents as listed in the [Content of the Package](#T_Contents_of_the_Package) table below.

## Supporting Tools

### Validation

This guide expresses CDA R2 constraints in a technology-neutral formalism. A non-normative set of Schematron schemas based on the technology-neutral formalism, which can test template conformance, is provided with this guide.

Schematron is “a language for making assertions about patterns found in XML documents.” For more information, see <http://www.schematron.com>.

The schemas provided for CDA and for this implementation guide support two-stage validation. First, the CDA schema CDA.xsd validates the basic structural and semantic requirements of any CDA instance. Second, the IG-specific Schematron schema validates the specific requirements of this package.

The CDA Validator is an online application that validates a CDA document’s conformance to several standards and implementation guides; it includes the Schematron files described above. The CDA Validator can be found at <https://www.lantanagroup.com/validator/>.

### Generation of Narrative Block

Clinical documents generated by clinicians for a patient chart can assume an almost infinite set of semantic structures. For this reason, CDA relies on a narrative block (section/text) to convey the comprehensive clinical report, i.e., all the information that a human reader would consider the definitive, legal content of the record. (Human readability and rendering requirements are described in *HL7 CDA R2*, section 1.2.3. See [References](#_References_2).)

## Content of the Package

The following files comprise this package.

Table : Content of the Package

|  |  |
| --- | --- |
| Filename | Description |
| SEE\_Transfer\_of\_Care\_IF\_D1\_2013\_FEB.pdf | This implementation guide |
| MASS\_HIE\_IG\_MAPPING.xls | Spreadsheet contains information on IMPACT data set mappings to CDA templates, XPath mappings, and additional guidance. |
| MassHIE\_Main\_Sample\_File.xml | The sample schema that includes examples of IMPACT data elements in the CDA templates discussed in this guide. |
| CDA.xsl | Style sheet for display of CDA instance. |

### Display Transforms

The content required for correct interpretation by a human reader of a compliant instance must be displayable using any CDA style sheet. Thus, instances conforming to this implementation guide can be viewed using CDA.xsl or any other style sheet.

# Questionnaire Assessment Framework

## Model of Use vs. Model of Meaning

### Model of Use

Model of Use representation is an information model that is structured in a way suggested by the particular intended use of the information that is represented by that model. For example, a database that is structured with tables and fields that match specific user interface forms and the data entry box on those forms is a Model of Use representation. Model of Use representation will support queries of the type “Find all patients with Answer X to Question Y on Form Z.”

### Model of Meaning

Model of Meaning representation is an information model that is designed to provide a common representation of particular types of information that are reusable between different use cases. A Model of Meaning representation combines structural and terminological components in ways that avoid ambiguity and minimize alternative representations of similar meanings. For example, a model that specifies how SNOMED-CT expressions are used to represent clinical findings and procedures agnostic of the user interface or the tool of origin is Model of Meaning representation. Model of Meaning representation will support queries of the type "Find all patients with Condition X, regardless of the form used to collect the data."

Templates in C-CDA are primarily modeled using the Model of Meaning representation. In this guide, Model of Meaning representation is used wherever possible. Where concepts do not map to an already existing Model of Meaning template, Model of Use templates are used.

## Model of Use Patterns

In addition to using C-CDA templates, this guide utilizes Model of Use question and answer CDA patterns. These CDA patterns were identified as part of work on the Questionnaire Assessment Framework which allows for standard electronic transmission of CDA Questionnaire Assessments between healthcare facilities to communicate reports in an interoperable, industry-standard format.

The origins of IMPACT data elements are ambiguous; some may originate from questionnaire assessments. Concepts in IMPACT questions do not always map to generic Model of Meaning C-CDA templates. In such cases, the concept has been mapped to a Questionnaire Assessment Framework template.

The Model of Use templates in this guide represent a subset of the pattern templates available in the Questionnaire Assessment Framework. The patterns in the Transfer of Care Document utilize the [Assertion Pattern](#E_Assertion_Pattern), [Typical Response Pattern](#E_Typical_Response_Pattern), and [Other Response Pattern](#E_Other_Response_Pattern).

These entry templates are not explicitly stated as being contained in any one section (as summarized in the following table). They may be used by any (open template) section of a CDA instance document.

Table 3: Any Section Contexts

| Used By: | Entries: |
| --- | --- |
| Any Section | [Assertion Pattern](#_Assertion_Pattern)  [Other Response Pattern](#E_Other_Response_Pattern)  [Question Answer Pattern](#_Question_Answer_Pattern_1)  [Typical Response Pattern](#_Typical_Response_Pattern) |

# General Header Templates

This template 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.

* 1. US Realm Header

[ClinicalDocument: templateId 2.16.840.1.113883.10.20.22.1.1(open)]

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). The document type in this guide recommends a single preferred clinicalDocument/code, with further specification provided by author or performer, setting, or specialty.

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

1. SHALL contain exactly one [1..1] realmCode="US" (CONF:16791).
2. SHALL contain exactly one [1..1] typeId (CONF:5361).
   1. This typeId SHALL contain exactly one [1..1] @root="2.16.840.1.113883.1.3" (CONF:5250).
   2. This typeId SHALL contain exactly one [1..1] @extension="POCD\_HD000040" (CONF:5251).
3. SHALL contain exactly one [1..1] templateId (CONF:5252) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.1.1" (CONF:10036).
4. SHALL contain exactly one [1..1] id (CONF:5363).
   1. This id SHALL be a globally unique identifier for the document (CONF:9991).
5. SHALL contain exactly one [1..1] code (CONF:5253).
   1. This code SHALL specify the particular kind of document (e.g. History and Physical, Discharge Summary, Progress Note) (CONF:9992).
6. SHALL contain exactly one [1..1] title (CONF:5254).
   1. Can either be a locally defined name or the display name corresponding to clinicalDocument/code (CONF:5255).
7. SHALL contain exactly one [1..1] effectiveTime (CONF:5256).
   1. The content SHALL be a conformant US Realm Date and Time (DTM.US.FIELDED) (2.16.840.1.113883.10.20.22.5.4) (CONF:16865).
8. SHALL contain exactly one [1..1] confidentialityCode, which SHOULD be selected from ValueSet HL7 BasicConfidentialityKind 2.16.840.1.113883.1.11.16926 STATIC 2010-04-21 (CONF:5259).
9. SHALL contain exactly one [1..1] languageCode, which SHALL be selected from ValueSet Language 2.16.840.1.113883.1.11.11526 DYNAMIC (CONF:5372).
10. MAY contain zero or one [0..1] setId (CONF:5261).
    1. If setId is present versionNumber SHALL be present (CONF:6380). [[22]](#footnote-22)
11. MAY contain zero or one [0..1] versionNumber (CONF:5264).
    1. If versionNumber is present setId SHALL be present (CONF:6387). [[23]](#footnote-23)

Table : Basic Confidentiality Kind Value Set

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

Table : Language Value Set (excerpt)

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

Figure : US Realm Header example

<realmCode

code="US"/>

<typeId

root="2.16.840.1.113883.1.3"

extension="POCD\_HD000040"/>

<!-- US General Header Template -->

<templateId

root="2.16.840.1.113883.10.20.22.1.1"/>

<!-- \*\*\* Note: The next templateId, code and title will differ depending on what type of document is being sent. \*\*\* -->

<!-- conforms to the document specific requirements -->

<templateId

root="2.16.840.1.113883.10.20.22.1.2"/>

<id

extension="TT988"

root="2.16.840.1.113883.19.5.99999.1"/>

<code

codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="34133-9"

displayName="Summarization of Episode Note"/>

<title>Community Health and Hospitals: Health Summary</title>

<effectiveTime

value="201209150000-0400"/>

<confidentialityCode

code="N"

codeSystem="2.16.840.1.113883.5.25"/>

<languageCode

code="en-US"/>

<setId

extension="sTT988"

root="2.16.840.1.113883.19.5.99999.19"/>

<versionNumber

value="1"/>

Figure : effectiveTime with time zone example

<!-- the syntax is "YYYYMMDDHHMMSS.UUUU[+|-ZZzz]" where digits can be omitted

the right side to express less precision. -->

<effectiveTime value=”201107061227-08”/>

<!-- July 6, 2011, 12:27, 8 hours before UTC -->

### RecordTarget

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

1. SHALL contain at least one [1..\*] recordTarget (CONF:5266).
   1. Such recordTargets SHALL contain exactly one [1..1] patientRole (CONF:5267).
      1. This patientRole SHALL contain at least one [1..\*] id (CONF:5268).
      2. This patientRole SHALL contain at least one [1..\*] addr (CONF:5271).
         1. The content of addr SHALL be a conformant US Realm Address (AD.US.FIELDED) (2.16.840.1.113883.10.20.22.5.2) (CONF:10412).
      3. This patientRole SHALL contain at least one [1..\*] telecom (CONF:5280).
         1. Such telecoms SHOULD contain zero or one [0..1] @use, which SHALL be selected from ValueSet Telecom Use (US Realm Header) 2.16.840.1.113883.11.20.9.20 DYNAMIC (CONF:5375).

#### Patient

* + 1. This patientRole SHALL contain exactly one [1..1] patient (CONF:5283).
       1. This patient SHALL contain exactly one [1..1] name (CONF:5284).
          1. The content of name SHALL be a conformant US Realm Patient Name (PTN.US.FIELDED) (2.16.840.1.113883.10.20.22.5.1) (CONF:10411).
       2. This patient SHALL contain exactly one [1..1] administrativeGenderCode, which SHALL be selected from ValueSet Administrative Gender (HL7 V3) 2.16.840.1.113883.1.11.1 DYNAMIC (CONF:6394).
       3. This patient SHALL contain exactly one [1..1] birthTime (CONF:5298).
          1. SHALL be precise to year (CONF:5299).
          2. SHOULD be precise to day (CONF:5300).
       4. This patient SHOULD contain zero or one [0..1] maritalStatusCode, which SHALL be selected from ValueSet Marital Status Value Set 2.16.840.1.113883.1.11.12212 DYNAMIC (CONF:5303).
       5. This patient MAY contain zero or one [0..1] religiousAffiliationCode, which SHALL be selected from ValueSet Religious Affiliation Value Set 2.16.840.1.113883.1.11.19185 DYNAMIC (CONF:5317).
       6. This patient MAY contain zero or one [0..1] raceCode, which SHALL be selected from ValueSet Race Value Set 2.16.840.1.113883.1.11.14914 DYNAMIC (CONF:5322).
       7. This patient MAY contain zero or one [0..1] ethnicGroupCode, which SHALL be selected from ValueSet EthnicityGroup 2.16.840.1.114222.4.11.837 DYNAMIC (CONF:5323).

#### Guardian

* + - 1. This patient MAY contain zero or more [0..\*] guardian (CONF:5325).
         1. The guardian, if present, SHOULD contain zero or one [0..1] code, which SHALL be selected from ValueSet PersonalRelationshipRoleType 2.16.840.1.113883.1.11.19563 DYNAMIC (CONF:5326).
         2. The guardian, if present, SHOULD contain zero or more [0..\*] addr (CONF:5359).

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:10413).

* + - * 1. The guardian, if present, MAY contain zero or more [0..\*] telecom (CONF:5382).

The telecom, if present, SHOULD contain zero or one [0..1] @use, which SHALL be selected from ValueSet Telecom Use (US Realm Header) 2.16.840.1.113883.11.20.9.20 DYNAMIC (CONF:7993).

* + - * 1. The guardian, if present, SHALL contain exactly one [1..1] guardianPerson (CONF:5385).

This guardianPerson SHALL contain at least one [1..\*] name (CONF:5386).

The content of name SHALL be a conformant US Realm Person Name (PN.US.FIELDED) (2.16.840.1.113883.10.20.22.5.1.1) (CONF:10414).

#### Birthplace

* + - 1. This patient MAY contain zero or one [0..1] birthplace (CONF:5395).
         1. The birthplace, if present, SHALL contain exactly one [1..1] place (CONF:5396).

This place SHALL contain exactly one [1..1] addr (CONF:5397).

This addr SHOULD contain zero or one [0..1] country, which SHALL be selected from ValueSet CountryValueSet 2.16.840.1.113883.3.88.12.80.63 DYNAMIC (CONF:5404).

This addr MAY contain zero or one [0..1] postalCode, which SHALL be selected from ValueSet PostalCodeValueSet 2.16.840.1.113883.3.88.12.80.2 DYNAMIC (CONF:5403).

If country is US, this addr SHALL contain exactly one [1..1] state, which SHALL be selected from ValueSet 2.16.840.1.113883.3.88.12.80.1 StateValueSet DYNAMIC (CONF:5402).

#### LanguageCommunication

* + - 1. This patient SHOULD contain zero or more [0..\*] languageCommunication (CONF:5406).
         1. The languageCommunication, if present, SHALL contain exactly one [1..1] languageCode, which SHALL be selected from ValueSet Language 2.16.840.1.113883.1.11.11526 DYNAMIC (CONF:5407).
         2. The languageCommunication, if present, MAY contain zero or one [0..1] modeCode, which SHALL be selected from ValueSet LanguageAbilityMode Value Set 2.16.840.1.113883.1.11.12249 DYNAMIC (CONF:5409).
         3. The languageCommunication, if present, SHOULD contain zero or one [0..1] proficiencyLevelCode, which SHALL be selected from ValueSet LanguageAbilityProficiency 2.16.840.1.113883.1.11.12199 DYNAMIC (CONF:9965).
         4. The languageCommunication, if present, MAY contain zero or one [0..1] preferenceInd (CONF:5414).
      2. This patient MAY contain zero or more [0..\*] sdtc:raceCode, where the @code SHALL be selected from ValueSet Race Value Set 2.16.840.1.113883.1.11.14914 DYNAMIC (CONF:7263).

#### ProviderOrganization

* + 1. This patientRole MAY contain zero or one [0..1] providerOrganization (CONF:5416).
       1. The providerOrganization, if present, SHALL contain at least one [1..\*] id (CONF:5417).
          1. Such ids SHOULD contain zero or one [0..1] @root="2.16.840.1.113883.4.6" National Provider Identifier (CONF:16820).
       2. The providerOrganization, if present, SHALL contain at least one [1..\*] name (CONF:5419).
       3. The providerOrganization, if present, SHALL contain at least one [1..\*] telecom (CONF:5420).
          1. Such telecoms SHOULD contain zero or one [0..1] @use, which SHALL be selected from ValueSet Telecom Use (US Realm Header) 2.16.840.1.113883.11.20.9.20 DYNAMIC (CONF:7994).
       4. The providerOrganization, if present, SHALL contain at least one [1..\*] addr (CONF:5422).
          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:10415).

#### RecordTarget Value Sets

Table : Telecom Use (US Realm Header) Value Set

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

Table : Administrative Gender (HL7) Value Set

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

Table : Marital Status Value Set

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

Table : Religious Affiliation Value Set (excerpt)

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

Table : Race Value Set (excerpt)

| Value Set: Race 2.16.840.1.113883.1.11.14914 DYNAMIC | | |
| --- | --- | --- |
| Code System(s): | Race and Ethnicity - CDC 2.16.840.1.113883.6.238 | |
| Description: | A Value Set of codes for Classifying data based upon race.  Race is always reported at the discretion of the person for whom this attribute is reported, and reporting must be completed according to Federal guidelines for race reporting. Any code descending from the Race concept (1000-9) in that terminology may be used in the exchange  <http://phinvads.cdc.gov/vads/ViewCodeSystemConcept.action?oid=2.16.840.1.113883.6.238&code=1000-9> | |
| Code | Code System | Print Name |
| 1002-5 | Race and Ethnicity- CDC | American Indian or Alaska Native |
| 2028-9 | Race and Ethnicity- CDC | Asian |
| 2054-5 | Race and Ethnicity- CDC | Black or African American |
| 2076-8 | Race and Ethnicity- CDC | Native Hawaiian or Other Pacific Islander |
| 2106-3 | Race and Ethnicity- CDC | White |
| ... |  |  |

Table : Ethnicity Value Set

| Value Set: Ethnicity Value Set 2.16.840.1.114222.4.11.837 DYNAMIC | | |
| --- | --- | --- |
| Code System(s): | Race and Ethnicity - CDC 2.16.840.1.113883.6.238 | |
| Code | Code System | Print Name |
| 2135-2 | Race and Ethnicity Code Sets | Hispanic or Latino |
| 2186-5 | Race and Ethnicity Code Sets | Not Hispanic or Latino |

Table : Personal Relationship Role Type Value Set (excerpt)

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

Table : State Value Set (excerpt)

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

Table : Postal Code Value Set (excerpt)

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

Table : Country Value Set (excerpt)

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

Table : Language Ability Value Set

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

Table : Language Ability Proficiency Value Set

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

#### RecordTarget Example

Figure : recordTarget example

<recordTarget>

<patientRole>

<id

extension="998991"

root="2.16.840.1.113883.19.5.99999.2"/>

<!-- Fake ID using HL7 example OID. -->

<id

extension="111-00-2330"

root="2.16.840.1.113883.4.1"/>

<!-- Fake Social Security Number using the actual SSN OID. -->

<addr

use="HP">

<!-- HP is "primary home" from codeSystem 2.16.840.1.113883.5.1119 -->

<streetAddressLine>1357 Amber Drive</streetAddressLine>

<city>Beaverton</city>

<state>OR</state>

<postalCode>97867</postalCode>

<country>US</country>

<!-- US is "United States" from ISO 3166-1 Country Codes:

1.0.3166.1 -->

</addr>

<telecom

value="tel:(816)276-6909"

use="HP"/>

<!-- HP is "primary home" from HL7 AddressUse 2.16.840.1.113883.5.1119 -->

<patient>

<name

use="L">

<!-- L is "Legal" from HL7 EntityNameUse 2.16.840.1.113883.5.45 -->

<given>Isabella</given>

<given>Isa</given>

<!-- CL is "Call me" from HL7 EntityNamePartQualifier

2.16.840.1.113883.5.43 -->

<family>Jones</family>

</name>

<administrativeGenderCode

code="F"

codeSystem="2.16.840.1.113883.5.1"

displayName="Female"/>

<birthTime

value="20050501"/>

<maritalStatusCode

code="M"

displayName="Married"

codeSystem="2.16.840.1.113883.5.2"

codeSystemName="MaritalStatusCode"/>

<religiousAffiliationCode

code="1013"

displayName="Christian (non-Catholic, non-specific)"

codeSystemName="HL7 Religious Affiliation"

codeSystem="2.16.840.1.113883.5.1076"/>

<raceCode

code="1966-1"

displayName="Aleut"

codeSystem="2.16.840.1.113883.6.238"

codeSystemName="Race &amp; Ethnicity - CDC"/>

<ethnicGroupCode

code="2186-5"

displayName="Not Hispanic or Latino"

codeSystem="2.16.840.1.113883.6.238"

codeSystemName="Race &amp; Ethnicity - CDC"/>

<guardian>

<code

code="GRPRN"

displayName="GrandParent"

codeSystem="2.16.840.1.113883.5.111"

codeSystemName="HL7 Role code"/>

<addr

use="HP">

<!-- HP is "primary home" from codeSystem

2.16.840.1.113883.5.1119 -->

<streetAddressLine>1357 Amber Drive</streetAddressLine>

<city>Beaverton</city>

<state>OR</state>

<postalCode>97867</postalCode>

<country>US</country>

<!-- US is "United States" from ISO 3166-1 Country Codes:

1.0.3166.1 -->

</addr>

<telecom

value="tel:(816)276-6909"

use="HP"/>

<guardianPerson>

<name>

<given>Ralph</given>

<family>Jones</family>

</name>

</guardianPerson>

</guardian>

<birthplace>

<place>

<addr>

<city>Beaverton</city>

<state>OR</state>

<postalCode>97867</postalCode>

<country>US</country>

</addr>

</place>

</birthplace>

<languageCommunication>

<languageCode

code="en"/>

<modeCode

code="ESP"

displayName="Expressed spoken"

codeSystem="2.16.840.1.113883.5.60"

codeSystemName="LanguageAbilityMode"/>

<preferenceInd

value="true"/>

</languageCommunication>

</patient>

<providerOrganization>

<id

root="2.16.840.1.113883.19.5.9999.1393"/>

<name>Community Health and Hospitals</name>

<telecom

use="WP"

value="tel: 555-555-5000"/>

<addr>

<streetAddressLine>1001 Village Avenue</streetAddressLine>

<city>Portland</city>

<state>OR</state>

<postalCode>99123</postalCode>

<country>US</country>

</addr>

</providerOrganization>

</patientRole>

</recordTarget>

### Author

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

1. SHALL contain at least one [1..\*] author (CONF:5444).
   1. Such authors SHALL contain exactly one [1..1] time (CONF:5445).
      1. The content SHALL be a conformant US Realm Date and Time (DTM.US.FIELDED) (2.16.840.1.113883.10.20.22.5.4) (CONF:16866).
   2. Such authors SHALL contain exactly one [1..1] assignedAuthor (CONF:5448).
      1. This assignedAuthor SHALL contain exactly one [1..1] id (CONF:5449) such that it
         1. SHALL contain exactly one [1..1] @root (CONF:16786).
            1. If this assignedAuthor is an assignedPerson the assignedAuthor id SHALL contain exactly one [1..1] @root="2.16.840.1.113883.4.6" National Provider Identifier (CONF:19521).
      2. This assignedAuthor SHOULD contain zero or one [0..1] code (CONF:16787).
         1. The code, if present, shall contain exactly one [1..1] @code, which SHOULD be selected from ValueSet Healthcare Provider Taxonomy (HIPAA) 2.16.840.1.114222.4.11.1066 DYNAMIC (CONF:16788).
      3. This assignedAuthor SHALL contain at least one [1..\*] addr (CONF:5452).
         1. The content SHALL be a conformant US Realm Address (AD.US.FIELDED) (2.16.840.1.113883.10.20.22.5.2) (CONF:16871).
      4. This assignedAuthor SHALL contain at least one [1..\*] telecom (CONF:5428).
         1. Such telecoms SHOULD contain zero or one [0..1] @use, which SHALL be selected from ValueSet Telecom Use (US Realm Header) 2.16.840.1.113883.11.20.9.20 DYNAMIC (CONF:7995).
      5. This assignedAuthor SHOULD contain zero or one [0..1] assignedPerson (CONF:5430).
         1. The assignedPerson, if present, SHALL contain at least one [1..\*] name (CONF:16789).
            1. The content SHALL be a conformant US Realm Person Name (PN.US.FIELDED) (2.16.840.1.113883.10.20.22.5.1.1) (CONF:16872).
      6. This assignedAuthor SHOULD contain zero or one [0..1] assignedAuthoringDevice (CONF:16783).
         1. The assignedAuthoringDevice, if present, SHALL contain exactly one [1..1] manufacturerModelName (CONF:16784).
         2. The assignedAuthoringDevice, if present, SHALL contain exactly one [1..1] softwareName (CONF:16785).
      7. There SHALL be exactly one assignedAuthor/assignedPerson or exactly one assignedAuthor/assignedAuthoringDevice (CONF:16790).

Figure : Person author example

<author>

<time

value="20050329224411+0500"/>

<assignedAuthor>

<id

extension="99999999"

root="2.16.840.1.113883.4.6"/>

<code

code="200000000X"

codeSystem="2.16.840.1.113883.6.101"

displayName="Allopathic &amp; Osteopathic Physicians"/>

<addr>

<streetAddressLine>1002 Healthcare Drive </streetAddressLine>

<city>Portland</city>

<state>OR</state>

<postalCode>99123</postalCode>

<country>US</country>

</addr>

<telecom

use="WP"

value="tel:555-555-1002"/>

<assignedPerson>

<name>

<given>Henry</given>

<family>Seven</family>

</name>

</assignedPerson>

</assignedAuthor>

</author>

Figure : Device author example

<author>

<time value="20050329224411+0500"/>

<assignedAuthor>

<id extension="KP00017dev" root="2.16.840.1.113883.19.5"/>

<addr>

<streetAddressLine>21 North Ave.</streetAddressLine>

<city>Burlington</city>

<state>MA</state>

<postalCode>02368</postalCode>

<country>US</country>

</addr>

<telecom use="WP" value="tel:(555)555-1003"/>

<assignedAuthoringDevice>

<manufacturerModelName>Good Health Medical

Device</manufacturerModelName >

<softwareName>Good Health Report Generator</softwareName >

</ assignedAuthoringDevice >

</assignedAuthor>

</author>

### DataEnterer

The dataEnterer element represents the person who transferred the content, written or dictated by someone else, into the clinical document. The guiding rule of thumb is that an author provides the content found within the header or body of the document, subject to their own interpretation, and the dataEnterer adds that information to the electronic system. In other words, a dataEnterer transfers information from one source to another (e.g., transcription from paper form to electronic system).

1. MAY contain zero or one [0..1] dataEnterer (CONF:5441).
   1. The dataEnterer, if present, SHALL contain exactly one [1..1] assignedEntity (CONF:5442).
      1. This assignedEntity SHALL contain at least one [1..\*] id (CONF:5443).
         1. Such ids SHOULD contain zero or one [0..1] @root="2.16.840.1.113883.4.6" National Provider Identifier (CONF:16821).
      2. This assignedEntity SHALL contain at least one [1..\*] addr (CONF:5460).
         1. The content of addr SHALL be a conformant US Realm Address (AD.US.FIELDED) (2.16.840.1.113883.10.20.22.5.2) (CONF:10417).
      3. This assignedEntity SHALL contain at least one [1..\*] telecom (CONF:5466).
         1. Such telecoms SHOULD contain zero or one [0..1] @use, which SHALL be selected from ValueSet Telecom Use (US Realm Header) 2.16.840.1.113883.11.20.9.20 DYNAMIC (CONF:7996).
      4. This assignedEntity SHALL contain exactly one [1..1] assignedPerson (CONF:5469).
         1. This assignedPerson SHALL contain at least one [1..\*] name (CONF:5470).
            1. The content of name SHALL be a conformant US Realm Person Name (PN.US.FIELDED) (2.16.840.1.113883.10.20.22.5.1.1) (CONF:10418).
      5. This assignedEntity MAY contain zero or one [0..1] code which SHOULD be selected from coding system NUCC Health Care Provider Taxonomy 2.16.840.1.113883.6.101 (CONF:9944).

Figure : dataEnterer example

<dataEnterer>

<assignedEntity>

<id

root="2.16.840.1.113883.4.6"

extension="999999943252"/>

<addr>

<streetAddressLine>1001 Village Avenue</streetAddressLine>

<city>Portland</city>

<state>OR</state>

<postalCode>99123</postalCode>

<country>US</country>

</addr>

<telecom

use="WP"

value="tel:555-555-1002"/>

<assignedPerson>

<name>

<given>Henry</given>

<family>Seven</family>

</name>

</assignedPerson>

</assignedEntity>

</dataEnterer>

### Informant

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

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

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

1. MAY contain zero or more [0..\*] informant (CONF:8001).
   1. The informant, if present, SHALL contain exactly one [1..1] assignedEntity (CONF:8002).
      1. This assignedEntity shall contain at least one [1..\*] id (CONF:9945).
         1. If assignedEntity/id is a provider then this id, SHOULD include zero or one [0..1] id where id/@root ="2.16.840.1.113883.4.6" National Provider Identifier (CONF:9946).
      2. This assignedEntity shall contain at least one [1..\*] addr (CONF:8220).
         1. The content of addr SHALL be a conformant US Realm Address (AD.US.FIELDED) (2.16.840.1.113883.10.20.22.5.2) (CONF:10419).
      3. This assignedEntity SHALL contain exactly one [1..1] assignedPerson (CONF:8221).
         1. This assignedPerson SHALL contain at least one [1..\*] name (CONF:8222).
            1. The content of name SHALL be a conformant US Realm Person Name (PN.US.FIELDED) (2.16.840.1.113883.10.20.22.5.1.1) (CONF:10420).
      4. Ii. This assignedEntity MAY contain zero or one [0..1] code which SHOULD be selected from coding system NUCC Health Care Provider Taxonomy 2.16.840.1.113883.6.101 (CONF:9947).

Figure : Informant with assignedEntity example

<informant>

<assignedEntity>

<id

extension="KP00017"

root="2.16.840.1.113883.19.5"/>

<addr>

<streetAddressLine>1001 Village Avenue</streetAddressLine>

<city>Portland</city>

<state>OR</state>

<postalCode>99123</postalCode>

<country>US</country>

</addr>

<telecom

use="WP"

value="tel:555-555-1002"/>

<assignedPerson>

<name>

<given>Henry</given>

<family>Seven</family>

</name>

</assignedPerson>

</assignedEntity>

</informant>

### Custodian

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

1. SHALL contain exactly one [1..1] custodian (CONF:5519).
   1. This custodian SHALL contain exactly one [1..1] assignedCustodian (CONF:5520).
      1. This assignedCustodian SHALL contain exactly one [1..1] representedCustodianOrganization (CONF:5521).
         1. This representedCustodianOrganization SHALL contain at least one [1..\*] id (CONF:5522).
            1. Such ids SHOULD contain zero or one [0..1] @root="2.16.840.1.113883.4.6" National Provider Identifier (CONF:16822).
         2. This representedCustodianOrganization SHALL contain exactly one [1..1] name (CONF:5524).
         3. This representedCustodianOrganization SHALL contain exactly one [1..1] telecom (CONF:5525).
            1. This telecom SHOULD contain zero or one [0..1] @use, which SHALL be selected from ValueSet Telecom Use (US Realm Header) 2.16.840.1.113883.11.20.9.20 DYNAMIC (CONF:7998).
         4. This representedCustodianOrganization SHALL contain exactly [1..1] addr (CONF:5559).
            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:10421).

Figure : Custodian example

<custodian>

<assignedCustodian>

<representedCustodianOrganization>

<id

extension="99999999"

root="2.16.840.1.113883.4.6"/>

<name>Community Health and Hospitals</name>

<telecom

value="tel: 555-555-1002"

use="WP"/>

<addr

use="WP">

<streetAddressLine>1002 Healthcare Drive </streetAddressLine>

<city>Portland</city>

<state>OR</state>

<postalCode>99123</postalCode>

<country>US</country>

</addr>

</representedCustodianOrganization>

</assignedCustodian>

</custodian>

### InformationRecipient

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

1. MAY contain zero or more [0..\*] informationRecipient (CONF:5565).
   1. The informationRecipient, if present, SHALL contain exactly one [1..1] intendedRecipient (CONF:5566).
      1. This intendedRecipient MAY contain zero or one [0..1] informationRecipient (CONF:5567).
         1. The informationRecipient, if present, SHALL contain at least one [1..\*] name (CONF:5568).
            1. The content of name SHALL be a conformant US Realm Person Name (PN.US.FIELDED) (2.16.840.1.113883.10.20.22.5.1.1) (CONF:10427).
      2. This intendedRecipient MAY contain zero or one [0..1] receivedOrganization (CONF:5577).
         1. The receivedOrganization, if present, SHALL contain exactly one [1..1] name (CONF:5578).

Figure : informationRecipient example

<informationRecipient>

<intendedRecipient>

<informationRecipient>

<name>

<given>Henry</given>

<family>Seven</family>

</name>

</informationRecipient>

<receivedOrganization>

<name>Community Health and Hospitals</name>

</receivedOrganization>

</intendedRecipient>

</informationRecipient>

### LegalAuthenticator

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

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

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

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

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

1. SHOULD contain zero or one [0..1] legalAuthenticator (CONF:5579).
   1. The legalAuthenticator, if present, SHALL contain exactly one [1..1] time (CONF:5580).
      1. The content SHALL be a conformant US Realm Date and Time (DTM.US.FIELDED) (2.16.840.1.113883.10.20.22.5.4) (CONF:16873).
   2. The legalAuthenticator, if present, SHALL contain exactly one [1..1] signatureCode (CONF:5583).
      1. This signatureCode SHALL contain exactly one [1..1] @code="S" (CodeSystem: Participationsignature 2.16.840.1.113883.5.89 STATIC) (CONF:5584).
   3. The legalAuthenticator, if present, SHALL contain exactly one [1..1] assignedEntity (CONF:5585).
      1. This assignedEntity SHALL contain at least one [1..\*] id (CONF:5586).
         1. Such ids MAY contain zero or one [0..1] @root="2.16.840.1.113883.4.6" National Provider Identifier (CONF:16823).
      2. This assignedEntity MAY contain zero or one [0..1] code, which SHOULD be selected from ValueSet Healthcare Provider Taxonomy (HIPAA) 2.16.840.1.114222.4.11.1066 STATIC (CONF:17000).
      3. This assignedEntity SHALL contain at least one [1..\*] addr (CONF:5589).
         1. The content of addr SHALL be a conformant US Realm Address (AD.US.FIELDED) (2.16.840.1.113883.10.20.22.5.2) (CONF:10429).
      4. This assignedEntity SHALL contain at least one [1..\*] telecom (CONF:5595).
         1. Such telecoms SHOULD contain zero or one [0..1] @use, which SHALL be selected from ValueSet Telecom Use (US Realm Header) 2.16.840.1.113883.11.20.9.20 DYNAMIC (CONF:7999).
      5. This assignedEntity SHALL contain exactly one [1..1] assignedPerson (CONF:5597).
         1. This assignedPerson SHALL contain at least one [1..\*] name (CONF:5598).
            1. The content of name SHALL be a conformant US Realm Person Name (PN.US.FIELDED) (2.16.840.1.113883.10.20.22.5.1.1) (CONF:10430).

Figure : legalAuthenticator example

<legalAuthenticator>

<time

value="20090227130000+0500"/>

<signatureCode

code="S"/>

<assignedEntity>

<id

extension="999999999"

root="2.16.840.1.113883.4.6"/>

<addr>

<streetAddressLine>1001 Village Avenue</streetAddressLine>

<city>Portland</city>

<state>OR</state>

<postalCode>99123</postalCode>

<country>US</country>

</addr>

<telecom

use="WP"

value="tel:555-555-1002"/>

<assignedPerson>

<name>

<given>Henry</given>

<family>Seven</family>

</name>

</assignedPerson>

</assignedEntity>

</legalAuthenticator>

### Authenticator

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

1. MAY contain zero or more [0..\*] authenticator (CONF:5607).
   1. The authenticator, if present, SHALL contain exactly one [1..1] time (CONF:5608).
      1. The content SHALL be a conformant US Realm Date and Time (DTM.US.FIELDED) (2.16.840.1.113883.10.20.22.5.4) (CONF:16874).
   2. The authenticator, if present, SHALL contain exactly one [1..1] signatureCode (CONF:5610).
      1. This signatureCode SHALL contain exactly one [1..1] @code="S" (CodeSystem: Participationsignature 2.16.840.1.113883.5.89 STATIC) (CONF:5611).
   3. The authenticator, if present, SHALL contain exactly one [1..1] assignedEntity (CONF:5612).
      1. This assignedEntity SHALL contain at least one [1..\*] id (CONF:5613).
         1. Such ids SHOULD contain zero or one [0..1] @root="2.16.840.1.113883.4.6" National Provider Identifier  (CONF:16824).
      2. This assignedEntity MAY contain zero or one [0..1] code (CONF:16825).
         1. The code, if present, MAY contain zero or one [0..1] @code, which SHOULD be selected from ValueSet Healthcare Provider Taxonomy (HIPAA) 2.16.840.1.114222.4.11.1066 STATIC (CONF:16826).
      3. This assignedEntity SHALL contain at least one [1..\*] addr (CONF:5616).
         1. The content of addr SHALL be a conformant US Realm Address (AD.US.FIELDED) (2.16.840.1.113883.10.20.22.5.2) (CONF:10425).
      4. This assignedEntity SHALL contain at least one [1..\*] telecom (CONF:5622).
         1. Such telecoms SHOULD contain zero or one [0..1] @use, which SHALL be selected from ValueSet Telecom Use (US Realm Header) 2.16.840.1.113883.11.20.9.20 DYNAMIC (CONF:8000).
      5. This assignedEntity SHALL contain exactly one [1..1] assignedPerson (CONF:5624).
         1. This assignedPerson SHALL contain at least one [1..\*] name (CONF:5625).
            1. The content of name SHALL be a conformant US Realm Person Name (PN.US.FIELDED) (2.16.840.1.113883.10.20.22.5.1.1) (CONF:10424).

Figure : Authenticator example

<authenticator>

<time

value="20090227130000+0500"/>

<signatureCode

code="S"/>

<assignedEntity>

<id

extension="999999999"

root="2.16.840.1.113883.4.6"/>

<addr>

<streetAddressLine>1001 Village Avenue</streetAddressLine>

<city>Portland</city>

<state>OR</state>

<postalCode>99123</postalCode>

<country>US</country>

</addr>

<telecom

use="WP"

value="tel:555-555-1002"/>

<assignedPerson>

<name>

<given>Henry</given>

<family>Seven</family>

</name>

</assignedPerson>

</assignedEntity>

</authenticator>

### Participant (Support)

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

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

1. MAY contain zero or more [0..\*] participant (CONF:10003).
   1. The participant, if present, MAY contain zero or one [0..1] time (CONF:10004).
   2. Such participants, if present, SHALL have an associatedPerson or scopingOrganization element under participant/associatedEntity (CONF:10006).
   3. Unless otherwise specified by the document specific header constraints, when participant/@typeCode is IND, associatedEntity/@classCode SHALL be selected from ValueSet 2.16.840.1.113883.11.20.9.33 INDRoleclassCodes STATIC 2011-09-30 (CONF:10007).

Table : IND Role classCode Value Set

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

Figure : Participant example for a supporting person

<participant

typeCode="IND">

<time

xsi:type="IVL\_TS">

<low

value="19590101"/>

<high

value="20111025"/>

</time>

<associatedEntity

classCode="NOK">

<code

code="MTH"

codeSystem="2.16.840.1.113883.5.111"/>

<addr>

<streetAddressLine>17 Daws Rd.</streetAddressLine>

<city>Beaverton</city>

<state>OR</state>

<postalCode>97867</postalCode>

<country>US</country>

</addr>

<telecom

value="tel:(999)555-1212"

use="WP"/>

<associatedPerson>

<name>

<prefix>Mrs.</prefix>

<given>Martha</given>

<family>Jones</family>

</name>

</associatedPerson>

</associatedEntity>

</participant>

### InFulfillmentOf

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

1. MAY contain zero or more [0..\*] inFulfillmentOf (CONF:9952).
   1. The inFulfillmentOf, if present, SHALL contain exactly one [1..1] order (CONF:9953).
      1. This order SHALL contain at least one [1..\*] id (CONF:9954).

### DocumentationOf/serviceEvent

A serviceEvent represents the main act, such as a colonoscopy or a cardiac stress study, being documented. In a continuity of care document, CCD, the serviceEvent is a provision of healthcare over a period of time. In a provision of healthcare serviceEvent, the care providers, PCP or other longitudinal providers, are recorded within the serviceEvent. If the document is about a single encounter, the providers associated can be recorded in the componentOf/encompassingEncounter.

1. MAY contain zero or more [0..\*] documentationOf (CONF:14835).
   1. The documentationOf, if present, SHALL contain exactly one [1..1] serviceEvent (CONF:14836).
      1. This serviceEvent SHALL contain exactly one [1..1] effectiveTime (CONF:14837).
         1. This effectiveTime SHALL contain exactly one [1..1] low (CONF:14838).
      2. This serviceEvent SHOULD contain zero or more [0..\*] performer (CONF:14839).
         1. The performer, if present, SHALL contain exactly one [1..1] @typeCode (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 STATIC) (CONF:14840).
            1. The performer participant represents clinicians who actually and principally carry out the serviceEvent. In a transfer of care this represents the healthcare providers involved in the current or pertinent historical care of the patient. Preferably, the patient’s key healthcare care team members would be listed, particularly their primary physician and any active consulting physicians, therapists, and counselors (CONF:16753).
         2. The performer, if present, MAY contain zero or one [0..1] functionCode (CONF:16818).
            1. The functionCode, if present, SHOULD contain zero or one [0..1] @codeSystem, which SHOULD be selected from CodeSystem participationFunction (2.16.840.1.113883.5.88) STATIC (CONF:16819).
         3. The performer, if present, SHALL contain exactly one [1..1] assignedEntity (CONF:14841).
            1. This assignedEntity SHALL contain at least one [1..\*] id (CONF:14846).

Such ids SHOULD contain zero or one [0..1] @root="2.16.840.1.113883.4.6" National Provider Identifier (CONF:14847).

* + - * 1. This assignedEntity SHOULD contain zero or one [0..1] code (CONF:14842).

The code, if present, SHALL contain exactly one [1..1] @code, which SHOULD be selected from CodeSystem NUCCProviderTaxonomy (2.16.840.1.113883.6.101) STATIC (CONF:14843).

Figure : DocumentationOf example

<documentationOf

typeCode="DOC">

<serviceEvent

classCode="PCPR">

<code

code="73761001"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT"

displayName="Colonoscopy"/>

<effectiveTime>

<low

value="201209080000-0400"/>

<high

value="201209150000-0400"/>

</effectiveTime>

<performer

typeCode="PRF">

<functionCode

code="PP"

displayName="Primary Care Provider"

codeSystem="2.16.840.1.113883.12.443"

codeSystemName="Provider Role">

<originalText>Primary Care Provider</originalText>

</functionCode>

<time>

<low

value="201209080000-0400"/>

<high

value="201209150000-0400"/>

</time>

<assignedEntity>

<id

extension="PseudoMD-1"

root="2.16.840.1.113883.4.6"/>

<code

code="200000000X"

displayName="Allopathic and Osteopathic Physicians"

codeSystemName="Provider Codes"

codeSystem="2.16.840.1.113883.6.101"/>

<addr>

<streetAddressLine>1001 Village Avenue</streetAddressLine>

<city>Portland</city>

<state>OR</state>

<postalCode>99123</postalCode>

<country>US</country>

</addr>

<telecom

value="tel:+1-555-555-5000"

use="WP"/>

<assignedPerson>

<name>

<prefix>Dr.</prefix>

<given>Henry</given>

<family>Seven</family>

</name>

</assignedPerson>

<representedOrganization>

<id

root="2.16.840.1.113883.19.5.9999.1393"/>

<name>Community Health and Hospitals</name>

<telecom

value="tel:+1-555-555-5000"

use="WP"/>

<addr>

<streetAddressLine>1001 Village Avenue</streetAddressLine>

<city>Portland</city>

<state>OR</state>

<postalCode>99123</postalCode>

<country>US</country>

</addr>

</representedOrganization>

</assignedEntity>

</performer>

</serviceEvent>

</documentationOf>

### Authorization/consent

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

The type of consent (e.g., a consent to perform the related serviceEvent) is conveyed in consent/code. Consents in the header have been finalized (consent/statusCode must equal Completed) and should be on file. This specification does not address how “Privacy Consent” is represented, but does not preclude the inclusion of “Privacy Consent”.

1. MAY contain zero or more [0..\*] authorization (CONF:16792) such that it
   1. SHALL contain exactly one [1..1] consent (CONF:16793).
      1. This consent MAY contain zero or more [0..\*] id (CONF:16794).
      2. This consent MAY contain zero or one [0..1] code (CONF:16795).
         1. The type of consent (e.g., a consent to perform the related serviceEvent) is conveyed in consent/code (CONF:16796).
      3. This consent SHALL contain exactly one [1..1] statusCode (CONF:16797).
         1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:16798).

Figure : Procedure consent example

<authorization typeCode="AUTH">

<consent classCode="CONS" moodCode="EVN">

<id root="629deb70-5306-11df-9879-0800200c9a66" />

<code codeSystem=" 2.16.840.1.113883.6.1" codeSystemName="LOINC"

code="64293-4" displayName="Procedure consent"/>

<statusCode code="completed"/>

</consent>

</authorization>

### ComponentOf

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

In order to represent providers associated with a specific encounter, they are recorded within the encompassingEncounter as participants.

In a CCD the encompassingEncounter may be used when documenting a specific encounter and its participants. All relevant encounters in a CCD may be listed in the encounters section.

1. MAY contain zero or one [0..1] componentOf (CONF:9955).
   1. The componentOf, if present, SHALL contain exactly one [1..1] encompassingEncounter (CONF:9956).
      1. This encompassingEncounter SHALL contain at least one [1..\*] id (CONF:9959).
      2. This encompassingEncounter SHALL contain exactly one [1..1] effectiveTime (CONF:9958).

US Realm Address (AD.US.FIELDED)

[addr: 2.16.840.1.113883.10.20.22.5.2(open)]

Reusable “address” template, designed for use in US Realm CDA Header.

1. SHOULD contain zero to one [0..1] @use, which SHALL be selected from ValueSet PostalAddressUse 2.16.840.1.113883.1.11.10637 STATIC 2005-05-01 (CONF:7290).
2. SHOULD contain zero or one [0..1] country, where the @code SHALL be selected from ValueSet CountryValueSet 2.16.840.1.113883.3.88.12.80.63 DYNAMIC (CONF:7295).
3. SHOULD contain zero or one [0..1] state (ValueSet: StateValueSet 2.16.840.1.113883.3.88.12.80.1 DYNAMIC) (CONF:7293).
   1. State is required if the country is US. If country is not specified, its assumed to be US. If country is something other than US, the state MAY be present but MAY be bound to different vocabularies (CONF:10024).
4. SHALL contain exactly one [1..1] city (CONF:7292).
5. SHOULD contain zero or one [0..1] postalCode (ValueSet: PostalCodeValueSet 2.16.840.1.113883.3.88.12.80.2 DYNAMIC) (CONF:7294).
   1. PostalCode is required if the country is US. If country is not specified, its assumed to be US. If country is something other than US, the postalCode MAY be present but MAY be bound to different vocabularies (CONF:10025).
6. SHALL contain at least one and not more than 4 streetAddressLine (CONF:7291).
7. SHALL NOT have mixed content except for white space [[24]](#footnote-24)(CONF:7296).

Table : PostalAddressUse Value Set

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

US Realm Date and Time (DTM.US.FIELDED)

[TS: templateId 2.16.840.1.113883.10.20.22.5.4 (open)]

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

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

US Realm Patient Name (PTN.US.FIELDED)

[PN: templateId 2.16.840.1.113883.10.20.22.5.1 (open)]

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

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

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

Table : EntityNameUse Value Set

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

Table : EntityPersonNamePersonPartQualifier Value Set

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

US Realm Person Name (PN.US.FIELDED)

[PN: templateId 2.16.840.1.113883.10.20.22.5.1.1 (open)]

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

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

# Document-Level Templates

Document-level templates describe the purpose and rules for constructing a conforming CDA document. Document templates include constraints on the CDA header and refer to section-level templates. Each document-level template contains the following information:

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

Transfer of Care Document

[ClinicalDocument: templateId 2.16.840.1.113883.10.20.22.1.12 (open)]

Table 22: Transfer of Care Document Contexts

| Used By: | Contains Entries: |
| --- | --- |
|  | [Advance Directives Section (entries optional)](#S_Advance_Directives_Section_entries_opt)  [Allergies Section (entries required)](#S_Allergies_Section_entries_required)  [Assessment Section](#S_Assessment_Section)  [Chief Complaint and Reason for Visit Section](#S_Chief_Complaint_and_Reason_for_Visit_S)  [Encounters Section (entries required)](#S_Encounters_Section_entries_required)  [Family History Section](#S_Family_History_Section)  [Functional Status Section](#S_Functional_Status_Section)  [History of Past Illness Section](#S_History_of_Past_Illness_Section)  [History of Present Illness Section](#S_History_of_Present_Illness_Section)  [Hospital Discharge Diagnosis Section](#S_Hospital_Discharge_Diagnosis_Section)  [Immunizations Section (entries required)](#S_Immunizations_Section_entries_required)  [Medical Equipment Section](#S_Medical_Equipment_Section)  [Medications Section (entries required)](#S_Medications_Section_entries_required)  [Payers Section](#S_Payers_Section)  [Plan of Care Section](#S_Plan_of_Care_Section)  [Problem Section (entries required)](#S_Problem_Section_entries_required)  [Procedures Section (entries required)](#S_Procedures_Section_entries_required)  [Results Section (entries required)](#S_Results_Section_entries_required)  [Social History Section](#S_Social_History_Section)  [Vital Signs Section (entries required)](#S_Vital_Signs_Section_entries_required) |

This document describes constraints on the CDA header and body elements for the Transfer in Care Document which was derived from approximately 450 IMPACT data elements identified by community providers in the MASS LTPAC community. A Transfer in Care document standardizes critical information for exchange when a patient moves from a LTPAC setting to a hospital or to a home health setting. Standardization of information used in this form will promote interoperability; create information suitable for reuse in quality measurement, public health, research, and for reimbursement.

Table 23: Transfer of Care Document Constraints Overview

| Item ID | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | ClinicalDocument[templateId/@root = '2.16.840.1.113883.10.20.22.1.12'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [26478](#C_26478) |  |
|  | @root | 1..1 | SHALL |  | [26479](#C_26479) | 2.16.840.1.113883.10.20.22.1.12 |
|  | id | 1..1 | SHALL |  | [26527](#C_26527) |  |
|  | @root | 1..1 | SHALL |  | [26528](#C_26528) |  |
|  | code | 1..1 | SHALL |  | [26480](#C_26480) |  |
|  | @code | 1..1 | SHALL |  | [26481](#C_26481) | 18761-7 |
|  | @codeSystem | 1..1 | SHALL |  | [26482](#C_26482) | 2.16.840.1.113883.6.1 |
|  | title | 1..1 | SHALL |  | [26487](#C_26487) | Transfer Summarization Note |
|  | custodian | 1..1 | SHALL |  | [26529](#C_26529) |  |
|  | assignedCustodian | 1..1 | SHALL |  | [26530](#C_26530) |  |
|  | represented CustodianOrganization | 1..1 | SHALL |  | [26531](#C_26531) |  |
|  | name | 1..1 | SHALL |  | [26532](#C_26532) |  |
|  | component | 1..1 | SHALL |  | [26483](#C_26483) |  |
|  | structuredBody | 1..1 | SHALL |  | [26484](#C_26484) |  |
|  | component | 0..1 | SHOULD |  | [26485](#C_26485) |  |
|  | section | 1..1 | SHALL |  | [26486](#C_26486) |  |
|  | component | 0..1 | SHOULD |  | [26488](#C_26488) |  |
|  | section | 1..1 | SHALL |  | [26490](#C_26490) |  |
|  | component | 0..1 | SHOULD |  | [26491](#C_26491) |  |
|  | section | 1..1 | SHALL |  | [26492](#C_26492) |  |
|  | component | 0..1 | SHOULD |  | [26493](#C_26493) |  |
|  | section | 1..1 | SHALL |  | [26494](#C_26494) |  |
|  | component | 0..1 | SHOULD |  | [26495](#C_26495) |  |
|  | section | 1..1 | SHALL |  | [26496](#C_26496) |  |
|  | component | 0..1 | SHOULD |  | [26497](#C_26497) |  |
|  | section | 1..1 | SHALL |  | [26498](#C_26498) |  |
|  | component | 0..1 | SHOULD |  | [26499](#C_26499) |  |
|  | section | 1..1 | SHALL |  | [26500](#C_26500) |  |
|  | component | 0..1 | SHOULD |  | [26501](#C_26501) |  |
|  | section | 1..1 | SHALL |  | [26502](#C_26502) |  |
|  | component | 0..1 | SHOULD |  | [26503](#C_26503) |  |
|  | section | 1..1 | SHALL |  | [26504](#C_26504) |  |
|  | component | 0..1 | SHOULD |  | [26505](#C_26505) |  |
|  | section | 1..1 | SHALL |  | [26506](#C_26506) |  |
|  | component | 0..1 | SHOULD |  | [26507](#C_26507) |  |
|  | section | 1..1 | SHALL |  | [26508](#C_26508) |  |
|  | component | 0..1 | SHOULD |  | [26509](#C_26509) |  |
|  | section | 1..1 | SHALL |  | [26510](#C_26510) |  |
|  | component | 0..1 | SHOULD |  | [26511](#C_26511) |  |
|  | section | 1..1 | SHALL |  | [26512](#C_26512) |  |
|  | component | 0..1 | SHOULD |  | [26513](#C_26513) |  |
|  | section | 1..1 | SHALL |  | [26514](#C_26514) |  |
|  | component | 0..1 | SHOULD |  | [26515](#C_26515) |  |
|  | section | 1..1 | SHALL |  | [26516](#C_26516) |  |
|  | component | 0..1 | SHOULD |  | [26517](#C_26517) |  |
|  | section | 1..1 | SHALL |  | [26518](#C_26518) |  |
|  | component | 0..1 | SHOULD |  | [26519](#C_26519) |  |
|  | section | 1..1 | SHALL |  | [26520](#C_26520) |  |
|  | component | 0..1 | SHOULD |  | [26521](#C_26521) |  |
|  | section | 1..1 | SHALL |  | [26522](#C_26522) |  |
|  | component | 0..1 | SHOULD |  | [26523](#C_26523) |  |
|  | section | 1..1 | SHALL |  | [26524](#C_26524) |  |
|  | component | 0..1 | SHOULD |  | [26525](#C_26525) |  |
|  | section | 1..1 | SHALL |  | [26526](#C_26526) |  |

1. Conforms to [US Realm Header](#D_US_Realm_Header) template (2.16.840.1.113883.10.20.22.1.1).
2. SHALL contain exactly one [1..1] templateId (CONF:26478) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.1.12" (CONF:26479).
3. SHALL contain exactly one [1..1] id (CONF:26527).
   1. This id SHALL contain exactly one [1..1] @root (CONF:26528).
4. SHALL contain exactly one [1..1] code (CONF:26480).
   1. This code SHALL contain exactly one [1..1] @code="18761-7" Transfer summarization note (CONF:26481).
   2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.1" (CONF:26482).
5. SHALL contain exactly one [1..1] title="Transfer Summarization Note" (CONF:26487).
6. SHALL contain exactly one [1..1] custodian (CONF:26529).
   1. This custodian SHALL contain exactly one [1..1] assignedCustodian (CONF:26530).
      1. This assignedCustodian SHALL contain exactly one [1..1] representedCustodianOrganization (CONF:26531).
         1. This representedCustodianOrganization SHALL contain exactly one [1..1] name (CONF:26532).
7. SHALL contain exactly one [1..1] component (CONF:26483).
   1. This component SHALL contain exactly one [1..1] structuredBody (CONF:26484) such that it
      1. SHOULD contain zero or one [0..1] component (CONF:26485) such that it
         1. SHALL contain exactly one [1..1] [Advance Directives Section (entries optional)](#S_Advance_Directives_Section_entries_opt) (templateId:2.16.840.1.113883.10.20.22.2.21) (CONF:26486).
      2. SHOULD contain zero or one [0..1] component (CONF:26488) such that it
         1. SHALL contain exactly one [1..1] [Allergies Section (entries required)](#S_Allergies_Section_entries_required) (templateId:2.16.840.1.113883.10.20.22.2.6.1) (CONF:26490).
      3. SHOULD contain zero or one [0..1] component (CONF:26491) such that it
         1. SHALL contain exactly one [1..1] [Assessment Section](#S_Assessment_Section) (templateId:2.16.840.1.113883.10.20.22.2.8) (CONF:26492).
      4. SHOULD contain zero or one [0..1] component (CONF:26493) such that it
         1. SHALL contain exactly one [1..1] [Chief Complaint and Reason for Visit Section](#S_Chief_Complaint_and_Reason_for_Visit_S) (templateId:2.16.840.1.113883.10.20.22.2.13) (CONF:26494).
      5. SHOULD contain zero or one [0..1] component (CONF:26495) such that it
         1. SHALL contain exactly one [1..1] [Encounters Section (entries required)](#S_Encounters_Section_entries_required) (templateId:2.16.840.1.113883.10.20.22.2.22.1) (CONF:26496).
      6. SHOULD contain zero or one [0..1] component (CONF:26497) such that it
         1. SHALL contain exactly one [1..1] [Family History Section](#S_Family_History_Section) (templateId:2.16.840.1.113883.10.20.22.2.15) (CONF:26498).
      7. SHOULD contain zero or one [0..1] component (CONF:26499) such that it
         1. SHALL contain exactly one [1..1] [Functional Status Section](#S_Functional_Status_Section) (templateId:2.16.840.1.113883.10.20.22.2.14) (CONF:26500).
      8. SHOULD contain zero or one [0..1] component (CONF:26501) such that it
         1. SHALL contain exactly one [1..1] [History of Present Illness Section](#S_History_of_Present_Illness_Section) (templateId:1.3.6.1.4.1.19376.1.5.3.1.3.4) (CONF:26502).
      9. SHOULD contain zero or one [0..1] component (CONF:26503) such that it
         1. SHALL contain exactly one [1..1] [History of Past Illness Section](#S_History_of_Past_Illness_Section) (templateId:2.16.840.1.113883.10.20.22.2.20) (CONF:26504).
      10. SHOULD contain zero or one [0..1] component (CONF:26505) such that it
          1. SHALL contain exactly one [1..1] [Hospital Discharge Diagnosis Section](#S_Hospital_Discharge_Diagnosis_Section) (templateId:2.16.840.1.113883.10.20.22.2.24) (CONF:26506).
      11. SHOULD contain zero or one [0..1] component (CONF:26507) such that it
          1. SHALL contain exactly one [1..1] [Immunizations Section (entries required)](#S_Immunizations_Section_entries_required) (templateId:2.16.840.1.113883.10.20.22.2.2.1) (CONF:26508).
      12. SHOULD contain zero or one [0..1] component (CONF:26509) such that it
          1. SHALL contain exactly one [1..1] [Medical Equipment Section](#S_Medical_Equipment_Section) (templateId:2.16.840.1.113883.10.20.22.2.23) (CONF:26510).
      13. SHOULD contain zero or one [0..1] component (CONF:26511) such that it
          1. SHALL contain exactly one [1..1] [Medications Section (entries required)](#S_Medications_Section_entries_required) (templateId:2.16.840.1.113883.10.20.22.2.1.1) (CONF:26512).
      14. SHOULD contain zero or one [0..1] component (CONF:26513) such that it
          1. SHALL contain exactly one [1..1] [Payers Section](#S_Payers_Section) (templateId:2.16.840.1.113883.10.20.22.2.18) (CONF:26514).
      15. SHOULD contain zero or one [0..1] component (CONF:26515) such that it
          1. SHALL contain exactly one [1..1] [Plan of Care Section](#S_Plan_of_Care_Section) (templateId:2.16.840.1.113883.10.20.22.2.10) (CONF:26516).
      16. SHOULD contain zero or one [0..1] component (CONF:26517) such that it
          1. SHALL contain exactly one [1..1] [Problem Section (entries required)](#S_Problem_Section_entries_required) (templateId:2.16.840.1.113883.10.20.22.2.5.1) (CONF:26518).
      17. SHOULD contain zero or one [0..1] component (CONF:26519) such that it
          1. SHALL contain exactly one [1..1] [Procedures Section (entries required)](#S_Procedures_Section_entries_required) (templateId:2.16.840.1.113883.10.20.22.2.7.1) (CONF:26520).
      18. SHOULD contain zero or one [0..1] component (CONF:26521) such that it
          1. SHALL contain exactly one [1..1] [Results Section (entries required)](#S_Results_Section_entries_required) (templateId:2.16.840.1.113883.10.20.22.2.3.1) (CONF:26522).
      19. SHOULD contain zero or one [0..1] component (CONF:26523) such that it
          1. SHALL contain exactly one [1..1] [Social History Section](#S_Social_History_Section) (templateId:2.16.840.1.113883.10.20.22.2.17) (CONF:26524).
      20. SHOULD contain zero or one [0..1] component (CONF:26525) such that it
          1. SHALL contain exactly one [1..1] [Vital Signs Section (entries required)](#S_Vital_Signs_Section_entries_required) (templateId:2.16.840.1.113883.10.20.22.2.4.1) (CONF:26526).

# Section-Level Templates

Advance Directives Section (entries optional)

[section: templateId 2.16.840.1.113883.10.20.22.2.21 (open)]

Table 24: Advance Directives Section (entries optional) Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Transfer of Care Document](#D_Transfer_of_Care_Document) (optional) | [Advance Directive Observation](#E_Advance_Directive_Observation) |

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.

Table 25: Advance Directives Section (entries optional) Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.21'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7928](#C_7928) |  |
|  | @root | 1..1 | SHALL |  | [10376](#C_10376) | 2.16.840.1.113883.10.20.22.2.21 |
|  | code | 1..1 | SHALL |  | [15340](#C_15340) |  |
|  | @code | 1..1 | SHALL |  | [15342](#C_15342) | 2.16.840.1.113883.6.1 (LOINC) = 42348-3 |
|  | title | 1..1 | SHALL |  | [7930](#C_7930) |  |
|  | text | 1..1 | SHALL |  | [7931](#C_7931) |  |
|  | entry | 0..\* | MAY |  | [7957](#C_7957) |  |
|  | observation | 1..1 | SHALL |  | [15443](#C_15443) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:7928) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.21" (CONF:10376).
2. SHALL contain exactly one [1..1] code (CONF:15340).
   1. This code SHALL contain exactly one [1..1] @code="42348-3" Advance Directives (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15342).
3. SHALL contain exactly one [1..1] title (CONF:7930).
4. SHALL contain exactly one [1..1] text (CONF:7931).
5. MAY contain zero or more [0..\*] entry (CONF:7957) such that it
   1. SHALL contain exactly one [1..1] [Advance Directive Observation](#E_Advance_Directive_Observation) (templateId:2.16.840.1.113883.10.20.22.4.48) (CONF:15443).

Figure : Advance directives section example

<section>

<templateId root="2.16.840.1.113883.10.20.22.2.21.1"/>

<!-- Template with coded entries required. -->

<code code="42348-3" codeSystem="2.16.840.1.113883.6.1"/>

<title>Advance Directives</title>

<text>

...

</text>

<entry>

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.22.4.48"/>

...

</observation>

</entry>

</section>

Allergies Section (entries optional)

[section: templateId 2.16.840.1.113883.10.20.22.2.6 (open)]

Table 26: Allergies Section (entries optional) Contexts

| Used By: | Contains Entries: |
| --- | --- |
|  | [Allergy Problem Act](#E_Allergy_Problem_Act) |

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.

Table 27: Allergies Section (entries optional) Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.6'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7800](#C_7800) |  |
|  | @root | 1..1 | SHALL |  | [10378](#C_10378) | 2.16.840.1.113883.10.20.22.2.6 |
|  | code | 1..1 | SHALL |  | [15345](#C_15345) |  |
|  | @code | 1..1 | SHALL |  | [15346](#C_15346) | 2.16.840.1.113883.6.1 (LOINC) = 48765-2 |
|  | title | 1..1 | SHALL |  | [7802](#C_7802) |  |
|  | text | 1..1 | SHALL |  | [7803](#C_7803) |  |
|  | entry | 0..\* | SHOULD |  | [7804](#C_7804) |  |
|  | act | 1..1 | SHALL |  | [15444](#C_15444) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:7800) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.6" (CONF:10378).
2. SHALL contain exactly one [1..1] code (CONF:15345).
   1. This code SHALL contain exactly one [1..1] @code="48765-2" Allergies, adverse reactions, alerts (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15346).
3. SHALL contain exactly one [1..1] title (CONF:7802).
4. SHALL contain exactly one [1..1] text (CONF:7803).
5. SHOULD contain zero or more [0..\*] entry (CONF:7804) such that it
   1. SHALL contain exactly one [1..1] [Allergy Problem Act](#E_Allergy_Problem_Act) (templateId:2.16.840.1.113883.10.20.22.4.30) (CONF:15444).

Allergies Section (entries required)

[section: templateId 2.16.840.1.113883.10.20.22.2.6.1 (open)]

Table 28: Allergies Section (entries required) Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Transfer of Care Document](#D_Transfer_of_Care_Document) (optional) | [Allergy Problem Act](#E_Allergy_Problem_Act) |

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.

Table 29: Allergies Section (entries required) Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.6.1'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7527](#C_7527) |  |
|  | @root | 1..1 | SHALL |  | [10379](#C_10379) | 2.16.840.1.113883.10.20.22.2.6.1 |
|  | code | 1..1 | SHALL |  | [15349](#C_15349) |  |
|  | @code | 1..1 | SHALL |  | [15350](#C_15350) | 2.16.840.1.113883.6.1 (LOINC) = 48765-2 |
|  | title | 1..1 | SHALL |  | [7534](#C_7534) |  |
|  | text | 1..1 | SHALL |  | [7530](#C_7530) |  |
|  | entry | 1..\* | SHALL |  | [7531](#C_7531) |  |
|  | act | 1..1 | SHALL |  | [15446](#C_15446) |  |

1. Conforms to [Allergies Section (entries optional)](#S_Allergies_Section_entries_optional) template (2.16.840.1.113883.10.20.22.2.6).
2. SHALL contain exactly one [1..1] templateId (CONF:7527) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.6.1" (CONF:10379).
3. SHALL contain exactly one [1..1] code (CONF:15349).
   1. This code SHALL contain exactly one [1..1] @code="48765-2" Allergies, adverse reactions, alerts (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15350).
4. SHALL contain exactly one [1..1] title (CONF:7534).
5. SHALL contain exactly one [1..1] text (CONF:7530).
6. SHALL contain at least one [1..\*] entry (CONF:7531) such that it
   1. SHALL contain exactly one [1..1] [Allergy Problem Act](#E_Allergy_Problem_Act) (templateId:2.16.840.1.113883.10.20.22.4.30) (CONF:15446).

Figure : Allergies section example

<section>

<templateId root="2.16.840.1.113883.10.20.22.2.6"/>

<code code="48765-2"

displayName="Allergies, adverse reactions, alerts"

codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>

<title>Allergies</title>

<text>

...

</text>

<entry typeCode="DRIV">

<act classCode="ACT" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.22.4.30"/>

<!-- Allergy Problem Act template -->

...

</act>

</entry>

</section>

Assessment Section

[section: templateId 2.16.840.1.113883.10.20.22.2.8 (open)]

Table 30: Assessment Section Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Transfer of Care Document](#D_Transfer_of_Care_Document)  (optional) |  |

The Assessment section (also referred to as “impression” or “diagnoses” outside of the context of CDA) represents the clinician's conclusions and working assumptions that will guide treatment of the patient. The assessment may be a list of specific disease entities or a narrative block.

Table 31: Assessment Section Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.8'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7711](#C_7711) |  |
|  | @root | 1..1 | SHALL |  | [10382](#C_10382) | 2.16.840.1.113883.10.20.22.2.8 |
|  | code | 1..1 | SHALL |  | [14757](#C_14757) |  |
|  | @code | 1..1 | SHALL |  | [14758](#C_14758) | 2.16.840.1.113883.6.1 (LOINC) = 51848-0 |
|  | title | 1..1 | SHALL |  | [16774](#C_16774) |  |
|  | text | 1..1 | SHALL |  | [7713](#C_7713) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:7711) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.8" (CONF:10382).
2. SHALL contain exactly one [1..1] code (CONF:14757).
   1. This code SHALL contain exactly one [1..1] @code="51848-0" Assessments (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:14758).
3. SHALL contain exactly one [1..1] title (CONF:16774).
4. SHALL contain exactly one [1..1] text (CONF:7713).

Figure : Assessment section example

<section>

<templateId root="2.16.840.1.113883.10.20.22.2.8"/>

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC" code="51848-0"

displayName="ASSESSMENTS"/>

<title>ASSESSMENTS</title>

<text>

...

</text>

</section>

Chief Complaint and Reason for Visit Section

[section: templateId 2.16.840.1.113883.10.20.22.2.13 (open)]

Table 32: Chief Complaint and Reason for Visit Section Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [[Transfer of Care Document](#D_Transfer_of_Care_Document)](#Transfer_Summary_Document) (optional) |  |

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

Table 33: Chief Complaint and Reason for Visit Section Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.13'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7840](#C_7840) |  |
|  | @root | 1..1 | SHALL |  | [10383](#C_10383) | 2.16.840.1.113883.10.20.22.2.13 |
|  | code | 1..1 | SHALL |  | [15449](#C_15449) |  |
|  | @code | 1..1 | SHALL |  | [15450](#C_15450) | 2.16.840.1.113883.6.1 (LOINC) = 46239-0 |
|  | title | 1..1 | SHALL |  | [7842](#C_7842) |  |
|  | text | 1..1 | SHALL |  | [7843](#C_7843) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:7840) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.13" (CONF:10383).
2. SHALL contain exactly one [1..1] code (CONF:15449).
   1. This code SHALL contain exactly one [1..1] @code="46239-0" Chief Complaint and Reason for Visit (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15450).
3. SHALL contain exactly one [1..1] title (CONF:7842).
4. SHALL contain exactly one [1..1] text (CONF:7843).

Figure : Chief complaint and reason for visit section example

<section>

<templateId root="2.16.840.1.113883.10.20.22.2.13"/>

<code code="46239-0"

codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

displayName="CHIEF COMPLAINT AND REASON FOR VISIT"/>

<title> CHIEF COMPLAINT</title>

<text>Back Pain</text>

</section>

Encounters Section (entries optional)

[section: templateId 2.16.840.1.113883.10.20.22.2.22 (open)]

Table 34: Encounters Section (entries optional) Contexts

| Used By: | Contains Entries: |
| --- | --- |
|  | [Encounter Activities](#E_Encounter_Activities) |

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.

Table 35: Encounters Section (entries optional) Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.22'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7940](#C_7940) |  |
|  | @root | 1..1 | SHALL |  | [10386](#C_10386) | 2.16.840.1.113883.10.20.22.2.22 |
|  | code | 1..1 | SHALL |  | [15461](#C_15461) |  |
|  | @code | 1..1 | SHALL |  | [15462](#C_15462) | 2.16.840.1.113883.6.1 (LOINC) = 46240-8 |
|  | title | 1..1 | SHALL |  | [7942](#C_7942) |  |
|  | text | 1..1 | SHALL |  | [7943](#C_7943) |  |
|  | entry | 0..\* | SHOULD |  | [7951](#C_7951) |  |
|  | encounter | 1..1 | SHALL |  | [15465](#C_15465) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:7940) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.22" (CONF:10386).
2. SHALL contain exactly one [1..1] code (CONF:15461).
   1. This code SHALL contain exactly one [1..1] @code="46240-8" Encounters (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15462).
3. SHALL contain exactly one [1..1] title (CONF:7942).
4. SHALL contain exactly one [1..1] text (CONF:7943).
5. SHOULD contain zero or more [0..\*] entry (CONF:7951) such that it
   1. SHALL contain exactly one [1..1] [Encounter Activities](#E_Encounter_Activities) (templateId:2.16.840.1.113883.10.20.22.4.49) (CONF:15465).

Encounters Section (entries required)

[section: templateId 2.16.840.1.113883.10.20.22.2.22.1 (open)]

Table 36: Encounters Section (entries required) Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Transfer of Care Document](#D_Transfer_of_Care_Document) (optional) | [Encounter Activities](#E_Encounter_Activities) |

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.

Table 37: Encounters Section (entries required) Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.22.1'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [8705](#C_8705) |  |
|  | @root | 1..1 | SHALL |  | [10387](#C_10387) | 2.16.840.1.113883.10.20.22.2.22.1 |
|  | code | 1..1 | SHALL |  | [15466](#C_15466) |  |
|  | @code | 1..1 | SHALL |  | [15467](#C_15467) | 2.16.840.1.113883.6.1 (LOINC) = 46240-8 |
|  | title | 1..1 | SHALL |  | [8707](#C_8707) |  |
|  | text | 1..1 | SHALL |  | [8708](#C_8708) |  |
|  | entry | 1..\* | SHALL |  | [8709](#C_8709) |  |
|  | encounter | 1..1 | SHALL |  | [15468](#C_15468) |  |

1. Conforms to [Encounters Section (entries optional)](#S_Encounters_Section_entries_optional) template (2.16.840.1.113883.10.20.22.2.22).
2. SHALL contain exactly one [1..1] templateId (CONF:8705) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.22.1" (CONF:10387).
3. SHALL contain exactly one [1..1] code (CONF:15466).
   1. This code SHALL contain exactly one [1..1] @code="46240-8" Encounters (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15467).
4. SHALL contain exactly one [1..1] title (CONF:8707).
5. SHALL contain exactly one [1..1] text (CONF:8708).
6. SHALL contain at least one [1..\*] entry (CONF:8709) such that it
   1. SHALL contain exactly one [1..1] [Encounter Activities](#E_Encounter_Activities) (templateId:2.16.840.1.113883.10.20.22.4.49) (CONF:15468).

Figure : Encounters section example

<section>

<templateId root="2.16.840.1.113883.10.20.22.2.22"/>

<!-- Encounters Section - Entries optional -->

<code code="46240-8" codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC" displayName="History of encounters"/>

<title>Encounters</title>

<text>

...

</text>

<entry typeCode="DRIV">

<encounter classCode="ENC" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.22.4.49"/>

<!-- Encounter Activities -->

...

</encounter>

</entry>

</section>

Family History Section

[section: templateId 2.16.840.1.113883.10.20.22.2.15 (open)]

Table 38: Family History Section Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [[Transfer of Care Document](#D_Transfer_of_Care_Document)](#D_Transfer_Summary_Document) (optional) | [Family History Organizer](#E_Family_History_Organizer) |

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.

Table 39: Family History Section Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.15'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7932](#C_7932) |  |
|  | @root | 1..1 | SHALL |  | [10388](#C_10388) | 2.16.840.1.113883.10.20.22.2.15 |
|  | code | 1..1 | SHALL |  | [15469](#C_15469) |  |
|  | @code | 1..1 | SHALL |  | [15470](#C_15470) | 2.16.840.1.113883.6.1 (LOINC) = 10157-6 |
|  | title | 1..1 | SHALL |  | [7934](#C_7934) |  |
|  | text | 1..1 | SHALL |  | [7935](#C_7935) |  |
|  | entry | 0..\* | MAY |  | [7955](#C_7955) |  |
|  | organizer | 1..1 | SHALL |  | [15471](#C_15471) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:7932) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.15" (CONF:10388).
2. SHALL contain exactly one [1..1] code (CONF:15469).
   1. This code SHALL contain exactly one [1..1] @code="10157-6" Family History (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15470).
3. SHALL contain exactly one [1..1] title (CONF:7934).
4. SHALL contain exactly one [1..1] text (CONF:7935).
5. MAY contain zero or more [0..\*] entry (CONF:7955) such that it
   1. SHALL contain exactly one [1..1] [Family History Organizer](#E_Family_History_Organizer) (templateId:2.16.840.1.113883.10.20.22.4.45) (CONF:15471).

Figure : Family history section example

<section>

<templateId root="2.16.840.1.113883.10.20.22.2.15"/>

<!-- Family history section template -->

<code code="10157-6" codeSystem="2.16.840.1.113883.6.1"/>

<title>Family history</title>

<text>

...

</text>

<entry typeCode="DRIV">

<organizer moodCode="EVN" classCode="CLUSTER">

<templateId root="2.16.840.1.113883.10.20.22.4.45"/>

<!-- Family history organizer template -->

...

</organizer>

</entry>

</section>

Functional Status Section

[section: templateId 2.16.840.1.113883.10.20.22.2.14 (open)]

Table 40: Functional Status Section Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Transfer of Care Document](#D_Transfer_of_Care_Document) (optional) | [Assessment Scale Observation](#E_Assessment_Scale_Observation)  [Caregiver Characteristics](#E_Caregiver_Characteristics)  [Cognitive Status Problem Observation](#E_Cognitive_Status_Problem_Observation)  [Cognitive Status Result Observation](#E_Cognitive_Status_Result_Observation)  [Cognitive Status Result Organizer](#E_Cognitive_Status_Result_Organizer)  [Functional Status Problem Observation](#E_Functional_Status_Problem_Observation)  [Functional Status Result Observation](#E_Functional_Status_Result_Observation)  [Functional Status Result Organizer](#E_Functional_Status_Result_Organizer)  [Highest Pressure Ulcer Stage](#E_Highest_Pressure_Ulcer_Stage)  [Non-Medicinal Supply Activity](#E_NonMedicinal_Supply_Activity)  [Number of Pressure Ulcers Observation](#E_Number_of_Pressure_Ulcers_Observation)  [Pressure Ulcer Observation](#E_Pressure_Ulcer_Observation_) |

The Functional Status section describes the patient’s physical state, status of functioning, and environmental status at the time the document was created.

A patient’s physical state may include information regarding the patient’s physical findings as they relate to problems, including but not limited to:

* Pressure Ulcers
* Amputations
* Heart murmur
* Ostomies

A patient’s functional status may include information regarding the patient relative to their general functional and cognitive ability, including:

* Ambulatory ability
* Mental status or competency
* Activities of Daily Living (ADLs), including bathing, dressing, feeding, grooming
* Home or 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

A patient’s environmental status may include information regarding the patient’s current exposures from their daily environment, including but not limited to:

* Airborne hazards such as second-hand smoke, volatile organic compounds, dust, or other allergens
* Radiation
* Safety hazards in home, such as throw rugs, poor lighting, lack of railings/grab bars, etc.
* Safety hazards at work, such as communicable diseases, excessive heat, excessive noise, etc.

The patient's functional status may be expressed as a problem or as a result observation. A functional or cognitive status problem observation describes a patient’s problem, symptoms or condition. A functional or cognitive status result observation may include observations resulting from an assessment scale, evaluation or question and answer assessment.

Any deviation from normal function displayed by the patient and recorded in the record should be included. Of particular interest are those limitations that would interfere with self-care or the medical therapeutic process in any way. In addition, a note of normal function, an improvement, or a change in functioning status may be included.

Table 41: Functional Status Section Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.14'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7920](#C_7920) |  |
|  | @root | 1..1 | SHALL |  | [10389](#C_10389) | 2.16.840.1.113883.10.20.22.2.14 |
|  | code | 1..1 | SHALL |  | [14578](#C_14578) |  |
|  | @code | 1..1 | SHALL |  | [14579](#C_14579) | 2.16.840.1.113883.6.1 (LOINC) = 47420-5 |
|  | title | 1..1 | SHALL |  | [7922](#C_7922) |  |
|  | text | 1..1 | SHALL |  | [7923](#C_7923) |  |
|  | entry | 0..\* | MAY |  | [14414](#C_14414) |  |
|  | organizer | 1..1 | SHALL |  | [14415](#C_14415) |  |
|  | entry | 0..\* | MAY |  | [14416](#C_14416) |  |
|  | organizer | 1..1 | SHALL |  | [14417](#C_14417) |  |
|  | entry | 0..\* | MAY |  | [14418](#C_14418) |  |
|  | observation | 1..1 | SHALL |  | [14419](#C_14419) |  |
|  | entry | 0..\* | MAY |  | [14420](#C_14420) |  |
|  | observation | 1..1 | SHALL |  | [14421](#C_14421) |  |
|  | entry | 0..\* | MAY |  | [14422](#C_14422) |  |
|  | observation | 1..1 | SHALL |  | [14423](#C_14423) |  |
|  | entry | 0..\* | MAY |  | [14424](#C_14424) |  |
|  | observation | 1..1 | SHALL |  | [14425](#C_14425) |  |
|  | entry | 0..\* | MAY |  | [14426](#C_14426) |  |
|  | observation | 1..1 | SHALL |  | [14427](#C_14427) |  |
|  | entry | 0..\* | MAY |  | [14580](#C_14580) |  |
|  | observation | 1..1 | SHALL |  | [14581](#C_14581) |  |
|  | entry | 0..\* | MAY |  | [14582](#C_14582) |  |
|  | observation | 1..1 | SHALL |  | [14583](#C_14583) |  |
|  | entry | 0..\* | MAY |  | [16777](#C_16777) |  |
|  | observation | 1..1 | SHALL |  | [16778](#C_16778) |  |
|  | entry | 0..\* | MAY |  | [16779](#C_16779) |  |
|  | observation | 1..1 | SHALL |  | [16780](#C_16780) |  |
|  | entry | 0..\* | MAY |  | [16781](#C_16781) |  |
|  | observation | 1..1 | SHALL |  | [16782](#C_16782) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:7920) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.14" (CONF:10389).
2. SHALL contain exactly one [1..1] code (CONF:14578).
   1. This code SHALL contain exactly one [1..1] @code="47420-5" Functional Status (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:14579).
3. SHALL contain exactly one [1..1] title (CONF:7922).
4. SHALL contain exactly one [1..1] text (CONF:7923).
5. MAY contain zero or more [0..\*] entry (CONF:14414) such that it
   1. SHALL contain exactly one [1..1] [Functional Status Result Organizer](#E_Functional_Status_Result_Organizer) (templateId:2.16.840.1.113883.10.20.22.4.66) (CONF:14415).
6. MAY contain zero or more [0..\*] entry (CONF:14416) such that it
   1. SHALL contain exactly one [1..1] [Cognitive Status Result Organizer](#E_Cognitive_Status_Result_Organizer) (templateId:2.16.840.1.113883.10.20.22.4.75) (CONF:14417).
7. MAY contain zero or more [0..\*] entry (CONF:14418) such that it
   1. SHALL contain exactly one [1..1] [Functional Status Result Observation](#E_Functional_Status_Result_Observation) (templateId:2.16.840.1.113883.10.20.22.4.67) (CONF:14419).
8. MAY contain zero or more [0..\*] entry (CONF:14420) such that it
   1. SHALL contain exactly one [1..1] [Cognitive Status Result Observation](#E_Cognitive_Status_Result_Observation) (templateId:2.16.840.1.113883.10.20.22.4.74) (CONF:14421).
9. MAY contain zero or more [0..\*] entry (CONF:14422) such that it
   1. SHALL contain exactly one [1..1] [Functional Status Problem Observation](#E_Functional_Status_Problem_Observation) (templateId:2.16.840.1.113883.10.20.22.4.68) (CONF:14423).
10. MAY contain zero or more [0..\*] entry (CONF:14424) such that it
    1. SHALL contain exactly one [1..1] [Cognitive Status Problem Observation](#E_Cognitive_Status_Problem_Observation) (templateId:2.16.840.1.113883.10.20.22.4.73) (CONF:14425).
11. MAY contain zero or more [0..\*] entry (CONF:14426) such that it
    1. SHALL contain exactly one [1..1] [Caregiver Characteristics](#E_Caregiver_Characteristics) (templateId:2.16.840.1.113883.10.20.22.4.72) (CONF:14427).
12. MAY contain zero or more [0..\*] entry (CONF:14580) such that it
    1. SHALL contain exactly one [1..1] [Assessment Scale Observation](#E_Assessment_Scale_Observation) (templateId:2.16.840.1.113883.10.20.22.4.69) (CONF:14581).
13. MAY contain zero or more [0..\*] entry (CONF:14582) such that it
    1. SHALL contain exactly one [1..1] [Non-Medicinal Supply Activity](#E_NonMedicinal_Supply_Activity) (templateId:2.16.840.1.113883.10.20.22.4.50) (CONF:14583).
14. MAY contain zero or more [0..\*] entry (CONF:16777) such that it
    1. SHALL contain exactly one [1..1] [Pressure Ulcer Observation](#E_Pressure_Ulcer_Observation_) (templateId:2.16.840.1.113883.10.20.22.4.70) (CONF:16778).
15. MAY contain zero or more [0..\*] entry (CONF:16779) such that it
    1. SHALL contain exactly one [1..1] [Number of Pressure Ulcers Observation](#E_Number_of_Pressure_Ulcers_Observation) (templateId:2.16.840.1.113883.10.20.22.4.76) (CONF:16780).
16. MAY contain zero or more [0..\*] entry (CONF:16781) such that it
    1. SHALL contain exactly one [1..1] [Highest Pressure Ulcer Stage](#E_Highest_Pressure_Ulcer_Stage) (templateId:2.16.840.1.113883.10.20.22.4.77) (CONF:16782).

Figure : Functional status section example

<section>

<templateId root="2.16.840.1.113883.10.20.22.2.14"/>

<!-- \*\*\*\* Functional status section template \*\*\*\* -->

<code code="47420-5" codeSystem="2.16.840.1.113883.6.1"/>

<title>Functional Status</title>

<text>

<table border="1" width="100%">

<thead>

<tr>

<th>Functional and Cognitive Assessment</th>

<th>March 23 to March 25, 2012</th>

<th>Condition Status</th>

</tr>

</thead>

<tbody>

<tr>

<td>Dependence on cane</td>

<td>1998</td>

<td>Active</td>

</tr>

<tr>

<td>Memory impairment</td>

<td>1999</td>

<td>Active</td>

</tr>

</tbody>

</table>

</text>

<entry typeCode="DRIV">

<templateId root="2.16.840.1.113883.10.20.22.4.67"/>

<!-- \*\*\*\* Functional Status Result Observation template \*\*\*\* -->

...

</entry>

<entry typeCode="DRIV">

<templateId root="2.16.840.1.113883.10.20.22.4.74"/>

<!-- \*\*\*\* Cognitive Status Result Observation template \*\*\*\* -->

...

</entry>

<entry typeCode="DRIV">

<templateId root="2.16.840.1.113883.10.20.22.4.68"/>

<!-- \*\*\*\* Functional Status Problem Observation template \*\*\*\* -->

...

</entry>

<entry typeCode="DRIV">

<templateId root="2.16.840.1.113883.10.20.22.4.73"/>

<!-- \*\*\*\* Cognitive Status Problem Observation template \*\*\*\* -->

...

</entry>

<entry typeCode="DRIV">

<templateId root="2.16.840.1.113883.10.20.22.4.66"/>

<!-- \*\*\*\* Functional Status Result Organizer template \*\*\*\* -->

...

</entry>

<entry typeCode="DRIV">

<templateId root="2.16.840.1.113883.10.20.22.4.75"/>

<!-- \*\*\*\* Cognitive Status Result Organizer template \*\*\*\* -->

...

</entry>

<entry typeCode="DRIV">

<templateId root="2.16.840.1. 113883.10.20.22.4.72"/>

<!-- \*\*\*\* Caregiver Characteristics template \*\*\*\* -->

...

</entry>

<entry typeCode="DRIV">

<templateId root="2.16.840.1. 113883.10.20.22.4.50"/>

<!-- \*\*\*\* Non-Medicinal Supply \*\*\*\* -->

...

</entry>

<entry typeCode="DRIV">

<templateId root="2.16.840.1.113883.10.20.22.4.69"/>

<!-- \*\*\*\* Assessment Scale template \*\*\*\* -->

...

</entry>

...

</section>

History of Past Illness Section

[section: templateId 2.16.840.1.113883.10.20.22.2.20 (open)]

Table 42: History of Past Illness Section Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Transfer of Care Document](#D_Transfer_of_Care_Document) (optional) | [Problem Observation](#E_Problem_Observation) |

This section describes the history related to the patient’s past complaints, problems, or diagnoses. It records these details up until, and possibly pertinent to, the patient’s current complaint or reason for seeking medical care.

Table 43: History of Past Illness Section Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.20'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7828](#C_7828) |  |
|  | @root | 1..1 | SHALL |  | [10390](#C_10390) | 2.16.840.1.113883.10.20.22.2.20 |
|  | code | 1..1 | SHALL |  | [15474](#C_15474) |  |
|  | @code | 1..1 | SHALL |  | [15475](#C_15475) | 2.16.840.1.113883.6.1 (LOINC) = 11348-0 |
|  | title | 1..1 | SHALL |  | [7830](#C_7830) |  |
|  | text | 1..1 | SHALL |  | [7831](#C_7831) |  |
|  | entry | 0..\* | MAY |  | [8791](#C_8791) |  |
|  | observation | 1..1 | SHALL |  | [15476](#C_15476) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:7828) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.20" (CONF:10390).
2. SHALL contain exactly one [1..1] code (CONF:15474).
   1. This code SHALL contain exactly one [1..1] @code="11348-0" History of Past Illness (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15475).
3. SHALL contain exactly one [1..1] title (CONF:7830).
4. SHALL contain exactly one [1..1] text (CONF:7831).
5. MAY contain zero or more [0..\*] entry (CONF:8791) such that it
   1. SHALL contain exactly one [1..1] [Problem Observation](#E_Problem_Observation) (templateId:2.16.840.1.113883.10.20.22.4.4) (CONF:15476).

Figure : History of past illness section example

<section>

<templateId root="2.16.840.1.113883.10.20.22.2.20"/>

<!-- \*\* History of Past Illness Section \*\* -->

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC" code="11348-0"

displayName="HISTORY OF PAST ILLNESS"/>

<title>PAST MEDICAL HISTORY</title>

<text>

<paragraph>Patient has had ..... </paragraph>

</text>

<entry>

<!-- Sample With Problem Observation. -->

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- Problem Observation -->

...

</observation>

</entry>

</section>

History of Present Illness Section

[section: templateId 1.3.6.1.4.1.19376.1.5.3.1.3.4 (open)]

Table 44: History of Present Illness Section Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Transfer of Care Document](#D_Transfer_of_Care_Document) (optional) |  |

The History of Present Illness section describes the history related to the reason for the encounter. It contains the historical details leading up to and pertaining to the patient’s current complaint or reason for seeking medical care.

Table 45: History of Present Illness Section Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '1.3.6.1.4.1.19376.1.5.3.1.3.4'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7848](#C_7848) |  |
|  | @root | 1..1 | SHALL | UID | [10458](#C_10458) | 1.3.6.1.4.1.19376.1.5.3.1.3.4 |
|  | code | 1..1 | SHALL |  | [15477](#C_15477) |  |
|  | @code | 1..1 | SHALL |  | [15478](#C_15478) | 2.16.840.1.113883.6.1 (LOINC) = 10164-2 |
|  | title | 1..1 | SHALL |  | [7850](#C_7850) |  |
|  | text | 1..1 | SHALL |  | [7851](#C_7851) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:7848) such that it
   1. SHALL contain exactly one [1..1] @root="1.3.6.1.4.1.19376.1.5.3.1.3.4" (CONF:10458).
2. SHALL contain exactly one [1..1] code (CONF:15477).
   1. This code SHALL contain exactly one [1..1] @code="10164-2" (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15478).
3. SHALL contain exactly one [1..1] title (CONF:7850).
4. SHALL contain exactly one [1..1] text (CONF:7851).

Figure : History of present illness section example

<section>

<templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.4"/>

<code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"

code="10164-2"

displayName="HISTORY OF PRESENT ILLNESS"/>

<title>HISTORY OF PRESENT ILLNESS</title>

<text>

<paragraph>This patient was only recently discharged for a recurrent

GI bleed as described below.</paragraph>

<paragraph>He presented to the ER today c/o a dark stool yesterday

but a normal brown stool today. On exam he was hypotensive in the

80s resolved after .... .... .... </paragraph>

<paragraph>Lab at discharge: Glucose 112, BUN 16, creatinine 1.1,

electrolytes normal. H. pylori antibody pending. Admission

hematocrit 16%, discharge hematocrit 29%. WBC 7300, platelet

count 256,000. Urinalysis normal. Urine culture: No growth. INR

1.1, PTT 40.</paragraph>

<paragraph>He was transfused with 6 units of packed red blood cells

with .... .... ....</paragraph>

<paragraph>GI evaluation 12 September: Colonoscopy showed single red

clot in .... .... ....</paragraph>

</text>

</section>

Hospital Discharge Diagnosis Section

[section: templateId 2.16.840.1.113883.10.20.22.2.24 (open)]

Table 46: Hospital Discharge Diagnosis Section Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Transfer of Care Document](#D_Transfer_of_Care_Document) (optional) | [Hospital Discharge Diagnosis](#E_Hospital_Discharge_Diagnosis) |

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.

Table 47: Hospital Discharge Diagnosis Section Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.24'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7979](#C_7979) |  |
|  | @root | 1..1 | SHALL |  | [10394](#C_10394) | 2.16.840.1.113883.10.20.22.2.24 |
|  | code | 1..1 | SHALL |  | [15355](#C_15355) |  |
|  | @code | 1..1 | SHALL |  | [15356](#C_15356) | 2.16.840.1.113883.6.1 (LOINC) = 11535-2 |
|  | title | 1..1 | SHALL |  | [7981](#C_7981) |  |
|  | text | 1..1 | SHALL |  | [7982](#C_7982) |  |
|  | entry | 0..1 | SHOULD |  | [7983](#C_7983) |  |
|  | act | 1..1 | SHALL |  | [15489](#C_15489) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:7979) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.24" (CONF:10394).
2. SHALL contain exactly one [1..1] code (CONF:15355).
   1. This code SHALL contain exactly one [1..1] @code="11535-2" Hospital Discharge Diagnosis (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15356).
3. SHALL contain exactly one [1..1] title (CONF:7981).
4. SHALL contain exactly one [1..1] text (CONF:7982).
5. SHOULD contain zero or one [0..1] entry (CONF:7983).
   1. The entry, if present, SHALL contain exactly one [1..1] [Hospital Discharge Diagnosis](#E_Hospital_Discharge_Diagnosis) (templateId:2.16.840.1.113883.10.20.22.4.33) (CONF:15489).

Figure : Hospital discharge diagnosis section example

<section>

<!-- Discharge Summary Hospital Discharge Diagnosis Template Id -->

<templateId root="2.16.840.1.113883.10.20.22.2.24"/>

<code code="11535-2" displayName="Hospital Discharge Diagnosis"

codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>

<title>Hospital Discharge Diagnosis</title>

<text>Diverticula of intestine</text>

<entry>

<act classCode="ACT" moodCode="EVN">

<!—Hospital discharge Diagnosis act -->

<templateId root="2.16.840.1.113883.10.20.22.4.33"/>

...

</act>

</entry>

</section>

Immunizations Section (entries optional)

[section: templateId 2.16.840.1.113883.10.20.22.2.2 (open)]

Table 48: Immunizations Section (entries optional) Contexts

| Used By: | Contains Entries: |
| --- | --- |
|  | [Immunization Activity](#E_Immunization_Activity) |

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.

Table 49: Immunizations Section (entries optional) Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.2'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7965](#C_7965) |  |
|  | @root | 1..1 | SHALL |  | [10399](#C_10399) | 2.16.840.1.113883.10.20.22.2.2 |
|  | code | 1..1 | SHALL |  | [15367](#C_15367) |  |
|  | @code | 1..1 | SHALL |  | [15368](#C_15368) | 2.16.840.1.113883.6.1 (LOINC) = 11369-6 |
|  | title | 1..1 | SHALL |  | [7967](#C_7967) |  |
|  | text | 1..1 | SHALL |  | [7968](#C_7968) |  |
|  | entry | 0..\* | SHOULD |  | [7969](#C_7969) |  |
|  | substanceAdministration | 1..1 | SHALL |  | [15494](#C_15494) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:7965) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.2" (CONF:10399).
2. SHALL contain exactly one [1..1] code (CONF:15367).
   1. This code SHALL contain exactly one [1..1] @code="11369-6" Immunizations (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15368).
3. SHALL contain exactly one [1..1] title (CONF:7967).
4. SHALL contain exactly one [1..1] text (CONF:7968).
5. SHOULD contain zero or more [0..\*] entry (CONF:7969) such that it
   1. SHALL contain exactly one [1..1] [Immunization Activity](#E_Immunization_Activity) (templateId:2.16.840.1.113883.10.20.22.4.52) (CONF:15494).

Immunizations Section (entries required)

[section: templateId 2.16.840.1.113883.10.20.22.2.2.1 (open)]

Table 50: Immunizations Section (entries required) Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Transfer of Care Document](#D_Transfer_of_Care_Document) (optional) | [Immunization Activity](#E_Immunization_Activity) |

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.

Table 51: Immunizations Section (entries required) Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.2.1'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [9015](#C_9015) |  |
|  | @root | 1..1 | SHALL |  | [10400](#C_10400) | 2.16.840.1.113883.10.20.22.2.2.1 |
|  | code | 1..1 | SHALL |  | [15369](#C_15369) |  |
|  | @code | 1..1 | SHALL |  | [15370](#C_15370) | 2.16.840.1.113883.6.1 (LOINC) = 11369-6 |
|  | title | 1..1 | SHALL |  | [9017](#C_9017) |  |
|  | text | 1..1 | SHALL |  | [9018](#C_9018) |  |
|  | entry | 1..\* | SHALL |  | [9019](#C_9019) |  |
|  | substance Administration | 1..1 | SHALL |  | [15495](#C_15495) |  |

1. Conforms to [Immunizations Section (entries optional)](#S_Immunizations_Section_entries_optional) template (2.16.840.1.113883.10.20.22.2.2).
2. SHALL contain exactly one [1..1] templateId (CONF:9015) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.2.1" (CONF:10400).
3. SHALL contain exactly one [1..1] code (CONF:15369).
   1. This code SHALL contain exactly one [1..1] @code="11369-6" Immunizations (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15370).
4. SHALL contain exactly one [1..1] title (CONF:9017).
5. SHALL contain exactly one [1..1] text (CONF:9018).
6. SHALL contain at least one [1..\*] entry (CONF:9019) such that it
   1. SHALL contain exactly one [1..1] [Immunization Activity](#E_Immunization_Activity) (templateId:2.16.840.1.113883.10.20.22.4.52) (CONF:15495).

Figure : Immunization section example

<section>

<templateId root="2.16.840.1.113883.10.20.22.2.2"/>

<!-- \*\*\*\*\*\*\*\* Immunizations section template \*\*\*\*\*\*\*\* -->

<code code="11369-6"

codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

displayName="History of immunizations"/>

<title>Immunizations</title>

<text>

<table border="1" width="100%">

<thead>

<tr>

<th>Vaccine</th>

<th>Date</th>

<th>Status</th>

</tr>

</thead>

<tbody>

<tr>

<td>Influenza virus vaccine, IM</td>

<td>Nov 1999</td>

<td>Completed</td>

</tr>

</tbody>

</table>

</text>

<entry typeCode="DRIV">

<substanceAdministration classCode="SBADM" moodCode="EVN"

negationInd="false">

<templateId root="2.16.840.1.113883.10.20.22.4.52"/>

<!-- \*\*\*\* Immunization activity template \*\*\*\* -->

...

</substanceAdministration>

</entry>

...

</section>

Medical Equipment Section

[section: templateId 2.16.840.1.113883.10.20.22.2.23 (open)]

Table 52: Medical Equipment Section Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Transfer of Care Document](#D_Transfer_of_Care_Document) (optional) | [Non-Medicinal Supply Activity](#E_NonMedicinal_Supply_Activity) |

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.

Table 53: Medical Equipment Section Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.23'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7944](#C_7944) |  |
|  | @root | 1..1 | SHALL |  | [10404](#C_10404) | 2.16.840.1.113883.10.20.22.2.23 |
|  | code | 1..1 | SHALL |  | [15381](#C_15381) |  |
|  | @code | 1..1 | SHALL |  | [15382](#C_15382) | 2.16.840.1.113883.6.1 (LOINC) = 46264-8 |
|  | title | 1..1 | SHALL |  | [7946](#C_7946) |  |
|  | text | 1..1 | SHALL |  | [7947](#C_7947) |  |
|  | entry | 0..\* | SHOULD |  | [7948](#C_7948) |  |
|  | supply | 1..1 | SHALL |  | [15497](#C_15497) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:7944) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.23" (CONF:10404).
2. SHALL contain exactly one [1..1] code (CONF:15381).
   1. This code SHALL contain exactly one [1..1] @code="46264-8" Medical Equipment (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15382).
3. SHALL contain exactly one [1..1] title (CONF:7946).
4. SHALL contain exactly one [1..1] text (CONF:7947).
5. SHOULD contain zero or more [0..\*] entry (CONF:7948) such that it
   1. SHALL contain exactly one [1..1] [Non-Medicinal Supply Activity](#E_NonMedicinal_Supply_Activity) (templateId:2.16.840.1.113883.10.20.22.4.50) (CONF:15497).

Figure : Medical equipment section example

<section>

<templateId root="2.16.840.1.113883.10.20.22.2.23"/>

<!-- \*\*\* Medical equipment section template \*\*\* -->

<code code="46264-8" codeSystem="2.16.840.1.113883.6.1"/>

<title>Medical Equipment</title>

<text>

...

</text>

<entry typeCode="DRIV">

<supply classCode="SPLY" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.22.4.50"/>

<!-- \*\*\* Non-medicinal supply activity template \*\*\* -->

...

</supply>

</entry>

</section>

Medications Section (entries optional)

[section: templateId 2.16.840.1.113883.10.20.22.2.1 (open)]

Table 54: Medications Section (entries optional) Contexts

| Used By: | Contains Entries: |
| --- | --- |
|  | [Medication Activity](#E_Medication_Activity) |

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.

Table 55: Medications Section (entries optional) Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.1'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7791](#C_7791) |  |
|  | @root | 1..1 | SHALL |  | [10432](#C_10432) | 2.16.840.1.113883.10.20.22.2.1 |
|  | code | 1..1 | SHALL |  | [15385](#C_15385) |  |
|  | @code | 1..1 | SHALL |  | [15386](#C_15386) | 2.16.840.1.113883.6.1 (LOINC) = 10160-0 |
|  | title | 1..1 | SHALL |  | [7793](#C_7793) |  |
|  | text | 1..1 | SHALL |  | [7794](#C_7794) |  |
|  | entry | 0..\* | SHOULD |  | [7795](#C_7795) |  |
|  | substanceAdministration | 1..1 | SHALL |  | [15984](#C_15984) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:7791) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.1" (CONF:10432).
2. SHALL contain exactly one [1..1] code (CONF:15385).
   1. This code SHALL contain exactly one [1..1] @code="10160-0" History of medication use (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15386).
3. SHALL contain exactly one [1..1] title (CONF:7793).
4. SHALL contain exactly one [1..1] text (CONF:7794).
5. SHOULD contain zero or more [0..\*] entry (CONF:7795) such that it
   1. SHALL contain exactly one [1..1] [Medication Activity](#E_Medication_Activity) (templateId:2.16.840.1.113883.10.20.22.4.16) (CONF:15984).
   2. If medication use is unknown, the appropriate nullFlavor MAY be present (see unknown information in Section 1) (CONF:10076).

Medications Section (entries required)

[section: templateId 2.16.840.1.113883.10.20.22.2.1.1 (open)]

Table 56: Medications Section (entries required) Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Transfer of Care Document](#D_Transfer_of_Care_Document) (optional) | [Medication Activity](#E_Medication_Activity) |

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.

Table 57: Medications Section (entries required) Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.1.1'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7568](#C_7568) |  |
|  | @root | 1..1 | SHALL |  | [10433](#C_10433) | 2.16.840.1.113883.10.20.22.2.1.1 |
|  | code | 1..1 | SHALL |  | [15387](#C_15387) |  |
|  | @code | 1..1 | SHALL |  | [15388](#C_15388) | 2.16.840.1.113883.6.1 (LOINC) = 10160-0 |
|  | title | 1..1 | SHALL |  | [7570](#C_7570) |  |
|  | text | 1..1 | SHALL |  | [7571](#C_7571) |  |
|  | entry | 1..\* | SHALL |  | [7572](#C_7572) |  |
|  | substanceAdministration | 1..1 | SHALL |  | [15500](#C_15500) |  |

1. Conforms to [Medications Section (entries optional)](#S_Medications_Section_entries_optional) template (2.16.840.1.113883.10.20.22.2.1).
2. SHALL contain exactly one [1..1] templateId (CONF:7568) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.1.1" (CONF:10433).
3. SHALL contain exactly one [1..1] code (CONF:15387).
   1. This code SHALL contain exactly one [1..1] @code="10160-0" History of medication use (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15388).
4. SHALL contain exactly one [1..1] title (CONF:7570).
5. SHALL contain exactly one [1..1] text (CONF:7571).
6. SHALL contain at least one [1..\*] entry (CONF:7572) such that it
   1. SHALL contain exactly one [1..1] [Medication Activity](#E_Medication_Activity) (templateId:2.16.840.1.113883.10.20.22.4.16) (CONF:15500).
   2. If medication use is unknown, the appropriate nullFlavor MAY be present (see unknown information in Section 1) (CONF:10077).

Figure : Medications section entries example

<section>

<templateId root="2.16.840.1.113883.10.20.22.2.1"/>

<code code="10160-0"

codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

displayName="HISTORY OF MEDICATION USE"/>

<title>MEDICATIONS</title>

<text>

...

</text>

<entry typeCode="DRIV">

<substanceAdministration classCode="SBADM" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.22.4.16"/>

<!-- Medication Activity template -->

...

</substanceAdministration>

</entry>

</section>

Payers Section

[section: templateId 2.16.840.1.113883.10.20.22.2.18 (open)]

Table 58: Payers Section Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Transfer of Care Document](#D_Transfer_of_Care_Document) (optional) | [Coverage Activity](#E_Coverage_Activity) |

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.

Table 59: Payers Section Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.18'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7924](#C_7924) |  |
|  | @root | 1..1 | SHALL |  | [10434](#C_10434) | 2.16.840.1.113883.10.20.22.2.18 |
|  | code | 1..1 | SHALL |  | [15395](#C_15395) |  |
|  | @code | 1..1 | SHALL |  | [15396](#C_15396) | 2.16.840.1.113883.6.1 (LOINC) = 48768-6 |
|  | title | 1..1 | SHALL |  | [7926](#C_7926) |  |
|  | text | 1..1 | SHALL |  | [7927](#C_7927) |  |
|  | entry | 0..\* | SHOULD |  | [7959](#C_7959) |  |
|  | act | 1..1 | SHALL |  | [15501](#C_15501) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:7924) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.18" (CONF:10434).
2. SHALL contain exactly one [1..1] code (CONF:15395).
   1. This code SHALL contain exactly one [1..1] @code="48768-6" Payers (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15396).
3. SHALL contain exactly one [1..1] title (CONF:7926).
4. SHALL contain exactly one [1..1] text (CONF:7927).
5. SHOULD contain zero or more [0..\*] entry (CONF:7959) such that it
   1. SHALL contain exactly one [1..1] [Coverage Activity](#E_Coverage_Activity) (templateId:2.16.840.1.113883.10.20.22.4.60) (CONF:15501).

Figure : Payers section example

<section>

<templateId root="2.16.840.1.113883.10.20.22.2.18"/>

<!-- \*\*\*\*\*\*\*\* Payers section template \*\*\*\*\*\*\*\* -->

<code code="48768-6" codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC" displayName="Payers"/>

<title>Insurance Providers</title>

<text>

<table border="1" width="100%">

<thead>

<tr>

<th>Payer name</th>

<th>Policy type / Coverage type</th>

<th>Policy ID</th>

<th>Covered party ID</th>

<th>Policy Holder</th>

</tr>

</thead>

<tbody>

<tr>

<td>Good Health Insurance</td>

<td>Extended healthcare / Family</td>

<td>Contract Number</td>

<td>1138345</td>

<td>Patient's Mother</td>

</tr>

</tbody>

</table>

</text>

<entry typeCode="DRIV">

<act classCode="ACT" moodCode="DEF">

<templateId root="2.16.840.1.113883.10.20.22.4.60"/>

<!-- \*\*\*\* Coverage entry template \*\*\*\* -->

...

</act>

</entry>

</section>

Physical Exam Section

[section: templateId 2.16.840.1.113883.10.20.2.10 (open)]

Table 60: Physical Exam Section Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Transfer of Care Document](#D_Transfer_of_Care_Document) (optional) | [Highest Pressure Ulcer Stage](#E_Highest_Pressure_Ulcer_Stage)  [Number of Pressure Ulcers Observation](#E_Number_of_Pressure_Ulcers_Observation)  [Pressure Ulcer Observation](#E_Pressure_Ulcer_Observation_) |

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.

Table 61: Physical Exam Section Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.2.10'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7806](#C_7806) |  |
|  | @root | 1..1 | SHALL | UID | [10465](#C_10465) | 2.16.840.1.113883.10.20.2.10 |
|  | code | 1..1 | SHALL |  | [15397](#C_15397) |  |
|  | @code | 1..1 | SHALL |  | [15398](#C_15398) | 2.16.840.1.113883.6.1 (LOINC) = 29545-1 |
|  | title | 1..1 | SHALL |  | [7808](#C_7808) |  |
|  | text | 1..1 | SHALL |  | [7809](#C_7809) |  |
|  | entry | 0..\* | MAY |  | [17094](#C_17094) |  |
|  | observation | 1..1 | SHALL |  | [17095](#C_17095) |  |
|  | entry | 0..\* | MAY |  | [17096](#C_17096) |  |
|  | observation | 1..1 | SHALL |  | [17097](#C_17097) |  |
|  | entry | 0..\* | MAY |  | [17098](#C_17098) |  |
|  | observation | 1..1 | SHALL |  | [17099](#C_17099) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:7806) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.2.10" (CONF:10465).
2. SHALL contain exactly one [1..1] code (CONF:15397).
   1. This code SHALL contain exactly one [1..1] @code="29545-1" Physical Findings (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15398).
3. SHALL contain exactly one [1..1] title (CONF:7808).
4. SHALL contain exactly one [1..1] text (CONF:7809).
5. MAY contain zero or more [0..\*] entry (CONF:17094) such that it
   1. SHALL contain exactly one [1..1] [Pressure Ulcer Observation](#E_Pressure_Ulcer_Observation_) (templateId:2.16.840.1.113883.10.20.22.4.70) (CONF:17095).
6. MAY contain zero or more [0..\*] entry (CONF:17096) such that it
   1. SHALL contain exactly one [1..1] [Number of Pressure Ulcers Observation](#E_Number_of_Pressure_Ulcers_Observation) (templateId:2.16.840.1.113883.10.20.22.4.76) (CONF:17097).
7. MAY contain zero or more [0..\*] entry (CONF:17098) such that it
   1. SHALL contain exactly one [1..1] [Highest Pressure Ulcer Stage](#E_Highest_Pressure_Ulcer_Stage) (templateId:2.16.840.1.113883.10.20.22.4.77) (CONF:17099).

Plan of Care Section

[section: templateId 2.16.840.1.113883.10.20.22.2.10 (open)]

Table 62: Plan of Care Section Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Transfer of Care Document](#D_Transfer_of_Care_Document) (optional) | [Instructions](#E_Instructions)  [Plan of Care Activity Act](#E_Plan_of_Care_Activity_Act)  [Plan of Care Activity Encounter](#E_Plan_of_Care_Activity_Encounter)  [Plan of Care Activity Observation](#E_Plan_of_Care_Activity_Observation)  [Plan of Care Activity Procedure](#E_Plan_of_Care_Activity_Procedure)  [Plan of Care Activity Substance Administration](#E_Plan_of_Care_Activity_Substance_Admini)  [Plan of Care Activity Supply](#E_Plan_of_Care_Activity_Supply) |

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 will be provided.

Table 63: Plan of Care Section Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.10'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7723](#C_7723) |  |
|  | @root | 1..1 | SHALL |  | [10435](#C_10435) | 2.16.840.1.113883.10.20.22.2.10 |
|  | code | 1..1 | SHALL |  | [14749](#C_14749) |  |
|  | @code | 1..1 | SHALL |  | [14750](#C_14750) | 2.16.840.1.113883.6.1 (LOINC) = 18776-5 |
|  | title | 1..1 | SHALL |  | [16986](#C_16986) |  |
|  | text | 1..1 | SHALL |  | [7725](#C_7725) |  |
|  | entry | 0..\* | MAY |  | [7726](#C_7726) |  |
|  | observation | 1..1 | SHALL |  | [14751](#C_14751) |  |
|  | entry | 0..\* | MAY |  | [8805](#C_8805) |  |
|  | observation | 1..1 | SHALL |  | [14752](#C_14752) |  |
|  | entry | 0..\* | MAY |  | [8807](#C_8807) |  |
|  | observation | 1..1 | SHALL |  | [14753](#C_14753) |  |
|  | entry | 0..\* | MAY |  | [8809](#C_8809) |  |
|  | observation | 1..1 | SHALL |  | [14754](#C_14754) |  |
|  | entry | 0..\* | MAY |  | [8811](#C_8811) |  |
|  | observation | 1..1 | SHALL |  | [14755](#C_14755) |  |
|  | entry | 0..\* | MAY |  | [8813](#C_8813) |  |
|  | observation | 1..1 | SHALL |  | [14756](#C_14756) |  |
|  | entry | 0..\* | MAY |  | [14695](#C_14695) |  |
|  | act | 1..1 | SHALL |  | [16751](#C_16751) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:7723) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.10" (CONF:10435).
2. SHALL contain exactly one [1..1] code (CONF:14749).
   1. This code SHALL contain exactly one [1..1] @code="18776-5" Plan of Care (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:14750).
3. SHALL contain exactly one [1..1] title (CONF:16986).
4. SHALL contain exactly one [1..1] text (CONF:7725).
5. MAY contain zero or more [0..\*] entry (CONF:7726) such that it
   1. SHALL contain exactly one [1..1] [Plan of Care Activity Act](#E_Plan_of_Care_Activity_Act) (templateId:2.16.840.1.113883.10.20.22.4.39) (CONF:14751).
6. MAY contain zero or more [0..\*] entry (CONF:8805) such that it
   1. SHALL contain exactly one [1..1] [Plan of Care Activity Encounter](#E_Plan_of_Care_Activity_Encounter) (templateId:2.16.840.1.113883.10.20.22.4.40) (CONF:14752).
7. MAY contain zero or more [0..\*] entry (CONF:8807) such that it
   1. SHALL contain exactly one [1..1] [Plan of Care Activity Observation](#E_Plan_of_Care_Activity_Observation) (templateId:2.16.840.1.113883.10.20.22.4.44) (CONF:14753).
8. MAY contain zero or more [0..\*] entry (CONF:8809) such that it
   1. SHALL contain exactly one [1..1] [Plan of Care Activity Procedure](#E_Plan_of_Care_Activity_Procedure) (templateId:2.16.840.1.113883.10.20.22.4.41) (CONF:14754).
9. MAY contain zero or more [0..\*] entry (CONF:8811) such that it
   1. SHALL contain exactly one [1..1] [Plan of Care Activity Substance Administration](#E_Plan_of_Care_Activity_Substance_Admini) (templateId:2.16.840.1.113883.10.20.22.4.42) (CONF:14755).
10. MAY contain zero or more [0..\*] entry (CONF:8813) such that it
    1. SHALL contain exactly one [1..1] [Plan of Care Activity Supply](#E_Plan_of_Care_Activity_Supply) (templateId:2.16.840.1.113883.10.20.22.4.43) (CONF:14756).
11. MAY contain zero or more [0..\*] entry (CONF:14695) such that it
    1. SHALL contain exactly one [1..1] [Instructions](#E_Instructions) (templateId:2.16.840.1.113883.10.20.22.4.20) (CONF:16751).

Figure : Plan of care section example

<section>

<templateId root="2.16.840.1.113883.10.20.22.2.10" />

<!-- \*\*\*\* Plan of Care section template \*\*\*\* -->

<code code="18776-5" codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC" displayName="Plan of Care"/>

<title>Plan of Care</title>

<text>

...

</text>

<entry typeCode="DRIV">

<observation classCode="OBS" moodCode="RQO">

<templateId root="2.16.840.1.113883.10.20.22.4.44"/>

<!-- \*\*\*\* Plan of Care Activity Observation template \*\*\*\* -->

...

</observation>

</entry>

<entry>

<act moodCode="RQO" classCode="ACT">

<templateId root="2.16.840.1.113883.10.20.22.4.39"/>

<!-- \*\*\*\* Plan of Care Activity Act template \*\*\*\* -->

...

</act>

</entry>

<entry>

<encounter moodCode="INT" classCode="ENC">

<templateId root="2.16.840.1.113883.10.20.22.4.40"/>

<!-- \*\*\*\* Plan of Care Activity Encounter template \*\*\*\* -->

...

</encounter>

</entry>

<entry>

<procedure moodCode="RQO" classCode="PROC">

<templateId root="2.16.840.1.113883.10.20.22.4.41"/>

<!-- \*\*\*\* Plan of Care Activity Procedure Template \*\*\*\* -->

...

</procedure>

</entry>

<entry>

<substanceAdministration moodCode="RQO" classCode="SBADM">

<templateId root="2.16.840.1.113883.10.20.22.4.42"/>

<!-- \*\*\*\* Plan of Care Activity Substance Administration \*\*\*\* -->

...

</substanceAdministration>

</entry>

<entry>

<supply moodCode="INT" classCode="SPLY">

<templateId root="2.16.840.1.113883.10.20.22.4.43"/>

<!-- \*\* Plan of Care Activity Supply \*\* -->

...

</supply>

</entry>

</section>

Problem Section (entries optional)

[section: templateId 2.16.840.1.113883.10.20.22.2.5 (open)]

Table 64: Problem Section (entries optional) Contexts

| Used By: | Contains Entries: |
| --- | --- |
|  | [Problem Concern Act (Condition)](#E_Problem_Concern_Act_Condition) |

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.

Table 65: Problem Section (entries optional) Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.5'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7877](#C_7877) |  |
|  | @root | 1..1 | SHALL |  | [10440](#C_10440) | 2.16.840.1.113883.10.20.22.2.5 |
|  | code | 1..1 | SHALL |  | [15407](#C_15407) |  |
|  | @code | 1..1 | SHALL |  | [15408](#C_15408) | 2.16.840.1.113883.6.1 (LOINC) = 11450-4 |
|  | title | 1..1 | SHALL |  | [7879](#C_7879) |  |
|  | text | 1..1 | SHALL |  | [7880](#C_7880) |  |
|  | entry | 0..\* | SHOULD |  | [7881](#C_7881) |  |
|  | act | 1..1 | SHALL |  | [15505](#C_15505) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:7877) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.5" (CONF:10440).
2. SHALL contain exactly one [1..1] code (CONF:15407).
   1. This code SHALL contain exactly one [1..1] @code="11450-4" Problem List (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15408).
3. SHALL contain exactly one [1..1] title (CONF:7879).
4. SHALL contain exactly one [1..1] text (CONF:7880).
5. SHOULD contain zero or more [0..\*] entry (CONF:7881).
   1. The entry, if present, SHALL contain exactly one [1..1] [Problem Concern Act (Condition)](#E_Problem_Concern_Act_Condition) (templateId:2.16.840.1.113883.10.20.22.4.3) (CONF:15505).

Problem Section (entries required)

[section: templateId 2.16.840.1.113883.10.20.22.2.5.1 (open)]

Table 66: Problem Section (entries required) Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Transfer of Care Document](#D_Transfer_of_Care_Document) (optional) | [Problem Concern Act (Condition)](#E_Problem_Concern_Act_Condition) |

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.

Table 67: Problem Section (entries required) Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.5.1'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [9179](#C_9179) |  |
|  | @root | 1..1 | SHALL |  | [10441](#C_10441) | 2.16.840.1.113883.10.20.22.2.5.1 |
|  | code | 1..1 | SHALL |  | [15409](#C_15409) |  |
|  | @code | 1..1 | SHALL |  | [15410](#C_15410) | 2.16.840.1.113883.6.1 (LOINC) = 11450-4 |
|  | title | 1..1 | SHALL |  | [9181](#C_9181) |  |
|  | text | 1..1 | SHALL |  | [9182](#C_9182) |  |
|  | entry | 1..\* | SHALL |  | [9183](#C_9183) |  |
|  | act | 1..1 | SHALL |  | [15506](#C_15506) |  |

1. Conforms to [Problem Section (entries optional)](#S_Problem_Section_entries_optional) template (2.16.840.1.113883.10.20.22.2.5).
2. SHALL contain exactly one [1..1] templateId (CONF:9179) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.5.1" (CONF:10441).
3. SHALL contain exactly one [1..1] code (CONF:15409).
   1. This code SHALL contain exactly one [1..1] @code="11450-4" Problem List (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15410).
4. SHALL contain exactly one [1..1] title (CONF:9181).
5. SHALL contain exactly one [1..1] text (CONF:9182).
6. SHALL contain at least one [1..\*] entry (CONF:9183).
   1. Such entries SHALL contain exactly one [1..1] [Problem Concern Act (Condition)](#E_Problem_Concern_Act_Condition) (templateId:2.16.840.1.113883.10.20.22.4.3) (CONF:15506).

Figure : Problem Section example

<section>

<!-- C-CDA Problem Section with Coded Entries Required template id -->

<templateId root="2.16.840.1.113883.10.20.22.2.5.1"/>

<!-- C-CDA Problem Section with Coded Entries Optional template id -->

<templateId root="2.16.840.1.113883.10.20.22.2.5"/>

<code code="11450-4"

codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

displayName="PROBLEM LIST"/>

<title>PROBLEMS</title>

<text>**Appendicitis**</text>

<entry>

...

</entry>

</section>

Procedures Section (entries optional)

[section: templateId 2.16.840.1.113883.10.20.22.2.7 (open)]

Table 68: Procedures Section (entries optional) Contexts

| Used By: | Contains Entries: |
| --- | --- |
|  | [Procedure Activity Act](#E_Procedure_Activity_Act)  [Procedure Activity Observation](#E_Procedure_Activity_Observation)  Procedure Activity Procedure |

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.

Table 69: Procedures Section (entries optional) Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.7'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [6270](#C_6270) |  |
|  | @root | 1..1 | SHALL |  | [6271](#C_6271) | 2.16.840.1.113883.10.20.22.2.7 |
|  | code | 1..1 | SHALL |  | [15423](#C_15423) |  |
|  | @code | 1..1 | SHALL |  | [15424](#C_15424) | 2.16.840.1.113883.6.1 (LOINC) = 47519-4 |
|  | title | 1..1 | SHALL |  | [17184](#C_17184) |  |
|  | text | 1..1 | SHALL |  | [6273](#C_6273) |  |
|  | entry | 0..\* | MAY |  | [6274](#C_6274) |  |
|  | procedure | 1..1 | SHALL |  | [15509](#C_15509) |  |
|  | entry | 0..1 | MAY |  | [6278](#C_6278) |  |
|  | observation | 1..1 | SHALL |  | [15510](#C_15510) |  |
|  | entry | 0..1 | MAY |  | [8533](#C_8533) |  |
|  | act | 1..1 | SHALL |  | [15511](#C_15511) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:6270) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.7" (CONF:6271).
2. SHALL contain exactly one [1..1] code (CONF:15423).
   1. This code SHALL contain exactly one [1..1] @code="47519-4" History of Procedures (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15424).
3. SHALL contain exactly one [1..1] title (CONF:17184).
4. SHALL contain exactly one [1..1] text (CONF:6273).
5. MAY contain zero or more [0..\*] entry (CONF:6274) such that it
   1. SHALL contain exactly one [1..1] [Procedure Activity Procedure](#E_Procedure_Activity_Procedure) (templateId:2.16.840.1.113883.10.20.22.4.14) (CONF:15509).
6. MAY contain zero or one [0..1] entry (CONF:6278) such that it
   1. SHALL contain exactly one [1..1] [Procedure Activity Observation](#E_Procedure_Activity_Observation) (templateId:2.16.840.1.113883.10.20.22.4.13) (CONF:15510).
7. MAY contain zero or one [0..1] entry (CONF:8533) such that it
   1. SHALL contain exactly one [1..1] [Procedure Activity Act](#E_Procedure_Activity_Act) (templateId:2.16.840.1.113883.10.20.22.4.12) (CONF:15511).

Procedures Section (entries required)

[section: templateId 2.16.840.1.113883.10.20.22.2.7.1 (open)]

Table 70: Procedures Section (entries required) Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Transfer of Care Document](#D_Transfer_of_Care_Document)  (optional) | [Procedure Activity Act](#E_Procedure_Activity_Act)  [Procedure Activity Observation](#E_Procedure_Activity_Observation)  [Procedure Activity Procedure](#E_Procedure_Activity_Procedure) |

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 may contain all procedures for the period of time being summarized, but should include notable procedures. 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).

Table 71: Procedures Section (entries required) Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.7.1'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7891](#C_7891) |  |
|  | @root | 1..1 | SHALL |  | [10447](#C_10447) | 2.16.840.1.113883.10.20.22.2.7.1 |
|  | code | 1..1 | SHALL |  | [15425](#C_15425) |  |
|  | @code | 1..1 | SHALL |  | [15426](#C_15426) | 2.16.840.1.113883.6.1 (LOINC) = 47519-4 |
|  | title | 1..1 | SHALL |  | [7893](#C_7893) |  |
|  | text | 1..1 | SHALL |  | [7894](#C_7894) |  |
|  | entry | 0..\* | MAY |  | [7895](#C_7895) |  |
|  | procedure | 1..1 | SHALL |  | [15512](#C_15512) |  |
|  | entry | 0..\* | MAY |  | [8017](#C_8017) |  |
|  | observation | 1..1 | SHALL |  | [15513](#C_15513) |  |
|  | entry | 0..\* | MAY |  | [8019](#C_8019) |  |
|  | act | 1..1 | SHALL |  | [15514](#C_15514) |  |

1. Conforms to [Procedures Section (entries optional)](#S_Procedures_Section_entries_optional) template (2.16.840.1.113883.10.20.22.2.7).
2. SHALL contain exactly one [1..1] templateId (CONF:7891) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.7.1" (CONF:10447).
3. SHALL contain exactly one [1..1] code (CONF:15425).
   1. This code SHALL contain exactly one [1..1] @code="47519-4" History of Procedures (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15426).
4. SHALL contain exactly one [1..1] title (CONF:7893).
5. SHALL contain exactly one [1..1] text (CONF:7894).
6. MAY contain zero or more [0..\*] entry (CONF:7895) such that it
   1. SHALL contain exactly one [1..1] [Procedure Activity Procedure](#E_Procedure_Activity_Procedure) (templateId:2.16.840.1.113883.10.20.22.4.14) (CONF:15512).
7. MAY contain zero or more [0..\*] entry (CONF:8017) such that it
   1. SHALL contain exactly one [1..1] [Procedure Activity Observation](#E_Procedure_Activity_Observation) (templateId:2.16.840.1.113883.10.20.22.4.13) (CONF:15513).
8. MAY contain zero or more [0..\*] entry (CONF:8019) such that it
   1. SHALL contain exactly one [1..1] [Procedure Activity Act](#E_Procedure_Activity_Act) (templateId:2.16.840.1.113883.10.20.22.4.12) (CONF:15514).
9. There SHALL be at least one procedure, observation or act entry conformant to Procedure Activity Procedure template, Procedure Activity Observation template or Procedure Activity Act template in the Procedure Section (CONF:8021).

Results Section (entries optional)

[section: templateId 2.16.840.1.113883.10.20.22.2.3 (open)]

Table 72: Results Section (entries optional) Contexts

| Used By: | Contains Entries: |
| --- | --- |
|  | Result Organizer |

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.

Table 73: Results Section (entries optional) Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.3'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7116](#C_7116) |  |
|  | @root | 1..1 | SHALL |  | [9136](#C_9136) | 2.16.840.1.113883.10.20.22.2.3 |
|  | code | 1..1 | SHALL |  | [15431](#C_15431) |  |
|  | @code | 1..1 | SHALL |  | [15432](#C_15432) | 2.16.840.1.113883.6.1 (LOINC) = 30954-2 |
|  | title | 1..1 | SHALL |  | [8891](#C_8891) |  |
|  | text | 1..1 | SHALL |  | [7118](#C_7118) |  |
|  | entry | 0..\* | SHOULD |  | [7119](#C_7119) |  |
|  | organizer | 1..1 | SHALL |  | [15515](#C_15515) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:7116) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.3" (CONF:9136).
2. SHALL contain exactly one [1..1] code (CONF:15431).
   1. This code SHALL contain exactly one [1..1] @code="30954-2" Relevant diagnostic tests and/or laboratory data (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15432).
3. SHALL contain exactly one [1..1] title (CONF:8891).
4. SHALL contain exactly one [1..1] text (CONF:7118).
5. SHOULD contain zero or more [0..\*] entry (CONF:7119) such that it
   1. SHALL contain exactly one [1..1] [Result Organizer](#E_Result_Organizer) (templateId:2.16.840.1.113883.10.20.22.4.1) (CONF:15515).

Results Section (entries required)

[section: templateId 2.16.840.1.113883.10.20.22.2.3.1 (open)]

Table 74: Results Section (entries required) Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Transfer of Care Document](#D_Transfer_of_Care_Document) (optional) | [Result Organizer](#E_Result_Organizer) |

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.

Table 75: Results Section (entries required) Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.3.1'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7108](#C_7108) |  |
|  | @root | 1..1 | SHALL |  | [9137](#C_9137) | 2.16.840.1.113883.10.20.22.2.3.1 |
|  | code | 1..1 | SHALL |  | [15433](#C_15433) |  |
|  | @code | 1..1 | SHALL |  | [15434](#C_15434) | 2.16.840.1.113883.6.1 (LOINC) = 30954-2 |
|  | title | 1..1 | SHALL |  | [8892](#C_8892) |  |
|  | text | 1..1 | SHALL |  | [7111](#C_7111) |  |
|  | entry | 1..\* | SHALL |  | [7112](#C_7112) |  |
|  | organizer | 1..1 | SHALL |  | [15516](#C_15516) |  |

1. Conforms to [Results Section (entries optional)](#S_Results_Section_entries_optional) template (2.16.840.1.113883.10.20.22.2.3).
2. SHALL contain exactly one [1..1] templateId (CONF:7108) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.3.1" (CONF:9137).
3. SHALL contain exactly one [1..1] code (CONF:15433).
   1. This code SHALL contain exactly one [1..1] @code="30954-2" Relevant diagnostic tests and/or laboratory data (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15434).
4. SHALL contain exactly one [1..1] title (CONF:8892).
5. SHALL contain exactly one [1..1] text (CONF:7111).
6. SHALL contain at least one [1..\*] entry (CONF:7112) such that it
   1. SHALL contain exactly one [1..1] [Result Organizer](#E_Result_Organizer) (templateId:2.16.840.1.113883.10.20.22.4.1) (CONF:15516).

Figure : Results section example

<section>

<templateId root="2.16.840.1.113883.10.20.22.2.3.1"/>

<code code="30954-2"

codeSystem="2.16.840.1.113883.6.1"/>

codeSystemName="LOINC"

displayName="RELEVANT DIAGNOSTIC TESTS AND/OR LABORATORY DATA" />

<title>Results</title>

<text>

...

</text>

<entry typeCode="DRIV">

<organizer classCode="BATTERY" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.22.4.1"/>

...

</organizer>

</entry>

</section>

Social History Section

[section: templateId 2.16.840.1.113883.10.20.22.2.17 (open)]

Table 76: Social History Section Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Transfer of Care Document](#D_Transfer_of_Care_Document) (optional) | [Pregnancy Observation](#E_Pregnancy_Observation)  [Smoking Status Observation](#E_Smoking_Status_Observation)  [Social History Observation](#E_Social_History_Observation)  [Tobacco Use](#E_Tobacco_Use) |

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.

Table 77: Social History Section Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.17'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7936](#C_7936) |  |
|  | @root | 1..1 | SHALL |  | [10449](#C_10449) | 2.16.840.1.113883.10.20.22.2.17 |
|  | code | 1..1 | SHALL |  | [14819](#C_14819) |  |
|  | @code | 1..1 | SHALL |  | [14820](#C_14820) | 2.16.840.1.113883.6.1 (LOINC)  = 29762-2 |
|  | title | 1..1 | SHALL |  | [7938](#C_7938) |  |
|  | text | 1..1 | SHALL |  | [7939](#C_7939) |  |
|  | entry | 0..\* | MAY |  | [7953](#C_7953) |  |
|  | observation | 1..1 | SHALL |  | [14821](#C_14821) |  |
|  | entry | 0..\* | MAY |  | [9132](#C_9132) |  |
|  | observation | 1..1 | SHALL |  | [14822](#C_14822) |  |
|  | entry | 0..\* | SHOULD |  | [14823](#C_14823) |  |
|  | observation | 1..1 | SHALL |  | [14824](#C_14824) |  |
|  | entry | 0..\* | MAY |  | [16816](#C_16816) |  |
|  | observation | 1..1 | SHALL |  | [16817](#C_16817) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:7936) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.17" (CONF:10449).
2. SHALL contain exactly one [1..1] code (CONF:14819).
   1. This code SHALL contain exactly one [1..1] @code="29762-2" Social History (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:14820).
3. SHALL contain exactly one [1..1] title (CONF:7938).
4. SHALL contain exactly one [1..1] text (CONF:7939).
5. MAY contain zero or more [0..\*] entry (CONF:7953) such that it
   1. SHALL contain exactly one [1..1] [Social History Observation](#E_Social_History_Observation) (templateId:2.16.840.1.113883.10.20.22.4.38) (CONF:14821).
6. MAY contain zero or more [0..\*] entry (CONF:9132) such that it
   1. SHALL contain exactly one [1..1] [Pregnancy Observation](#E_Pregnancy_Observation) (templateId:2.16.840.1.113883.10.20.15.3.8) (CONF:14822).
7. SHOULD contain zero or more [0..\*] entry (CONF:14823) such that it
   1. SHALL contain exactly one [1..1] [Smoking Status Observation](#E_Smoking_Status_Observation) (templateId:2.16.840.1.113883.10.20.22.4.78) (CONF:14824).
8. MAY contain zero or more [0..\*] entry (CONF:16816) such that it
   1. SHALL contain exactly one [1..1] [Tobacco Use](#E_Tobacco_Use) (templateId:2.16.840.1.113883.10.20.22.4.85) (CONF:16817).

Figure : Social history section example

<section>

<templateId root="2.16.840.1.113883.10.20.22.2.17"/>

<!-- \*\* Social history section template \*\* -->

<code code="29762-2" codeSystem="2.16.840.1.113883.6.1"

displayName="Social History"/>

<title>Social History</title>

<text>

...

</text>

<entry typeCode="DRIV">

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.22.4.38"/>

<!-- \*\* Social history observation template \*\* -->

...

</observation>

</entry>

<entry typeCode="DRIV">

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.22.4.38"/>

<!-- \*\* Social history observation template \*\* -->

...

</observation>

</entry>

</section>

Vital Signs Section (entries optional)

[section: templateId 2.16.840.1.113883.10.20.22.2.4 (open)]

Table 78: Vital Signs Section (entries optional) Contexts

| Used By: | Contains Entries: |
| --- | --- |
|  | [Vital Signs Organizer](#E_Vital_Signs_Organizer) |

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.

Table 79: Vital Signs Section (entries optional) Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.4'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7268](#C_7268) |  |
|  | @root | 1..1 | SHALL |  | [10451](#C_10451) | 2.16.840.1.113883.10.20.22.2.4 |
|  | code | 1..1 | SHALL |  | [15242](#C_15242) |  |
|  | @code | 1..1 | SHALL |  | [15243](#C_15243) | 2.16.840.1.113883.6.1 (LOINC) = 8716-3 |
|  | title | 1..1 | SHALL |  | [9966](#C_9966) |  |
|  | text | 1..1 | SHALL |  | [7270](#C_7270) |  |
|  | entry | 0..\* | SHOULD |  | [7271](#C_7271) |  |
|  | organizer | 1..1 | SHALL |  | [15517](#C_15517) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:7268) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.4" (CONF:10451).
2. SHALL contain exactly one [1..1] code (CONF:15242).
   1. This code SHALL contain exactly one [1..1] @code="8716-3" Vital Signs (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15243).
3. SHALL contain exactly one [1..1] title (CONF:9966).
4. SHALL contain exactly one [1..1] text (CONF:7270).
5. SHOULD contain zero or more [0..\*] entry (CONF:7271) such that it
   1. SHALL contain exactly one [1..1] [Vital Signs Organizer](#E_Vital_Signs_Organizer) (templateId:2.16.840.1.113883.10.20.22.4.26) (CONF:15517).

Vital Signs Section (entries required)

[section: templateId 2.16.840.1.113883.10.20.22.2.4.1 (open)]

Table 80: Vital Signs Section (entries required) Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Transfer of Care Document](#D_Transfer_of_Care_Document) (optional) | [Vital Signs Organizer](#E_Vital_Signs_Organizer) |

The Vital Signs section contains current and historically 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.

Table 81: Vital Signs Section (entries required) Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.22.2.4.1'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7273](#C_7273) |  |
|  | @root | 1..1 | SHALL |  | [10452](#C_10452) | 2.16.840.1.113883.10.20.22.2.4.1 |
|  | code | 1..1 | SHALL |  | [15962](#C_15962) |  |
|  | @code | 1..1 | SHALL |  | [15963](#C_15963) | 2.16.840.1.113883.6.1 (LOINC) = 8716-3 |
|  | title | 1..1 | SHALL |  | [9967](#C_9967) |  |
|  | text | 1..1 | SHALL |  | [7275](#C_7275) |  |
|  | entry | 1..\* | SHALL |  | [7276](#C_7276) |  |
|  | organizer | 1..1 | SHALL |  | [15964](#C_15964) |  |

1. Conforms to [Vital Signs Section (entries optional)](#S_Vital_Signs_Section_entries_optional) template (2.16.840.1.113883.10.20.22.2.4).
2. SHALL contain exactly one [1..1] templateId (CONF:7273) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.4.1" (CONF:10452).
3. SHALL contain exactly one [1..1] code (CONF:15962).
   1. This code SHALL contain exactly one [1..1] @code="8716-3" Vital Signs (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:15963).
4. SHALL contain exactly one [1..1] title (CONF:9967).
5. SHALL contain exactly one [1..1] text (CONF:7275).
6. SHALL contain at least one [1..\*] entry (CONF:7276) such that it
   1. SHALL contain exactly one [1..1] [Vital Signs Organizer](#E_Vital_Signs_Organizer) (templateId:2.16.840.1.113883.10.20.22.4.26) (CONF:15964).

Figure : Vital signs section example

<section>

<templateId root="2.16.840.1.113883.10.20.22.2.4.1"/>

<code code="8716-3"

codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

displayName="VITAL SIGNS" />

<title>Vital Signs</title>

<text>

...

</text>

<entry typeCode="DRIV">

<organizer classCode="CLUSTER" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.22.4.26"/>

<!-- Vital Signs Organizer template -->

...

</organizer>

</entry>

</section>

# Entry-Level Templates

Advance Directive Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.48 (open)]

Table 82: Advance Directive Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Advance Directives Section (entries optional)](#S_Advance_Directives_Section_entries_opt) (optional) |  |

Advance Directives Observations assert findings (e.g., “resuscitation status is Full Code”) rather than orders, and should not be considered legal documents. A legal document can be referenced using the reference/externalReference construct.

Table 83: Advance Directive Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
| Green Advance Directive Observation | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.48'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [8648](#C_8648) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [8649](#C_8649) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [8655](#C_8655) |  |
|  | @root | 1..1 | SHALL |  | [10485](#C_10485) | 2.16.840.1.113883.10.20.22.4.48 |
|  | id | 1..\* | SHALL |  | [8654](#C_8654) |  |
| Advance Directive  Type | code | 1..1 | SHALL |  | [8651](#C_8651) | 2.16.840.1.113883.1.11.20.2 (AdvanceDirectiveTypeCode) |
|  | statusCode | 1..1 | SHALL |  | [8652](#C_8652) |  |
|  | @code | 1..1 | SHALL |  | [19082](#C_19082) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| effectiveDate | effectiveTime | 1..1 | SHALL |  | [8656](#C_8656) |  |
|  | high | 1..1 | SHALL |  | [15521](#C_15521) |  |
|  | participant | 0..\* | SHOULD |  | [8662](#C_8662) |  |
|  | @typeCode | 1..1 | SHALL |  | [8663](#C_8663) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = VRF |
|  | templateId | 1..1 | SHALL |  | [8664](#C_8664) |  |
|  | @root | 1..1 | SHALL |  | [10486](#C_10486) | 2.16.840.1.113883.10.20.1.58 |
|  | time | 0..1 | SHOULD |  | [8665](#C_8665) |  |
|  | participantRole | 1..1 | SHALL |  | [8825](#C_8825) |  |
| custodianOf TheDocument | participant | 0..1 | SHOULD |  | [8667](#C_8667) |  |
|  | @typeCode | 1..1 | SHALL |  | [8668](#C_8668) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = CST |
|  | participantRole | 1..1 | SHALL |  | [8669](#C_8669) |  |
|  | @classCode | 1..1 | SHALL |  | [8670](#C_8670) | 2.16.840.1.113883.5.110 (RoleClass) = AGNT |
|  | addr | 0..1 | SHOULD |  | [8671](#C_8671) |  |
|  | telecom | 0..1 | SHOULD |  | [8672](#C_8672) |  |
|  | playingEntity | 1..1 | SHALL |  | [8824](#C_8824) |  |
|  | name | 1..1 | SHALL |  | [8673](#C_8673) |  |
|  | reference | 0..\* | SHOULD |  | [8692](#C_8692) |  |
|  | @typeCode | 1..1 | SHALL |  | [8694](#C_8694) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |
|  | externalDocument | 1..1 | SHALL |  | [8693](#C_8693) |  |
|  | id | 1..\* | SHALL |  | [8695](#C_8695) |  |
|  | text | 0..1 | MAY |  | [8696](#C_8696) |  |
|  | @mediaType | 0..1 | MAY |  | [8703](#C_8703) | text/plain |
|  | reference | 0..1 | MAY |  | [8697](#C_8697) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:8648).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:8649).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8655) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.48" (CONF:10485).
4. **SHALL** contain at least one [1..\*] **id** (CONF:8654).
5. **SHALL** contain exactly one [1..1] **code**, which **SHOULD** be selected from ValueSet AdvanceDirectiveTypeCode 2.16.840.1.113883.1.11.20.2 **STATIC** 2006-10-17 (CONF:8651).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:8652).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19082).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:8656).
   1. This effectiveTime **SHALL** contain exactly one [1..1] **high** (CONF:15521).
8. **SHOULD** contain zero or more [0..\*] **participant** (CONF:8662) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="VRF" Verifier (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:8663).
   2. **SHALL** contain exactly one [1..1] **templateId** (CONF:8664) such that it
      1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.1.58" (CONF:10486).
   3. **SHOULD** contain zero or one [0..1] **time** (CONF:8665).
      1. The data type of Observation/participant/time in a verification **SHALL** be TS (time stamp) (CONF:8666).
   4. **SHALL** contain exactly one [1..1] **participantRole** (CONF:8825).
9. **SHOULD** contain zero or one [0..1] **participant** (CONF:8667) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="CST" Custodian (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:8668).
   2. **SHALL** contain exactly one [1..1] **participantRole** (CONF:8669).
      1. This participantRole **SHALL** contain exactly one [1..1] **@classCode**="AGNT" Agent (CodeSystem: RoleClass 2.16.840.1.113883.5.110 **STATIC**) (CONF:8670).
      2. This participantRole **SHOULD** contain zero or one [0..1] **addr** (CONF:8671).
      3. This participantRole **SHOULD** contain zero or one [0..1] **telecom** (CONF:8672).
      4. This participantRole **SHALL** contain exactly one [1..1] **playingEntity** (CONF:8824).
         1. This playingEntity **SHALL** contain exactly one [1..1] **name** (CONF:8673).
            1. The name of the agent who can provide a copy of the Advance Directive **SHALL** be recorded in the name element inside the playingEntity element (CONF:8674).
10. **SHOULD** contain zero or more [0..\*] **reference** (CONF:8692) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" Refers to (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:8694).
    2. **SHALL** contain exactly one [1..1] **externalDocument** (CONF:8693).
       1. This externalDocument **SHALL** contain at least one [1..\*] **id** (CONF:8695).
       2. This externalDocument **MAY** contain zero or one [0..1] **text** (CONF:8696).
          1. The text, if present, **MAY** contain zero or one [0..1] **@mediaType**="text/plain" (CONF:8703).
          2. The text, if present, **MAY** contain zero or one [0..1] **reference** (CONF:8697).
             1. The URL of a referenced advance directive document **MAY** be present, and **SHALL** be represented in Observation/reference/ExternalDocument/text/reference (CONF:8698).
             2. If a URL is referenced, then it **SHOULD** have a corresponding linkHTML element in narrative block (CONF:8699).

Table : Advance Directive Type Code Value Set

| Value Set: AdvanceDirectiveTypeCode 2.16.840.1.113883.1.11.20.2 STATIC 2006-10-17 | | |
| --- | --- | --- |
| Code System(s): | SNOMED CT 2.16.840.1.113883.6.96 | |
| Code | Code System | Print Name |
| 52765003 | SNOMED CT | Intubation |
| 61420007 | SNOMED CT | Tube Feedings |
| 71388002 | SNOMED CT | Other Directive |
| 78823007 | SNOMED CT | Life Support |
| 89666000 | SNOMED CT | CPR |
| 225204009 | SNOMED CT | IV Fluid and Support |
| 281789004 | SNOMED CT | Antibiotics |
| 304251008 | SNOMED CT | Resuscitation |

Figure : Advance Directives (IMPACT) example

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.22.4.48"/>

<!-- \*\* Advance Directive Observation \*\* -->

<id root="9b54c3c9-1673-49c7-aef9-b037ed72ed27"/>

<code code="304251008" codeSystem="2.16.840.1.113883.6.96" displayName="Resuscitation"/>

<statusCode code="completed"/>

<effectiveTime>

<low value="20110213"/>

<high nullFlavor="NA"/>

</effectiveTime>

<value xsi:type="CD" code="89666000" codeSystem="2.16.840.1.113883.6.96"

displayName="cardiopulmonary resuscitation (procedure)"> </value>

<participant typeCode="VRF">

<templateId root="2.16.840.1.113883.10.20.1.58"/>

<!-- 8.6.2 Represent date of verification/signature -->

<time value="201102013"/>

<participantRole>

<id root="20cf14fb-b65c-4c8c-a54d-b0cca834c18c"/>

<addr>

<streetAddressLine>1006 Health Drive</streetAddressLine>

<city>Ann Arbor</city>

<state>MI</state>

<postalCode>97867</postalCode>

<country>US</country>

</addr>

<!-- 8.6.3 Telephone number of verifier -->

<telecom value="tel:(995)555-1006" use="WP"/>

<playingEntity>

<name>

<prefix>Dr.</prefix>

<family>James</family>

<given>Case</given>

</name>

</playingEntity>

</participantRole>

</participant>

<participant typeCode="CST">

<!-- 8.6 This a SHALL for Health Care Agent = AGNT in consolidation.

Would need to further constrain to allow for a Parent/Guardian

or Alternative Health Care Agent and change to 1..\*

Most likely not the Health Care Proxy

Need to designate Primary HCA and Secondary HCA-->

<participantRole classCode="AGNT">

<addr>

<streetAddressLine>17 Daws Rd.</streetAddressLine>

<city>Beaverton</city>

<state>OR</state>

<postalCode>97867</postalCode>

<country>US</country>

</addr>

<telecom value="tel:(999)555-1212" use="WP"/>

<playingEntity>

<!--Need to designate Primary HCA and Secondary HCA-->

<code code="260934005" codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT" displayName="Primary Status"/>

<name>

<prefix>Mrs.</prefix>

<given>Martha</given>

<family>Jones</family>

</name>

</playingEntity>

</participantRole>

</participant>

<reference typeCode="REFR">

<seperatableInd value="false"/>

<!-- 6.13 Health Care Proxy. Link out to an external document? Put in free text of Y/N whether this was initiated. -->

<externalDocument>

<id root="b50b7910-7ffb-4f4c-bbe4-177ed68cbbf3"/>

<text mediaType="application/pdf">

<reference value="AdvanceDirective.b50b7910-7ffb-4f4c-bbe4-177ed68cbbf3.pdf"/>

</text>

</externalDocument>

</reference>

</observation>

Age Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.31 (open)]

Table 85: Age Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Problem Observation](#E_Problem_Observation) (optional)  [Family History Observation](#E_Family_History_Observation) (optional) |  |

This Age Observation represents the subject's age at onset of an event or observation. The age of a relative in a Family History Observation at the time of that observation could also be inferred by comparing RelatedSubject/subject/birthTime with Observation/effectiveTime. However, a common scenario is that a patient will know the age of a relative when the relative had a certain condition or when the relative died, but will not know the actual year (e.g., "grandpa died of a heart attack at the age of 50"). Often times, neither precise dates nor ages are known (e.g. "cousin died of congenital heart disease as an infant").

Table 86: Age Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.31'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [7613](#C_7613) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [7614](#C_7614) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [7899](#C_7899) |  |
|  | @root | 1..1 | SHALL |  | [10487](#C_10487) | 2.16.840.1.113883.10.20.22.4.31 |
|  | code | 1..1 | SHALL |  | [7615](#C_7615) |  |
|  | @code | 1..1 | SHALL |  | [16776](#C_16776) | 2.16.840.1.113883.6.96 (SNOMED-CT) = 445518008 |
|  | statusCode | 1..1 | SHALL |  | [15965](#C_15965) |  |
|  | @code | 1..1 | SHALL |  | [15966](#C_15966) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | value | 1..1 | SHALL | PQ | [7617](#C_7617) |  |
|  | @unit | 1..1 | SHALL | CS | [7618](#C_7618) | 2.16.840.1.113883.11.20.9.21 (AgePQ\_UCUM) |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:7613).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:7614).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:7899) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.31" (CONF:10487).
4. **SHALL** contain exactly one [1..1] **code** (CONF:7615).
   1. This code **SHALL** contain exactly one [1..1] **@code**="445518008" Age At Onset (CodeSystem: SNOMED-CT 2.16.840.1.113883.6.96 **STATIC**) (CONF:16776).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:15965).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:15966).
6. **SHALL** contain exactly one [1..1] **value** with @xsi:type="PQ" (CONF:7617).
   1. This value **SHALL** contain exactly one [1..1] **@unit**, which **SHALL** be selected from ValueSet AgePQ\_UCUM 2.16.840.1.113883.11.20.9.21 **DYNAMIC** (CONF:7618).

*Table 87: AgePQ\_UCUM* *Value Set*

| Value Set: AgePQ\_UCUM 2.16.840.1.113883.11.20.9.21 DYNAMIC | | |
| --- | --- | --- |
| Code System(s): | Unified Code for Units of Measure (UCUM) 2.16.840.1.113883.6.8 | |
| Description: | A valueSet of UCUM codes for representing age value units | |
| Code | Code System | Print Name |
| min | UCUM | Minute |
| h | UCUM | Hour |
| d | UCUM | Day |
| wk | UCUM | Week |
| mo | UCUM | Month |
| a | UCUM | Year |

Figure : Age Observation (IMPACT) example

<observation classCode="OBS" moodCode="EVN">

<!-- Age Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.31"/>

<code code="445518008" codeSystem="2.16.840.1.113883.6.96"

displayName="Age At Onset"/>

<statusCode code="completed"/>

<value xsi:type="PQ" value="60" unit="a"/>

</observation>

Allergy Problem Act

[act: templateId 2.16.840.1.113883.10.20.22.4.30 (open)]

Table 88: Allergy Problem Act Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Allergies Section (entries required)](#S_Allergies_Section_entries_required) (required)  [Allergies Section (entries optional)](#S_Allergies_Section_entries_optional) (optional) | [Allergy - Intolerance Observation](#E_Allergy__Intolerance_Observation) |

This clinical statement act represents a concern relating to a patient's allergies or adverse events. A concern is a term used when referring to patient's problems that are related to one another. Observations of problems or other clinical statements captured at a point in time are wrapped in a Allergy Problem Act, or “Concern” act, which represents the ongoing process tracked over time. This outer Allergy Problem Act (representing the “Concern”) can contain nested problem observations or other nested clinical statements relevant to the allergy concern.

Table 89: Allergy Problem Act Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | act[templateId/@root = '2.16.840.1.113883.10.20.22.4.30'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [7469](#C_7469) | 2.16.840.1.113883.5.6 (HL7ActClass) = ACT |
|  | @moodCode | 1..1 | SHALL |  | [7470](#C_7470) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [7471](#C_7471) |  |
|  | @root | 1..1 | SHALL |  | [10489](#C_10489) | 2.16.840.1.113883.10.20.22.4.30 |
|  | id | 1..\* | SHALL |  | [7472](#C_7472) |  |
|  | code | 1..1 | SHALL |  | [7477](#C_7477) |  |
|  | @code | 1..1 | SHALL |  | [19158](#C_19158) | 2.16.840.1.113883.6.1 (LOINC) = 48765-2 |
|  | statusCode | 1..1 | SHALL |  | [7485](#C_7485) |  |
|  | @code | 1..1 | SHALL |  | [19086](#C_19086) | 2.16.840.1.113883.11.20.9.19 (ProblemAct statusCode) |
|  | effectiveTime | 1..1 | SHALL |  | [7498](#C_7498) |  |
|  | entryRelationship | 1..\* | SHALL |  | [7509](#C_7509) |  |
|  | @typeCode | 1..1 | SHALL |  | [7915](#C_7915) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ |
|  | observation | 1..1 | SHALL |  | [14925](#C_14925) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:7469).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:7470).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:7471) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.30" (CONF:10489).
4. **SHALL** contain at least one [1..\*] **id** (CONF:7472).
5. **SHALL** contain exactly one [1..1] **code** (CONF:7477).
   1. This code **SHALL** contain exactly one [1..1] **@code**="48765-2" Allergies, adverse reactions, alerts (CodeSystem: LOINC 2.16.840.1.113883.6.1 **STATIC**) (CONF:19158).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:7485).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet ProblemAct statusCode 2.16.840.1.113883.11.20.9.19 **STATIC** 2011-09-09 (CONF:19086).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:7498).
   1. If statusCode/@code="active" Active, then effectiveTime **SHALL** contain [1..1] low (CONF:7504).
   2. If statusCode/@code="completed" Completed, then effectiveTime **SHALL** contain [1..1] high (CONF:10085).
8. **SHALL** contain at least one [1..\*] **entryRelationship** (CONF:7509) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" Has subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:7915).
   2. **SHALL** contain exactly one [1..1] [**Allergy - Intolerance Observation**](#E_Allergy__Intolerance_Observation) (templateId:2.16.840.1.113883.10.20.22.4.7) (CONF:14925).

Table : ProblemAct statusCode Value Set

| Value Set: ProblemAct statusCode 2.16.840.1.113883.11.20.9.19 STATIC 2011-09-09 | | |
| --- | --- | --- |
| Code System(s): | ActStatus 2.16.840.1.113883.5.14 | |
| Description: | This value set indicates the status of the problem concern act | |
| Code | Code System | Print Name |
| active | ActStatus | active |
| suspended | ActStatus | suspended |
| aborted | ActStatus | aborted |
| completed | ActStatus | completed |

Figure : Allergy Problem Act (IMPACT) example

<act classCode="ACT" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.22.4.30"/>

<!-- Allergy Problem Act template -->

<id root="36e3e930-7b14-11db-9fe1-0800200c9a66"/>

<code code="48765-2" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"

displayName="Allergies, adverse reactions, alerts"/>

<statusCode code="completed"/>

<effectiveTime>

<low value="20070501"/>

<high value="20090227"/>

</effectiveTime>

<entryRelationship typeCode="SUBJ">

<observation classCode="OBS" moodCode="EVN">

<!-- Allergy - Intolerance Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.7"/>

...

</observation>

</entryRelationship>

</act>

Allergy Status Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.28 (open)]

Table 91: Allergy Status Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Allergy - Intolerance Observation](#E_Allergy__Intolerance_Observation) (optional)  [Substance or Device Allergy - Intolerance Observation](#E_Substance_or_Device_Allergy__Intolera) (optional) |  |

This template represents the status of the allergy indicating whether it is active, no longer active, or is an historic allergy. There can be only one allergy status observation per alert observation.

Table 92: Allergy Status Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.28'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [7318](#C_7318) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [7319](#C_7319) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [7317](#C_7317) |  |
|  | @root | 1..1 | SHALL |  | [10490](#C_10490) | 2.16.840.1.113883.10.20.22.4.28 |
|  | code | 1..1 | SHALL |  | [7320](#C_7320) |  |
|  | @code | 1..1 | SHALL |  | [19131](#C_19131) | 2.16.840.1.113883.6.1 (LOINC) = 33999-4 |
|  | statusCode | 1..1 | SHALL |  | [7321](#C_7321) |  |
|  | @code | 1..1 | SHALL |  | [19087](#C_19087) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | value | 1..1 | SHALL | CE | [7322](#C_7322) | 2.16.840.1.113883.3.88.12.80.68 (Problem Status Value Set) |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:7318).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:7319).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:7317) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.28" (CONF:10490).
4. **SHALL** contain exactly one [1..1] **code** (CONF:7320).
   1. This code **SHALL** contain exactly one [1..1] **@code**="33999-4" Status (CodeSystem: LOINC 2.16.840.1.113883.6.1 **STATIC**) (CONF:19131).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:7321).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19087).
6. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CE", where the @code **SHALL** be selected from ValueSet Problem Status Value Set 2.16.840.1.113883.3.88.12.80.68 **DYNAMIC** (CONF:7322).

Table : HITSP Problem Status Value Set

|  |  |  |
| --- | --- | --- |
| Value Set: HITSPProblemStatus 2.16.840.1.113883.3.88.12.80.68 DYNAMIC  Code System: SNOMED CT 2.16.840.1.113883.6.96 | | |
| Code | Code System | Display Name | |
| 55561003 | SNOMED CT | Active | |
| 73425007 | SNOMED CT | Inactive\* | |
| 413322009 | SNOMED CT | Resolved\*\* | |

Figure : Allergy Status Observation (IMPACT) example

<observation classCode="OBS" moodCode="EVN">

<!-- Allergy Status Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.28"/>

<code code="33999-4" codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

displayName="Status"/>

<statusCode code="completed"/>

<value xsi:type="CE" code="73425007" codeSystem="2.16.840.1.113883.6.96"

displayName="Inactive"/>

</observation>

## Assertion Pattern

[observation: templateId 2.16.840.1.113883.10.20.25.4.7 (open)]

Table 94: Assertion Pattern Contexts

| Used By: | Contains Entries: |
| --- | --- |
| Any Section (See: [Model of Use Patterns](#_Model_of_Use)) |  |

The assertion pattern is used for questions that assert a problem/need.

A nullFlavor on observation/code may indicate a specific problem was not observed "NI," unknown "UNK" or not applicable "NA," If a patient had another problem or need, this could be specified on observation/value with the nullFlavor "OTH."

If the patient was observed to not have the problem or need, a negationInd=true may be used to assert the absence of the condition.

Table 95: Assertion Pattern Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.25.4.7'] | | | | | |
|  | @nullFlavor | 0..1 | MAY |  | [23409](#C_23409) | 2.16.840.1.113883.11.20.10.17 (NullValues\_UNK\_NI\_NA) |
|  | @negationInd | 0..1 | MAY |  | [23246](#C_23246) | true |
|  | templateId | 1..1 | SHALL |  | [17454](#C_17454) |  |
|  | @root | 1..1 | SHALL |  | [17455](#C_17455) | 2.16.840.1.113883.10.20.25.4.7 |
|  | code | 1..1 | SHALL |  | [23234](#C_23234) |  |
|  | @code | 1..1 | SHALL |  | [23236](#C_23236) | ASSERTION |
|  | @codeSystem | 1..1 | SHALL |  | [23239](#C_23239) | 2.16.840.1.113883.5.4 (ActCode) |
|  | statusCode | 1..1 | SHALL |  | [23242](#C_23242) |  |
|  | @code | 1..1 | SHALL |  | [23243](#C_23243) | completed |
|  | @codeSystem | 1..1 | SHALL |  | [23244](#C_23244) | 2.16.840.1.113883.5.14 (ActStatus) |
|  | value | 1..1 | SHALL | CD | [23240](#C_23240) |  |
|  | @nullFlavor | 0..1 | MAY |  | [23423](#C_23423) | 2.16.840.1.113883.5.1008 (HL7NullFlavor) = OTH |

1. MAY contain zero or one [0..1] @nullFlavor, which SHALL be selected from ValueSet NullValues\_UNK\_NI\_NA 2.16.840.1.113883.11.20.10.17 DYNAMIC (CONF:23409).
2. MAY contain zero or one [0..1] @negationInd="true" TRUE (CONF:23246).
3. SHALL contain exactly one [1..1] templateId (CONF:17454) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.25.4.7" (CONF:17455).
4. SHALL contain exactly one [1..1] code (CONF:23234).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" (CONF:23236).
   2. This code SHALL contain exactly one [1..1] @codeSystem (CodeSystem: ActCode 2.16.840.1.113883.5.4) (CONF:23239).
5. SHALL contain exactly one [1..1] statusCode (CONF:23242).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" (CONF:23243).
   2. This statusCode SHALL contain exactly one [1..1] @codeSystem (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:23244).
6. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:23240).
   1. This value MAY contain zero or one [0..1] @nullFlavor="OTH" Other (CodeSystem: HL7NullFlavor 2.16.840.1.113883.5.1008) (CONF:23423).

Figure : Assertion Pattern example

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.25.4.7"/>

<code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>  
 <statusCode code="completed"/>

<value xsi:type="CD" code="54620-0"  
 displayName=" Can recall location of room in last 7 days MDSv3"  
 codeSystem="LOINC"  
 codeSystemName="2.16.840.1.113883.6.1">  
 <translation code="C0900B"  
 codeSystem="2.16.840.1.113883.4.340"  
 codeSystemName="MDSv3"  
 displayName="Staff asmt mental status: recall location of room"/>

</value>

</observation>

Assessment Scale Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.69 (open)]

Table 96: Assessment Scale Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Functional Status Section](#S_Functional_Status_Section) (optional)  [Functional Status Result Observation](#E_Functional_Status_Result_Observation) (optional)  [Cognitive Status Result Observation](#E_Cognitive_Status_Result_Observation) (optional)  [Functional Status Problem Observation](#E_Functional_Status_Problem_Observation) (optional)  [Cognitive Status Problem Observation](#E_Cognitive_Status_Problem_Observation) (optional) | [Assessment Scale Supporting Observation](#E_Assessment_Scale_Supporting_Observati) |

An assessment scale is a collection of observations that together yield a summary evaluation of a particular condition. Examples include the Braden Scale (assesses pressure ulcer risk), APACHE Score (estimates mortality in critically ill patients), Mini-Mental Status Exam (assesses cognitive function), APGAR Score (assesses the health of a newborn), and Glasgow Coma Scale (assesses coma and impaired consciousness.)

Table 97: Assessment Scale Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.69'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [14434](#C_14434) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [14435](#C_14435) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [14436](#C_14436) |  |
|  | @root | 1..1 | SHALL |  | [14437](#C_14437) | 2.16.840.1.113883.10.20.22.4.69 |
|  | id | 1..\* | SHALL |  | [14438](#C_14438) |  |
|  | code | 1..1 | SHALL |  | [14439](#C_14439) |  |
|  | derivationExpr | 0..1 | MAY |  | [14637](#C_14637) |  |
|  | statusCode | 1..1 | SHALL |  | [14444](#C_14444) |  |
|  | @code | 1..1 | SHALL |  | [19088](#C_19088) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | effectiveTime | 1..1 | SHALL |  | [14445](#C_14445) |  |
|  | value | 1..1 | SHALL |  | [14450](#C_14450) |  |
|  | interpretationCode | 0..\* | MAY |  | [14459](#C_14459) |  |
|  | translation | 0..\* | MAY |  | [14888](#C_14888) |  |
|  | author | 0..\* | MAY |  | [14460](#C_14460) |  |
|  | entryRelationship | 0..\* | SHOULD |  | [14451](#C_14451) |  |
|  | @typeCode | 1..1 | SHALL |  | [16741](#C_16741) | COMP |
|  | observation | 1..1 | SHALL |  | [16742](#C_16742) |  |
|  | referenceRange | 0..\* | MAY |  | [16799](#C_16799) |  |
|  | observationRange | 1..1 | SHALL |  | [16800](#C_16800) |  |
|  | text | 0..1 | SHOULD |  | [16801](#C_16801) |  |
|  | reference | 0..1 | SHOULD |  | [16802](#C_16802) |  |
|  | @value | 0..1 | MAY |  | [16803](#C_16803) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:14434).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:14435).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:14436) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.69" (CONF:14437).
4. **SHALL** contain at least one [1..\*] **id** (CONF:14438).
5. **SHALL** contain exactly one [1..1] **code** (CONF:14439).
   1. **SHOULD** be from LOINC (CodeSystem: 2.16.840.1.113883.6.1) or SNOMED CT (CodeSystem: 2.16.840.1.113883.6.96) identifying the assessment scale (CONF:14440).

Such derivation expression can contain a text calculation of how the components total up to the summed score

1. **MAY** contain zero or one [0..1] **derivationExpr** (CONF:14637).
2. **SHALL** contain exactly one [1..1] **statusCode** (CONF:14444).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19088).

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)

1. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:14445).
2. **SHALL** contain exactly one [1..1] **value** (CONF:14450).
3. **MAY** contain zero or more [0..\*] **interpretationCode** (CONF:14459).
   1. The interpretationCode, if present, **MAY** contain zero or more [0..\*] **translation** (CONF:14888).
4. **MAY** contain zero or more [0..\*] **author** (CONF:14460).
5. **SHOULD** contain zero or more [0..\*] **entryRelationship** (CONF:14451) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" has component (CONF:16741).
   2. **SHALL** contain exactly one [1..1] [**Assessment Scale Supporting Observation**](#E_Assessment_Scale_Supporting_Observati) (templateId:2.16.840.1.113883.10.20.22.4.86) (CONF:16742).

The referenceRange/observationRange/text, if present, MAY contain a description of the scale (e.g. for a Pain Scale 1 to 10: 1 to 3 = little pain, 4 to 7= moderate pain, 8 to 10 = severe pain)

1. **MAY** contain zero or more [0..\*] **referenceRange** (CONF:16799).
   1. The referenceRange, if present, **SHALL** contain exactly one [1..1] **observationRange** (CONF:16800).
      1. This observationRange **SHOULD** contain zero or one [0..1] **text** (CONF:16801).
         1. The text, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:16802).
            1. The reference, if present, **MAY** contain zero or one [0..1] **@value** (CONF:16803).

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:16804).

Assessment Scale Supporting Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.86 (open)]

Table 98: Assessment Scale Supporting Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Assessment Scale Observation](#E_Assessment_Scale_Observation) (optional) |  |

An Assessment Scale Supporting observation represents the components of a scale used in an Assessment Scale Observation. The individual parts that make up the component may be a group of cognitive or functional status observations.

Table 99: Assessment Scale Supporting Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.86'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [16715](#C_16715) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [16716](#C_16716) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [16722](#C_16722) |  |
|  | @root | 1..1 | SHALL |  | [16723](#C_16723) | 2.16.840.1.113883.10.20.22.4.86 |
|  | id | 1..\* | SHALL |  | [16724](#C_16724) |  |
|  | code | 1..1 | SHALL |  | [19178](#C_19178) |  |
|  | @code | 1..1 | SHALL |  | [19179](#C_19179) |  |
|  | statusCode | 1..1 | SHALL |  | [16720](#C_16720) |  |
|  | @code | 1..1 | SHALL |  | [19089](#C_19089) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | value | 1..\* | SHALL |  | [16754](#C_16754) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:16715).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:16716).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:16722) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.86" (CONF:16723).
4. **SHALL** contain at least one [1..\*] **id** (CONF:16724).
5. **SHALL** contain exactly one [1..1] **code** (CONF:19178).
   1. This code **SHALL** contain exactly one [1..1] **@code** (CONF:19179).
      1. Such that the @code **SHALL** be from LOINC (CodeSystem: 2.16.840.1.113883.6.1) or SNOMED CT (CodeSystem: 2.16.840.1.113883.6.96) and represents components of the scale (CONF:19180).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:16720).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19089).
7. **SHALL** contain at least one [1..\*] **value** (CONF:16754).
   1. If xsi:type="CD" , **MAY** have a translation code to further specify the source if the instrument has an applicable code system and valueSet for the integer (CONF:14639) (CONF:16755).

Caregiver Characteristics

[observation: templateId 2.16.840.1.113883.10.20.22.4.72 (open)]

Table 100: Caregiver Characteristics Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Functional Status Section](#S_Functional_Status_Section) (optional)  [Functional Status Result Observation](#E_Functional_Status_Result_Observation) (optional)  [Cognitive Status Result Observation](#E_Cognitive_Status_Result_Observation) (optional)  [Functional Status Problem Observation](#E_Functional_Status_Problem_Observation) (optional)  [Cognitive Status Problem Observation](#E_Cognitive_Status_Problem_Observation) (optional) |  |

This clinical statement represents a caregiver’s willingness to provide care and the abilities of that caregiver to provide assistance to a patient in relation to a specific need.

Table 101: Caregiver Characteristics Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.72'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [14219](#C_14219) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [14220](#C_14220) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [14221](#C_14221) |  |
|  | @root | 1..1 | SHALL |  | [14222](#C_14222) | 2.16.840.1.113883.10.20.22.4.72 |
|  | id | 1..\* | SHALL |  | [14223](#C_14223) |  |
|  | code | 1..1 | SHALL |  | [14230](#C_14230) |  |
|  | statusCode | 1..1 | SHALL |  | [14233](#C_14233) |  |
|  | @code | 1..1 | SHALL |  | [19090](#C_19090) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | value | 1..1 | SHALL |  | [14599](#C_14599) |  |
|  | participant | 1..\* | SHALL |  | [14227](#C_14227) |  |
|  | time | 0..1 | MAY |  | [14830](#C_14830) |  |
|  | low | 1..1 | SHALL |  | [14831](#C_14831) |  |
|  | high | 0..1 | MAY |  | [14832](#C_14832) |  |
|  | participantRole | 1..1 | SHALL |  | [14228](#C_14228) |  |
|  | @classCode | 1..1 | SHALL |  | [14229](#C_14229) | IND |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:14219).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:14220).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:14221) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.72" (CONF:14222).
4. **SHALL** contain at least one [1..\*] **id** (CONF:14223).
5. **SHALL** contain exactly one [1..1] **code** (CONF:14230).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:14233).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19090).
7. **SHALL** contain exactly one [1..1] **value** (CONF:14599).
   1. Where the @code **SHALL** be selected from LOINC (codeSystem: 2.16.840.1.113883.6.1) or SNOMED CT (CodeSystem: 2.16.840.1.113883.6.96) (CONF:14600).
8. **SHALL** contain at least one [1..\*] **participant** (CONF:14227).
   1. Such participants **MAY** contain zero or one [0..1] **time** (CONF:14830).
      1. The time, if present, **SHALL** contain exactly one [1..1] **low** (CONF:14831).
      2. The time, if present, **MAY** contain zero or one [0..1] **high** (CONF:14832).
   2. Such participants **SHALL** contain exactly one [1..1] **participantRole** (CONF:14228).
      1. This participantRole **SHALL** contain exactly one [1..1] **@classCode**="IND" (CONF:14229).

Figure : Caregiver Characteristics (IMPACT) example

<observation classCode="OBS" moodCode="EVN">

<!-- Caregiver Characteristics -->

<templateId root="2.16.840.1.113883.10.20.22.4.72"/>

<id nullFlavor="NI"/>

<code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>

<statusCode code="completed"/>

<value xsi:type="CD" code="422615001" codeSystem="2.16.840.1.113883.6.96"

displayName="caregiver difficulty providing physical care"/>

<participant typeCode="IND">

<participantRole classCode="IND">

<code code="MTH" codeSystem="2.16.840.1.113883.5.111"

displayName="Mother"/>

</participantRole>

</participant>

</observation>

Coverage Activity

[act: templateId 2.16.840.1.113883.10.20.22.4.60 (open)]

Table 102: Coverage Activity Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Payers Section](#S_Payers_Section) (optional) | [Policy Activity](#E_Policy_Activity) |

A Coverage Activity groups the policy and authorization acts within a Payers Section to order the payment sources. A Coverage Activity contains one or more policy activities, each of which contains zero or more authorization activities. The Coverage Activity id is the Id from the patient's insurance card. The sequenceNumber/@value shows the policy order of preference.

Table 103: Coverage Activity Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | act[templateId/@root = '2.16.840.1.113883.10.20.22.4.60'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [8872](#C_8872) | 2.16.840.1.113883.5.6 (HL7ActClass) = ACT |
|  | @moodCode | 1..1 | SHALL |  | [8873](#C_8873) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [8897](#C_8897) |  |
|  | @root | 1..1 | SHALL |  | [10492](#C_10492) | 2.16.840.1.113883.10.20.22.4.60 |
|  | id | 1..\* | SHALL |  | [8874](#C_8874) |  |
|  | code | 1..1 | SHALL |  | [8876](#C_8876) |  |
|  | @code | 1..1 | SHALL |  | [19160](#C_19160) | 2.16.840.1.113883.6.1 (LOINC) = 48768-6 |
|  | statusCode | 1..1 | SHALL |  | [8875](#C_8875) |  |
|  | @code | 1..1 | SHALL |  | [19094](#C_19094) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | entryRelationship | 1..\* | SHALL |  | [8878](#C_8878) |  |
|  | @typeCode | 1..1 | SHALL |  | [8879](#C_8879) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
|  | sequenceNumber | 0..1 | MAY |  | [17174](#C_17174) |  |
|  | @value | 1..1 | SHALL |  | [17175](#C_17175) |  |
|  | act | 1..1 | SHALL |  | [15528](#C_15528) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" Act (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:8872).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:8873).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8897) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.60" (CONF:10492).
4. **SHALL** contain at least one [1..\*] **id** (CONF:8874).
5. **SHALL** contain exactly one [1..1] **code** (CONF:8876).
   1. This code **SHALL** contain exactly one [1..1] **@code**="48768-6" Payment sources (CodeSystem: LOINC 2.16.840.1.113883.6.1 **STATIC**) (CONF:19160).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:8875).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19094).
7. **SHALL** contain at least one [1..\*] **entryRelationship** (CONF:8878) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:8879).
   2. **MAY** contain zero or one [0..1] **sequenceNumber** (CONF:17174).
      1. The sequenceNumber, if present, **SHALL** contain exactly one [1..1] **@value** (CONF:17175).
   3. **SHALL** contain exactly one [1..1] [**Policy Activity**](#E_Policy_Activity) (templateId:2.16.840.1.113883.10.20.22.4.61) (CONF:15528).

Figure : Coverage Activity (IMPACT) example

<act classCode="ACT" moodCode="EVN">

<!-- C-CDA Coverage Activity template -->

<templateId root="2.16.840.1.113883.10.20.22.4.60"/>

<!--IMPACT Standard Insurance Data Set: Member ID number -->

<id root="1fe2cdd0-7aad-11db-9fe1-0800200c9a66"/>

<code code="48768-6" codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC" displayName="Payment sources"/>

<statusCode code="completed"/>

<entryRelationship typeCode="COMP">

<act classCode="ACT" moodCode="EVN">

<!-- C-CDA Policy Activity template -->

<templateId root="2.16.840.1.113883.10.20.22.4.61"/>

...

</act>

</entryRelationship>

</act>

Drug Vehicle

[participantRole: templateId 2.16.840.1.113883.10.20.22.4.24 (open)]

Table 104: Drug Vehicle Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Medication Activity](#E_Medication_Activity) (optional)  [Immunization Activity](#E_Immunization_Activity) (optional) |  |

This template represents the vehicle (e.g. saline, dextrose) for administering a medication.

Table 105: Drug Vehicle Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | participantRole[templateId/@root = '2.16.840.1.113883.10.20.22.4.24'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [7490](#C_7490) | 2.16.840.1.113883.5.110 (RoleClass) = MANU |
|  | templateId | 1..1 | SHALL |  | [7495](#C_7495) |  |
|  | @root | 1..1 | SHALL |  | [10493](#C_10493) | 2.16.840.1.113883.10.20.22.4.24 |
|  | code | 1..1 | SHALL |  | [19137](#C_19137) |  |
|  | @code | 1..1 | SHALL |  | [19138](#C_19138) | 2.16.840.1.113883.6.96 (SNOMED-CT) = 412307009 |
|  | playingEntity | 1..1 | SHALL |  | [7492](#C_7492) |  |
|  | code | 1..1 | SHALL |  | [7493](#C_7493) |  |
|  | name | 0..1 | MAY |  | [7494](#C_7494) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="MANU" (CodeSystem: RoleClass 2.16.840.1.113883.5.110 **STATIC**) (CONF:7490).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:7495) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.24" (CONF:10493).
3. **SHALL** contain exactly one [1..1] **code** (CONF:19137).
   1. This code **SHALL** contain exactly one [1..1] **@code**="412307009" Drug Vehicle (CodeSystem: SNOMED-CT 2.16.840.1.113883.6.96 **STATIC**) (CONF:19138).
4. **SHALL** contain exactly one [1..1] **playingEntity** (CONF:7492).

This playingEntity/code is used to supply a coded term for the drug vehicle.

* 1. This playingEntity **SHALL** contain exactly one [1..1] **code** (CONF:7493).
  2. This playingEntity **MAY** contain zero or one [0..1] **name** (CONF:7494).
     1. This playingEntity/name **MAY** be used for the vehicle name in text, such as Normal Saline (CONF:10087).

Figure : Drug Vehicle (IMPACT) example

<participantRole classCode="MANU">

<!-- \*\* Drug vehicle \*\* -->

<templateId root="2.16.840.1.113883.10.20.22.4.24"/>

<code code="412307009" displayName="drug vehicle"

codeSystem="2.16.840.1.113883.6.96"/>

<playingEntity classCode="MMAT">

<code code="324049" displayName="Aerosol"

codeSystem="2.16.840.1.113883.6.88"

codeSystemName="RxNorm"/>

<name>Aerosol</name>

</playingEntity>

</participantRole>

Encounter Activities

[encounter: templateId 2.16.840.1.113883.10.20.22.4.49 (open)]

Table 106: Encounter Activities Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Encounters Section (entries optional)](#S_Encounters_Section_entries_optional) (optional)  [Encounters Section (entries required)](#S_Encounters_Section_entries_required) (required) | [Encounter Diagnosis](#E_Encounter_Diagnosis)  [Indication](#E_Indication)  [Service Delivery Location](#E_Service_Delivery_Location) |

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

Table 107: Encounter Activities Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
| Green Encounter Activities | encounter[templateId/@root = '2.16.840.1.113883.10.20.22.4.49'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [8710](#C_8710) | 2.16.840.1.113883.5.6 (HL7ActClass) = ENC |
|  | @moodCode | 1..1 | SHALL |  | [8711](#C_8711) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [8712](#C_8712) |  |
|  | @root | 1..1 | SHALL |  | [26353](#C_26353) | 2.16.840.1.113883.10.20.22.4.49 |
| encounterID | id | 1..\* | SHALL |  | [8713](#C_8713) |  |
| encounterType | code | 0..1 | SHOULD |  | [8714](#C_8714) | 2.16.840.1.113883.3.88.12.80.32 (EncounterTypeCode) |
|  | originalText | 0..1 | SHOULD |  | [8719](#C_8719) |  |
|  | reference | 0..1 | SHOULD |  | [15970](#C_15970) |  |
|  | @value | 0..1 | SHOULD |  | [15971](#C_15971) |  |
| encounterFree TextType | reference/@value | 0..1 | SHOULD |  | [8720](#C_8720) |  |
| encounterDateTime | effectiveTime | 1..1 | SHALL |  | [8715](#C_8715) |  |
|  | performer | 0..\* | MAY |  | [8725](#C_8725) |  |
| encounterProvider | assignedEntity | 1..1 | SHALL |  | [8726](#C_8726) |  |
|  | code | 0..1 | MAY |  | [8727](#C_8727) |  |
| facilityLocation | participant | 0..\* | MAY |  | [8738](#C_8738) |  |
|  | @typeCode | 1..1 | SHALL |  | [8740](#C_8740) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = LOC |
|  | participantRole | 1..1 | SHALL |  | [14903](#C_14903) |  |
| reasonForVisit | entryRelationship | 0..\* | MAY |  | [8722](#C_8722) |  |
|  | @typeCode | 1..1 | SHALL |  | [8723](#C_8723) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON |
|  | observation | 1..1 | SHALL |  | [14899](#C_14899) |  |
|  | entryRelationship | 0..\* | MAY |  | [15492](#C_15492) |  |
|  | act | 1..1 | SHALL |  | [15973](#C_15973) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="ENC" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:8710).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:8711).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8712) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.49" (CONF:26353).
4. **SHALL** contain at least one [1..\*] **id** (CONF:8713).
5. **SHOULD** contain zero or one [0..1] **code**, which **SHOULD** be selected from ValueSet EncounterTypeCode 2.16.840.1.113883.3.88.12.80.32 **DYNAMIC** (CONF:8714).
   1. The code, if present, **SHOULD** contain zero or one [0..1] **originalText** (CONF:8719).
      1. The originalText, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:15970).
         1. The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:15971).
            1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:15972).
      2. The originalText, if present, **SHOULD** contain zero or one [0..1] **reference/@value** (CONF:8720).
6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:8715).
7. **MAY** contain zero or more [0..\*] **performer** (CONF:8725).
   1. The performer, if present, **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:8726).
      1. This assignedEntity **MAY** contain zero or one [0..1] **code** (CONF:8727).
8. **MAY** contain zero or more [0..\*] **participant** (CONF:8738) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="LOC" Location (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:8740).
   2. **SHALL** contain exactly one [1..1] [**Service Delivery Location**](#E_Service_Delivery_Location) (templateId:2.16.840.1.113883.10.20.22.4.32) (CONF:14903).
9. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:8722) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="RSON" Has Reason (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:8723).
   2. **SHALL** contain exactly one [1..1] [**Indication**](#E_Indication) (templateId:2.16.840.1.113883.10.20.22.4.19) (CONF:14899).
10. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:15492) such that it
    1. **SHALL** contain exactly one [1..1] [**Encounter Diagnosis**](#E_Encounter_Diagnosis) (templateId:2.16.840.1.113883.10.20.22.4.80) (CONF:15973).
11. **MAY** contain zero or one [0..1] 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).

*Table 108: : Encounter Type Value Set*

|  |  |  |
| --- | --- | --- |
| Value Set: EncounterTypeCode 2.16.840.1.113883.3.88.12.80.32 DYNAMIC  Code System: CPT-4 2.16.840.1.113883.6.12  This value set includes only the codes of the Current Procedure and Terminology designated for Evaluation and Management (99200 – 99607) (subscription to AMA Required <http://www.amacodingonline.com/>) | | |
| Code | Code System | Print Name |
| 99201 | CPT-4 | Office or other outpatient visit (problem focused) |
| 99202 | CPT-4 | Office or other outpatient visit (expanded problem (expanded) |
| 99203 | CPT-4 | Office or other outpatient visit (detailed) |
| 99204 | CPT-4 | Office or other outpatient visit (comprehensive, (comprehensive - moderate) |
| 99205 | CPT-4 | Office or other outpatient visit (comprehensive, comprehensive-high) |
| … | CPT-4 | … |

Figure : Encounter Activity (IMPACT) example

<encounter classCode="ENC" moodCode="EVN">

<!-- \*\* Encounter activities \*\* -->

<templateId root="2.16.840.1.113883.10.20.22.4.49"/>

<id root="2a620155-9d11-439e-92b3-5d9815ff4de8"/>

<!--Example is for 10.18.4.4 ED Visit -->

<code code="99283"

displayName="EMERGENCY DEPARTMENT VISIT MODERATE SEVERITY"

codeSystemName="CPT" codeSystem="2.16.840.1.113883.6.12"

codeSystemVersion="4">

<originalText>Emergency Department Visit</originalText>

</code>

<!-- February 27, 2009 at 1:00PM EST -->

<effectiveTime value="20090227130000+0500"/>

<performer typeCode="PRF">

<assignedEntity>

<id extension="PseudoMD-1" root="2.16.840.1.113883.4.6"/>

<code code="207P00000X" displayName="Emergency Medicine"

codeSystemName="Provider Codes"

codeSystem="2.16.840.1.113883.6.101"/>

<addr>

<streetAddressLine>1003 Health Care Drive</streetAddressLine>

<city>Ann Arbor</city>

<state>MI</state>

<postalCode>02368</postalCode>

<country>US</country>

</addr>

<telecom value="tel:+1-555-555-5000" use="HP"/>

<assignedPerson>

<name>

<prefix>Dr.</prefix>

<given>Henry</given>

<family>Seven</family>

</name>

</assignedPerson>

<representedOrganization>

<id root="2.16.840.1.113883.19.5.9999.1393"/>

<name>Community Hospitals</name>

<telecom value="tel:+1-555-555-1003" use="HP"/>

<addr>

<streetAddressLine>1002 Health Care Drive</streetAddressLine>

<city>Ann Arbor</city>

<state>MI</state>

<postalCode>02368</postalCode>

<country>US</country>

</addr>

</representedOrganization>

</assignedEntity>

</performer>

<participant typeCode="LOC">

<participantRole classCode="SDLOC">

<templateId root="2.16.840.1.113883.10.20.22.4.32"/>

...

</participantRole>

</participant>

<entryRelationship typeCode="RSON">

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.22.4.19"/>

...

</observation>

</entryRelationship>

</encounter>

Encounter Diagnosis

[act: templateId 2.16.840.1.113883.10.20.22.4.80 (open)]

Table 109: Encounter Diagnosis Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Encounter Activities](#E_Encounter_Activities) (optional) | [Problem Observation](#E_Problem_Observation) |

This template wraps relevant problems or diagnoses at the close of a visit or that need to be followed after the visit. If the encounter is associated with a Hospital Discharge, the Hospital Discharge Diagnosis must be used. This entry requires at least one Problem Observation entry.

Table 110: Encounter Diagnosis Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | act[templateId/@root = '2.16.840.1.113883.10.20.22.4.80'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [14889](#C_14889) | 2.16.840.1.113883.5.6 (HL7ActClass) = ACT |
|  | @moodCode | 1..1 | SHALL |  | [14890](#C_14890) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [14895](#C_14895) |  |
|  | @root | 1..1 | SHALL |  | [14896](#C_14896) | 2.16.840.1.113883.10.20.22.4.80 |
|  | code | 1..1 | SHALL |  | [19182](#C_19182) |  |
|  | @code | 1..1 | SHALL |  | [19183](#C_19183) | 2.16.840.1.113883.6.1 (LOINC) = 29308-4 |
|  | entryRelationship | 1..\* | SHALL |  | [14892](#C_14892) |  |
|  | @typeCode | 1..1 | SHALL |  | [14893](#C_14893) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ |
|  | observation | 1..1 | SHALL |  | [14898](#C_14898) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:14889).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:14890).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:14895) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.80" (CONF:14896).
4. **SHALL** contain exactly one [1..1] **code** (CONF:19182).
   1. This code **SHALL** contain exactly one [1..1] **@code**="29308-4" Diagnosis (CodeSystem: LOINC 2.16.840.1.113883.6.1 **STATIC**) (CONF:19183).
5. **SHALL** contain at least one [1..\*] **entryRelationship** (CONF:14892) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:14893).
   2. **SHALL** contain exactly one [1..1] [**Problem Observation**](#E_Problem_Observation) (templateId:2.16.840.1.113883.10.20.22.4.4) (CONF:14898).

Estimated Date of Delivery

[observation: templateId 2.16.840.1.113883.10.20.15.3.1 (closed)]

Table 111: Estimated Date of Delivery Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Pregnancy Observation](#E_Pregnancy_Observation) (optional) |  |

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

Table 112: Estimated Date of Delivery Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.15.3.1'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [444](#C_444) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [445](#C_445) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [16762](#C_16762) |  |
|  | @root | 1..1 | SHALL |  | [16763](#C_16763) | 2.16.840.1.113883.10.20.15.3.1 |
|  | code | 1..1 | SHALL |  | [19139](#C_19139) |  |
|  | @code | 1..1 | SHALL |  | [19140](#C_19140) | 2.16.840.1.113883.6.1 (LOINC) = 11778-8 |
|  | statusCode | 1..1 | SHALL |  | [448](#C_448) |  |
|  | @code | 1..1 | SHALL |  | [19096](#C_19096) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | value | 1..1 | SHALL | TS | [450](#C_450) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:444).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:445).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:16762) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.15.3.1" (CONF:16763).
4. **SHALL** contain exactly one [1..1] **code** (CONF:19139).
   1. This code **SHALL** contain exactly one [1..1] **@code**="11778-8" Estimated date of delivery (CodeSystem: LOINC 2.16.840.1.113883.6.1 **STATIC**) (CONF:19140).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:448).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19096).
6. **SHALL** contain exactly one [1..1] **value** with @xsi:type="TS" (CONF:450).

Family History Death Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.47 (open)]

Table 113: Family History Death Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Family History Observation](#E_Family_History_Observation) (optional) |  |

This clinical statement records whether the family member is deceased.

Table 114: Family History Death Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.47'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [8621](#C_8621) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [8622](#C_8622) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [8623](#C_8623) |  |
|  | @root | 1..1 | SHALL |  | [10495](#C_10495) | 2.16.840.1.113883.10.20.22.4.47 |
|  | code | 1..1 | SHALL |  | [19141](#C_19141) |  |
|  | @code | 1..1 | SHALL |  | [19142](#C_19142) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
|  | statusCode | 1..1 | SHALL |  | [8625](#C_8625) |  |
|  | @code | 1..1 | SHALL |  | [19097](#C_19097) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | value | 1..1 | SHALL | CD | [8626](#C_8626) | 2.16.840.1.113883.6.96 (SNOMED-CT) = 419099009 |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:8621).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:8622).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8623) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.47" (CONF:10495).
4. **SHALL** contain exactly one [1..1] **code** (CONF:19141).
   1. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:19142).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:8625).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19097).
6. **SHALL** contain exactly one [1..1] **value**="419099009" Dead with @xsi:type="CD" (CodeSystem: SNOMED-CT 2.16.840.1.113883.6.96 **STATIC**) (CONF:8626).

Figure : Family History Death Observation (IMPACT) example

<observation classCode="OBS" moodCode="EVN">

<!-- Family history death observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.47"/>

<code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>

<statusCode code="completed"/>

<value xsi:type="CD" code="419099009" codeSystem="2.16.840.1.113883.6.96"

displayName="Dead"/>

</observation>

Family History Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.46 (open)]

Table 115: Family History Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Family History Organizer](#E_Family_History_Organizer) (required) | [Age Observation](#E_Age_Observation)  [Family History Death Observation](#E_Family_History_Death_Observation) |

Family History Observations related to a particular family member are contained within a Family History Organizer. The effectiveTime in the Family History Observation is the biologically or clinically relevant time of the observation. The biologically or clinically relevant time is the time at which the observation holds (is effective) for the family member (the subject of the observation).

Table 116: Family History Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
| Green Family History Observation | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.46'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [8586](#C_8586) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [8587](#C_8587) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [8599](#C_8599) |  |
|  | @root | 1..1 | SHALL |  | [10496](#C_10496) | 2.16.840.1.113883.10.20.22.4.46 |
|  | id | 1..\* | SHALL |  | [8592](#C_8592) |  |
|  | code | 1..1 | SHALL |  | [8589](#C_8589) | 2.16.840.1.113883.3.88.12.3221.7.2 (Problem Type) |
|  | statusCode | 1..1 | SHALL |  | [8590](#C_8590) |  |
|  | @code | 1..1 | SHALL |  | [19098](#C_19098) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | effectiveTime | 0..1 | SHOULD |  | [8593](#C_8593) |  |
|  | value | 1..1 | SHALL | CD | [8591](#C_8591) | 2.16.840.1.113883.3.88.12.3221.7.4 (Problem Value Set) |
|  | entryRelationship | 0..1 | MAY |  | [8675](#C_8675) |  |
|  | @typeCode | 1..1 | SHALL |  | [8676](#C_8676) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = SUBJ |
|  | @inversionInd | 1..1 | SHALL |  | [8677](#C_8677) | true |
|  | observation | 1..1 | SHALL |  | [15526](#C_15526) |  |
|  | entryRelationship | 0..1 | MAY |  | [8678](#C_8678) |  |
|  | @typeCode | 1..1 | SHALL |  | [8679](#C_8679) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = CAUS |
|  | observation | 1..1 | SHALL |  | [15527](#C_15527) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:8586).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:8587).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8599) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.46" (CONF:10496).
4. **SHALL** contain at least one [1..\*] **id** (CONF:8592).
5. **SHALL** contain exactly one [1..1] **code**, which **SHOULD** be selected from ValueSet Problem Type 2.16.840.1.113883.3.88.12.3221.7.2 **STATIC** 2012-06-01 (CONF:8589).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:8590).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19098).
7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:8593).
8. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the @code **SHALL** be selected from ValueSet Problem Value Set 2.16.840.1.113883.3.88.12.3221.7.4 **DYNAMIC** (CONF:8591).
9. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:8675) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" Subject (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:8676).
   2. **SHALL** contain exactly one [1..1] **@inversionInd**="true" True (CONF:8677).
   3. **SHALL** contain exactly one [1..1] [**Age Observation**](#E_Age_Observation) (templateId:2.16.840.1.113883.10.20.22.4.31) (CONF:15526).
10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:8678) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="CAUS" Causal or Contributory (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:8679).
    2. **SHALL** contain exactly one [1..1] [**Family History Death Observation**](#E_Family_History_Death_Observation) (templateId:2.16.840.1.113883.10.20.22.4.47) (CONF:15527).

Figure : Family History Observation (IMPACT) example

<observation classCode="OBS" moodCode="EVN">

<!-- Family History Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.46"/>

<id root="d42ebf70-5c89-11db-b0de-0800200c9a66"/>

<code code="64572001" displayName="Condition" codeSystemName="SNOMED CT"

codeSystem="2.16.840.1.113883.6.96"/>

<statusCode code="completed"/>

<effectiveTime value="1970"/>

<value xsi:type="CD" code="46635009" codeSystem="2.16.840.1.113883.6.96"

displayName="Diabetes mellitus type 1"/>

<entryRelationship typeCode="SUBJ" inversionInd="true">

<observation classCode="OBS" moodCode="EVN">

<!-- Age Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.31"/>

...

</observation>

</entryRelationship>

</observation>

Family History Organizer

[organizer: templateId 2.16.840.1.113883.10.20.22.4.45 (open)]

Table 117: Family History Organizer Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Family History Section](#S_Family_History_Section) (optional) | [Family History Observation](#E_Family_History_Observation) |

The Family History Organizer associates a set of observations with a family member. For example, the Family History Organizer can group a set of observations about the patient’s father.

Table 118: Family History Organizer Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
| Green Family History Organizer | organizer[templateId/@root = '2.16.840.1.113883.10.20.22.4.45'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [8600](#C_8600) | 2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER |
|  | @moodCode | 1..1 | SHALL |  | [8601](#C_8601) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [8604](#C_8604) |  |
|  | @root | 1..1 | SHALL |  | [10497](#C_10497) | 2.16.840.1.113883.10.20.22.4.45 |
|  | statusCode | 1..1 | SHALL |  | [8602](#C_8602) |  |
|  | @code | 1..1 | SHALL |  | [19099](#C_19099) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| familyMember Demographics | subject | 1..1 | SHALL |  | [8609](#C_8609) |  |
|  | relatedSubject | 1..1 | SHALL |  | [15244](#C_15244) |  |
|  | @classCode | 1..1 | SHALL |  | [15245](#C_15245) | 2.16.840.1.113883.5.41 (EntityClass) = PRS |
|  | code | 1..1 | SHALL |  | [15246](#C_15246) |  |
|  | @code | 1..1 | SHALL |  | [15247](#C_15247) | 2.16.840.1.113883.1.11.19579 (Family Member Value Set) |
|  | subject | 0..1 | SHOULD |  | [15248](#C_15248) |  |
|  | administrative GenderCode | 1..1 | SHALL |  | [15974](#C_15974) |  |
|  | @code | 1..1 | SHALL |  | [15975](#C_15975) | 2.16.840.1.113883.1.11.1 (Administrative Gender (HL7 V3)) |
|  | birthTime | 0..1 | SHOULD |  | [15976](#C_15976) |  |
| familyMember MedicalHistory | component | 1..\* | SHALL |  | [8607](#C_8607) |  |
|  | observation | 1..1 | SHALL |  | [16888](#C_16888) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="CLUSTER" Cluster (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:8600).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:8601).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8604) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.45" (CONF:10497).
4. **SHALL** contain exactly one [1..1] **statusCode** (CONF:8602).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19099).
5. **SHALL** contain exactly one [1..1] **subject** (CONF:8609).
   1. This subject **SHALL** contain exactly one [1..1] **relatedSubject** (CONF:15244).
      1. This relatedSubject **SHALL** contain exactly one [1..1] **@classCode**="PRS" Person (CodeSystem: EntityClass 2.16.840.1.113883.5.41 **STATIC**) (CONF:15245).
      2. This relatedSubject **SHALL** contain exactly one [1..1] **code** (CONF:15246).
         1. This code **SHALL** contain exactly one [1..1] **@code**, which **SHOULD** be selected from ValueSet Family Member Value Set 2.16.840.1.113883.1.11.19579 **DYNAMIC** (CONF:15247).
      3. This relatedSubject **SHOULD** contain zero or one [0..1] **subject** (CONF:15248).
         1. The subject, if present, **SHALL** contain exactly one [1..1] **administrativeGenderCode** (CONF:15974).
            1. This administrativeGenderCode **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet Administrative Gender (HL7 V3) 2.16.840.1.113883.1.11.1 **STATIC** (CONF:15975).
         2. The subject, if present, **SHOULD** contain zero or one [0..1] **birthTime** (CONF:15976).
         3. The subject **SHOULD** contain zero or more [0..\*] sdtc:id. The prefix sdtc: **SHALL** be bound to the namespace “urn:hl7-org:sdtc”. The use of the namespace provides a necessary extension to CDA R2 for the use of the id element (CONF:15249).
         4. The subject **MAY** contain zero or one sdtc:deceasedInd. The prefix sdtc: **SHALL** be bound to the namespace “urn:hl7-org:sdtc”. The use of the namespace provides a necessary extension to CDA R2 for the use of the deceasedInd element (CONF:15981).
         5. The subject **MAY** contain zero or one sdtc:deceasedTime. The prefix sdtc: **SHALL** be bound to the namespace “urn:hl7-org:sdtc”. The use of the namespace provides a necessary extension to CDA R2 for the use of the deceasedTime element (CONF:15982).
         6. The age of a relative at the time of a family history observation **SHOULD** be inferred by comparing RelatedSubject/subject/birthTime with Observation/effectiveTime (CONF:15983).
6. **SHALL** contain at least one [1..\*] **component** (CONF:8607).
   1. Such components **SHALL** contain exactly one [1..1] [**Family History Observation**](#E_Family_History_Observation) (templateId:2.16.840.1.113883.10.20.22.4.46) (CONF:16888).

Table : : Family History Related Subject Value Set (excerpt)

|  |  |  |
| --- | --- | --- |
| Value Set: FamilyHistoryRelatedSubjectCode 2.16.840.1.113883.1.11.19579 DYNAMIC  Code System: RoleCode 2.16.840.1.113883.5.111 (any subtype of RoleCode: FAMMEMB)  See HL7 Vocabulary Domains included in the CDA R2 Normative Web Edition  <http://www.hl7.org/documentcenter/private/standards/cda/r2/cda_r2_normativewebedition2010.zip> | | |
| Code | Code System | Print Name |
| CHILD | RoleCode | Child |
| CHLDADOPT | RoleCode | Adopted Child |
| DAUADOPT | RoleCode | Adopted Daughter |
| SONADOPT | RoleCode | Adopted Son |
| CHLDINLAW | RoleCode | Child in-law |
| … |  |  |

Figure : Family History Organizer (IMPACT) example

<organizer moodCode="EVN" classCode="CLUSTER">

<!-- Family History Organizer template -->

<templateId root="2.16.840.1.113883.10.20.22.4.45"/>

<statusCode code="completed"/>

<subject>

<relatedSubject classCode="PRS">

<code code="FTH" displayName="Father"

codeSystemName="HL7 FamilyMember"

codeSystem="2.16.840.1.113883.5.111">

<translation code="9947008" displayName="Biological father"

codeSystemName="SNOMED" codeSystem="2.16.840.1.113883.6.96"/>

</code>

<subject>

<administrativeGenderCode code="M"

codeSystem="2.16.840.1.113883.5.1"

displayName="Male"/>

<birthTime value="1930"/>

<sdtc:deceasedInd value="true"/>

<sdtc:deceasedTime value="1990"/>

</subject>

</relatedSubject>

</subject>

<component>

<observation classCode="OBS" moodCode="EVN">

<!-- Family History Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.46"/>

...

</observation>

</component>

<component>

<observation classCode="OBS" moodCode="EVN">

<!-- Family History Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.46"/>

...

</observation>

</component>

</organizer>

Health Status Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.5 (closed)]

Table 120: Health Status Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Problem Observation](#E_Problem_Observation) (optional) |  |

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

Table 121: Health Status Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.5'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [9057](#C_9057) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [9072](#C_9072) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [16756](#C_16756) |  |
|  | @root | 1..1 | SHALL |  | [16757](#C_16757) | 2.16.840.1.113883.10.20.22.4.5 |
|  | code | 1..1 | SHALL |  | [19143](#C_19143) |  |
|  | @code | 1..1 | SHALL |  | [19144](#C_19144) | 2.16.840.1.113883.6.1 (LOINC) = 11323-3 |
|  | text | 0..1 | SHOULD |  | [9270](#C_9270) |  |
|  | reference | 0..1 | SHOULD |  | [15529](#C_15529) |  |
|  | @value | 0..1 | SHOULD |  | [15530](#C_15530) |  |
|  | statusCode | 1..1 | SHALL |  | [9074](#C_9074) |  |
|  | @code | 1..1 | SHALL |  | [19103](#C_19103) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | value | 1..1 | SHALL | CD | [9075](#C_9075) | 2.16.840.1.113883.1.11.20.12 (HealthStatus) |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:9057).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:9072).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:16756) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.5" (CONF:16757).
4. **SHALL** contain exactly one [1..1] **code** (CONF:19143).
   1. This code **SHALL** contain exactly one [1..1] **@code**="11323-3" Health status (CodeSystem: LOINC 2.16.840.1.113883.6.1 **STATIC**) (CONF:19144).
5. **SHOULD** contain zero or one [0..1] **text** (CONF:9270).
   1. The text, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:15529).
      1. The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:15530).
         1. **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:15531).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:9074).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19103).
7. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the @code **SHALL** be selected from ValueSet HealthStatus 2.16.840.1.113883.1.11.20.12 **DYNAMIC** (CONF:9075).

*Table 122: H**ealthStatus Value Set*

| Value Set: HealthStatus 2.16.840.1.113883.1.11.20.12 DYNAMIC | | |
| --- | --- | --- |
| Code System(s): | SNOMED CT 2.16.840.1.113883.6.96 | |
| Description: | Represents the general health status of the patient. | |
| Code | Code System | Print Name |
| 81323004 | SNOMED CT | Alive and well |
| 313386006 | SNOMED CT | In remission |
| 162467007 | SNOMED CT | Symptom free |
| 161901003 | SNOMED CT | Chronically ill |
| 271593001 | SNOMED CT | Severely ill |
| 21134002 | SNOMED CT | Disabled |
| 161045001 | SNOMED CT | Severely disabled |

Highest Pressure Ulcer Stage

[observation: templateId 2.16.840.1.113883.10.20.22.4.77 (open)]

Table 123: Highest Pressure Ulcer Stage Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Functional Status Section](#S_Functional_Status_Section) (optional)  [Physical Exam Section](#S_Physical_Exam_Section) (optional) |  |

This observation contains a description of the wound tissue of the most severe or highest staged pressure ulcer observed on a patient.

Table 124: Highest Pressure Ulcer Stage Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.77'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [14726](#C_14726) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [14727](#C_14727) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [14728](#C_14728) |  |
|  | @root | 1..1 | SHALL |  | [14729](#C_14729) | 2.16.840.1.113883.10.20.22.4.77 |
|  | id | 1..\* | SHALL |  | [14730](#C_14730) |  |
|  | code | 1..1 | SHALL |  | [14731](#C_14731) |  |
|  | @code | 1..1 | SHALL |  | [14732](#C_14732) | 2.16.840.1.113883.6.96 (SNOMED-CT) = 420905001 |
|  | value | 1..1 | SHALL |  | [14733](#C_14733) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:14726).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:14727).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:14728) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.77" (CONF:14729).
4. **SHALL** contain at least one [1..\*] **id** (CONF:14730).
5. **SHALL** contain exactly one [1..1] **code** (CONF:14731).
   1. This code **SHALL** contain exactly one [1..1] **@code**="420905001" Highest Pressure Ulcer Stage (CodeSystem: SNOMED-CT 2.16.840.1.113883.6.96 **STATIC**) (CONF:14732).
6. **SHALL** contain exactly one [1..1] **value** (CONF:14733).

Hospital Discharge Diagnosis

[act: templateId 2.16.840.1.113883.10.20.22.4.33 (open)]

Table 125: Hospital Discharge Diagnosis Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Hospital Discharge Diagnosis Section](#S_Hospital_Discharge_Diagnosis_Section) (optional) | [Problem Observation](#E_Problem_Observation) |

The Hospital Discharge Diagnosis act wraps relevant problems or diagnoses at the time of discharge that occurred during the hospitalization or that need to be followed after hospitalization. This entry requires at least one Problem Observation entry.

Table 126: Hospital Discharge Diagnosis Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | act[templateId/@root = '2.16.840.1.113883.10.20.22.4.33'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [7663](#C_7663) | 2.16.840.1.113883.5.6 (HL7ActClass) = ACT |
|  | @moodCode | 1..1 | SHALL |  | [7664](#C_7664) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [16764](#C_16764) |  |
|  | @root | 1..1 | SHALL |  | [16765](#C_16765) | 2.16.840.1.113883.10.20.22.4.33 |
|  | code | 1..1 | SHALL |  | [19147](#C_19147) |  |
|  | @code | 1..1 | SHALL |  | [19148](#C_19148) | 2.16.840.1.113883.6.1 (LOINC) = 11535-2 |
|  | entryRelationship | 1..\* | SHALL |  | [7666](#C_7666) |  |
|  | @typeCode | 1..1 | SHALL |  | [7667](#C_7667) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ |
|  | observation | 1..1 | SHALL |  | [15536](#C_15536) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:7663).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:7664).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:16764) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.33" (CONF:16765).
4. **SHALL** contain exactly one [1..1] **code** (CONF:19147).
   1. This code **SHALL** contain exactly one [1..1] **@code**="11535-2" Hospital discharge diagnosis (CodeSystem: LOINC 2.16.840.1.113883.6.1 **STATIC**) (CONF:19148).
5. **SHALL** contain at least one [1..\*] **entryRelationship** (CONF:7666) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" Has Subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:7667).
   2. **SHALL** contain exactly one [1..1] [**Problem Observation**](#E_Problem_Observation) (templateId:2.16.840.1.113883.10.20.22.4.4) (CONF:15536).

Immunization Activity

[substanceAdministration: templateId 2.16.840.1.113883.10.20.22.4.52 (open)]

Table 127: Immunization Activity Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Immunizations Section (entries optional)](#S_Immunizations_Section_entries_optional) (optional)  [Immunizations Section (entries required)](#S_Immunizations_Section_entries_required) (required) | [Drug Vehicle](#E_Drug_Vehicle)  [Immunization Medication Information](#E_Immunization_Medication_Information)  [Immunization Refusal Reason](#E_Immunization_Refusal_Reason)  [Indication](#E_Indication)  [Instructions](#E_Instructions)  [Medication Dispense](#E_Medication_Dispense)  [Medication Supply Order](#E_Medication_Supply_Order)  [Precondition for Substance Administration](#E_Precondition_for_Substance_Administrat)  [Reaction Observation](#E_Reaction_Observation) |

An Immunization Activity describes immunization substance administrations that have actually occurred or are intended to occur. Immunization Activities in “INT” mood are reflections of immunizations a clinician intends a patient to receive. Immunization Activities in “EVN” mood reflect immunizations actually received.

An Immunization Activity is very similar to a Medication Activity with some key differentiators. The drug code system is constrained to CVX codes. Administration timing is less complex. Patient refusal reasons should be captured. All vaccines administered should be fully documented in the patient's permanent medical record. Healthcare providers who administer vaccines covered by the National Childhood Vaccine Injury Act are required to ensure that the permanent medical record of the recipient indicates:

1) Date of administration

2) Vaccine manufacturer

3) Vaccine lot number

4) Name and title of the person who administered the vaccine and the address of the clinic or facility where the permanent record will reside

5) Vaccine information statement (VIS)

a. date printed on the VIS

b. date VIS given to patient or parent/guardian.

This information should be included in an Immunization Activity when available.[[25]](#footnote-25)

Table 128: Immunization Activity Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
| Green Immunization Activity | substanceAdministration[templateId/@root = '2.16.840.1.113883.10.20.22.4.52'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [8826](#C_8826) | 2.16.840.1.113883.5.6 (HL7ActClass) = SBADM |
|  | @moodCode | 1..1 | SHALL |  | [8827](#C_8827) | 2.16.840.1.113883.11.20.9.18 (MoodCodeEvnInt) |
| refusal | @negationInd | 1..1 | SHALL |  | [8985](#C_8985) |  |
|  | templateId | 1..1 | SHALL |  | [8828](#C_8828) |  |
|  | @root | 1..1 | SHALL |  | [10498](#C_10498) | 2.16.840.1.113883.10.20.22.4.52 |
|  | id | 1..\* | SHALL |  | [8829](#C_8829) |  |
|  | code | 0..1 | MAY |  | [8830](#C_8830) |  |
|  | text | 0..1 | SHOULD |  | [8831](#C_8831) |  |
|  | reference | 0..1 | SHOULD |  | [15543](#C_15543) |  |
|  | @value | 0..1 | SHOULD |  | [15544](#C_15544) |  |
|  | statusCode | 1..1 | SHALL |  | [8833](#C_8833) |  |
| administeredDate | effectiveTime | 1..1 | SHALL |  | [8834](#C_8834) |  |
| medicationSeries Number | repeatNumber | 0..1 | MAY |  | [8838](#C_8838) |  |
|  | routeCode | 0..1 | MAY |  | [8839](#C_8839) | 2.16.840.1.113883.3.88.12.3221.8.7 (Medication Route FDA Value Set) |
|  | approachSiteCode | 0..1 | MAY | SET <CD> | [8840](#C_8840) | 2.16.840.1.113883.3.88.12.3221.8.9 (Body Site Value Set) |
|  | doseQuantity | 0..1 | SHOULD |  | [8841](#C_8841) |  |
|  | @unit | 0..1 | SHOULD |  | [8842](#C_8842) | 2.16.840.1.113883.1.11.12839 (UnitsOfMeasureCaseSensitive) |
|  | administration UnitCode | 0..1 | MAY |  | [8846](#C_8846) | 2.16.840.1.113883.3.88.12.3221.8.11 (Medication Product Form Value Set) |
| medication Information | consumable | 1..1 | SHALL |  | [8847](#C_8847) |  |
|  | manufactured Product | 1..1 | SHALL |  | [15546](#C_15546) |  |
| performer | performer | 0..1 | SHOULD |  | [8849](#C_8849) |  |
|  | participant | 0..\* | MAY |  | [8850](#C_8850) |  |
|  | @typeCode | 1..1 | SHALL |  | [8851](#C_8851) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM |
|  | participantRole | 1..1 | SHALL |  | [15547](#C_15547) |  |
|  | entryRelationship | 0..\* | MAY |  | [8853](#C_8853) |  |
|  | @typeCode | 1..1 | SHALL |  | [8854](#C_8854) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON |
|  | observation | 1..1 | SHALL |  | [15537](#C_15537) |  |
|  | entryRelationship | 0..1 | MAY |  | [8856](#C_8856) |  |
|  | @typeCode | 1..1 | SHALL |  | [8857](#C_8857) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ |
|  | @inversionInd | 1..1 | SHALL |  | [8858](#C_8858) | true |
|  | act | 1..1 | SHALL |  | [15538](#C_15538) |  |
|  | entryRelationship | 0..1 | MAY |  | [8860](#C_8860) |  |
|  | @typeCode | 1..1 | SHALL |  | [8861](#C_8861) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |
|  | supply | 1..1 | SHALL |  | [15539](#C_15539) |  |
|  | entryRelationship | 0..1 | MAY |  | [8863](#C_8863) |  |
|  | @typeCode | 1..1 | SHALL |  | [8864](#C_8864) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |
|  | supply | 1..1 | SHALL |  | [15540](#C_15540) |  |
| reaction | entryRelationship | 0..1 | MAY |  | [8866](#C_8866) |  |
|  | @typeCode | 1..1 | SHALL |  | [8867](#C_8867) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = CAUS |
|  | observation | 1..1 | SHALL |  | [15541](#C_15541) |  |
| refusalReason | entryRelationship | 0..1 | MAY |  | [8988](#C_8988) |  |
|  | @typeCode | 1..1 | SHALL |  | [8989](#C_8989) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON |
|  | observation | 1..1 | SHALL |  | [15542](#C_15542) |  |
|  | precondition | 0..\* | MAY |  | [8869](#C_8869) |  |
|  | @typeCode | 1..1 | SHALL |  | [8870](#C_8870) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = PRCN |
|  | criterion | 1..1 | SHALL |  | [15548](#C_15548) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="SBADM" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:8826).
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet MoodCodeEvnInt 2.16.840.1.113883.11.20.9.18 **STATIC** (CONF:8827).

Use negationInd="true" to indicate that the immunization was not given.

1. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:8985).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:8828) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.52" (CONF:10498).
3. **SHALL** contain at least one [1..\*] **id** (CONF:8829).
4. **MAY** contain zero or one [0..1] **code** (CONF:8830).
5. **SHOULD** contain zero or one [0..1] **text** (CONF:8831).
   1. The text, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:15543).
      1. The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:15544).
         1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1 (CONF:15545).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:8833).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:8834).

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.

1. **MAY** contain zero or one [0..1] **repeatNumber** (CONF:8838).
2. **MAY** contain zero or one [0..1] **routeCode**, which **SHALL** be selected from ValueSet Medication Route FDA Value Set 2.16.840.1.113883.3.88.12.3221.8.7 **DYNAMIC** (CONF:8839).
3. **MAY** contain zero or one [0..1] **approachSiteCode**, where the @code **SHALL** be selected from ValueSet Body Site Value Set 2.16.840.1.113883.3.88.12.3221.8.9 **DYNAMIC** (CONF:8840).
4. **SHOULD** contain zero or one [0..1] **doseQuantity** (CONF:8841).
   1. The doseQuantity, if present, **SHOULD** contain zero or one [0..1] **@unit**, which **SHALL** be selected from ValueSet UnitsOfMeasureCaseSensitive 2.16.840.1.113883.1.11.12839 **DYNAMIC** (CONF:8842).
5. **MAY** contain zero or one [0..1] **administrationUnitCode**, which **SHALL** be selected from ValueSet Medication Product Form Value Set 2.16.840.1.113883.3.88.12.3221.8.11 **DYNAMIC** (CONF:8846).
6. **SHALL** contain exactly one [1..1] **consumable** (CONF:8847).
   1. This consumable **SHALL** contain exactly one [1..1] [**Immunization Medication Information**](#E_Immunization_Medication_Information) (templateId:2.16.840.1.113883.10.20.22.4.54) (CONF:15546).
7. **SHOULD** contain zero or one [0..1] **performer** (CONF:8849).
8. **MAY** contain zero or more [0..\*] **participant** (CONF:8850).
   1. The participant, if present, **SHALL** contain exactly one [1..1] **@typeCode**="CSM" (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:8851).
   2. The participant, if present, **SHALL** contain exactly one [1..1] [**Drug Vehicle**](#E_Drug_Vehicle) (templateId:2.16.840.1.113883.10.20.22.4.24) (CONF:15547).
9. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:8853) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="RSON" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:8854).
   2. **SHALL** contain exactly one [1..1] [**Indication**](#E_Indication) (templateId:2.16.840.1.113883.10.20.22.4.19) (CONF:15537).
10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:8856) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:8857).
    2. **SHALL** contain exactly one [1..1] **@inversionInd**="true" True (CONF:8858).
    3. **SHALL** contain exactly one [1..1] [**Instructions**](#E_Instructions) (templateId:2.16.840.1.113883.10.20.22.4.20) (CONF:15538).
11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:8860) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:8861).
    2. **SHALL** contain exactly one [1..1] [**Medication Supply Order**](#E_Medication_Supply_Order) (templateId:2.16.840.1.113883.10.20.22.4.17) (CONF:15539).
12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:8863) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:8864).
    2. **SHALL** contain exactly one [1..1] [**Medication Dispense**](#E_Medication_Dispense) (templateId:2.16.840.1.113883.10.20.22.4.18) (CONF:15540).
13. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:8866) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="CAUS" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:8867).
    2. **SHALL** contain exactly one [1..1] [**Reaction Observation**](#E_Reaction_Observation) (templateId:2.16.840.1.113883.10.20.22.4.9) (CONF:15541).
14. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:8988) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="RSON" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:8989).
    2. **SHALL** contain exactly one [1..1] [**Immunization Refusal Reason**](#E_Immunization_Refusal_Reason) (templateId:2.16.840.1.113883.10.20.22.4.53) (CONF:15542).
15. **MAY** contain zero or more [0..\*] **precondition** (CONF:8869) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="PRCN" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:8870).
    2. **SHALL** contain exactly one [1..1] [**Precondition for Substance Administration**](#E_Precondition_for_Substance_Administrat) (templateId:2.16.840.1.113883.10.20.22.4.25) (CONF:15548).

Figure : Immunization Activity (IMPACT) example

<substanceAdministration classCode="SBADM" moodCode="EVN" negationInd="false">

<templateId root="2.16.840.1.113883.10.20.22.4.52"/>

<!-- Immunization activity template -->

<id root="e6f1ba43-c0ed-4b9b-9f12-f435d8ad8f92"/>

<statusCode code="completed"/>

<!-- Time of administration -->

<effectiveTime xsi:type="IVL\_TS" value="199911"/>

<!-- Route of administration -->

<routeCode code="C28161" codeSystem="2.16.840.1.113883.3.26.1.1"

codeSystemName="National Cancer Institute (NCI) Thesaurus"

displayName="Intramuscular injection"/>

<!-- Dose information -->

<doseQuantity value="50" unit="mcg"/>

<consumable>

<manufacturedProduct classCode="MANU">

<templateId root="2.16.840.1.113883.10.20.22.4.54"/>

<!-- Immunization Medication Information -->

<manufacturedMaterial>

<!-- Which immunization given -->

<code code="88" codeSystem="2.16.840.1.113883.6.59"

displayName="Influenza virus vaccine" codeSystemName="CVX"> </code>

</manufacturedMaterial>

</manufacturedProduct>

</consumable>

<!-- Person responsible for prescribing the vaccine -->

<performer>

<assignedEntity>

<id extension="2981823" root="2.16.840.1.113883.19.5.9999.456"/>

<addr>

<streetAddressLine>1001 Village Avenue</streetAddressLine>

<city>Portland</city>

<state>OR</state>

<postalCode>99123</postalCode>

<country>US</country>

</addr>

<telecom use="WP" value="tel:555-555-1002"/>

<assignedPerson>

<name>

<given>Harold</given>

<family>Hippocrates</family>

</name>

</assignedPerson>

</assignedEntity>

</performer>

<!-- Special Instructions -->

<entryRelationship typeCode="SUBJ" inversionInd="true">

<act classCode="ACT" moodCode="INT">

<!-- Instructions Template -->

<templateId root="2.16.840.1.113883.10.20.22.4.20"/>

...

</act>

</entryRelationship>

<!-- Indication for the vaccine -->

<entryRelationship typeCode="RSON">

<observation classCode="OBS" moodCode="EVN">

<!-- Indication Template -->

<templateId root="2.16.840.1.113883.10.20.22.4.19"/>

...

</observation>

</entryRelationship>

</substanceAdministration>

Immunization Medication Information

[manufacturedProduct: templateId 2.16.840.1.113883.10.20.22.4.54 (open)]

Table 129: Immunization Medication Information Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Medication Supply Order](#E_Medication_Supply_Order) (optional)  [Medication Dispense](#E_Medication_Dispense) (optional)  [Immunization Activity](#E_Immunization_Activity) (required |  |

The Immunization Medication Information represents product information about the immunization substance. The vaccine manufacturer and vaccine lot number are typically recorded in the medical record and should be included if known.[[26]](#footnote-26)

Table 130: Immunization Medication Information Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
| Green Immunization Medication Information | manufacturedProduct[templateId/@root = '2.16.840.1.113883.10.20.22.4.54'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [9002](#C_9002) | 2.16.840.1.113883.5.110 (RoleClass) = MANU |
|  | templateId | 1..1 | SHALL |  | [9004](#C_9004) |  |
|  | @root | 1..1 | SHALL |  | [10499](#C_10499) | 2.16.840.1.113883.10.20.22.4.54 |
|  | id | 0..\* | MAY |  | [9005](#C_9005) |  |
|  | manufacturedMaterial | 1..1 | SHALL |  | [9006](#C_9006) |  |
| codedProduct Name | code | 1..1 | SHALL |  | [9007](#C_9007) | 2.16.840.1.113883.3.88.12.80.22 (Vaccine Administered Value Set) |
| freeTextProduct Name | originalText | 0..1 | SHOULD |  | [9008](#C_9008) |  |
|  | reference | 0..1 | SHOULD |  | [15555](#C_15555) |  |
|  | @value | 0..1 | SHOULD |  | [15556](#C_15556) |  |
|  | translation | 0..\* | MAY | SET <PQR> | [9011](#C_9011) |  |
| lotNumber | lotNumberText | 0..1 | SHOULD |  | [9014](#C_9014) |  |
| drugManufacturer | manufacturer Organization | 0..1 | SHOULD |  | [9012](#C_9012) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="MANU" (CodeSystem: RoleClass 2.16.840.1.113883.5.110 **STATIC**) (CONF:9002).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:9004) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.54" (CONF:10499).
3. **MAY** contain zero or more [0..\*] **id** (CONF:9005).
4. **SHALL** contain exactly one [1..1] **manufacturedMaterial** (CONF:9006).
   1. This manufacturedMaterial **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet Vaccine Administered Value Set 2.16.840.1.113883.3.88.12.80.22 **DYNAMIC** (CONF:9007).
      1. This code **SHOULD** contain zero or one [0..1] **originalText** (CONF:9008).
         1. The originalText, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:15555).
            1. The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:15556).

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:15557).

* + 1. This code **MAY** contain zero or more [0..\*] **translation** (CONF:9011).
       1. Translations can be used to represent generic product name, packaged product code, etc (CONF:16887).
  1. This manufacturedMaterial **SHOULD** contain zero or one [0..1] **lotNumberText** (CONF:9014).

1. **SHOULD** contain zero or one [0..1] **manufacturerOrganization** (CONF:9012).

Table : Vaccine Administered (Hepatitis B) Value Set (excerpt)

| Value Set: Vaccine Administered Value Set 2.16.840.1. 113883.3.88.12.80.22 DYNAMIC | | |
| --- | --- | --- |
| Code System(s): | Vaccines administered (CVX) 2.16.840.1.113883.12.292  <http://phinvads.cdc.gov/vads/ViewCodeSystem.action?id=2.16.840.1.113883.12.292> | |
| Code | Code System | Print Name |
| 82 | CVX | adenovirus vaccine, NOS |
| 54 | CVX | adenovirus vaccine, type 4, live, oral |
| 55 | CVX | adenovirus vaccine, type 7, live, oral |
| 24 | CVX | anthrax vaccine |
| … |  |  |

Figure : Immunization Medication Information (IMPACT) example

<manufacturedProduct classCode="MANU">

<templateId root="2.16.840.1.113883.10.20.22.4.54"/>

<!-- Immunization Medication Information -->

<manufacturedMaterial>

<!-- Which immunization given -->

<code code="88" codeSystem="2.16.840.1.113883.6.59"

displayName="Influenza virus vaccine" codeSystemName="CVX"> </code>

</manufacturedMaterial>

</manufacturedProduct>

Immunization Refusal Reason

[observation: templateId 2.16.840.1.113883.10.20.22.4.53 (open)]

Table 132: Immunization Refusal Reason Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Immunization Activity](#E_Immunization_Activity) (optional) |  |

The Immunization Refusal Reason Observation documents the rationale for the patient declining an immunization.

Table 133: Immunization Refusal Reason Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.53'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [8991](#C_8991) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [8992](#C_8992) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [8993](#C_8993) |  |
|  | @root | 1..1 | SHALL |  | [10500](#C_10500) | 2.16.840.1.113883.10.20.22.4.53 |
|  | id | 1..\* | SHALL |  | [8994](#C_8994) |  |
|  | code | 1..1 | SHALL |  | [8995](#C_8995) | 2.16.840.1.113883.1.11.19717 (No Immunization Reason Value Set) |
|  | statusCode | 1..1 | SHALL |  | [8996](#C_8996) |  |
|  | @code | 1..1 | SHALL |  | [19104](#C_19104) | 2.16.840.1.113883.5.14 (ActStatus) = completed |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:8991).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:8992).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8993) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.53" (CONF:10500).
4. **SHALL** contain at least one [1..\*] **id** (CONF:8994).
5. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet No Immunization Reason Value Set 2.16.840.1.113883.1.11.19717 **DYNAMIC** (CONF:8995).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:8996).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19104).

Table : No Immunization Reason Value Set

| Value Set: No Immunization Reason Value Set 2.16.840.1.113883.1.11.19717 DYNAMIC | | |
| --- | --- | --- |
| Code System(s): | ActReason 2.16.840.1.113883.5.8 | |
| Code | Code System | Print Name |
| IMMUNE | ActReason | Immunity |
| MEDPREC | ActReason | Medical precaution |
| OSTOCK | ActReason | Out of stock |
| PATOBJ | ActReason | Patient objection |
| PHILISOP | ActReason | Philosophical objection |
| RELIG | ActReason | Religious objection |
| VACEFF | ActReason | Vaccine efficacy concerns |
| VACSAF | ActReason | Vaccine safety concerns |

Indication

[observation: templateId 2.16.840.1.113883.10.20.22.4.19 (open)]

Table 135: Indication Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Medication Activity](#E_Medication_Activity) (optional)  [Procedure Activity Procedure](#E_Procedure_Activity_Procedure) (optional)  [Procedure Activity Act](#E_Procedure_Activity_Act) (optional)  [Procedure Activity Observation](#E_Procedure_Activity_Observation) (optional)  [Encounter Activities](#E_Encounter_Activities) (optional)  [Immunization Activity](#E_Immunization_Activity) (optional) |  |

The Indication Observation documents the rationale for an activity. It can do this with the id element to reference a problem recorded elsewhere in the document or with a code and value to record the problem type and problem within the Indication. For example, the indication for a prescription of a painkiller might be a headache that is documented in the Problems Section.

Table 136: Indication Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.19'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [7480](#C_7480) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [7481](#C_7481) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [7482](#C_7482) |  |
|  | @root | 1..1 | SHALL |  | [10502](#C_10502) | 2.16.840.1.113883.10.20.22.4.19 |
|  | id | 1..1 | SHALL |  | [7483](#C_7483) |  |
|  | code | 1..1 | SHALL |  | [16886](#C_16886) | 2.16.840.1.113883.3.88.12.3221.7.2 (Problem Type) |
|  | statusCode | 1..1 | SHALL |  | [7487](#C_7487) |  |
|  | @code | 1..1 | SHALL |  | [19105](#C_19105) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | effectiveTime | 0..1 | SHOULD |  | [7488](#C_7488) |  |
|  | value | 0..1 | SHOULD | CD | [7489](#C_7489) |  |
|  | @nullFlavor | 0..1 | MAY |  | [15990](#C_15990) |  |
|  | @code | 0..1 | SHOULD |  | [15985](#C_15985) | 2.16.840.1.113883.3.88.12.3221.7.4 (Problem Value Set) |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:7480).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:7481).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:7482) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.19" (CONF:10502).
4. **SHALL** contain exactly one [1..1] **id** (CONF:7483).
   1. Set the observation/id equal to an ID on the problem list to signify that problem as an indication (CONF:16885).
5. **SHALL** contain exactly one [1..1] **code**, which **SHOULD** be selected from ValueSet Problem Type 2.16.840.1.113883.3.88.12.3221.7.2 **STATIC** 2012-06-01 (CONF:16886).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:7487).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19105).
7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:7488).
8. **SHOULD** contain zero or one [0..1] **value** with @xsi:type="CD" (CONF:7489).
   1. The value, if present, **MAY** contain zero or one [0..1] **@nullFlavor** (CONF:15990).
      1. If the diagnosis is unknown 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:15991).
   2. The value, if present, **SHOULD** contain zero or one [0..1] **@code**, which **SHOULD** be selected from ValueSet Problem Value Set 2.16.840.1.113883.3.88.12.3221.7.4 **DYNAMIC** (CONF:15985).

Figure : Indication (IMPACT) example

<observation classCode="OBS" moodCode="EVN">

<!-- Indication Template -->

<templateId root="2.16.840.1.113883.10.20.22.4.19"/>

<id root="db734647-fc99-424c-a864-7e3cda82e703" extension="45665"/>

<code code="404684003" displayName="Finding"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT"/>

<statusCode code="completed"/>

<value xsi:type="CD" code="174776001" displayName="Total Excision of Spleen"

codeSystem="2.16.840.1.113883.6.96"/>

</observation>

Instructions

[act: templateId 2.16.840.1.113883.10.20.22.4.20 (open)]

Table 137: Instructions Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Medication Activity](#E_Medication_Activity) (optional)  [Medication Supply Order](#E_Medication_Supply_Order) (optional)  [Procedure Activity Procedure](#E_Procedure_Activity_Procedure) (optional)  [Plan of Care Section](#S_Plan_of_Care_Section) (optional)  [Procedure Activity Act](#E_Procedure_Activity_Act) (optional)  [Procedure Activity Observation](#E_Procedure_Activity_Observation) (optional)  [Immunization Activity](#E_Immunization_Activity) (optional) |  |

The Instructions template can be used in several ways, such as to record patient instructions within a Medication Activity or to record fill instructions within a supply order. The act/code defines the type of instruction. Though not defined in this template, a Vaccine Information Statement (VIS) document could be referenced through act/reference/externalDocument, and patient awareness of the instructions can be represented with the generic participant and the participant/awarenessCode.

Table 138: Instructions Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | act[templateId/@root = '2.16.840.1.113883.10.20.22.4.20'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [7391](#C_7391) | 2.16.840.1.113883.5.6 (HL7ActClass) = ACT |
|  | @moodCode | 1..1 | SHALL |  | [7392](#C_7392) | 2.16.840.1.113883.5.1001 (ActMood) = INT |
|  | templateId | 1..1 | SHALL |  | [7393](#C_7393) |  |
|  | @root | 1..1 | SHALL |  | [10503](#C_10503) | 2.16.840.1.113883.10.20.22.4.20 |
|  | code | 1..1 | SHALL |  | [16884](#C_16884) | 2.16.840.1.113883.11.20.9.34 (Patient Education) |
|  | text | 0..1 | SHOULD |  | [7395](#C_7395) |  |
|  | reference | 0..1 | SHOULD |  | [15577](#C_15577) |  |
|  | @value | 0..1 | SHOULD |  | [15578](#C_15578) |  |
|  | statusCode | 1..1 | SHALL |  | [7396](#C_7396) |  |
|  | @code | 1..1 | SHALL |  | [19106](#C_19106) | 2.16.840.1.113883.5.14 (ActStatus) = completed |

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:7391).
2. **SHALL** contain exactly one [1..1] **@moodCode**="INT" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:7392).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:7393) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.20" (CONF:10503).
4. **SHALL** contain exactly one [1..1] **code**, which **SHOULD** be selected from ValueSet Patient Education 2.16.840.1.113883.11.20.9.34 **DYNAMIC** (CONF:16884).
5. **SHOULD** contain zero or one [0..1] **text** (CONF:7395).
   1. The text, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:15577).
      1. The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:15578).
         1. This @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:15579).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:7396).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19106).

Table : Patient Education Value Set

| Value Set: Patient Education 2.16.840.1.113883.11.20.9.34 DYNAMIC | | |
| --- | --- | --- |
| Code System(s): | SNOMED CT 2.16.840.1.113883.6.96 | |
| Description: | Limited to terms descending from the Education (409073007) hierarchy.  Code system browser: <https://uts.nlm.nih.gov/snomedctBrowser.html> | |
| Code | Code System | Print Name |
| 311401005 | SNOMED CT | Patient Education |
| 171044003 | SNOMED CT | Immunization Education |
| 243072006 | SNOMED CT | Cancer Education |
| … |  |  |

Figure : Instructions (IMPACT) example

<act classCode="ACT" moodCode="INT">

<templateId root="2.16.840.1.113883.10.20.22.4.20"/>

<!-- Instructions Template -->

code code="423564006" codeSystem="2.16.840.1.113883.6.96"

displayName="Provider Instructions"/>

<text>Possible flu-like symptoms for three days.</text>

<statusCode code="completed"/>

</act>

Medication Activity

[substanceAdministration: templateId 2.16.840.1.113883.10.20.22.4.16 (open)]

Table 140: Medication Activity Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Reaction Observation](#E_Reaction_Observation) (optional)  [Procedure Activity Procedure](#E_Procedure_Activity_Procedure) (optional)  [Medications Section (entries required)](#S_Medications_Section_entries_required) (required)  [Medications Section (entries optional)](#S_Medications_Section_entries_optional) (optional)  [Procedure Activity Act](#E_Procedure_Activity_Act) (optional)  [Procedure Activity Observation](#E_Procedure_Activity_Observation) (optional) | [Drug Vehicle](#E_Drug_Vehicle)  [Indication](#E_Indication)  [Instructions](#E_Instructions)  [Medication Dispense](#E_Medication_Dispense)  [Medication Information](#E_Medication_Information)  [Medication Supply Order](#E_Medication_Supply_Order)  [Precondition for Substance Administration](#E_Precondition_for_Substance_Administrat)  [Reaction Observation](#E_Reaction_Observation) |

A medication activity describes substance administrations that have actually occurred (e.g. pills ingested or injections given) or are intended to occur (e.g. “take 2 tablets twice a day for the next 10 days”). Medication activities in “INT” mood are reflections of what a clinician intends a patient to be taking. Medication activities in “EVN” mood reflect actual use.

Medication timing is complex. This template requires that there be a substanceAdministration/  
effectiveTime valued with a time interval, representing the start and stop dates. Additional effectiveTime elements are optional, and can be used to represent frequency and other aspects of more detailed dosing regimens.

Table 141: Medication Activity Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
| Green Medication Activity | substanceAdministration[templateId/@root = '2.16.840.1.113883.10.20.22.4.16'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [7496](#C_7496) | 2.16.840.1.113883.5.6 (HL7ActClass) = SBADM |
|  | @moodCode | 1..1 | SHALL |  | [7497](#C_7497) | 2.16.840.1.113883.11.20.9.18 (MoodCodeEvnInt) |
|  | templateId | 1..1 | SHALL |  | [7499](#C_7499) |  |
|  | @root | 1..1 | SHALL |  | [10504](#C_10504) | 2.16.840.1.113883.10.20.22.4.16 |
|  | id | 1..\* | SHALL |  | [7500](#C_7500) |  |
| deliveryMethod | code | 0..1 | MAY |  | [7506](#C_7506) |  |
| freeTextSig | text | 0..1 | SHOULD |  | [7501](#C_7501) |  |
|  | reference | 0..1 | SHOULD |  | [15977](#C_15977) |  |
|  | @value | 0..1 | SHOULD |  | [15978](#C_15978) |  |
|  | statusCode | 1..1 | SHALL |  | [7507](#C_7507) |  |
|  | effectiveTime | 1..1 | SHALL |  | [7508](#C_7508) |  |
| indicateMedication Started | low | 1..1 | SHALL |  | [7511](#C_7511) |  |
| indicateMedication Stopped | high | 1..1 | SHALL |  | [7512](#C_7512) |  |
| administrationTiming | effectiveTime | 0..1 | SHOULD |  | [7513](#C_7513) |  |
|  | @operator | 1..1 | SHALL |  | [9106](#C_9106) | A |
|  | repeatNumber | 0..1 | MAY |  | [7555](#C_7555) |  |
| route | routeCode | 0..1 | MAY |  | [7514](#C_7514) | 2.16.840.1.113883.3.88.12.3221.8.7 (Medication Route FDA Value Set) |
| site | approachSiteCode | 0..1 | MAY | SET <CD> | [7515](#C_7515) | 2.16.840.1.113883.3.88.12.3221.8.9 (Body Site Value Set) |
| dose | doseQuantity | 0..1 | SHOULD |  | [7516](#C_7516) |  |
|  | @unit | 0..1 | SHOULD |  | [7526](#C_7526) | 2.16.840.1.113883.1.11.12839 (UnitsOfMeasureCaseSensitive) |
|  | rateQuantity | 0..1 | MAY |  | [7517](#C_7517) |  |
|  | @unit | 1..1 | SHALL |  | [7525](#C_7525) | 2.16.840.1.113883.1.11.12839 (UnitsOfMeasureCaseSensitive) |
| doseRestriction | maxDoseQuantity | 0..1 | MAY | RTO <PQ, PQ> | [7518](#C_7518) |  |
| productForm | administration UnitCode | 0..1 | MAY |  | [7519](#C_7519) | 2.16.840.1.113883.3.88.12.3221.8.11 (Medication Product Form Value Set) |
| medication Information | consumable | 1..1 | SHALL |  | [7520](#C_7520) |  |
|  | manufactured Product | 1..1 | SHALL |  | [16085](#C_16085) |  |
|  | performer | 0..1 | MAY |  | [7522](#C_7522) |  |
| vehicle | participant | 0..\* | MAY |  | [7523](#C_7523) |  |
|  | @typeCode | 1..1 | SHALL |  | [7524](#C_7524) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM |
|  | participantRole | 1..1 | SHALL |  | [16086](#C_16086) |  |
| indication | entryRelationship | 0..\* | MAY |  | [7536](#C_7536) |  |
|  | @typeCode | 1..1 | SHALL |  | [7537](#C_7537) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON |
|  | observation | 1..1 | SHALL |  | [16087](#C_16087) |  |
| patientInstructions | entryRelationship | 0..1 | MAY |  | [7539](#C_7539) |  |
|  | @typeCode | 1..1 | SHALL |  | [7540](#C_7540) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ |
|  | @inversionInd | 1..1 | SHALL |  | [7542](#C_7542) | true |
|  | act | 1..1 | SHALL |  | [16088](#C_16088) |  |
| orderInformation | entryRelationship | 0..1 | MAY |  | [7543](#C_7543) |  |
|  | @typeCode | 1..1 | SHALL |  | [7547](#C_7547) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |
|  | supply | 1..1 | SHALL |  | [16089](#C_16089) |  |
| fulfillment Instructions | entryRelationship | 0..\* | MAY |  | [7549](#C_7549) |  |
|  | @typeCode | 1..1 | SHALL |  | [7553](#C_7553) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |
|  | supply | 1..1 | SHALL |  | [16090](#C_16090) |  |
| reaction | entryRelationship | 0..1 | MAY |  | [7552](#C_7552) |  |
|  | @typeCode | 1..1 | SHALL |  | [7544](#C_7544) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = CAUS |
|  | observation | 1..1 | SHALL |  | [16091](#C_16091) |  |
|  | precondition | 0..\* | MAY |  | [7546](#C_7546) |  |
|  | @typeCode | 1..1 | SHALL |  | [7550](#C_7550) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = PRCN |
|  | criterion | 1..1 | SHALL |  | [16092](#C_16092) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="SBADM" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:7496).
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet MoodCodeEvnInt 2.16.840.1.113883.11.20.9.18 **STATIC** 2011-04-03 (CONF:7497).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:7499) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.16" (CONF:10504).
4. **SHALL** contain at least one [1..\*] **id** (CONF:7500).
5. **MAY** contain zero or one [0..1] **code** (CONF:7506).
6. **SHOULD** contain zero or one [0..1] **text** (CONF:7501).
   1. The text, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:15977).
      1. The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:15978).
         1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:15979).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:7507).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:7508) such that it
   1. **SHALL** contain exactly one [1..1] **low** (CONF:7511).
   2. **SHALL** contain exactly one [1..1] **high** (CONF:7512).
9. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:7513) such that it
   1. **SHALL** contain exactly one [1..1] **@operator**="A" (CONF:9106).
   2. **SHALL** contain exactly one [1..1] @xsi:type=”PIVL\_TS” or “EIVL\_TS” (CONF:9105).
10. **MAY** contain zero or one [0..1] **repeatNumber** (CONF:7555).
    1. 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 (CONF:16877).
11. **MAY** contain zero or one [0..1] **routeCode**, which **SHALL** be selected from ValueSet Medication Route FDA Value Set 2.16.840.1.113883.3.88.12.3221.8.7 **DYNAMIC** (CONF:7514).
12. **MAY** contain zero or one [0..1] **approachSiteCode**, where the @code **SHALL** be selected from ValueSet Body Site Value Set 2.16.840.1.113883.3.88.12.3221.8.9 **DYNAMIC** (CONF:7515).
13. **SHOULD** contain zero or one [0..1] **doseQuantity** (CONF:7516).
    1. The doseQuantity, if present, **SHOULD** contain zero or one [0..1] **@unit**, which **SHALL** be selected from ValueSet UnitsOfMeasureCaseSensitive 2.16.840.1.113883.1.11.12839 **DYNAMIC** (CONF:7526).
    2. Pre-coordinated consumable: If the consumable code is a pre-coordinated unit dose (e.g. "metoprolol 25mg tablet") then doseQuantity is a unitless number that indicates the number of products given per administration (e.g. "2", meaning 2 x "metoprolol 25mg tablet") (CONF:16878).
    3. Not pre-coordinated consumable: If the consumable code is not pre-coordinated (e.g. is simply "metoprolol"), then doseQuantity must represent a physical quantity with @unit, e.g. "25" and "mg", specifying the amount of product given per administration (CONF:16879).
14. **MAY** contain zero or one [0..1] **rateQuantity** (CONF:7517).
    1. The rateQuantity, if present, **SHALL** contain exactly one [1..1] **@unit**, which **SHALL** be selected from ValueSet UnitsOfMeasureCaseSensitive 2.16.840.1.113883.1.11.12839 **DYNAMIC** (CONF:7525).
15. **MAY** contain zero or one [0..1] **maxDoseQuantity** (CONF:7518).
16. **MAY** contain zero or one [0..1] **administrationUnitCode**, which **SHALL** be selected from ValueSet Medication Product Form Value Set 2.16.840.1.113883.3.88.12.3221.8.11 **DYNAMIC** (CONF:7519).
17. **SHALL** contain exactly one [1..1] **consumable** (CONF:7520).
    1. This consumable **SHALL** contain exactly one [1..1] [**Medication Information**](#E_Medication_Information) (templateId:2.16.840.1.113883.10.20.22.4.23) (CONF:16085).
18. **MAY** contain zero or one [0..1] **performer** (CONF:7522).
19. **MAY** contain zero or more [0..\*] **participant** (CONF:7523) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="CSM" (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:7524).
    2. **SHALL** contain exactly one [1..1] [**Drug Vehicle**](#E_Drug_Vehicle) (templateId:2.16.840.1.113883.10.20.22.4.24) (CONF:16086).
20. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:7536) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="RSON" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:7537).
    2. **SHALL** contain exactly one [1..1] [**Indication**](#E_Indication) (templateId:2.16.840.1.113883.10.20.22.4.19) (CONF:16087).
21. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:7539) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:7540).
    2. **SHALL** contain exactly one [1..1] **@inversionInd**="true" True (CONF:7542).
    3. **SHALL** contain exactly one [1..1] [**Instructions**](#E_Instructions) (templateId:2.16.840.1.113883.10.20.22.4.20) (CONF:16088).
22. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:7543) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:7547).
    2. **SHALL** contain exactly one [1..1] [**Medication Supply Order**](#E_Medication_Supply_Order) (templateId:2.16.840.1.113883.10.20.22.4.17) (CONF:16089).
23. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:7549) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:7553).
    2. **SHALL** contain exactly one [1..1] [**Medication Dispense**](#E_Medication_Dispense) (templateId:2.16.840.1.113883.10.20.22.4.18) (CONF:16090).
24. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:7552) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="CAUS" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:7544).
    2. **SHALL** contain exactly one [1..1] [**Reaction Observation**](#E_Reaction_Observation) (templateId:2.16.840.1.113883.10.20.22.4.9) (CONF:16091).
25. **MAY** contain zero or more [0..\*] **precondition** (CONF:7546) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="PRCN" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:7550).
    2. **SHALL** contain exactly one [1..1] [**Precondition for Substance Administration**](#E_Precondition_for_Substance_Administrat) (templateId:2.16.840.1.113883.10.20.22.4.25) (CONF:16092).
26. Medication Activity **SHOULD** include doseQuantity OR rateQuantity (CONF:7529).

Table : MoodCodeEvnInt Value Set

| Value Set: MoodCodeEvnInt 2.16.840.1.113883.11.20.9.18 STATIC 2011-04-03 | | |
| --- | --- | --- |
| Code System(s): | ActMood 2.16.840.1.113883.5.1001 | |
| Description: | Subset of HL7 ActMood codes, constrained to represent event (EVN) and intent (INT) moods | |
| Code | Code System | Print Name |
| EVN | ActMood | Event |
| INT | ActMood | Intent |

Figure : Medication Activity (IMPACT) example

<substanceAdministration classCode="SBADM" moodCode="EVN">

<!-- \*\* Medication activity \*\* -->

<templateId root="2.16.840.1.113883.10.20.22.4.16"/>

<id root="cdbd33f0-6cde-11db-9fe1-0800200c9a66"/>

<statusCode code="completed"/>

<effectiveTime xsi:type="IVL\_TS">

<!-- START and STOP Date -->

<low value="20070103"/>

<high value="20120515"/>

</effectiveTime>

<effectiveTime xsi:type="PIVL\_TS"

institutionSpecified="true" operator="A">

<period value="6" unit="h"/>

</effectiveTime>

<!-- ROUTE -->

<routeCode code="C38216" codeSystem="2.16.840.1.113883.3.26.1.1"

codeSystemName="NCI Thesaurus" displayName="RESPIRATORY (INHALATION)"/>

<!-- DOSE and SIZE -->

<doseQuantity value="1" unit="mg/actuat"/>

<!-- FREQUENCY -->

<rateQuantity value="90" unit="ml/min"/>

<consumable>

<manufacturedProduct classCode="MANU">

<!-- \*\* Medication information \*\* -->

<templateId root="2.16.840.1.113883.10.20.22.4.23"/>

...

</manufacturedProduct>

</consumable>

<performer>

<assignedEntity>

<id nullFlavor="NI"/>

<addr nullFlavor="UNK"/>

<telecom nullFlavor="UNK"/>

<representedOrganization>

<id root="2.16.840.1.113883.19.5.9999.1393"/>

<name>Community Health and Hospitals</name>

<telecom nullFlavor="UNK"/>

<addr nullFlavor="UNK"/>

</representedOrganization>

</assignedEntity>

</performer>

<participant typeCode="CSM">

<participantRole classCode="MANU">

<!-- \*\* Drug vehicle \*\* -->

<templateId root="2.16.840.1.113883.10.20.22.4.24"/>

...

</participantRole>

</participant>

<entryRelationship typeCode="RSON">

<observation classCode="OBS" moodCode="EVN">

<!-- \*\* Indication \*\* -->

<templateId root="2.16.840.1.113883.10.20.22.4.19"/>

...

</observation>

</entryRelationship>

<entryRelationship typeCode="REFR">

<supply classCode="SPLY" moodCode="INT">

<!-- \*\* Medication supply order \*\* -->

<templateId root="2.16.840.1.113883.10.20.22.4.17"/>

...

</supply>

</entryRelationship>

<entryRelationship typeCode="REFR">

<supply classCode="SPLY" moodCode="EVN">

<!-- \*\* Medication dispense \*\* -->

<templateId root="2.16.840.1.113883.10.20.22.4.18"/>

...

</supply>

</entryRelationship>

<precondition typeCode="PRCN">

<!-- \*\* Precondition for substance administration \*\* -->

<templateId root="2.16.840.1.113883.10.20.22.4.25"/>

...

</precondition>

</substanceAdministration>

Medication Dispense

[supply: templateId 2.16.840.1.113883.10.20.22.4.18 (open)]

Table 143: Medication Dispense Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Medication Activity](#E_Medication_Activity) (optional)  [Immunization Activity](#E_Immunization_Activity) (optional) | [Immunization Medication Information](#E_Immunization_Medication_Information)  [Medication Information](#E_Medication_Information)  [Medication Supply Order](#E_Medication_Supply_Order) |

This template records the act of supplying medications (i.e., dispensing).

Table 144: Medication Dispense Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
| Green Medication Dispense | supply[templateId/@root = '2.16.840.1.113883.10.20.22.4.18'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [7451](#C_7451) | 2.16.840.1.113883.5.6 (HL7ActClass) = SPLY |
|  | @moodCode | 1..1 | SHALL |  | [7452](#C_7452) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [7453](#C_7453) |  |
|  | @root | 1..1 | SHALL |  | [10505](#C_10505) | 2.16.840.1.113883.10.20.22.4.18 |
| prescriptionNumber | id | 1..\* | SHALL |  | [7454](#C_7454) |  |
|  | statusCode | 1..1 | SHALL |  | [7455](#C_7455) | 2.16.840.1.113883.3.88.12.80.64 (Medication Fill Status) |
| dispenseDate | effectiveTime | 0..1 | SHOULD |  | [7456](#C_7456) |  |
| fillNumber | repeatNumber | 0..1 | SHOULD |  | [7457](#C_7457) |  |
| quantityDispensed | quantity | 0..1 | SHOULD |  | [7458](#C_7458) |  |
|  | product | 0..1 | MAY |  | [7459](#C_7459) |  |
|  | manufacturedProduct | 1..1 | SHALL |  | [15607](#C_15607) |  |
|  | product | 0..1 | MAY |  | [9331](#C_9331) |  |
|  | manufacturedProduct | 1..1 | SHALL |  | [15608](#C_15608) |  |
|  | performer | 0..1 | MAY |  | [7461](#C_7461) |  |
| provider | assignedEntity | 1..1 | SHALL |  | [7467](#C_7467) |  |
|  | addr | 0..1 | SHOULD |  | [7468](#C_7468) |  |
| orderInformation | entryRelationship | 0..1 | MAY |  | [7473](#C_7473) |  |
|  | @typeCode | 1..1 | SHALL |  | [7474](#C_7474) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |
|  | supply | 1..1 | SHALL |  | [15606](#C_15606) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="SPLY" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:7451).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:7452).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:7453) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.18" (CONF:10505).
4. **SHALL** contain at least one [1..\*] **id** (CONF:7454).
5. **SHALL** contain exactly one [1..1] **statusCode**, which **SHALL** be selected from ValueSet Medication Fill Status 2.16.840.1.113883.3.88.12.80.64 **DYNAMIC** (CONF:7455).
6. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:7456).
7. **SHOULD** contain zero or one [0..1] **repeatNumber** (CONF:7457).
   1. In "EVN" (event) mood, the repeatNumber is the number of occurrences. For example, a repeatNumber of "3" in a dispense act means that the current dispensation is the 3rd (CONF:16876).
8. **SHOULD** contain zero or one [0..1] **quantity** (CONF:7458).
9. **MAY** contain zero or one [0..1] **product** (CONF:7459) such that it
   1. **SHALL** contain exactly one [1..1] [**Medication Information**](#E_Medication_Information) (templateId:2.16.840.1.113883.10.20.22.4.23) (CONF:15607).
10. **MAY** contain zero or one [0..1] **product** (CONF:9331) such that it
    1. **SHALL** contain exactly one [1..1] [**Immunization Medication Information**](#E_Immunization_Medication_Information) (templateId:2.16.840.1.113883.10.20.22.4.54) (CONF:15608).
11. **MAY** contain zero or one [0..1] **performer** (CONF:7461).
    1. The performer, if present, **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:7467).
       1. This assignedEntity **SHOULD** contain zero or one [0..1] **addr** (CONF:7468).
          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:10565).
12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:7473) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:7474).
    2. **SHALL** contain exactly one [1..1] [**Medication Supply Order**](#E_Medication_Supply_Order) (templateId:2.16.840.1.113883.10.20.22.4.17) (CONF:15606).
13. A supply act **SHALL** contain one product/Medication Information or one product/Immunization Medication Information template (CONF:9333).

Table : Medication Fill Status Value Set

|  |  |  |
| --- | --- | --- |
| Value Set: Medication Fill Status 2.16.840.1.113883.3.88.12.80.64 DYNAMIC  Code System: ActStatus 2.16.840.1.113883.5.14 | | |
| Code | Code System | Print Name | |
| aborted | ActStatus | Aborted | |
| completed | ActStatus | Completed | |

Figure : Medication Dispense (IMPACT) example

<supply classCode="SPLY" moodCode="EVN">

<!-- \*\* Medication dispense \*\* -->

<templateId root="2.16.840.1.113883.10.20.22.4.18"/>

<id root="1.2.3.4.56789.1"

extension="cb734647-fc99-424c-a864-7e3cda82e704"/>

<statusCode code="completed"/>

<effectiveTime value="20070103"/>

<repeatNumber value="1"/>

<quantity value="75"/>

<product>

<manufacturedProduct classCode="MANU">

<!-- \*\* Medication information \*\* -->

<templateId root="2.16.840.1.113883.10.20.22.4.23"/>

...

</manufacturedProduct>

</product>

<performer>

<time nullFlavor="UNK"/>

<assignedEntity>

<id root="2.16.840.1.113883.19.5.9999.456" extension="2981823"/>

<addr>

<streetAddressLine>1001 Village Avenue</streetAddressLine>

<city>Portland</city>

<state>OR</state>

<postalCode>99123</postalCode>

<country>US</country>

</addr>

<telecom nullFlavor="UNK"/>

<assignedPerson>

<name>

<prefix>Dr.</prefix>

<given>Henry</given>

<family>Seven</family>

</name>

</assignedPerson>

<representedOrganization>

<id root="2.16.840.1.113883.19.5.9999.1393"/>

<name>Community Health and Hospitals</name>

<telecom nullFlavor="UNK"/>

<addr nullFlavor="UNK"/>

</representedOrganization>

</assignedEntity>

</performer>

</supply>

Medication Information

[manufacturedProduct: templateId 2.16.840.1.113883.10.20.22.4.23 (open)]

Table 146: Medication Information Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Medication Activity](#E_Medication_Activity) (required)  [Medication Supply Order](#E_Medication_Supply_Order) (optional)  [Medication Dispense](#E_Medication_Dispense) (optional) |  |

The medication can be recorded as a pre-coordinated product strength, product form, or product concentration (e.g., “metoprolol 25mg tablet”, “amoxicillin 400mg/5mL suspension”); or not pre-coordinated (e.g., “metoprolol product”).

Table 147: Medication Information Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
| Green Medication Information | manufacturedProduct[templateId/@root = '2.16.840.1.113883.10.20.22.4.23'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [7408](#C_7408) | 2.16.840.1.113883.5.110 (RoleClass) = MANU |
|  | templateId | 1..1 | SHALL |  | [7409](#C_7409) |  |
|  | @root | 1..1 | SHALL |  | [10506](#C_10506) | 2.16.840.1.113883.10.20.22.4.23 |
|  | id | 0..\* | MAY |  | [7410](#C_7410) |  |
|  | manufacturedMaterial | 1..1 | SHALL |  | [7411](#C_7411) |  |
| codedProduct Name | code | 1..1 | SHALL |  | [7412](#C_7412) | 2.16.840.1.113883.3.88.12.80.17 (Medication Clinical Drug Name Value Set) |
| freeTextProduct Name | originalText | 0..1 | SHOULD |  | [7413](#C_7413) |  |
|  | reference | 0..1 | SHOULD |  | [15986](#C_15986) |  |
|  | @value | 0..1 | SHOULD |  | [15987](#C_15987) |  |
| codedBrandName | translation | 0..\* | MAY | SET <PQR> | [7414](#C_7414) |  |
| drugManufacturer | manufacturerOrganization | 0..1 | MAY |  | [7416](#C_7416) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="MANU" (CodeSystem: RoleClass 2.16.840.1.113883.5.110 **STATIC**) (CONF:7408).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:7409) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.23" (CONF:10506).
3. **MAY** contain zero or more [0..\*] **id** (CONF:7410).
4. **SHALL** contain exactly one [1..1] **manufacturedMaterial** (CONF:7411).
   1. This manufacturedMaterial **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet Medication Clinical Drug Name Value Set 2.16.840.1.113883.3.88.12.80.17 **DYNAMIC** (CONF:7412).
      1. This code **SHOULD** contain zero or one [0..1] **originalText** (CONF:7413).
         1. The originalText, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:15986).
            1. The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:15987).

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:15988).

* + 1. This code **MAY** contain zero or more [0..\*] **translation** (CONF:7414).
       1. Translations can be used to represent generic product name, packaged product code, etc (CONF:16875).

1. **MAY** contain zero or one [0..1] **manufacturerOrganization** (CONF:7416).

Figure : Medication Information (IMPACT) example

<manufacturedProduct classCode="MANU">

<!-- \*\* Medication Information \*\* -->

<templateId root="2.16.840.1.113883.10.20.22.4.23"/>

<id root="2a620155-9d11-439e-92b3-5d9815ff4ee8"/>

<!-- Name of Medication (Generic) -->

<manufacturedMaterial>

<code code="219483" codeSystem="2.16.840.1.113883.6.88"

displayName="Proventil HFA"> </code>

</manufacturedMaterial>

</manufacturedProduct>

Medication Supply Order

[supply: templateId 2.16.840.1.113883.10.20.22.4.17 (open)]

Table 148: Medication Supply Order Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Medication Activity](#E_Medication_Activity) (optional)  [Medication Dispense](#E_Medication_Dispense) (optional)  [Immunization Activity](#E_Immunization_Activity) (optional) | [Immunization Medication Information](#E_Immunization_Medication_Information)  [Instructions](#E_Instructions)  [Medication Information](#E_Medication_Information) |

This template records the intent to supply a patient with medications.

Table 149: Medication Supply Order Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | supply[templateId/@root = '2.16.840.1.113883.10.20.22.4.17'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [7427](#C_7427) | 2.16.840.1.113883.5.6 (HL7ActClass) = SPLY |
|  | @moodCode | 1..1 | SHALL |  | [7428](#C_7428) | 2.16.840.1.113883.5.1001 (ActMood) = INT |
|  | templateId | 1..1 | SHALL |  | [7429](#C_7429) |  |
|  | @root | 1..1 | SHALL |  | [10507](#C_10507) | 2.16.840.1.113883.10.20.22.4.17 |
|  | id | 1..\* | SHALL |  | [7430](#C_7430) |  |
|  | statusCode | 1..1 | SHALL |  | [7432](#C_7432) |  |
|  | effectiveTime | 0..1 | SHOULD | IVL\_TS | [15143](#C_15143) |  |
|  | high | 1..1 | SHALL |  | [15144](#C_15144) |  |
|  | repeatNumber | 0..1 | SHOULD |  | [7434](#C_7434) |  |
|  | quantity | 0..1 | SHOULD |  | [7436](#C_7436) |  |
|  | product | 0..1 | MAY |  | [7439](#C_7439) |  |
|  | manufactured Product | 1..1 | SHALL |  | [16093](#C_16093) |  |
|  | product | 0..1 | MAY |  | [9334](#C_9334) |  |
|  | manufactured Product | 1..1 | SHALL |  | [16094](#C_16094) |  |
|  | author | 0..1 | MAY |  | [7438](#C_7438) |  |
|  | entryRelationship | 0..1 | MAY |  | [7442](#C_7442) |  |
|  | @typeCode | 1..1 | SHALL |  | [7444](#C_7444) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ |
|  | @inversionInd | 1..1 | SHALL |  | [7445](#C_7445) | true |
|  | act | 1..1 | SHALL |  | [16095](#C_16095) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="SPLY" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:7427).
2. **SHALL** contain exactly one [1..1] **@moodCode**="INT" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:7428).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:7429) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.17" (CONF:10507).
4. **SHALL** contain at least one [1..\*] **id** (CONF:7430).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:7432).
6. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:15143) such that it
   1. **SHALL** contain exactly one [1..1] **high** (CONF:15144).
7. **SHOULD** contain zero or one [0..1] **repeatNumber** (CONF:7434).
   1. In "INT" (intent) mood, the repeatNumber defines the number of allowed fills. For example, a repeatNumber of "3" means that the substance can be supplied up to 3 times (or, can be dispensed, with 2 refills) (CONF:16869).
8. **SHOULD** contain zero or one [0..1] **quantity** (CONF:7436).
9. **MAY** contain zero or one [0..1] **product** (CONF:7439) such that it
   1. **SHALL** contain exactly one [1..1] [**Medication Information**](#E_Medication_Information) (templateId:2.16.840.1.113883.10.20.22.4.23) (CONF:16093).
10. **MAY** contain zero or one [0..1] **product** (CONF:9334) such that it
    1. **SHALL** contain exactly one [1..1] [**Immunization Medication Information**](#E_Immunization_Medication_Information) (templateId:2.16.840.1.113883.10.20.22.4.54) (CONF:16094).
       1. A supply act **SHALL** contain one product/Medication Information or one product/Immunization Medication Information template (CONF:16870).
11. **MAY** contain zero or one [0..1] **author** (CONF:7438).
12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:7442).
    1. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:7444).
    2. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@inversionInd**="true" True (CONF:7445).
    3. The entryRelationship, if present, **SHALL** contain exactly one [1..1] [**Instructions**](#E_Instructions) (templateId:2.16.840.1.113883.10.20.22.4.20) (CONF:16095).

Figure : Medication Supply Order (IMPACT) example

<supply classCode="SPLY" moodCode="INT">

<!-- \*\* Medication supply order \*\* -->

<templateId root="2.16.840.1.113883.10.20.22.4.17"/>

<id nullFlavor="NI"/>

<statusCode code="completed"/>

<effectiveTime xsi:type="IVL\_TS">

<low value="20070103"/>

<high nullFlavor="UNK"/>

</effectiveTime>

<repeatNumber value="1"/>

<quantity value="75"/>

<product>

<manufacturedProduct classCode="MANU">

<!-- \*\* Medication information \*\* -->

<templateId root="2.16.840.1.113883.10.20.22.4.23"/>

...

</manufacturedProduct>

</product>

<performer>

<assignedEntity>

<id extension="2981823" root="2.16.840.1.113883.19.5.9999.456"/>

<addr>

<streetAddressLine>1001 Village Avenue</streetAddressLine>

<city>Portland</city>

<state>OR</state>

<postalCode>99123</postalCode>

<country>US</country>

</addr>

</assignedEntity>

</performer>

<!-- Prescribed by -->

<author>

<time nullFlavor="UNK"/>

<assignedAuthor>

<id root="2a620155-9d11-439e-92b3-5d9815fe4de8"/>

<addr nullFlavor="UNK"/>

<telecom nullFlavor="UNK"/>

<assignedPerson>

<name>

<prefix>Dr.</prefix>

<given>Henry</given>

<family>Seven</family>

</name>

</assignedPerson>

</assignedAuthor>

</author>

<entryRelationship typeCode="SUBJ" inversionInd="true">

<act classCode="ACT" moodCode="INT">

<!-- \*\* Instructions \*\* -->

<templateId root="2.16.840.1.113883.10.20.22.4.20"/>

...

</act>

</entryRelationship>

</supply>

Non-Medicinal Supply Activity

[supply: templateId 2.16.840.1.113883.10.20.22.4.50 (open)]

Table 150: Non-Medicinal Supply Activity Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Functional Status Section](#S_Functional_Status_Section) (optional)  [Medical Equipment Section](#S_Medical_Equipment_Section) (optional)  [Functional Status Result Observation](#E_Functional_Status_Result_Observation) (optional)  [Cognitive Status Result Observation](#E_Cognitive_Status_Result_Observation) (optional)  [Functional Status Problem Observation](#E_Functional_Status_Problem_Observation) (optional)  [Cognitive Status Problem Observation](#E_Cognitive_Status_Problem_Observation) (optional) | [Product Instance](#E_Product_Instance) |

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

Table 151: Non-Medicinal Supply Activity Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | supply[templateId/@root = '2.16.840.1.113883.10.20.22.4.50'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [8745](#C_8745) | 2.16.840.1.113883.5.6 (HL7ActClass) = SPLY |
|  | @moodCode | 1..1 | SHALL |  | [8746](#C_8746) | 2.16.840.1.113883.11.20.9.18 (MoodCodeEvnInt) |
|  | templateId | 1..1 | SHALL |  | [8747](#C_8747) |  |
|  | @root | 1..1 | SHALL |  | [10509](#C_10509) | 2.16.840.1.113883.10.20.22.4.50 |
|  | id | 1..\* | SHALL |  | [8748](#C_8748) |  |
|  | statusCode | 1..1 | SHALL |  | [8749](#C_8749) |  |
|  | effectiveTime | 0..1 | SHOULD | IVL\_TS | [15498](#C_15498) |  |
|  | quantity | 0..1 | SHOULD |  | [8751](#C_8751) |  |
|  | participant | 0..1 | MAY |  | [8752](#C_8752) |  |
|  | @typeCode | 1..1 | SHALL |  | [8754](#C_8754) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = PRD |
|  | participantRole | 1..1 | SHALL |  | [15900](#C_15900) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="SPLY" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:8745).
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet MoodCodeEvnInt 2.16.840.1.113883.11.20.9.18 **STATIC** 2011-04-03 (CONF:8746).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8747) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.50" (CONF:10509).
4. **SHALL** contain at least one [1..\*] **id** (CONF:8748).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:8749).
6. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:15498).
   1. The effectiveTime, if present, **SHOULD** contain zero or one [0..1] high (CONF:16867).
7. **SHOULD** contain zero or one [0..1] **quantity** (CONF:8751).
8. **MAY** contain zero or one [0..1] **participant** (CONF:8752) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="PRD" Product (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:8754).
   2. **SHALL** contain exactly one [1..1] [**Product Instance**](#E_Product_Instance) (templateId:2.16.840.1.113883.10.20.22.4.37) (CONF:15900).

Number of Pressure Ulcers Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.76 (open)]

Table 152: Number of Pressure Ulcers Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Functional Status Section](#S_Functional_Status_Section) (optional)  [Physical Exam Section](#S_Physical_Exam_Section) (optional) |  |

This clinical statement enumerates the number of pressure ulcers observed in a particular stage.

Table 153: Number of Pressure Ulcers Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.76'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [14705](#C_14705) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [14706](#C_14706) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [14707](#C_14707) |  |
|  | @root | 1..1 | SHALL |  | [14708](#C_14708) | 2.16.840.1.113883.10.20.22.4.76 |
|  | id | 1..\* | SHALL |  | [14709](#C_14709) |  |
|  | code | 1..1 | SHALL |  | [14767](#C_14767) |  |
|  | @code | 1..1 | SHALL |  | [14768](#C_14768) | 2264892003 |
|  | statusCode | 1..1 | SHALL |  | [14714](#C_14714) |  |
|  | @code | 1..1 | SHALL |  | [19108](#C_19108) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | effectiveTime | 1..1 | SHALL |  | [14715](#C_14715) |  |
|  | value | 1..1 | SHALL | INT | [14771](#C_14771) |  |
|  | author | 0..1 | MAY |  | [14717](#C_14717) |  |
|  | entryRelationship | 1..1 | SHALL |  | [14718](#C_14718) |  |
|  | @typeCode | 1..1 | SHALL |  | [14719](#C_14719) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ |
|  | observation | 1..1 | SHALL |  | [14720](#C_14720) |  |
|  | @classCode | 1..1 | SHALL |  | [14721](#C_14721) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [14722](#C_14722) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | value | 1..1 | SHALL | CD | [14725](#C_14725) | 2.16.840.1.113883.11.20.9.35 (Pressure Ulcer Stage) |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:14705).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:14706).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:14707) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.76" (CONF:14708).
4. **SHALL** contain at least one [1..\*] **id** (CONF:14709).
5. **SHALL** contain exactly one [1..1] **code** (CONF:14767).
   1. This code **SHALL** contain exactly one [1..1] **@code**="2264892003" number of pressure ulcers (CONF:14768).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:14714).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19108).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:14715).
8. **SHALL** contain exactly one [1..1] **value** with @xsi:type="INT" (CONF:14771).
9. **MAY** contain zero or one [0..1] **author** (CONF:14717).
10. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:14718).
    1. This entryRelationship **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" Has subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:14719).
    2. This entryRelationship **SHALL** contain exactly one [1..1] **observation** (CONF:14720).
       1. This observation **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:14721).
       2. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:14722).
       3. This observation **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the @code **SHOULD** be selected from ValueSet Pressure Ulcer Stage 2.16.840.1.113883.11.20.9.35 **STATIC** (CONF:14725).

Plan of Care Activity Act

[act: templateId 2.16.840.1.113883.10.20.22.4.39 (open)]

Table 154: Plan of Care Activity Act Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Plan of Care Section](#S_Plan_of_Care_Section) (optional) |  |

This is the generic template for the Plan of Care Activity.

Table 155: Plan of Care Activity Act Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | act[templateId/@root = '2.16.840.1.113883.10.20.22.4.39'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [8538](#C_8538) | 2.16.840.1.113883.5.6 (HL7ActClass) = ACT |
|  | @moodCode | 1..1 | SHALL |  | [8539](#C_8539) | 2.16.840.1.113883.11.20.9.23 (Plan of Care moodCode (Act/Encounter/Procedure)) |
|  | templateId | 1..1 | SHALL |  | [8544](#C_8544) |  |
|  | @root | 1..1 | SHALL |  | [10510](#C_10510) | 2.16.840.1.113883.10.20.22.4.39 |
|  | id | 1..\* | SHALL |  | [8546](#C_8546) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:8538).
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet Plan of Care moodCode (Act/Encounter/Procedure) 2.16.840.1.113883.11.20.9.23 **STATIC** 2011-09-30 (CONF:8539).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8544) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.39" (CONF:10510).
4. **SHALL** contain at least one [1..\*] **id** (CONF:8546).

Table : Plan of Care moodCode (Act/Encounter/Procedure)

| Value Set: Plan of Care moodCode (Act/Encounter/Procedure) 2.16.840.1.113883.11.20.9.23 STATIC 2011-09-30 | | |
| --- | --- | --- |
| Code System(s): | HL7 ActMood 2.16.840.1.113883.5.1001 | |
| Code | Code System | Print Name |
| INT | HL7 ActMood | Intent |
| ARQ | HL7 ActMood | Appointment Request |
| PRMS | HL7 ActMood | Promise |
| PRP | HL7 ActMood | Proposal |
| RQO | HL7 ActMood | Request |

Figure : Plan of Care Activity Act example

<act moodCode="RQO" classCode="ACT">

<templateId root="2.16.840.1.113883.10.20.22.4.39"/>

<!-- Plan of Care Activity Act template -->

<id root="9a6d1bac-17d3-4195-89a4-1121bc809a5c"/>

<code code="73761001" codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT" displayName="Colonoscopy" />

<statusCode code="new"/>

<effectiveTime>

center value="20120512"/>

</effectiveTime>

</act>

Plan of Care Activity Encounter

[encounter: templateId 2.16.840.1.113883.10.20.22.4.40 (open)]

Table 157: Plan of Care Activity Encounter Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Plan of Care Section](#S_Plan_of_Care_Section) (optional) |  |

This is the template for the Plan of Care Activity Encounter.

Table 158: Plan of Care Activity Encounter Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | encounter[templateId/@root = '2.16.840.1.113883.10.20.22.4.40'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [8564](#C_8564) | 2.16.840.1.113883.5.6 (HL7ActClass) = ENC |
|  | @moodCode | 1..1 | SHALL |  | [8565](#C_8565) | 2.16.840.1.113883.11.20.9.23 (Plan of Care moodCode (Act/Encounter/Procedure)) |
|  | templateId | 1..1 | SHALL |  | [8566](#C_8566) |  |
|  | @root | 1..1 | SHALL |  | [10511](#C_10511) | 2.16.840.1.113883.10.20.22.4.40 |
|  | id | 1..\* | SHALL |  | [8567](#C_8567) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="ENC" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:8564).
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet Plan of Care moodCode (Act/Encounter/Procedure) 2.16.840.1.113883.11.20.9.23 **STATIC** 2011-09-30 (CONF:8565).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8566) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.40" (CONF:10511).
4. **SHALL** contain at least one [1..\*] **id** (CONF:8567).

Figure : Plan of Care Activity Encounter (IMPACT) example

<encounter moodCode="INT" classCode="ENC">

<templateId root="2.16.840.1.113883.10.20.22.4.40"/>

<!-- Plan of Care Activity Encounter template -->

<id root="9a6d1bac-17d3-4195-89a4-1121bc809b4d"/>

<text>Receiving Site Information</text>

<statusCode code="completed"/>

<!-- 4.2.1 Receiving Site - Clinician Assuming Responsiblility -->

<participant typeCode="PRCP">

<templateId root="2.16.840.1.113883.10.20.1.58"/>

<participantRole>

<!-- SDS:ID CNTC: Receiving Site - Clinician NPI -->

<id root="20cf14fb-b65c-4c8c-a54d-b0cca834c18c"/>

<!-- SDS:ID CNTC: Receiving Site - Clinician Speciality -->

<code code="208D00000X" codeSystem="2.16.840.1.113883.6.101"

codeSystemName="NUCC"

displayName="General Practice"/>

<addr>

<streetAddressLine>1006 Health Drive</streetAddressLine>

<city>Ann Arbor</city>

<state>MI</state>

<postalCode>97867</postalCode>

<country>US</country>

</addr>

<!-- Telephone number of participant -->

<telecom value="tel:(995)555-1006" use="WP"/>

<playingEntity>

<name>

<prefix>Dr.</prefix>

<family>James</family>

<given>Case</given>

<!-- SDS:ID CNTC: Receiving Site - Clinician Credentials -->

<suffix>MD</suffix>

</name>

</playingEntity>

</participantRole>

</participant>

</encounter>

Plan of Care Activity Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.44 (open)]

Table 159: Plan of Care Activity Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Plan of Care Section](#S_Plan_of_Care_Section) (optional) |  |

This is the template for the Plan of Care Activity Observation.

Table 160: Plan of Care Activity Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.44'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [8581](#C_8581) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [8582](#C_8582) | 2.16.840.1.113883.11.20.9.25 (Plan of Care moodCode (Observation)) |
|  | templateId | 1..1 | SHALL |  | [8583](#C_8583) |  |
|  | @root | 1..1 | SHALL |  | [10512](#C_10512) | 2.16.840.1.113883.10.20.22.4.44 |
|  | id | 1..\* | SHALL |  | [8584](#C_8584) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:8581).
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet Plan of Care moodCode (Observation) 2.16.840.1.113883.11.20.9.25 **STATIC** 2011-09-30 (CONF:8582).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8583) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.44" (CONF:10512).
4. **SHALL** contain at least one [1..\*] **id** (CONF:8584).

Table : Plan of Care moodCode (Observation) Value Set

| Value Set: Plan of Care moodCode (Observation) 2.16.840.1.113883.11.20.9.25 STATIC 2011-09-30 | | |
| --- | --- | --- |
| Code System(s): | HL7 ActMood 2.16.840.1.113883.5.1001 | |
| Code | Code System | Print Name |
| INT | ActMood | Intent |
| GOL | ActMood | Goal |
| PRMS | ActMood | Promise |
| PRP | ActMood | Proposal |
| RQO | ActMood | Request |

Figure : Plan of Care Activity Observation (IMPACT) example

<observation classCode="OBS" moodCode="GOL">

<!-- \*\*Plan of Care Activity Observation \*\* -->

<templateId root="2.16.840.1.113883.10.20.22.4.44"/>

<id root="9b56c25d-9104-45ee-9fa4-e0f3afaa01c1"/>

<!-- Insert Original Text for answers -->

<!-- 8.8.3.X Short Term (Goals) -->

<code nullFlavor=“OTH”>

<originalText>ShortTerm Goal: Maximize Longevity</originalText>

</code>

<statusCode code="new"/>

<effectiveTime>

<low value="20130501"/>

</effectiveTime>

<priorityCode code="394849002" codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT" displayName="High Priority"/>

<performer typeCode="PRF">

<assignedEntity>

<!-- Provider NPI "PseudoMD-1" -->

<id extension="PseudoMD-1" root="2.16.840.1.113883.4.6"/>

<code code="207RG0100X" displayName="Gastroenterologist"

codeSystemName="Provider Codes"

codeSystem="2.16.840.1.113883.6.101"/>

<addr>

<streetAddressLine>1033 Health Drive</streetAddressLine>

<city>Portland</city>

<state>OR</state>

<postalCode>99123</postalCode>

<country>US</country>

</addr>

<telecom value="tel:+1-555-555-1033" use="WP"/>

<assignedPerson>

<name>

<prefix>Dr.</prefix>

<given>Tony</given>

<family>Tum</family>

</name>

</assignedPerson>

<representedOrganization>

<id root="2.16.840.1.113883.19.5.9999.1393"/>

<name>Community Health and Hospitals</name>

<telecom value="tel:+1-555-555-5000" use="HP"/>

<addr>

<streetAddressLine>1033 Health Drive </streetAddressLine>

<city>Ann Arbor</city>

<state>MI</state>

<postalCode>99123</postalCode>

<country>US</country>

</addr>

</representedOrganization>

</assignedEntity>

</performer>

</observation>

Plan of Care Activity Procedure

[procedure: templateId 2.16.840.1.113883.10.20.22.4.41 (open)]

Table 162: Plan of Care Activity Procedure Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Plan of Care Section](#S_Plan_of_Care_Section) (optional) |  |

This is the template for the Plan of Care Activity Procedure.

Table 163: Plan of Care Activity Procedure Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | procedure[templateId/@root = '2.16.840.1.113883.10.20.22.4.41'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [8568](#C_8568) | 2.16.840.1.113883.5.6 (HL7ActClass) = PROC |
|  | @moodCode | 1..1 | SHALL |  | [8569](#C_8569) | 2.16.840.1.113883.11.20.9.23 (Plan of Care moodCode (Act/Encounter/Procedure)) |
|  | templateId | 1..1 | SHALL |  | [8570](#C_8570) |  |
|  | @root | 1..1 | SHALL |  | [10513](#C_10513) | 2.16.840.1.113883.10.20.22.4.41 |
|  | id | 1..\* | SHALL |  | [8571](#C_8571) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="PROC" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:8568).
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet Plan of Care moodCode (Act/Encounter/Procedure) 2.16.840.1.113883.11.20.9.23 **STATIC** 2011-09-30 (CONF:8569).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8570) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.41" (CONF:10513).
4. **SHALL** contain at least one [1..\*] **id** (CONF:8571).

Figure : Plan of Care Activity Procedure (IMPACT) example

<procedure moodCode="RQO" classCode="PROC">

<templateId root="2.16.840.1.113883.10.20.22.4.41"/>

<!-- \*\* Plan of Care Activity Procedure template \*\* -->

<id root="9a6d1bac-17d3-4195-89c4-1121bc809b5a"/>

<code code="73761001" codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT" displayName="Colonoscopy"/>

<!-- 10.14.2 Scheduled Date for Procedures -->

<statusCode code="new"/>

<effectiveTime>

<center value="20120513"/>

</effectiveTime>

</procedure>

Plan of Care Activity Substance Administration

[substanceAdministration: templateId 2.16.840.1.113883.10.20.22.4.42 (open)]

Table 164: Plan of Care Activity Substance Administration Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Plan of Care Section](#S_Plan_of_Care_Section) (optional) |  |

This is the template for the Plan of Care Activity Substance Administration

Table 165: Plan of Care Activity Substance Administration Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | substanceAdministration[templateId/@root = '2.16.840.1.113883.10.20.22.4.42'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [8572](#C_8572) | 2.16.840.1.113883.5.6 (HL7ActClass) = SBADM |
|  | @moodCode | 1..1 | SHALL |  | [8573](#C_8573) | 2.16.840.1.113883.11.20.9.24 (Plan of Care moodCode (SubstanceAdministration/Supply)) |
|  | templateId | 1..1 | SHALL |  | [8574](#C_8574) |  |
|  | @root | 1..1 | SHALL |  | [10514](#C_10514) | 2.16.840.1.113883.10.20.22.4.42 |
|  | id | 1..\* | SHALL |  | [8575](#C_8575) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="SBADM" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:8572).
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet Plan of Care moodCode (SubstanceAdministration/Supply) 2.16.840.1.113883.11.20.9.24 **STATIC** 2011-09-30 (CONF:8573).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8574) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.42" (CONF:10514).
4. **SHALL** contain at least one [1..\*] **id** (CONF:8575).

Table : Plan of Care moodCode (SubstanceAdministration/Supply) Value Set

| Value Set: Plan of Care moodCode (SubstanceAdministration/Supply)  2.16.840.1.113883.11.20.9.24 STATIC 2011-09-30 | | |
| --- | --- | --- |
| Code System(s): | HL7 ActMood 2.16.840.1.113883.5.1001 | |
| Code | Code System | Print Name |
| INT | ActMood | Intent |
| PRMS | ActMood | Promise |
| PRP | ActMood | Proposal |
| RQO | ActMood | Request |

Figure : Plan of Care Substance Administration (IMPACT) example

<supply classCode="SPLY" moodCode="RQO">

<!-- \*\* Plan of Care Substance Administration TemplateID \*\* -->

<templateId root="2.16.840.1.113883.10.20.22.4.42"/>

<!-- \*\* 10.19.7 Use for "Supplies" \*\* -->

<id root="c4ffe98e-3cd3-4c54-b5bd-08ecb80379e0"/>

<text>PCA pump </text>

<statusCode code="completed"/>

<effectiveTime xsi:type="IVL\_TS">

<!-- \*\* 10.19.7.4 Supply Ordered use date to determine \*\* -->

<center value="122012"/>

</effectiveTime>

<quantity value="1"/>

<participant typeCode="PRD">

<participantRole classCode="MANU">

<!-- \*\* Product instance \*\* -->

<templateId root="2.16.840.1.113883.10.20.22.4.37"/>

...

</participantRole>

</participant>

</supply>

Plan of Care Activity Supply

[supply: templateId 2.16.840.1.113883.10.20.22.4.43 (open)]

Table 167: Plan of Care Activity Supply Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Plan of Care Section](#S_Plan_of_Care_Section) (optional) |  |

This is the template for the Plan of Care Activity Supply.

Table 168: Plan of Care Activity Supply Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | supply[templateId/@root = '2.16.840.1.113883.10.20.22.4.43'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [8577](#C_8577) | 2.16.840.1.113883.5.6 (HL7ActClass) = SPLY |
|  | @moodCode | 1..1 | SHALL |  | [8578](#C_8578) | 2.16.840.1.113883.11.20.9.24 (Plan of Care moodCode (SubstanceAdministration/Supply)) |
|  | templateId | 1..1 | SHALL |  | [8579](#C_8579) |  |
|  | @root | 1..1 | SHALL |  | [10515](#C_10515) | 2.16.840.1.113883.10.20.22.4.43 |
|  | id | 1..\* | SHALL |  | [8580](#C_8580) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="SPLY" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:8577).
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet Plan of Care moodCode (SubstanceAdministration/Supply) 2.16.840.1.113883.11.20.9.24 **STATIC** 2011-09-30 (CONF:8578).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8579) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.43" (CONF:10515).
4. **SHALL** contain at least one [1..\*] **id** (CONF:8580).

Figure : Plan of Care Activity Supply example

<supply moodCode="INT" classCode="SPLY">

<templateId root="2.16.840.1.113883.10.20.22.4.43"/>

<!-- \*\* Plan of Care Activity Supply \*\* -->

<id root="9a6d1bac-17d3-4195-89c4-1121bc809b5d"/>

<code .../>

</supply>

Policy Activity

[act: templateId 2.16.840.1.113883.10.20.22.4.61 (closed)]

Table 169: Policy Activity Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Coverage Activity](#E_Coverage_Activity) (required) |  |

A policy activity represents the policy or program providing the coverage. The person for whom payment is being provided (i.e., the patient) is the covered party. The subscriber of the policy or program is represented as a participant that is the holder the coverage. The payer is represented as the performer of the policy activity.

Table 170: Policy Activity Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | act[templateId/@root = '2.16.840.1.113883.10.20.22.4.61'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [8898](#C_8898) | 2.16.840.1.113883.5.6 (HL7ActClass) = ACT |
|  | @moodCode | 1..1 | SHALL |  | [8899](#C_8899) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [8900](#C_8900) |  |
|  | @root | 1..1 | SHALL |  | [10516](#C_10516) | 2.16.840.1.113883.10.20.22.4.61 |
|  | id | 1..\* | SHALL |  | [8901](#C_8901) |  |
|  | code | 1..1 | SHALL |  | [8903](#C_8903) |  |
|  | @code | 0..1 | SHOULD |  | [19185](#C_19185) | 2.16.840.1.113883.3.88.12.3221.5.2 (Health Insurance Type Value Set) |
|  | statusCode | 1..1 | SHALL |  | [8902](#C_8902) |  |
|  | @code | 1..1 | SHALL |  | [19109](#C_19109) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | performer | 1..1 | SHALL |  | [8906](#C_8906) |  |
|  | @typeCode | 1..1 | SHALL |  | [8907](#C_8907) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = PRF |
|  | templateId | 1..1 | SHALL |  | [16808](#C_16808) |  |
|  | @root | 1..1 | SHALL |  | [16809](#C_16809) | 2.16.840.1.113883.10.20.22.4.87 |
|  | assignedEntity | 1..1 | SHALL |  | [8908](#C_8908) |  |
|  | id | 1..\* | SHALL |  | [8909](#C_8909) |  |
|  | code | 0..1 | SHOULD |  | [8914](#C_8914) |  |
|  | @code | 1..1 | SHALL |  | [15992](#C_15992) | 2.16.840.1.113883.1.11.10416 (HL7FinanciallyResponsiblePartyType) |
|  | addr | 0..1 | MAY |  | [8910](#C_8910) |  |
|  | telecom | 0..1 | MAY |  | [8911](#C_8911) |  |
|  | represented Organization | 0..1 | SHOULD |  | [8912](#C_8912) |  |
|  | name | 0..1 | SHOULD |  | [8913](#C_8913) |  |
|  | performer | 0..1 | SHOULD |  | [8961](#C_8961) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = PRF |
|  | templateId | 1..1 | SHALL |  | [16810](#C_16810) |  |
|  | @root | 1..1 | SHALL |  | [16811](#C_16811) | 2.16.840.1.113883.10.20.22.4.88 |
|  | time | 0..1 | SHOULD |  | [8963](#C_8963) |  |
|  | assignedEntity | 1..1 | SHALL |  | [8962](#C_8962) |  |
|  | code | 1..1 | SHALL |  | [8968](#C_8968) |  |
|  | @code | 1..1 | SHALL |  | [16096](#C_16096) | 2.16.840.1.113883.5.111 (RoleCode) = GUAR |
|  | addr | 0..1 | SHOULD |  | [8964](#C_8964) |  |
|  | telecom | 0..1 | SHOULD |  | [8965](#C_8965) |  |
|  | participant | 1..1 | SHALL |  | [8916](#C_8916) |  |
|  | @typeCode | 1..1 | SHALL |  | [8917](#C_8917) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = COV |
|  | templateId | 1..1 | SHALL |  | [16812](#C_16812) |  |
|  | @root | 1..1 | SHALL |  | [16814](#C_16814) | 2.16.840.1.113883.10.20.22.4.89 |
|  | time | 0..1 | SHOULD |  | [8918](#C_8918) |  |
|  | low | 0..1 | SHOULD |  | [8919](#C_8919) |  |
|  | high | 0..1 | SHOULD |  | [8920](#C_8920) |  |
|  | participantRole | 1..1 | SHALL |  | [8921](#C_8921) |  |
|  | id | 1..\* | SHALL |  | [8922](#C_8922) |  |
|  | code | 1..1 | SHALL |  | [8923](#C_8923) |  |
|  | @code | 0..1 | SHOULD |  | [16078](#C_16078) | 2.16.840.1.113883.1.11.18877 (Coverage Role Type Value Set) |
|  | addr | 0..1 | SHOULD |  | [8956](#C_8956) |  |
|  | playingEntity | 0..1 | SHOULD |  | [8932](#C_8932) |  |
|  | name | 1..1 | SHALL |  | [8930](#C_8930) |  |
|  | participant | 0..1 | SHOULD |  | [8934](#C_8934) |  |
|  | @typeCode | 1..1 | SHALL |  | [8935](#C_8935) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = HLD |
|  | templateId | 1..1 | SHALL |  | [16813](#C_16813) |  |
|  | @root | 1..1 | SHALL |  | [16815](#C_16815) | 2.16.840.1.113883.10.20.22.4.90 |
|  | time | 0..1 | MAY |  | [8938](#C_8938) |  |
|  | participantRole | 1..1 | SHALL |  | [8936](#C_8936) |  |
|  | id | 1..\* | SHALL |  | [8937](#C_8937) |  |
|  | addr | 0..1 | SHOULD |  | [8925](#C_8925) |  |
|  | entryRelationship | 1..\* | SHALL |  | [8939](#C_8939) |  |
|  | @typeCode | 1..1 | SHALL |  | [8940](#C_8940) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" Act (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:8898).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:8899).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8900) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.61" (CONF:10516).

This id is a unique identifier for the policy or program providing the coverage

1. **SHALL** contain at least one [1..\*] **id** (CONF:8901).
2. **SHALL** contain exactly one [1..1] **code** (CONF:8903).
   1. This code **SHOULD** contain zero or one [0..1] **@code**, which **SHOULD** be selected from ValueSet Health Insurance Type Value Set 2.16.840.1.113883.3.88.12.3221.5.2 **DYNAMIC** (CONF:19185).
3. **SHALL** contain exactly one [1..1] **statusCode** (CONF:8902).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19109).

This performer represents the Payer.

1. **SHALL** contain exactly one [1..1] **performer** (CONF:8906) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="PRF" Performer (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:8907).
   2. **SHALL** contain exactly one [1..1] **templateId** (CONF:16808) such that it
      1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.87" Payer Performer (CONF:16809).
   3. **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:8908).
      1. This assignedEntity **SHALL** contain at least one [1..\*] **id** (CONF:8909).
      2. This assignedEntity **SHOULD** contain zero or one [0..1] **code** (CONF:8914).
         1. The code, if present, **SHALL** contain exactly one [1..1] **@code**, which **SHOULD** be selected from ValueSet HL7FinanciallyResponsiblePartyType 2.16.840.1.113883.1.11.10416 **DYNAMIC** (CONF:15992).
      3. This assignedEntity **MAY** contain zero or one [0..1] **addr** (CONF:8910).
         1. The content of addr **SHALL** be a conformant US Realm Address (AD.US.FIELDED) (2.16.840.1.113883.10.20.22.5.2) (CONF:10481).
      4. This assignedEntity **MAY** contain zero or one [0..1] **telecom** (CONF:8911).
      5. This assignedEntity **SHOULD** contain zero or one [0..1] **representedOrganization** (CONF:8912).
         1. The representedOrganization, if present, **SHOULD** contain zero or one [0..1] **name** (CONF:8913).

This performer represents the Guarantor.

1. **SHOULD** contain zero or one [0..1] **performer**="PRF" Performer (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:8961) such that it
   1. **SHALL** contain exactly one [1..1] **templateId** (CONF:16810) such that it
      1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.88" Guarantor Performer (CONF:16811).
   2. **SHOULD** contain zero or one [0..1] **time** (CONF:8963).
   3. **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:8962).
      1. This assignedEntity **SHALL** contain exactly one [1..1] **code** (CONF:8968).
         1. This code **SHALL** contain exactly one [1..1] **@code**="GUAR" Guarantor (CodeSystem: RoleCode 2.16.840.1.113883.5.111 **STATIC**) (CONF:16096).
      2. This assignedEntity **SHOULD** contain zero or one [0..1] **addr** (CONF:8964).
         1. The content of addr **SHALL** be a conformant US Realm Address (AD.US.FIELDED) (2.16.840.1.113883.10.20.22.5.2) (CONF:10482).
      3. This assignedEntity **SHOULD** contain zero or one [0..1] **telecom** (CONF:8965).
      4. **SHOULD** include assignedEntity/assignedPerson/name AND/OR assignedEntity/representedOrganization/name (CONF:8967).
2. **SHALL** contain exactly one [1..1] **participant** (CONF:8916) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="COV" Coverage target (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:8917).
   2. **SHALL** contain exactly one [1..1] **templateId** (CONF:16812) such that it
      1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.89" Covered Party Participant (CONF:16814).
   3. **SHOULD** contain zero or one [0..1] **time** (CONF:8918).
      1. The time, if present, **SHOULD** contain zero or one [0..1] **low** (CONF:8919).
      2. The time, if present, **SHOULD** contain zero or one [0..1] **high** (CONF:8920).
   4. **SHALL** contain exactly one [1..1] **participantRole** (CONF:8921).
      1. This participantRole **SHALL** contain at least one [1..\*] **id** (CONF:8922).
         1. This id is a unique identifier for the covered party member. Implementers **SHOULD** use the same GUID for each instance of a member identifier from the same health plan (CONF:8984).
      2. This participantRole **SHALL** contain exactly one [1..1] **code** (CONF:8923).
         1. This code **SHOULD** contain zero or one [0..1] **@code**, which **SHOULD** be selected from ValueSet Coverage Role Type Value Set 2.16.840.1.113883.1.11.18877 **DYNAMIC** (CONF:16078).
      3. This participantRole **SHOULD** contain zero or one [0..1] **addr** (CONF:8956).
         1. The content of addr **SHALL** be a conformant US Realm Address (AD.US.FIELDED) (2.16.840.1.113883.10.20.22.5.2) (CONF:10484).
      4. This participantRole **SHOULD** contain zero or one [0..1] **playingEntity** (CONF:8932).

If the covered party’s name is recorded differently in the health plan and in the registration/medication summary (due to marriage or for other reasons), use the name as it is recorded in the health plan.

* + - 1. The playingEntity, if present, **SHALL** contain exactly one [1..1] **name** (CONF:8930).
      2. If the member date of birth as recorded by the health plan differs from the patient date of birth as recorded in the registration/medication summary, then the member date of birth **SHALL** be recorded in sdtc:birthTime. The prefix sdtc: **SHALL** be bound to the namespace “urn:hl7-org:sdtc”. The use of the namespace provides a necessary extension to CDA R2 for the use of the birthTime element (CONF:8933).

1. **SHOULD** contain zero or one [0..1] **participant** (CONF:8934) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="HLD" Holder (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:8935).
   2. **SHALL** contain exactly one [1..1] **templateId** (CONF:16813) such that it
      1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.90" Policy Holder Participant (CONF:16815).
   3. **MAY** contain zero or one [0..1] **time** (CONF:8938).
   4. **SHALL** contain exactly one [1..1] **participantRole** (CONF:8936).
      1. This participantRole **SHALL** contain at least one [1..\*] **id** (CONF:8937).
         1. This id is a unique identifier for the subscriber of the coverage (CONF:10120).
      2. This participantRole **SHOULD** contain zero or one [0..1] **addr** (CONF:8925).
         1. The content of addr **SHALL** be a conformant US Realm Address (AD.US.FIELDED) (2.16.840.1.113883.10.20.22.5.2) (CONF:10483).
   5. When the Subscriber is the patient, the participant element describing the subscriber **SHALL NOT** be present. This information will be recorded instead in the data elements used to record member information (CONF:17139).
2. **SHALL** contain at least one [1..\*] **entryRelationship** (CONF:8939) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" Refers to (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:8940).
   2. The target of a policy activity with act/entryRelationship/@typeCode="REFR" **SHALL** be an authorization activity (templateId 2.16.840.1.113883.10.20.1.19) OR an act, with act[@classCode="ACT"] and act[@moodCode="DEF"], representing a description of the coverage plan (CONF:8942).
   3. A description of the coverage plan **SHALL** contain one or more act/id, to represent the plan identifier, and an act/text with the name of the plan (CONF:8943).

Table : Health Insurance Type Value Set (excerpt)

| Value Set: Health Insurance Type Value Set 2.16.840.1.113883.3.88.12.3221.5.2 DYNAMIC | | |
| --- | --- | --- |
| Code System(s): | ASC X12 2.16.840.1.113883.6.255.1336  The full value set is available in HITSP C80 (see [HITSP.org](file:///C:\Users\Zabrina\AppData\Local\AppData\Local\Microsoft\Windows\Temporary%20Internet%20Files\Content.Outlook\AppData\Roaming\Microsoft\AppData\Users\Brett%20Lantana\AppData\Roaming\Microsoft\Downloads\Macintosh%20HD:\htttp\--www.HITSP.org)). | |
| Code | Code System | Print Name |
| 12 | ASC X12 | Medicare Secondary Working Aged Beneficiary or Spouse with Employer Group Health Plan |
| 13 | ASC X12 | Medicare Secondary End-Stage Renal Disease Beneficiary in the 12 month coordination period with an employer’s group health plan |
| 14 | ASC X12 | Medicare Secondary, No-fault Insurance including Auto is Primary |
| … |  |  |

Table : Coverage Type Value Set

| Value Set: Coverage Role Type Value Set 2.16.840.1.113883.1.11.18877 DYNAMIC | | |
| --- | --- | --- |
| Code System(s): | RoleCode 2.16.840.1.113883.5.111 | |
| Code | Code System | Print Name |
| FAMDEP | RoleCode | Family dependent |
| FSTUD | RoleCode | Full-time student |
| HANDIC | RoleCode | Handicapped dependent |
| INJ | RoleCode | Injured plaintiff |
| PSTUD | RoleCode | Part-time student |
| SELF | RoleCode | Self |
| SPON | RoleCode | Sponsored dependent |
| STUD | RoleCode | Student |

Table : Financially Responsible Party Value Set (excerpt)

| Value Set: FinanciallyResponsiblePartyType 2.16.840.1.113883.1.11.10416 DYNAMIC | | |
| --- | --- | --- |
| Code System(s): | RoleCode 2.16.840.1.113883.5.111  <http://www.hl7.org/memonly/downloads/v3edition.cfm#V32008> | |
| Code | Code System | Print Name |
| EMP | RoleCode | employee |
| GUAR | RoleCode | guarantor |
| INVSBJ | RoleCode | Investigation Subject |
| COVPTY | RoleCode | Covered party |
| … |  |  |

Figure : Policy Activity (IMPACT) example

<act classCode="ACT" moodCode="EVN">

<!-- C-CDA Policy Activity template -->

<templateId root="2.16.840.1.113883.10.20.22.4.61"/>

<!--IMPACT Standard Insurance Data Set: Insurance Group #

The id is a unique identifier for the policy or program providing the coverage-->

<id root="3e676a50-7aac-11db-9fe1-0800200c9a66"/>

<!-- IMPACT Standard Insurance Data Set: Insurance Type

ValueSet: Health Insurance Type Value Set

2.16.840.1.113883.3.88.12.3221.5.2 DYNAMIC-->

<code code="SELF" codeSystemName="HL7 RoleClassRelationship"

codeSystem="2.16.840.1.113883.5.110"> </code>

<statusCode code="completed"/>

<!-- This performer represents the Payer -->

<performer typeCode="PRF">

<!-- Payer Performer -->

<templateId root="2.16.840.1.113883.10.20.22.4.87"/>

<assignedEntity>

<id root="2.16.840.1.113883.19"/>

<code code="PAYOR" codeSystem="2.16.840.1.113883.5.110"

codeSystemName="HL7 RoleCode"/>

<!-- IMPACT Standard Insurance Data Set: Insurance Phone # -->

<telecom value="tel:(781)555-1515" use="WP"/>

<representedOrganization>

<!-- IMPACT Standard Insurance Data Set: Insurance Name -->

<name>Good Health Insurance</name>

</representedOrganization>

</assignedEntity>

</performer>

<!-- Standard Insurance Data Set: Financial responsibility -->

<!-- C-CDA Guarantor Information....   
 The person responsible for the final bill. -->

<performer typeCode="PRF">

<templateId root="2.16.840.1.113883.10.20.22.4.88"/>

<assignedEntity>

<id root="329fcdf0-7ab3-11db-9fe1-0800200c9a66"/>

<code code="GUAR" codeSystem="2.16.840.1.113883.5.111"

codeSystemName="HL7 RoleCode"/>

<assignedPerson>

<!-- IMPACT Standard Insurance Data Set: Financial Responsibility -->

<name>

<prefix>Mr.</prefix>

<given>Financial</given>

<family>Responsibility</family>

</name>

</assignedPerson>

<representedOrganization>

<name>Financial Responsibility Organization</name>

</representedOrganization>

</assignedEntity>

</performer>

<participant typeCode="COV">

<!-- C-CDA Covered Party Participant -->

<templateId root="2.16.840.1.113883.10.20.22.4.89"/>

<participantRole>

<!-- Unique identifier for the subscriber of the coverage -->

<id root="14d4a520-7aae-11db-9fe1-0800200c9a66" extension="1138345"/>

<code code="SELF" codeSystem="2.16.840.1.113883.5.111"   
 displayName="Self"/>

<playingEntity>

<!-- IMPACT Standard Insurance Data Set element: Subscriber Name -->

<name>

<prefix>Mr.</prefix>

<given>Frank</given>

<given>A.</given>

<family>Everyman</family>

</name>

</playingEntity>

</participantRole>

</participant>

<entryRelationship typeCode="REFR">

<act classCode="ACT" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.1.19"/>

<!-- \*\*\*\*\*\*\*\* Authorization activity template \*\*\*\*\*\*\*\* -->

<id root="f4dce790-8328-11db-9fe1-0800200c9a66"/>

<code nullFlavor="NA"/>

<entryRelationship typeCode="SUBJ">

<procedure classCode="PROC" moodCode="PRMS">

<code code="73761001" codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT" displayName="Colonoscopy"/>

</procedure>

</entryRelationship>

</act>

</entryRelationship>

<!-- The above entryRelationship OR the following.-->

<entryRelationship typeCode="REFR">

<act classCode="ACT" moodCode="DEF">

<id root="f4dce790-8328-11db-9fe1-0800200c9a66"/>

<code nullFlavor="UNK"/>

<text>Health Plan Name</text>

<statusCode code="active"/>

</act>

</entryRelationship>

</act>

Precondition for Substance Administration

[criterion: templateId 2.16.840.1.113883.10.20.22.4.25 (open)]

Table 174: Precondition for Substance Administration Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Medication Activity](#E_Medication_Activity) (optional)  [Immunization Activity](#E_Immunization_Activity) (optional) |  |

A criterion for administration can be used to record that the medication is to be administered only when the associated criteria are met.

Table 175: Precondition for Substance Administration Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | criterion[templateId/@root = '2.16.840.1.113883.10.20.22.4.25'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [7372](#C_7372) |  |
|  | @root | 1..1 | SHALL |  | [10517](#C_10517) | 2.16.840.1.113883.10.20.22.4.25 |
|  | code | 0..1 | SHOULD |  | [16854](#C_16854) |  |
|  | text | 0..1 | MAY |  | [7373](#C_7373) |  |
|  | value | 0..1 | SHOULD | CD | [7369](#C_7369) |  |

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:7372) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.25" (CONF:10517).
2. **SHOULD** contain zero or one [0..1] **code** (CONF:16854).
3. **MAY** contain zero or one [0..1] **text** (CONF:7373).
4. **SHOULD** contain zero or one [0..1] **value** with @xsi:type="CD" (CONF:7369).

Figure : Precondition for Substance Administration (IMPACT) example

<precondition typeCode="PRCN">

<!-- \*\* Precondition for substance administration \*\* -->

<templateId root="2.16.840.1.113883.10.20.22.4.25"/>

<criterion>

<code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>

<value xsi:type="CE" code="56018004" codeSystem="2.16.840.1.113883.6.96"

displayName="Wheezing"/>

</criterion>

</precondition>

Pregnancy Observation

[observation: templateId 2.16.840.1.113883.10.20.15.3.8 (open)]

Table 176: Pregnancy Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Social History Section](#S_Social_History_Section) (optional) | [Estimated Date of Delivery](#E_Estimated_Date_of_Delivery) |

This clinical statement represents current and/or prior pregnancy dates enabling investigators to determine if the subject of the case report was pregnant during the course of a condition.

Table 177: Pregnancy Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
| Green Pregnancy Observation | observation[templateId/@root = '2.16.840.1.113883.10.20.15.3.8'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [451](#C_451) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [452](#C_452) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [16768](#C_16768) |  |
|  | @root | 1..1 | SHALL |  | [16868](#C_16868) | 2.16.840.1.113883.10.20.15.3.8 |
|  | code | 1..1 | SHALL |  | [19153](#C_19153) |  |
|  | @code | 1..1 | SHALL |  | [19154](#C_19154) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
|  | statusCode | 1..1 | SHALL |  | [455](#C_455) |  |
|  | @code | 1..1 | SHALL |  | [19110](#C_19110) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | effectiveTime | 0..1 | SHOULD |  | [2018](#C_2018) |  |
| pregnancy | value | 1..1 | SHALL | CD | [457](#C_457) | 2.16.840.1.113883.6.96 (SNOMED-CT) = 77386006 |
|  | entryRelationship | 0..1 | MAY |  | [458](#C_458) |  |
|  | @typeCode | 1..1 | SHALL |  | [459](#C_459) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |
|  | observation | 1..1 | SHALL |  | [15584](#C_15584) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:451).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:452).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:16768) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.15.3.8" (CONF:16868).
4. **SHALL** contain exactly one [1..1] **code** (CONF:19153).
   1. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:19154).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:455).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19110).
6. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:2018).
7. **SHALL** contain exactly one [1..1] **value**="77386006" Pregnant with @xsi:type="CD" (CodeSystem: SNOMED-CT 2.16.840.1.113883.6.96 **STATIC**) (CONF:457).
8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:458) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" Refers to (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:459).
   2. **SHALL** contain exactly one [1..1] [**Estimated Date of Delivery**](#E_Estimated_Date_of_Delivery) (templateId:2.16.840.1.113883.10.20.15.3.1) (CONF:15584).

Pressure Ulcer Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.70 (open)]

Table 178: Pressure Ulcer Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Functional Status Section](#S_Functional_Status_Section) (optional)  [Physical Exam Section](#S_Physical_Exam_Section) (optional) |  |

The pressure ulcer observation contains details about the pressure ulcer such as the stage of the ulcer, location, and dimensions. If the pressure ulcer is a diagnosis, you may find this on the problem list. An example of how this would appear is in the Problem Section.

Table 179: Pressure Ulcer Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.70'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [14383](#C_14383) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [14384](#C_14384) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | @negationInd | 0..1 | MAY |  | [14385](#C_14385) |  |
|  | templateId | 1..1 | SHALL |  | [14387](#C_14387) |  |
|  | @root | 1..1 | SHALL |  | [14388](#C_14388) | 2.16.840.1.113883.10.20.22.4.70 |
|  | id | 1..\* | SHALL |  | [14389](#C_14389) |  |
|  | code | 1..1 | SHALL |  | [14759](#C_14759) |  |
|  | @code | 1..1 | SHALL |  | [14760](#C_14760) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
|  | text | 0..1 | SHOULD |  | [14391](#C_14391) |  |
|  | reference | 0..1 | SHOULD |  | [14392](#C_14392) |  |
|  | @value | 1..1 | SHALL |  | [15585](#C_15585) |  |
|  | statusCode | 1..1 | SHALL |  | [14394](#C_14394) |  |
|  | @code | 1..1 | SHALL |  | [19111](#C_19111) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | effectiveTime | 1..1 | SHALL |  | [14395](#C_14395) |  |
|  | value | 1..1 | SHALL | CD | [14396](#C_14396) | 2.16.840.1.113883.11.20.9.35 (Pressure Ulcer Stage) |
|  | @nullFlavor | 0..1 | MAY |  | [14397](#C_14397) |  |
|  | targetSiteCode | 0..\* | SHOULD |  | [14797](#C_14797) |  |
|  | @code | 1..1 | SHALL |  | [14798](#C_14798) | 2.16.840.1.113883.11.20.9.36 (Pressure Point ) |
|  | qualifier | 0..1 | SHOULD |  | [14799](#C_14799) |  |
|  | name | 1..1 | SHALL |  | [14800](#C_14800) |  |
|  | @code | 0..1 | SHOULD |  | [14801](#C_14801) | 2.16.840.1.113883.6.96 (SNOMED-CT) = 272741003 |
|  | value | 1..1 | SHALL |  | [14802](#C_14802) |  |
|  | @code | 0..1 | SHOULD |  | [14803](#C_14803) | 2.16.840.1.113883.11.20.9.37 (TargetSite Qualifiers ) |
|  | entryRelationship | 0..1 | SHOULD |  | [14410](#C_14410) |  |
|  | @typeCode | 1..1 | SHALL |  | [14411](#C_14411) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
|  | observation | 1..1 | SHALL |  | [14619](#C_14619) |  |
|  | @classCode | 1..1 | SHALL |  | [14685](#C_14685) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [14686](#C_14686) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | code | 1..1 | SHALL |  | [14620](#C_14620) |  |
|  | @code | 1..1 | SHALL |  | [14621](#C_14621) | 2.16.840.1.113883.6.96 (SNOMED-CT) = 401238003 |
|  | value | 1..1 | SHALL | PQ | [14622](#C_14622) |  |
|  | entryRelationship | 0..1 | SHOULD |  | [14601](#C_14601) |  |
|  | @typeCode | 1..1 | SHALL |  | [14602](#C_14602) | COMP |
|  | observation | 1..1 | SHALL |  | [14623](#C_14623) |  |
|  | @classCode | 1..1 | SHALL |  | [14687](#C_14687) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [14688](#C_14688) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | code | 1..1 | SHALL |  | [14624](#C_14624) |  |
|  | @code | 1..1 | SHALL |  | [14625](#C_14625) | 2.16.840.1.113883.6.96 (SNOMED-CT) = 401239006 |
|  | value | 1..1 | SHALL | PQ | [14626](#C_14626) |  |
|  | entryRelationship | 0..1 | SHOULD |  | [14605](#C_14605) |  |
|  | @typeCode | 1..1 | SHALL |  | [14606](#C_14606) | COMP |
|  | observation | 1..1 | SHALL |  | [14627](#C_14627) |  |
|  | @classCode | 1..1 | SHALL |  | [14689](#C_14689) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [14690](#C_14690) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | code | 1..1 | SHALL |  | [14628](#C_14628) |  |
|  | @code | 1..1 | SHALL |  | [14629](#C_14629) | 2.16.840.1.113883.6.96 (SNOMED-CT) = 425094009 |
|  | value | 1..1 | SHALL | PQ | [14630](#C_14630) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:14383).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:14384).

Use negationInd="true" to indicate that the problem was not observed.

1. **MAY** contain zero or one [0..1] **@negationInd** (CONF:14385).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:14387) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.70" (CONF:14388).
3. **SHALL** contain at least one [1..\*] **id** (CONF:14389).
4. **SHALL** contain exactly one [1..1] **code** (CONF:14759).
   1. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:14760).
5. **SHOULD** contain zero or one [0..1] **text** (CONF:14391).
   1. The text, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:14392).
      1. The reference, if present, **SHALL** contain exactly one [1..1] **@value** (CONF:15585).
         1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:15586).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:14394).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19111).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:14395).
8. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the @code **SHOULD** be selected from ValueSet Pressure Ulcer Stage 2.16.840.1.113883.11.20.9.35 **STATIC** (CONF:14396).
   1. This value **MAY** contain zero or one [0..1] **@nullFlavor** (CONF:14397).
      1. If the stage unknown 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:14398).
9. **SHOULD** contain zero or more [0..\*] **targetSiteCode** (CONF:14797).
   1. The targetSiteCode, if present, **SHALL** contain exactly one [1..1] **@code**, which **SHOULD** be selected from ValueSet Pressure Point 2.16.840.1.113883.11.20.9.36 **STATIC** (CONF:14798).
   2. The targetSiteCode, if present, **SHOULD** contain zero or one [0..1] **qualifier** (CONF:14799).
      1. The qualifier, if present, **SHALL** contain exactly one [1..1] **name** (CONF:14800).
         1. This name **SHOULD** contain zero or one [0..1] **@code**="272741003" laterality (CodeSystem: SNOMED-CT 2.16.840.1.113883.6.96 **STATIC**) (CONF:14801).
      2. The qualifier, if present, **SHALL** contain exactly one [1..1] **value** (CONF:14802).
         1. This value **SHOULD** contain zero or one [0..1] **@code**, which **SHOULD** be selected from ValueSet TargetSite Qualifiers 2.16.840.1.113883.11.20.9.37 **STATIC** (CONF:14803).
10. **SHOULD** contain zero or one [0..1] **entryRelationship** (CONF:14410) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:14411).
    2. **SHALL** contain exactly one [1..1] **observation** (CONF:14619).
       1. This observation **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:14685).
       2. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:14686).
       3. This observation **SHALL** contain exactly one [1..1] **code** (CONF:14620).
          1. This code **SHALL** contain exactly one [1..1] **@code**="401238003" Length of Wound (CodeSystem: SNOMED-CT 2.16.840.1.113883.6.96 **STATIC**) (CONF:14621).
       4. This observation **SHALL** contain exactly one [1..1] **value** with @xsi:type="PQ" (CONF:14622).
11. **SHOULD** contain zero or one [0..1] **entryRelationship** (CONF:14601) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:14602).
    2. **SHALL** contain exactly one [1..1] **observation** (CONF:14623).
       1. This observation **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:14687).
       2. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:14688).
       3. This observation **SHALL** contain exactly one [1..1] **code** (CONF:14624).
          1. This code **SHALL** contain exactly one [1..1] **@code**="401239006" Width of Wound (CodeSystem: SNOMED-CT 2.16.840.1.113883.6.96 **STATIC**) (CONF:14625).
       4. This observation **SHALL** contain exactly one [1..1] **value** with @xsi:type="PQ" (CONF:14626).
12. **SHOULD** contain zero or one [0..1] **entryRelationship** (CONF:14605) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:14606).
    2. **SHALL** contain exactly one [1..1] **observation** (CONF:14627).
       1. This observation **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:14689).
       2. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:14690).
       3. This observation **SHALL** contain exactly one [1..1] **code** (CONF:14628).
          1. This code **SHALL** contain exactly one [1..1] **@code**="425094009" Depth of Wound (CodeSystem: SNOMED-CT 2.16.840.1.113883.6.96 **STATIC**) (CONF:14629).
       4. This observation **SHALL** contain exactly one [1..1] **value** with @xsi:type="PQ" (CONF:14630).

Table : Pressure Ulcer Stage Value Set

|  |  |  |
| --- | --- | --- |
| Value Set: Pressure Ulcer Stage 2.16.840.1.113883.11.20.9.35 DYNAMIC  Code System: SNOMED CT 2.16.840.1.113883.6.96 | | |
| Descriptions: This value set enumerates the type of a pressure ulcer. | | |
| Code | Code System | Print Name |
| 421076008 | SNOMED CT | Pressure Ulcer Stage 1 |
| 420324007 | SNOMED CT | Pressure Ulcer Stage 2 |
| 421927004 | SNOMED CT | Pressure Ulcer Stage 3 |
| 420597008 | SNOMED CT | Pressure Ulcer Stage 4 |
| 421594008 | SNOMED CT | Nonstageable pressure ulcer |

The Pressure Point Value Set contains a list of body structures from the Pressure Ulcer Prevention Domain Analysis Model (DAM), Informative Ballot published May 2011[[27]](#footnote-27) by HL7 combined with a list of structures suggested in the DAM currently available on HL7.[[28]](#footnote-28) HL7 is consulting with the National Skin Assessment team to reconcile the DAM. The vocabulary is in review by the International Health Terminology Standards Development Organisation (IHTSDO) Nursing Sig for international standardization.

Table :Pressure Point Value Set

| Value Set: Pressure Point 2.16.840.1.113883.11.20.9.36 DYNAMIC Code System: SNOMED CT 2.16.840.1.113883.6.96 | | |
| --- | --- | --- |
| Description: This value set represents points on the body that are susceptible to pressure ulcer development | | |
| Code (CID) | Code System | Print Name |
| 79951008 | SNOMED CT | skin of occipital region (body structure) |
| 23747009 | SNOMED CT | skin structure of chin (body structure) |
| 76552005 | SNOMED CT | skin structure of shoulder (body structure) |
| 45980000 | SNOMED CT | skin structure of scapular region of back (body structure) |
| 74757004 | SNOMED CT | skin structure of elbow (body structure) |
| 51027004 | SNOMED CT | skin structure of sacral region (body structure) |
| 304037003 | SNOMED CT | thoracic region back structure (body structure) |
| 286591006 | SNOMED CT | skin of lumbar region (body structure) |
| 49812005 | SNOMED CT | skin structure of hip (body structure) |
| 29850006 | SNOMED CT | iliac crest structure (body structure)\* |
| 22180002 | SNOMED CT | skin structure of buttock (body structure) |
| 63464009 | SNOMED CT | skin structure of knee (body structure) |
| 84607009 | SNOMED CT | skin structure of heel (body structure) |
| 67269001 | SNOMED CT | skin structure of ankle (body structure) |
| 50938007 | SNOMED CT | skin structure of sacrococcygeal region (body structure) |
| 181512003 | SNOMED CT | skin of dorsal region (body structure) |
| 1902009 | SNOMED CT | skin structure of ear (body structure) |
| 36141000 | SNOMED CT | skin structure of cheek (body structure) |
| 113179006 | SNOMED CT | skin structure of nose (body structure) |
| 6141000 | SNOMED CT | skin structure of cheek (body structure) |
| 113179006 | SNOMED CT | skin structure of nose (body structure) |
| 1797002 | SNOMED CT | structure of anterior naris (body structure) |
| … |  |  |

\*mapped to parent and not to “posterior” iliac crest structure

Table :Target Site Qualifiers Value Set

|  |  |  |
| --- | --- | --- |
| Value Set: TargetSite Qualifiers 2.16.840.1.113883.11.20.9.37 DYNAMIC Code System: SNOMED CT 2.16.840.1.113883.6.96 | | |
| Code | Code System | Print Name |
| 255549009 | SNOMED CT | anterior |
| 7771000 | SNOMED CT | left |
| 255561001 | SNOMED CT | medial |
| 255551008 | SNOMED CT | posterior |
| 24028007 | SNOMED CT | right |

Problem Concern Act (Condition)

[act: templateId 2.16.840.1.113883.10.20.22.4.3 (open)]

Table 183: Problem Concern Act (Condition) Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Problem Section (entries required)](#S_Problem_Section_entries_required) (required)  [Problem Section (entries optional)](#S_Problem_Section_entries_optional) (optional) | [Problem Observation](#E_Problem_Observation) |

Observations of problems or other clinical statements captured at a point in time are wrapped in a “Concern” act, which represents the ongoing process tracked over time. This allows for binding related observations of problems. For example, the observation of “Acute MI” in 2004 can be related to the observation of “History of MI” in 2006 because they are the same concern. The conformance statements in this section define an outer “problem act” (representing the “Concern”) that can contain a nested “problem observation” or other nested clinical statements.

Table 184: Problem Concern Act (Condition) Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | act[templateId/@root = '2.16.840.1.113883.10.20.22.4.3'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [9024](#C_9024) | 2.16.840.1.113883.5.6 (HL7ActClass) = ACT |
|  | @moodCode | 1..1 | SHALL |  | [9025](#C_9025) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [16772](#C_16772) |  |
|  | @root | 1..1 | SHALL |  | [16773](#C_16773) | 2.16.840.1.113883.10.20.22.4.3 |
|  | id | 1..\* | SHALL |  | [9026](#C_9026) |  |
|  | code | 1..1 | SHALL |  | [9027](#C_9027) |  |
|  | @code | 1..1 | SHALL |  | [19184](#C_19184) | 2.16.840.1.113883.5.6 (HL7ActClass) = CONC |
|  | statusCode | 1..1 | SHALL |  | [9029](#C_9029) | 2.16.840.1.113883.11.20.9.19 (ProblemAct statusCode) |
|  | effectiveTime | 1..1 | SHALL |  | [9030](#C_9030) |  |
|  | low | 1..1 | SHALL |  | [9032](#C_9032) |  |
|  | high | 0..1 | SHOULD |  | [9033](#C_9033) |  |
|  | entryRelationship | 1..\* | SHALL |  | [9034](#C_9034) |  |
|  | @typeCode | 1..1 | SHALL |  | [9035](#C_9035) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ |
|  | observation | 1..1 | SHALL |  | [15980](#C_15980) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" Act (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:9024).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:9025).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:16772) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.3" (CONF:16773).
4. **SHALL** contain at least one [1..\*] **id** (CONF:9026).
5. **SHALL** contain exactly one [1..1] **code** (CONF:9027).
   1. This code **SHALL** contain exactly one [1..1] **@code**="CONC" Concern (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:19184).
6. **SHALL** contain exactly one [1..1] **statusCode**, which **SHALL** be selected from ValueSet ProblemAct statusCode 2.16.840.1.113883.11.20.9.19 **STATIC** 2011-09-09 (CONF:9029).

The effectiveTime element records the starting and ending times during which the concern was active on the Problem List.

1. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:9030).
   1. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:9032).
   2. This effectiveTime **SHOULD** contain zero or one [0..1] **high** (CONF:9033).
2. **SHALL** contain at least one [1..\*] **entryRelationship** (CONF:9034) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" Has subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:9035).
   2. **SHALL** contain exactly one [1..1] [**Problem Observation**](#E_Problem_Observation) (templateId:2.16.840.1.113883.10.20.22.4.4) (CONF:15980).

Figure : Problem Concern Act (IMPACT Current Active Problems) example

<entry typeCode="DRIV">

<act classCode="ACT" moodCode="EVN">

<!-- C-CDA Problem Concern Act template id -->

<templateId root="2.16.840.1.113883.10.20.22.4.3"/>

<id root="ceef9062-c4fa-4215-bf86-b5a66899ea95"/>

<code code="CONC"

codeSystem="2.16.840.1.113883.5.6"

displayName="Concern"/>

<statusCode code="completed"/>

<effectiveTime>

<!-- IMPACT Data element: Date of onset (first occurance) -->

<low value="**20080103**"/>

<!-- This is a Current Active Problem thus

there is no high value on effectiveTime-->

</effectiveTime>

</act>

</entry>

Problem Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.4 (open)]

Table 185: Problem Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Problem Concern Act (Condition)](#E_Problem_Concern_Act_Condition) (required)  [Hospital Discharge Diagnosis](#E_Hospital_Discharge_Diagnosis) (required)  [History of Past Illness Section](#S_History_of_Past_Illness_Section) (optional)  [Encounter Diagnosis](#E_Encounter_Diagnosis) (required) | [Age Observation](#E_Age_Observation)  [Health Status Observation](#E_Health_Status_Observation)  [Problem Status](#E_Problem_Status) |

A problem is a clinical statement that a clinician has noted. In health care it is a condition that requires monitoring or diagnostic, therapeutic, or educational action. It also refers to any unmet or partially met basic human need.

A Problem Observation is required to be wrapped in an act wrapper in locations such as the Problem Section, Allergies Section, and Hospital Discharge Diagnosis Section, where the type of problem needs to be identified or the condition tracked.

A Problem Observation can be a valid “standalone” template instance in cases where a simple problem observation is to be sent.

The negationInd attribute, if true, specifies that the problem indicated was observed to not have occurred (which is subtly but importantly different from having not been observed). NegationInd='true' is an acceptable way to make a clinical assertion that something did not occur, for example, “no diabetes”.

Table 186: Problem Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
| Green Problem Observation | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.4'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [9041](#C_9041) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [9042](#C_9042) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | @negationInd | 0..1 | MAY |  | [10139](#C_10139) |  |
|  | templateId | 1..1 | SHALL |  | [14926](#C_14926) |  |
|  | @root | 1..1 | SHALL |  | [14927](#C_14927) | 2.16.840.1.113883.10.20.22.4.4 |
|  | id | 1..\* | SHALL |  | [9043](#C_9043) |  |
| problemType | code | 1..1 | SHALL |  | [9045](#C_9045) | 2.16.840.1.113883.3.88.12.3221.7.2 (Problem Type) |
| problemName | text | 0..1 | SHOULD |  | [9185](#C_9185) |  |
|  | reference | 0..1 | SHOULD |  | [15587](#C_15587) |  |
|  | @value | 1..1 | SHALL |  | [15588](#C_15588) |  |
|  | statusCode | 1..1 | SHALL |  | [9049](#C_9049) |  |
|  | @code | 1..1 | SHALL |  | [19112](#C_19112) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| problemDate | effectiveTime | 0..1 | SHOULD |  | [9050](#C_9050) |  |
|  | low | 1..1 | SHALL |  | [15603](#C_15603) |  |
|  | high | 0..1 | SHOULD |  | [15604](#C_15604) |  |
| problemCode | value | 1..1 | SHALL | CD | [9058](#C_9058) | 2.16.840.1.113883.3.88.12.3221.7.4 (Problem Value Set) |
|  | translation | 0..\* | MAY |  | [16749](#C_16749) |  |
|  | @code | 0..1 | MAY |  | [16750](#C_16750) | 2.16.840.1.113883.6.90 (ICD10CM) |
|  | @nullFlavor | 0..1 | MAY |  | [10141](#C_10141) |  |
| ageAtOnset | entryRelationship | 0..1 | MAY |  | [9059](#C_9059) |  |
|  | @typeCode | 1..1 | SHALL |  | [9060](#C_9060) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ |
|  | @inversionInd | 1..1 | SHALL |  | [9069](#C_9069) | true |
|  | observation | 1..1 | SHALL |  | [15590](#C_15590) |  |
| problemStatus | entryRelationship | 0..1 | MAY |  | [9063](#C_9063) |  |
|  | @typeCode | 1..1 | SHALL |  | [9068](#C_9068) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |
|  | observation | 1..1 | SHALL |  | [15591](#C_15591) |  |
|  | entryRelationship | 0..1 | MAY |  | [9067](#C_9067) |  |
|  | @typeCode | 1..1 | SHALL |  | [9064](#C_9064) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |
|  | observation | 1..1 | SHALL |  | [15592](#C_15592) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:9041).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:9042).
3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:10139).
   1. Use negationInd="true" to indicate that the problem was not observed (CONF:16880).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:14926) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.4" (CONF:14927).
5. **SHALL** contain at least one [1..\*] **id** (CONF:9043).
6. **SHALL** contain exactly one [1..1] **code**, which **SHOULD** be selected from ValueSet [Problem Type 2.16.840.1.113883.3.88.12.3221.7.2 STATIC 2012-06-01](#T_VS_ProblemTypeVS) 2012-06-01 (CONF:9045).
7. **SHOULD** contain zero or one [0..1] **text** (CONF:9185).
   1. The text, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:15587).
      1. The reference, if present, **SHALL** contain exactly one [1..1] **@value** (CONF:15588).
         1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:15589).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:9049).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19112).
9. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:9050).
   1. The effectiveTime, if present, **SHALL** contain exactly one [1..1] **low** (CONF:15603).
      1. This field represents the onset date (CONF:16882).
   2. The effectiveTime, if present, **SHOULD** contain zero or one [0..1] **high** (CONF:15604).
      1. This field represents the resolution date (CONF:16883).
   3. 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:16881).
10. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the @code **SHOULD** be selected from ValueSet [Problem 2.16.840.1.113883.3.88.12.3221.7.4](#T_VS_Problem) DYNAMIC (CONF:9058).
    1. This value **MAY** contain zero or more [0..\*] **translation** (CONF:16749).
       1. The translation, if present, **MAY** contain zero or one [0..1] **@code** (CodeSystem: ICD10CM 2.16.840.1.113883.6.90 **STATIC**) (CONF:16750).
    2. This value **MAY** contain zero or one [0..1] **@nullFlavor** (CONF:10141).
       1. If the diagnosis is unknown 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).
11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:9059) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" Has subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:9060).
    2. **SHALL** contain exactly one [1..1] **@inversionInd**="true" True (CONF:9069).
    3. **SHALL** contain exactly one [1..1] [**Age Observation**](#E_Age_Observation) (templateId:2.16.840.1.113883.10.20.22.4.31) (CONF:15590).
12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:9063) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" Refers to (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:9068).
    2. **SHALL** contain exactly one [1..1] [**Problem Status**](#E_Problem_Status) (templateId:2.16.840.1.113883.10.20.22.4.6) (CONF:15591).
13. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:9067) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" Refers to (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:9064).
    2. **SHALL** contain exactly one [1..1] [**Health Status Observation**](#E_Health_Status_Observation) (templateId:2.16.840.1.113883.10.20.22.4.5) (CONF:15592).

Table : Problem type value set

| Value Set: Problem Type 2.16.840.1.113883.3.88.12.3221.7.2 STATIC 2012-06-01 | | |
| --- | --- | --- |
| Code System(s): | SNOMED CT 2.16.840.1.113883.6.96 | |
| Description: | This value set indicates the level of medical judgment used to determine the existence of a problem. | |
| Code | Code System | Print Name |
| 404684003 | SNOMED CT | Finding |
| 409586006 | SNOMED CT | Complaint |
| 282291009 | SNOMED CT | Diagnosis |
| 64572001 | SNOMED CT | Condition |
| 248536006 | SNOMED CT | Finding of functional performance and activity |
| 418799008 | SNOMED CT | Symptom |
| 55607006 | SNOMED CT | Problem |
| 373930000 | SNOMED CT | Cognitive function finding |

Table : Problem Value Set (excerpt)

| Value Set: Problem 2.16.840.1.113883.3.88.12.3221.7.4 DYNAMIC | | |
| --- | --- | --- |
| Code System(s): | SNOMED CT 2.16.840.1.113883.6.96 | |
| Description: | Problems and diagnoses. Limited to terms descending from the Clinical Findings (404684003) or Situation with Explicit Context (243796009) hierarchies.  <http://phinvads.cdc.gov/vads/ViewValueSet.action?id=70FDBFB5-A277-DE11-9B52-0015173D1785> | |
| Code | Code System | Print Name |
| 46635009 | SNOMED CT | Diabetes mellitus type 1 |
| 234422006 | SNOMED CT | Acute porphyria |
| 31712002 | SNOMED CT | Primary biliary cirrhosis |
| 302002000 | SNOMED CT | Difficulty moving |
| 15188001 | SNOMED CT | Hearing loss |
| 48167000 | SNOMED CT | Amnesia |
| … |  |  |

Figure : Problem Observation (IMPACT Current Active Problem) example

<entry typeCode="DRIV">

<act classCode="ACT" moodCode="EVN">

...

<entryRelationship typeCode="SUBJ">

<observation classCode="OBS" moodCode="EVN">

<!-- C-CDA Problem observation template id -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<id root="ab1791b0-5c71-11db-b0de-0800200c9a66"/>

<!-- Problem Type - Since this is a current active problem, have used   
 Problem as the problem type-->

<code code="55607006" codeSystem="2.16.840.1.113883.6.96"   
 displayName="Problem"/>

<statusCode code="completed"/>

<effectiveTime>

<!-- IMPACT Data Element: Problem instance onset time -->

<low value="**20080103**"/>

<!-- IMPACT Data Element: Problem instance resolution time -->

</effectiveTime>

<!-- IMPACT Data element: Name of diagnosis/concern/problem -->

<value xsi:type="CD" nullFlavor="**OTH**">

<originalText>Psychosis</originalText>

</value>

<!-- IMPACT Data Element: Person who initially identified

Diagnosis/Concern/Problem -->

<performer>

<assignedEntity>

<id extension="999999999" root="2.16.840.1.113883.4.6"/>

<!-- IMPACT Data Element: Person who initially identified   
 Diagnosis/Concern/Problem: Role/Relationship -->

<code code="**TODO**" codeSystem="**TODO**"/>

<!-- IMPACT Data Element: Person who initially identified   
 Diagnosis/Concern/Problem: Address -->

<addr>

**<streetAddressLine>1001 Village Avenue</streetAddressLine>**

**<city>Portland</city>**

**<state>OR</state>**

**<postalCode>99123</postalCode>**

**<country>US</country>**

</addr>

<!-- IMPACT Data Element: Person who initially identified   
 Diagnosis/Concern/Problem: Telephone -->

<telecom use="WP" value="tel:**555-555-1002**"/>

<!-- IMPACT Data Element: Person who initially identified   
 Diagnosis/Concern/Problem: Alternate Telephone -->

<telecom use="WP" value="tel:**555-555-1002**"/>

<!-- IMPACT Data Element: Person who initially identified   
 Diagnosis/Concern/Problem: Pager -->

<telecom use="PG" value="tel:**555-555-1002**"/>

<!-- IMPACT Data Element: Person who initially identified   
 Diagnosis/Concern/Problem: Email -->

<telecom use="WP" value="mailto:**example@mail.com**"/>

<!-- IMPACT Data Element: Person who initially identified   
 Diagnosis/Concern/Problem: Fax -->

<telecom use="WP" value="fax:**555-555-1002**"/>

<assignedPerson>

<name>

**<given>Harold</given>**

**<family>Hippocrates</family>**

</name>

</assignedPerson>

</assignedEntity>

</performer>

<!-- IMPACT Data Element: Current severity of   
 diagnosis/concern/problem -->

<entryRelationship typeCode="SUBJ" inversionInd="true">

<observation classCode="OBS" moodCode="EVN">

<!-- Severity observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.8"/>

<code code="SEV"

displayName="Severity Observation"

codeSystem="2.16.840.1.113883.5.4"

codeSystemName="ActCode"/>

<statusCode code="completed"/>

<value xsi:type="CD"

code="**371924009**"

displayName="**Moderate to severe**"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED-CT"/>

</observation>

</entryRelationship>

<!-- IMPACT Data Element: Severity of worst occurrence/episode -->

<entryRelationship typeCode="REFR">

<observation classCode="OBS" moodCode="EVN">

<code nullFlavor=”OTH”>

<originalText>

Severity of worst occurrence

<originalText>

</code>

<value xsi:type="CD"

code="**371923003**"

displayName="**Mild to moderate**"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED-CT"/>

</observation>

</entryRelationship>

</observation>

</entryRelationship>

</act>

</entry>

Figure : Problem Observation (IMPACT Heart Rhythm – Vital Signs Section) example

<section>

<templateId root="2.16.840.1.113883.10.20.22.2.4.1"/>

<templateId root="2.16.840.1.113883.10.20.22.2.4"/>

<code code="8716-3"

codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

displayName="VITAL SIGNS"/>

<title>VITAL SIGNS</title>

...

<!-- IMPACT Data Element: Heart Rhythm -->

<entry>

<observation classCode="OBS" moodCode="EVN">

<!-- C-CDA Problem observation template id -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<id root="fc6831ae-2481-4eee-847d-ace805dc7cb8"/>

<!-- Problem Type -->

<code code="8884-9"

displayName="Heart rate rhythm"

codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"/>

<statusCode code="completed"/>

<effectiveTime value="20120407"/>

<value xsi:type="CD"

code="**248651005**"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED-CT"

displayName="**heart irregularly irregular**"/>

</observation>

</entry>

</section>

Cognitive Status Problem Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.73 (open)]

Table 189: Cognitive Status Problem Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Functional Status Section](#S_Functional_Status_Section) (optional) | [Assessment Scale Observation](#E_Assessment_Scale_Observation)  [Caregiver Characteristics](#E_Caregiver_Characteristics)  [Non-Medicinal Supply Activity](#E_NonMedicinal_Supply_Activity) |

A cognitive status problem observation is a clinical statement that describes a patient's cognitive condition, findings, or symptoms. Examples of cognitive problem observations are inability to recall, amnesia, dementia, and aggressive behavior.

A cognitive problem observation is a finding or medical condition. This is different from a cognitive result observation, which is a response to a question that provides insight into the patient's cognitive status, judgment, comprehension ability, or response speed.

Table 190: Cognitive Status Problem Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.73'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [14319](#C_14319) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [14320](#C_14320) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | @negationInd | 0..1 | MAY |  | [14344](#C_14344) |  |
|  | templateId | 1..1 | SHALL |  | [14346](#C_14346) |  |
|  | @root | 1..1 | SHALL |  | [14347](#C_14347) | 2.16.840.1.113883.10.20.22.4.73 |
|  | id | 1..\* | SHALL |  | [14321](#C_14321) |  |
|  | code | 1..1 | SHALL |  | [14804](#C_14804) |  |
|  | @code | 0..1 | SHOULD |  | [14805](#C_14805) | 2.16.840.1.113883.6.96 (SNOMED-CT) = 373930000 |
|  | text | 0..1 | SHOULD |  | [14341](#C_14341) |  |
|  | reference | 0..1 | SHOULD |  | [15532](#C_15532) |  |
|  | @value | 0..1 | SHOULD |  | [15533](#C_15533) |  |
|  | statusCode | 1..1 | SHALL |  | [14323](#C_14323) |  |
|  | @code | 1..1 | SHALL |  | [19091](#C_19091) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | effectiveTime | 0..1 | SHOULD |  | [14324](#C_14324) |  |
|  | value | 1..1 | SHALL | CD | [14349](#C_14349) | 2.16.840.1.113883.3.88.12.3221.7.4 (Problem Value Set) |
|  | methodCode | 0..\* | MAY |  | [14693](#C_14693) |  |
|  | entryRelationship | 0..\* | MAY |  | [14331](#C_14331) |  |
|  | @typeCode | 1..1 | SHALL |  | [14588](#C_14588) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |
|  | supply | 1..1 | SHALL |  | [14351](#C_14351) |  |
|  | entryRelationship | 0..\* | MAY |  | [14335](#C_14335) |  |
|  | @typeCode | 1..1 | SHALL |  | [14589](#C_14589) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |
|  | observation | 1..1 | SHALL |  | [14352](#C_14352) |  |
|  | entryRelationship | 0..\* | MAY |  | [14467](#C_14467) |  |
|  | @typeCode | 1..1 | SHALL |  | [14590](#C_14590) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
|  | observation | 1..1 | SHALL |  | [14468](#C_14468) |  |

1. Conforms to [**Problem Observation**](#E_Problem_Observation) template (2.16.840.1.113883.10.20.22.4.4).
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:14319).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:14320).

Use negationInd="true" to indicate that the problem was not observed.

1. **MAY** contain zero or one [0..1] **@negationInd** (CONF:14344).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:14346) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.73" (CONF:14347).
3. **SHALL** contain at least one [1..\*] **id** (CONF:14321).
4. **SHALL** contain exactly one [1..1] **code** (CONF:14804).
   1. This code **SHOULD** contain zero or one [0..1] **@code**="373930000" Cognitive function finding (CodeSystem: SNOMED-CT 2.16.840.1.113883.6.96 **STATIC**) (CONF:14805).
5. **SHOULD** contain zero or one [0..1] **text** (CONF:14341).
   1. The text, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:15532).
      1. The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:15533).
         1. **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:15534).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:14323).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19091).
7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:14324).
   1. The onset date **SHALL** be recorded in the low element of the effectiveTime element when known (CONF:14325).
   2. The resolution date **SHALL** be recorded in the high element of the effectiveTime element when known (CONF:14326).
   3. 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 a high element within a problem does indicate that the problem has been resolved (CONF:14327).
8. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the @code **SHOULD** be selected from ValueSet Problem Value Set 2.16.840.1.113883.3.88.12.3221.7.4 **DYNAMIC** (CONF:14349).
9. **MAY** contain zero or more [0..\*] **methodCode** (CONF:14693).
10. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:14331) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" refers to (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:14588).
    2. **SHALL** contain exactly one [1..1] [**Non-Medicinal Supply Activity**](#E_NonMedicinal_Supply_Activity) (templateId:2.16.840.1.113883.10.20.22.4.50) (CONF:14351).
11. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:14335) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" refers to (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:14589).
    2. **SHALL** contain exactly one [1..1] [**Caregiver Characteristics**](#E_Caregiver_Characteristics) (templateId:2.16.840.1.113883.10.20.22.4.72) (CONF:14352).
12. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:14467) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:14590).
    2. **SHALL** contain exactly one [1..1] [**Assessment Scale Observation**](#E_Assessment_Scale_Observation) (templateId:2.16.840.1.113883.10.20.22.4.69) (CONF:14468).

Table : Problem Type Value Set

| Value Set: Problem Type 2.16.840.1.113883.3.88.12.3221.7.2 STATIC 2012-06-01 | | |
| --- | --- | --- |
| Code System(s): | SNOMED CT 2.16.840.1.113883.6.96 | |
| Description: | This value set indicates the level of medical judgment used to determine the existence of a problem. | |
| Code | Code System | Print Name |
| 404684003 | SNOMED CT | Finding |
| 409586006 | SNOMED CT | Complaint |
| 282291009 | SNOMED CT | Diagnosis |
| 64572001 | SNOMED CT | Condition |
| 248536006 | SNOMED CT | Finding of functional performance and activity |
| 418799008 | SNOMED CT | Symptom |
| 55607006 | SNOMED CT | Problem |
| 373930000 | SNOMED CT | Cognitive function finding |

Table : Problem Value Set (excerpt)

| Value Set: Problem 2.16.840.1.113883.3.88.12.3221.7.4 DYNAMIC | | |
| --- | --- | --- |
| Code System(s): | SNOMED CT 2.16.840.1.113883.6.96 | |
| Description: | Problems and diagnoses. Limited to terms descending from the Clinical Findings (404684003) or Situation with Explicit Context (243796009) hierarchies.  <http://phinvads.cdc.gov/vads/ViewValueSet.action?id=70FDBFB5-A277-DE11-9B52-0015173D1785> | |
| Code | Code System | Print Name |
| 46635009 | SNOMED CT | Diabetes mellitus type 1 |
| 234422006 | SNOMED CT | Acute porphyria |
| 31712002 | SNOMED CT | Primary biliary cirrhosis |
| 302002000 | SNOMED CT | Difficulty moving |
| 15188001 | SNOMED CT | Hearing loss |
| 48167000 | SNOMED CT | Amnesia |
| … |  |  |

Functional Status Problem Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.68 (open)]

Table 193: Functional Status Problem Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Functional Status Section](#S_Functional_Status_Section) (optional) | [Assessment Scale Observation](#E_Assessment_Scale_Observation)  [Caregiver Characteristics](#E_Caregiver_Characteristics)  [Non-Medicinal Supply Activity](#E_NonMedicinal_Supply_Activity) |

A functional status problem observation is a clinical statement that represents a patient’s functional performance and ability.

Table 194: Functional Status Problem Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.68'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [14282](#C_14282) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [14283](#C_14283) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | @negationInd | 0..1 | MAY |  | [14307](#C_14307) |  |
|  | templateId | 1..1 | SHALL |  | [14312](#C_14312) |  |
|  | @root | 1..1 | SHALL |  | [14313](#C_14313) | 2.16.840.1.113883.10.20.22.4.68 |
|  | id | 1..\* | SHALL |  | [14284](#C_14284) |  |
|  | code | 1..1 | SHALL |  | [14314](#C_14314) |  |
|  | @code | 0..1 | SHOULD |  | [14315](#C_14315) | 2.16.840.1.113883.6.96 (SNOMED-CT) = 248536006 |
|  | text | 0..1 | SHOULD |  | [14304](#C_14304) |  |
|  | reference | 0..1 | SHOULD |  | [15552](#C_15552) |  |
|  | @value | 0..1 | SHOULD |  | [15553](#C_15553) |  |
|  | statusCode | 1..1 | SHALL |  | [14286](#C_14286) |  |
|  | @code | 1..1 | SHALL |  | [19100](#C_19100) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | effectiveTime | 0..1 | SHOULD |  | [14287](#C_14287) |  |
|  | value | 1..1 | SHALL | CD | [14291](#C_14291) | 2.16.840.1.113883.3.88.12.3221.7.4 (Problem Value Set) |
|  | @nullFlavor | 0..1 | MAY |  | [14292](#C_14292) |  |
|  | methodCode | 0..1 | MAY |  | [14316](#C_14316) |  |
|  | entryRelationship | 0..\* | MAY |  | [14294](#C_14294) |  |
|  | @typeCode | 1..1 | SHALL |  | [14584](#C_14584) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |
|  | supply | 1..1 | SHALL |  | [14317](#C_14317) |  |
|  | entryRelationship | 0..\* | MAY |  | [14298](#C_14298) |  |
|  | @typeCode | 1..1 | SHALL |  | [14586](#C_14586) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |
|  | observation | 1..1 | SHALL |  | [14318](#C_14318) |  |
|  | entryRelationship | 0..\* | MAY |  | [14463](#C_14463) |  |
|  | @typeCode | 1..1 | SHALL |  | [14587](#C_14587) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
|  | observation | 1..1 | SHALL |  | [14464](#C_14464) |  |

1. Conforms to [**Problem Observation**](#E_Problem_Observation) template (2.16.840.1.113883.10.20.22.4.4).
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:14282).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:14283).

Use negationInd="true" to indicate that the problem was not observed.

1. **MAY** contain zero or one [0..1] **@negationInd** (CONF:14307).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:14312) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.68" (CONF:14313).
3. **SHALL** contain at least one [1..\*] **id** (CONF:14284).
4. **SHALL** contain exactly one [1..1] **code** (CONF:14314).
   1. This code **SHOULD** contain zero or one [0..1] **@code**="248536006" finding of functional performance and activity (CodeSystem: SNOMED-CT 2.16.840.1.113883.6.96 **STATIC**) (CONF:14315).
5. **SHOULD** contain zero or one [0..1] **text** (CONF:14304).
   1. The text, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:15552).
      1. The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:15553).
         1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:15554).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:14286).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19100).
7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:14287).
   1. The onset date **SHALL** be recorded in the low element of the effectiveTime element when known (CONF:14288).
   2. The resolution date **SHALL** be recorded in the high element of the effectiveTime element when known (CONF:14289).
   3. 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:14290).
8. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the @code **SHOULD** be selected from ValueSet Problem Value Set 2.16.840.1.113883.3.88.12.3221.7.4 **DYNAMIC** (CONF:14291).
   1. This value **MAY** contain zero or one [0..1] **@nullFlavor** (CONF:14292).
      1. If the diagnosis is unknown 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:14293).
9. **MAY** contain zero or one [0..1] **methodCode** (CONF:14316).
10. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:14294) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" refers to (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:14584).
    2. **SHALL** contain exactly one [1..1] [**Non-Medicinal Supply Activity**](#E_NonMedicinal_Supply_Activity) (templateId:2.16.840.1.113883.10.20.22.4.50) (CONF:14317).
11. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:14298) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" refers to (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:14586).
    2. **SHALL** contain exactly one [1..1] [**Caregiver Characteristics**](#E_Caregiver_Characteristics) (templateId:2.16.840.1.113883.10.20.22.4.72) (CONF:14318).
12. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:14463) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:14587).
    2. **SHALL** contain exactly one [1..1] [**Assessment Scale Observation**](#E_Assessment_Scale_Observation) (templateId:2.16.840.1.113883.10.20.22.4.69) (CONF:14464).

Problem Status

[observation: templateId 2.16.840.1.113883.10.20.22.4.6 (open)]

Table 195: Problem Status Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Problem Observation](#E_Problem_Observation) (optional) |  |

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

Table 196: Problem Status Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.6'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [7357](#C_7357) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [7358](#C_7358) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [7359](#C_7359) |  |
|  | @root | 1..1 | SHALL |  | [10518](#C_10518) | 2.16.840.1.113883.10.20.22.4.6 |
|  | code | 1..1 | SHALL |  | [19162](#C_19162) |  |
|  | @code | 1..1 | SHALL |  | [19163](#C_19163) | 2.16.840.1.113883.6.1 (LOINC) = 33999-4 |
|  | text | 0..1 | SHOULD |  | [7362](#C_7362) |  |
|  | reference | 0..1 | SHOULD |  | [15593](#C_15593) |  |
|  | @value | 1..1 | SHALL |  | [15594](#C_15594) |  |
|  | statusCode | 1..1 | SHALL |  | [7364](#C_7364) |  |
|  | @code | 1..1 | SHALL |  | [19113](#C_19113) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | value | 1..1 | SHALL | CD | [7365](#C_7365) | 2.16.840.1.113883.3.88.12.80.68 (Problem Status Value Set) |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:7357).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:7358).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:7359) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.6" (CONF:10518).
4. **SHALL** contain exactly one [1..1] **code** (CONF:19162).
   1. This code **SHALL** contain exactly one [1..1] **@code**="33999-4" Status (CodeSystem: LOINC 2.16.840.1.113883.6.1 **STATIC**) (CONF:19163).
5. **SHOULD** contain zero or one [0..1] **text** (CONF:7362).
   1. The text, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:15593).
      1. The reference, if present, **SHALL** contain exactly one [1..1] **@value** (CONF:15594).
         1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:15595).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:7364).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19113).
7. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the @code **SHALL** be selected from ValueSet Problem Status Value Set 2.16.840.1.113883.3.88.12.80.68 **DYNAMIC** (CONF:7365).

Procedure Activity Act

[act: templateId 2.16.840.1.113883.10.20.22.4.12 (open)]

Table 197: Procedure Activity Act Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Procedures Section (entries required)](#S_Procedures_Section_entries_required) (optional)  [Procedures Section (entries optional)](#S_Procedures_Section_entries_optional) (optional) | [Indication](#E_Indication)  [Instructions](#E_Instructions)  [Medication Activity](#E_Medication_Activity)  [Service Delivery Location](#E_Service_Delivery_Location) |

The common notion of "procedure" is broader than that specified by the HL7 Version 3 Reference Information Model (RIM). Therefore procedure templates can be represented with various RIM classes: act (e.g., dressing change), observation (e.g., EEG), procedure (e.g., splenectomy).

This clinical statement represents any procedure that cannot be classified as an observation or a procedure according to the HL7 RIM. Examples of these procedures are a dressing change, teaching or feeding a patient or providing comfort measures.

Table 198: Procedure Activity Act Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | act[templateId/@root = '2.16.840.1.113883.10.20.22.4.12'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [8289](#C_8289) | 2.16.840.1.113883.5.6 (HL7ActClass) = ACT |
|  | @moodCode | 1..1 | SHALL |  | [8290](#C_8290) | 2.16.840.1.113883.11.20.9.18 (MoodCodeEvnInt) |
|  | templateId | 1..1 | SHALL |  | [8291](#C_8291) |  |
|  | @root | 1..1 | SHALL |  | [10519](#C_10519) | 2.16.840.1.113883.10.20.22.4.12 |
|  | id | 1..\* | SHALL |  | [8292](#C_8292) |  |
|  | code | 1..1 | SHALL |  | [8293](#C_8293) |  |
|  | originalText | 0..1 | SHOULD |  | [19186](#C_19186) |  |
|  | reference | 0..1 | MAY |  | [19187](#C_19187) |  |
|  | @value | 0..1 | MAY |  | [19188](#C_19188) |  |
|  | statusCode | 1..1 | SHALL |  | [8298](#C_8298) | 2.16.840.1.113883.11.20.9.22 (ProcedureAct statusCode) |
|  | effectiveTime | 0..1 | SHOULD |  | [8299](#C_8299) |  |
|  | priorityCode | 0..1 | MAY |  | [8300](#C_8300) | 2.16.840.1.113883.1.11.16866 (Act Priority Value Set) |
|  | performer | 0..\* | SHOULD |  | [8301](#C_8301) |  |
|  | assignedEntity | 1..1 | SHALL |  | [8302](#C_8302) |  |
|  | id | 1..\* | SHALL |  | [8303](#C_8303) |  |
|  | addr | 1..1 | SHALL |  | [8304](#C_8304) |  |
|  | telecom | 1..1 | SHALL |  | [8305](#C_8305) |  |
|  | representedOrganization | 0..1 | SHOULD |  | [8306](#C_8306) |  |
|  | id | 0..\* | SHOULD |  | [8307](#C_8307) |  |
|  | name | 0..\* | MAY |  | [8308](#C_8308) |  |
|  | telecom | 1..1 | SHALL |  | [8310](#C_8310) |  |
|  | addr | 1..1 | SHALL |  | [8309](#C_8309) |  |
|  | participant | 0..\* | MAY |  | [8311](#C_8311) |  |
|  | @typeCode | 1..1 | SHALL |  | [8312](#C_8312) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = LOC |
|  | participantRole | 1..1 | SHALL |  | [15599](#C_15599) |  |
|  | entryRelationship | 0..\* | MAY |  | [8314](#C_8314) |  |
|  | @typeCode | 1..1 | SHALL |  | [8315](#C_8315) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
|  | @inversionInd | 1..1 | SHALL |  | [8316](#C_8316) | true |
|  | encounter | 1..1 | SHALL |  | [8317](#C_8317) |  |
|  | @classCode | 1..1 | SHALL |  | [8318](#C_8318) | 2.16.840.1.113883.5.6 (HL7ActClass) = ENC |
|  | @moodCode | 1..1 | SHALL |  | [8319](#C_8319) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | id | 1..1 | SHALL |  | [8320](#C_8320) |  |
|  | entryRelationship | 0..1 | MAY |  | [8322](#C_8322) |  |
|  | @typeCode | 1..1 | SHALL |  | [8323](#C_8323) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ |
|  | @inversionInd | 1..1 | SHALL |  | [8324](#C_8324) | true |
|  | act | 1..1 | SHALL |  | [15600](#C_15600) |  |
|  | entryRelationship | 0..\* | MAY |  | [8326](#C_8326) |  |
|  | @typeCode | 1..1 | SHALL |  | [8327](#C_8327) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON |
|  | observation | 1..1 | SHALL |  | [15601](#C_15601) |  |
|  | entryRelationship | 0..\* | MAY |  | [8329](#C_8329) |  |
|  | @typeCode | 1..1 | SHALL |  | [8330](#C_8330) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
|  | substanceAdministration | 1..1 | SHALL |  | [15602](#C_15602) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" Act (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:8289).
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet MoodCodeEvnInt 2.16.840.1.113883.11.20.9.18 **STATIC** 2011-04-03 (CONF:8290).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8291) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.12" (CONF:10519).
4. **SHALL** contain at least one [1..\*] **id** (CONF:8292).
5. **SHALL** contain exactly one [1..1] **code** (CONF:8293).
   1. This code **SHOULD** contain zero or one [0..1] **originalText** (CONF:19186).
      1. The originalText, if present, **MAY** contain zero or one [0..1] **reference** (CONF:19187).
         1. The reference, if present, **MAY** contain zero or one [0..1] **@value** (CONF:19188).
            1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:19189).
   2. This code in a procedure activity act **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:19190).
6. **SHALL** contain exactly one [1..1] **statusCode**, which **SHALL** be selected from ValueSet ProcedureAct statusCode 2.16.840.1.113883.11.20.9.22 **DYNAMIC** (CONF:8298).
7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:8299).
8. **MAY** contain zero or one [0..1] **priorityCode**, which **SHALL** be selected from ValueSet Act Priority Value Set 2.16.840.1.113883.1.11.16866 **DYNAMIC** (CONF:8300).
9. **SHOULD** contain zero or more [0..\*] **performer** (CONF:8301).
   1. The performer, if present, **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:8302).
      1. This assignedEntity **SHALL** contain at least one [1..\*] **id** (CONF:8303).
      2. This assignedEntity **SHALL** contain exactly one [1..1] **addr** (CONF:8304).
      3. This assignedEntity **SHALL** contain exactly one [1..1] **telecom** (CONF:8305).
      4. This assignedEntity **SHOULD** contain zero or one [0..1] **representedOrganization** (CONF:8306).
         1. The representedOrganization, if present, **SHOULD** contain zero or more [0..\*] **id** (CONF:8307).
         2. The representedOrganization, if present, **MAY** contain zero or more [0..\*] **name** (CONF:8308).
         3. The representedOrganization, if present, **SHALL** contain exactly one [1..1] **telecom** (CONF:8310).
         4. The representedOrganization, if present, **SHALL** contain exactly one [1..1] **addr** (CONF:8309).
10. **MAY** contain zero or more [0..\*] **participant** (CONF:8311).
    1. The participant, if present, **SHALL** contain exactly one [1..1] **@typeCode**="LOC" Location (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:8312).
    2. The participant, if present, **SHALL** contain exactly one [1..1] [**Service Delivery Location**](#E_Service_Delivery_Location) (templateId:2.16.840.1.113883.10.20.22.4.32) (CONF:15599).
11. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:8314).
    1. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" Has Component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:8315).
    2. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@inversionInd**="true" true (CONF:8316).
    3. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **encounter** (CONF:8317).
       1. This encounter **SHALL** contain exactly one [1..1] **@classCode**="ENC" Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:8318).
       2. This encounter **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:8319).
       3. This encounter **SHALL** contain exactly one [1..1] **id** (CONF:8320).
          1. Set the encounter ID to the ID of an encounter in another section to signify they are the same encounter (CONF:16849).
12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:8322).
    1. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" Has Subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:8323).
    2. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@inversionInd**="true" true (CONF:8324).
    3. The entryRelationship, if present, **SHALL** contain exactly one [1..1] [**Instructions**](#E_Instructions) (templateId:2.16.840.1.113883.10.20.22.4.20) (CONF:15600).
13. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:8326).
    1. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="RSON" Has Reason (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:8327).
    2. The entryRelationship, if present, **SHALL** contain exactly one [1..1] [**Indication**](#E_Indication) (templateId:2.16.840.1.113883.10.20.22.4.19) (CONF:15601).
14. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:8329).
    1. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" Has Component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:8330).
    2. The entryRelationship, if present, **SHALL** contain exactly one [1..1] [**Medication Activity**](#E_Medication_Activity) (templateId:2.16.840.1.113883.10.20.22.4.16) (CONF:15602).

Table : Procedure Act Status Code Value Set

| Value Set: ProcedureAct statusCode 2.16.840.1.113883.11.20.9.22 DYNAMIC | | |
| --- | --- | --- |
| Code System(s): | ActStatus 2.16.840.1.113883.5.14 | |
| Description: | A ValueSet of HL7 actStatus codes for use with a procedure activity | |
| Code | Code System | Print Name |
| completed | ActStatus | Completed |
| active | ActStatus | Active |
| aborted | ActStatus | Aborted |
| cancelled | ActStatus | Cancelled |

Table : Act Priority Value Set

| Value Set: ActPriority 2.16.840.1.113883.1.11.16866 DYNAMIC | | |
| --- | --- | --- |
| Code System(s): | ActPriority 2.16.840.1.113883.5.7 | |
| Description: | A code or set of codes (e.g., for routine, emergency,) specifying the urgency under which the Act happened, can happen, is happening, is intended to happen, or is requested/demanded to happen. | |
| Code | Code System | Print Name |
| A | ActPriority | ASAP |
| CR | ActPriority | Callback results |
| CS | ActPriority | Callback for scheduling |
| CSP | ActPriority | Callback placer for scheduling |
| CSR | ActPriority | Contact recipient for scheduling |
| EL | ActPriority | Elective |
| EM | ActPriority | Emergency |
| P | ActPriority | Preoperative |
| PRN | ActPriority | As needed |
| R | ActPriority | Routine |
| RR | ActPriority | Rush reporting |
| S | ActPriority | Stat |
| T | ActPriority | Timing critical |
| UD | ActPriority | Use as directed |
| UR | ActPriority | Urgent |

Figure : Procedure Activity Act (IMPACT) example

<act classCode="ACT" moodCode="INT">

<!-- Procedure activity act -->

<templateId root="2.16.840.1.113883.10.20.22.4.12"/>

<id root="1.2.3.4.5.6.7.8" extension="1234567"/>

<!-- 10.11.4 Radiation Therapy-->

<code code="385798007" codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT"

displayName="radiation therapy care (regime/therapy)"> </code>

<statusCode code="completed"/>

<effectiveTime value="20110203"/>

<performer>

<assignedEntity>

<id root="2.16.840.1.113883.19" extension="1234"/>

<addr>

<streetAddressLine>17 Daws Rd.</streetAddressLine>

<city>Blue Bell</city>

<state>MA</state>

<postalCode>02368</postalCode>

<country>US</country>

</addr>

<telecom use="WP" value="(555)555-555-1234"/>

<representedOrganization>

<id root="2.16.840.1.113883.19.5"/>

<name>Community Health and Hospitals</name>

<telecom nullFlavor="UNK"/>

<addr nullFlavor="UNK"/>

</representedOrganization>

</assignedEntity>

</performer>

</act>

Procedure Activity Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.13 (open)]

Table 201: Procedure Activity Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Procedures Section (entries required)](#S_Procedures_Section_entries_required) (optional)  [Procedures Section (entries optional)](#S_Procedures_Section_entries_optional) (optional) | [Indication](#E_Indication)  [Instructions](#E_Instructions)  [Medication Activity](#E_Medication_Activity)  [Service Delivery Location](#E_Service_Delivery_Location) |

The common notion of “procedure” is broader than that specified by the HL7 Version 3 Reference Information Model (RIM). Therefore procedure templates can be represented with various RIM classes: act (e.g., dressing change), observation (e.g., EEG), procedure (e.g. splenectomy).

This clinical statement represents procedures that result in new information about the patient that cannot be classified as a procedure according to the HL7 RIM. Examples of these procedures are diagnostic imaging procedures, EEGs and EKGs.

Table 202: Procedure Activity Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.13'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [8282](#C_8282) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [8237](#C_8237) | 2.16.840.1.113883.11.20.9.18 (MoodCodeEvnInt) |
|  | templateId | 1..1 | SHALL |  | [8238](#C_8238) |  |
|  | @root | 1..1 | SHALL |  | [10520](#C_10520) | 2.16.840.1.113883.10.20.22.4.13 |
|  | id | 1..\* | SHALL |  | [8239](#C_8239) |  |
|  | code | 1..1 | SHALL |  | [19197](#C_19197) |  |
|  | originalText | 0..1 | SHOULD |  | [19198](#C_19198) |  |
|  | reference | 0..1 | SHOULD |  | [19199](#C_19199) |  |
|  | @value | 0..1 | SHOULD |  | [19200](#C_19200) |  |
|  | statusCode | 1..1 | SHALL |  | [8245](#C_8245) | 2.16.840.1.113883.11.20.9.22 (ProcedureAct statusCode) |
|  | effectiveTime | 0..1 | SHOULD |  | [8246](#C_8246) |  |
|  | priorityCode | 0..1 | MAY |  | [8247](#C_8247) | 2.16.840.1.113883.1.11.16866 (Act Priority Value Set) |
|  | value | 1..1 | SHALL |  | [16846](#C_16846) |  |
|  | methodCode | 0..1 | MAY | SET<CE> | [8248](#C_8248) |  |
|  | targetSiteCode | 0..\* | SHOULD |  | [8250](#C_8250) |  |
|  | @code | 1..1 | SHALL |  | [16071](#C_16071) | 2.16.840.1.113883.3.88.12.3221.8.9 (Body Site Value Set) |
|  | performer | 0..\* | SHOULD |  | [8251](#C_8251) |  |
|  | assignedEntity | 1..1 | SHALL |  | [8252](#C_8252) |  |
|  | id | 1..\* | SHALL |  | [8253](#C_8253) |  |
|  | addr | 1..1 | SHALL |  | [8254](#C_8254) |  |
|  | telecom | 1..1 | SHALL |  | [8255](#C_8255) |  |
|  | represented Organization | 0..1 | SHOULD |  | [8256](#C_8256) |  |
|  | id | 0..\* | SHOULD |  | [8257](#C_8257) |  |
|  | name | 0..\* | MAY |  | [8258](#C_8258) |  |
|  | telecom | 1..1 | SHALL |  | [8260](#C_8260) |  |
|  | addr | 1..1 | SHALL |  | [8259](#C_8259) |  |
|  | participant | 0..\* | MAY |  | [8261](#C_8261) |  |
|  | @typeCode | 1..1 | SHALL |  | [8262](#C_8262) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = LOC |
|  | participantRole | 1..1 | SHALL |  | [15904](#C_15904) |  |
|  | entryRelationship | 0..\* | MAY |  | [8264](#C_8264) |  |
|  | @typeCode | 1..1 | SHALL |  | [8265](#C_8265) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
|  | @inversionInd | 1..1 | SHALL |  | [8266](#C_8266) | True |
|  | encounter | 1..1 | SHALL |  | [8267](#C_8267) |  |
|  | @classCode | 1..1 | SHALL |  | [8268](#C_8268) | 2.16.840.1.113883.5.6 (HL7ActClass) = ENC |
|  | @moodCode | 1..1 | SHALL |  | [8269](#C_8269) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | id | 1..1 | SHALL |  | [8270](#C_8270) |  |
|  | entryRelationship | 0..1 | MAY |  | [8272](#C_8272) |  |
|  | @typeCode | 1..1 | SHALL |  | [8273](#C_8273) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ |
|  | @inversionInd | 1..1 | SHALL |  | [8274](#C_8274) | True |
|  | Act | 1..1 | SHALL |  | [15905](#C_15905) |  |
|  | entryRelationship | 0..\* | MAY |  | [8276](#C_8276) |  |
|  | @typeCode | 1..1 | SHALL |  | [8277](#C_8277) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON |
|  | observation | 1..1 | SHALL |  | [15906](#C_15906) |  |
|  | entryRelationship | 0..\* | MAY |  | [8279](#C_8279) |  |
|  | @typeCode | 1..1 | SHALL |  | [8280](#C_8280) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
|  | substance Administration | 1..1 | SHALL |  | [15907](#C_15907) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:8282).
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet MoodCodeEvnInt 2.16.840.1.113883.11.20.9.18 **STATIC** 2011-04-03 (CONF:8237).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8238) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.13" (CONF:10520).
4. **SHALL** contain at least one [1..\*] **id** (CONF:8239).
5. **SHALL** contain exactly one [1..1] **code** (CONF:19197).
   1. This code **SHOULD** contain zero or one [0..1] **originalText** (CONF:19198).
      1. The originalText, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:19199).
         1. The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:19200).
            1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:19201).
   2. This @code **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), ICD10 PCS (CodeSystem: 2.16.840.1.113883.6.4) (CONF:19202).
6. **SHALL** contain exactly one [1..1] **statusCode**, which **SHALL** be selected from ValueSet ProcedureAct statusCode 2.16.840.1.113883.11.20.9.22 **DYNAMIC** (CONF:8245).
7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:8246).
8. **MAY** contain zero or one [0..1] **priorityCode**, which **SHALL** be selected from ValueSet Act Priority Value Set 2.16.840.1.113883.1.11.16866 **DYNAMIC** (CONF:8247).
9. **SHALL** contain exactly one [1..1] **value** (CONF:16846).
10. **MAY** contain zero or one [0..1] **methodCode** (CONF:8248).
    1. MethodCode **SHALL NOT** conflict with the method inherent in Observation / code (CONF:8249).
11. **SHOULD** contain zero or more [0..\*] **targetSiteCode** (CONF:8250).
    1. The targetSiteCode, if present, **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet Body Site Value Set 2.16.840.1.113883.3.88.12.3221.8.9 **DYNAMIC** (CONF:16071).
12. **SHOULD** contain zero or more [0..\*] **performer** (CONF:8251).
    1. The performer, if present, **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:8252).
       1. This assignedEntity **SHALL** contain at least one [1..\*] **id** (CONF:8253).
       2. This assignedEntity **SHALL** contain exactly one [1..1] **addr** (CONF:8254).
       3. This assignedEntity **SHALL** contain exactly one [1..1] **telecom** (CONF:8255).
       4. This assignedEntity **SHOULD** contain zero or one [0..1] **representedOrganization** (CONF:8256).
          1. The representedOrganization, if present, **SHOULD** contain zero or more [0..\*] **id** (CONF:8257).
          2. The representedOrganization, if present, **MAY** contain zero or more [0..\*] **name** (CONF:8258).
          3. The representedOrganization, if present, **SHALL** contain exactly one [1..1] **telecom** (CONF:8260).
          4. The representedOrganization, if present, **SHALL** contain exactly one [1..1] **addr** (CONF:8259).
13. **MAY** contain zero or more [0..\*] **participant** (CONF:8261).
    1. The participant, if present, **SHALL** contain exactly one [1..1] **@typeCode**="LOC" Location (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:8262).
    2. The participant, if present, **SHALL** contain exactly one [1..1] [**Service Delivery Location**](#E_Service_Delivery_Location) (templateId:2.16.840.1.113883.10.20.22.4.32) (CONF:15904).
14. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:8264).
    1. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" Component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:8265).
    2. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@inversionInd**="true" true (CONF:8266).
    3. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **encounter** (CONF:8267).
       1. This encounter **SHALL** contain exactly one [1..1] **@classCode**="ENC" Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:8268).
       2. This encounter **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:8269).
       3. This encounter **SHALL** contain exactly one [1..1] **id** (CONF:8270).
          1. Set encounter/id to the id of an encounter in another section to signify they are the same encounter (CONF:16847).
15. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:8272) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" Has Subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:8273).
    2. **SHALL** contain exactly one [1..1] **@inversionInd**="true" true (CONF:8274).
    3. **SHALL** contain exactly one [1..1] [**Instructions**](#E_Instructions) (templateId:2.16.840.1.113883.10.20.22.4.20) (CONF:15905).
16. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:8276) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="RSON" Has Reason (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:8277).
    2. **SHALL** contain exactly one [1..1] [**Indication**](#E_Indication) (templateId:2.16.840.1.113883.10.20.22.4.19) (CONF:15906).
17. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:8279) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" Has Component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:8280).
    2. **SHALL** contain exactly one [1..1] [**Medication Activity**](#E_Medication_Activity) (templateId:2.16.840.1.113883.10.20.22.4.16) (CONF:15907).

Figure : Procedure Activity Observation (IMPACT) example

<observation classCode="OBS" moodCode="EVN">

<!-- Procedure Activity Observation -->

<templateId root="2.16.840.1.113883.10.20.22.4.13"/>

<!-- 10.11.13 Glucose Monitoring -->

<id nullFlavor="NI"/>

<code code="308113006" codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT"

displayName="self-monitoring of blood glucose (procedure)"> </code>

<statusCode code="completed"/>

<effectiveTime value="20120512"/>

<value xsi:type="CD"/>

<methodCode nullFlavor="UNK"/>

<performer>

<assignedEntity>

<id root="2.16.840.1.113883.19.5" extension="1234"/>

<addr>

<streetAddressLine>17 Daws Rd.</streetAddressLine>

<city>Blue Bell</city>

<state>MA</state>

<postalCode>02368</postalCode>

<country>US</country>

</addr>

<telecom use="WP" value="(555)555-555-1234"/>

<representedOrganization>

<id root="2.16.840.1.113883.19.5"/>

<name>Community Health and Hospitals</name>

<telecom nullFlavor="UNK"/>

<addr nullFlavor="UNK"/>

</representedOrganization>

</assignedEntity>

</performer>

</observation>

Procedure Activity Procedure

[procedure: templateId 2.16.840.1.113883.10.20.22.4.14 (open)]

Table 203: Procedure Activity Procedure Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Procedures Section (entries required)](#S_Procedures_Section_entries_required) (optional)  [Procedures Section (entries optional)](#S_Procedures_Section_entries_optional) (optional)  [Reaction Observation](#E_Reaction_Observation) (optional) | [Indication](#E_Indication)  [Instructions](#E_Instructions)  [Medication Activity](#E_Medication_Activity)  [Product Instance](#E_Product_Instance)  [Service Delivery Location](#E_Service_Delivery_Location) |

The common notion of “procedure” is broader than that specified by the HL7 Version 3 Reference Information Model (RIM). Therefore procedure templates can be represented with various RIM classes: act (e.g., dressing change), observation (e.g., EEG), procedure (e.g. splenectomy).

This clinical statement represents procedures whose immediate and primary outcome (post-condition) is the alteration of the physical condition of the patient. Examples of these procedures are an appendectomy, hip replacement and a creation of a gastrostomy.

Table 204: Procedure Activity Procedure Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | procedure[templateId/@root = '2.16.840.1.113883.10.20.22.4.14'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [7652](#C_7652) | 2.16.840.1.113883.5.6 (HL7ActClass) = PROC |
|  | @moodCode | 1..1 | SHALL |  | [7653](#C_7653) | 2.16.840.1.113883.11.20.9.18 (MoodCodeEvnInt) |
|  | templateId | 1..1 | SHALL |  | [7654](#C_7654) |  |
|  | @root | 1..1 | SHALL |  | [10521](#C_10521) | 2.16.840.1.113883.10.20.22.4.14 |
|  | id | 1..\* | SHALL |  | [7655](#C_7655) |  |
|  | code | 1..1 | SHALL |  | [7656](#C_7656) |  |
|  | originalText | 0..1 | SHOULD |  | [19203](#C_19203) |  |
|  | reference | 0..1 | SHOULD |  | [19204](#C_19204) |  |
|  | @value | 0..1 | SHOULD |  | [19205](#C_19205) |  |
|  | statusCode | 1..1 | SHALL |  | [7661](#C_7661) | 2.16.840.1.113883.11.20.9.22 (ProcedureAct statusCode) |
|  | effectiveTime | 0..1 | SHOULD |  | [7662](#C_7662) |  |
|  | priorityCode | 0..1 | MAY |  | [7668](#C_7668) | 2.16.840.1.113883.1.11.16866 (Act Priority Value Set) |
|  | methodCode | 0..1 | MAY | SET<CE> | [7670](#C_7670) |  |
|  | targetSiteCode | 0..\* | SHOULD |  | [7683](#C_7683) |  |
|  | @code | 1..1 | SHALL |  | [16082](#C_16082) | 2.16.840.1.113883.3.88.12.3221.8.9 (Body Site Value Set) |
|  | specimen | 0..\* | MAY |  | [7697](#C_7697) |  |
|  | specimenRole | 1..1 | SHALL |  | [7704](#C_7704) |  |
|  | id | 0..\* | SHOULD |  | [7716](#C_7716) |  |
|  | performer | 0..\* | SHOULD |  | [7718](#C_7718) |  |
|  | assignedEntity | 1..1 | SHALL |  | [7720](#C_7720) |  |
|  | id | 1..\* | SHALL |  | [7722](#C_7722) |  |
|  | addr | 1..1 | SHALL |  | [7731](#C_7731) |  |
|  | telecom | 1..1 | SHALL |  | [7732](#C_7732) |  |
|  | represented Organization | 0..1 | SHOULD |  | [7733](#C_7733) |  |
|  | id | 0..\* | SHOULD |  | [7734](#C_7734) |  |
|  | name | 0..\* | MAY |  | [7735](#C_7735) |  |
|  | telecom | 1..1 | SHALL |  | [7737](#C_7737) |  |
|  | addr | 1..1 | SHALL |  | [7736](#C_7736) |  |
|  | participant | 0..\* | MAY |  | [7751](#C_7751) |  |
|  | @typeCode | 1..1 | SHALL |  | [7752](#C_7752) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DEV |
|  | participantRole | 1..1 | SHALL |  | [15911](#C_15911) |  |
|  | participant | 0..\* | MAY |  | [7765](#C_7765) |  |
|  | @typeCode | 1..1 | SHALL |  | [7766](#C_7766) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC |
|  | participantRole | 1..1 | SHALL |  | [15912](#C_15912) |  |
|  | entryRelationship | 0..\* | MAY |  | [7768](#C_7768) |  |
|  | @typeCode | 1..1 | SHALL |  | [7769](#C_7769) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
|  | @inversionInd | 1..1 | SHALL |  | [8009](#C_8009) | true |
|  | encounter | 1..1 | SHALL |  | [7770](#C_7770) |  |
|  | @classCode | 1..1 | SHALL |  | [7771](#C_7771) | 2.16.840.1.113883.5.6 (HL7ActClass) = ENC |
|  | @moodCode | 1..1 | SHALL |  | [7772](#C_7772) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | id | 1..1 | SHALL |  | [7773](#C_7773) |  |
|  | entryRelationship | 0..1 | MAY |  | [7775](#C_7775) |  |
|  | @typeCode | 1..1 | SHALL |  | [7776](#C_7776) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ |
|  | @inversionInd | 1..1 | SHALL |  | [7777](#C_7777) | true |
|  | act | 1..1 | SHALL |  | [15913](#C_15913) |  |
|  | entryRelationship | 0..\* | MAY |  | [7779](#C_7779) |  |
|  | @typeCode | 1..1 | SHALL |  | [7780](#C_7780) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON |
|  | observation | 1..1 | SHALL |  | [15914](#C_15914) |  |
|  | entryRelationship | 0..\* | MAY |  | [7886](#C_7886) |  |
|  | @typeCode | 1..1 | SHALL |  | [7887](#C_7887) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
|  | substance Administration | 1..1 | SHALL |  | [15915](#C_15915) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="PROC" Procedure (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:7652).
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet MoodCodeEvnInt 2.16.840.1.113883.11.20.9.18 **STATIC** 2011-04-03 (CONF:7653).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:7654) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.14" (CONF:10521).
4. **SHALL** contain at least one [1..\*] **id** (CONF:7655).
5. **SHALL** contain exactly one [1..1] **code** (CONF:7656).
   1. This code **SHOULD** contain zero or one [0..1] **originalText** (CONF:19203).
      1. The originalText, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:19204).
         1. The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:19205).
            1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:19206).
   2. This code in a procedure activity **SHOULD** be selected from LOINC (codeSystem 2.16.840.1.113883.6.1) or SNOMED CT (CodeSystem: 2.16.840.1.113883.6.96), and **MAY** be selected from CPT-4 (CodeSystem: 2.16.840.1.113883.6.12) or ICD10 PCS (CodeSystem: 2.16.840.1.113883.6.4) (CONF:19207).
6. **SHALL** contain exactly one [1..1] **statusCode**, which **SHALL** be selected from ValueSet ProcedureAct statusCode 2.16.840.1.113883.11.20.9.22 **DYNAMIC** (CONF:7661).
7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:7662).
8. **MAY** contain zero or one [0..1] **priorityCode**, which **SHALL** be selected from ValueSet Act Priority Value Set 2.16.840.1.113883.1.11.16866 **DYNAMIC** (CONF:7668).
9. **MAY** contain zero or one [0..1] **methodCode** (CONF:7670).
   1. MethodCode **SHALL NOT** conflict with the method inherent in Procedure / code (CONF:7890).
10. **SHOULD** contain zero or more [0..\*] **targetSiteCode** (CONF:7683).
    1. The targetSiteCode, if present, **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet Body Site Value Set 2.16.840.1.113883.3.88.12.3221.8.9 **DYNAMIC** (CONF:16082).
11. **MAY** contain zero or more [0..\*] **specimen** (CONF:7697).
    1. The specimen, if present, **SHALL** contain exactly one [1..1] **specimenRole** (CONF:7704).
       1. This specimenRole **SHOULD** contain zero or more [0..\*] **id** (CONF:7716).
          1. If you want to indicate that the Procedure and the Results are referring to the same specimen, the Procedure/specimen/specimenRole/id **SHOULD** be set to equal an Organizer/specimen/ specimenRole/id (CONF:7717).
    2. This specimen is for representing specimens obtained from a procedure (CONF:16842).
12. **SHOULD** contain zero or more [0..\*] **performer** (CONF:7718) such that it
    1. **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:7720).
       1. This assignedEntity **SHALL** contain at least one [1..\*] **id** (CONF:7722).
       2. This assignedEntity **SHALL** contain exactly one [1..1] **addr** (CONF:7731).
       3. This assignedEntity **SHALL** contain exactly one [1..1] **telecom** (CONF:7732).
       4. This assignedEntity **SHOULD** contain zero or one [0..1] **representedOrganization** (CONF:7733).
          1. The representedOrganization, if present, **SHOULD** contain zero or more [0..\*] **id** (CONF:7734).
          2. The representedOrganization, if present, **MAY** contain zero or more [0..\*] **name** (CONF:7735).
          3. The representedOrganization, if present, **SHALL** contain exactly one [1..1] **telecom** (CONF:7737).
          4. The representedOrganization, if present, **SHALL** contain exactly one [1..1] **addr** (CONF:7736).
13. **MAY** contain zero or more [0..\*] **participant** (CONF:7751) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="DEV" Device (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:7752).
    2. **SHALL** contain exactly one [1..1] [**Product Instance**](#E_Product_Instance) (templateId:2.16.840.1.113883.10.20.22.4.37) (CONF:15911).
14. **MAY** contain zero or more [0..\*] **participant** (CONF:7765) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="LOC" Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:7766).
    2. **SHALL** contain exactly one [1..1] [**Service Delivery Location**](#E_Service_Delivery_Location) (templateId:2.16.840.1.113883.10.20.22.4.32) (CONF:15912).
15. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:7768) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" Has Component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:7769).
    2. **SHALL** contain exactly one [1..1] **@inversionInd**="true" true (CONF:8009).
    3. **SHALL** contain exactly one [1..1] **encounter** (CONF:7770).
       1. This encounter **SHALL** contain exactly one [1..1] **@classCode**="ENC" Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:7771).
       2. This encounter **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:7772).
       3. This encounter **SHALL** contain exactly one [1..1] **id** (CONF:7773).
          1. Set the encounter ID to the ID of an encounter in another section to signify they are the same encounter (CONF:16843).
16. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:7775) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" Has Subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:7776).
    2. **SHALL** contain exactly one [1..1] **@inversionInd**="true" true (CONF:7777).
    3. **SHALL** contain exactly one [1..1] [**Instructions**](#E_Instructions) (templateId:2.16.840.1.113883.10.20.22.4.20) (CONF:15913).
17. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:7779) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="RSON" Has Reason (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:7780).
    2. **SHALL** contain exactly one [1..1] [**Indication**](#E_Indication) (templateId:2.16.840.1.113883.10.20.22.4.19) (CONF:15914).
18. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:7886) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" Has Component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:7887).
    2. **SHALL** contain exactly one [1..1] [**Medication Activity**](#E_Medication_Activity) (templateId:2.16.840.1.113883.10.20.22.4.16) (CONF:15915).

Figure : Procedure Activity Procedure (IMPACT) example

<procedure classCode="PROC" moodCode="EVN">

<!-- \*\* Procedure activity procedure \*\* -->

<templateId root="2.16.840.1.113883.10.20.22.4.14"/>

<id root="d68b7e32-7810-4f5b-9cc2-acd54b0fd85d"/>

<code code="233467009" codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT"

displayName="Construction of vascular access"/>

<statusCode code="completed"/>

<effectiveTime value="20121112"/>

<methodCode nullFlavor="UNK"/>

<performer>

<assignedEntity>

<id root="2.16.840.1.113883.19.5.9999.456" extension="2981823"/>

<addr>

<streetAddressLine>1001 Village Avenue</streetAddressLine>

<city>Portland</city>

<state>OR</state>

<postalCode>99123</postalCode>

<country>US</country>

</addr>

<telecom use="WP" value="555-555-5000"/>

<representedOrganization>

<id root="2.16.840.1.113883.19.5.9999.1393"/>

<name>Community Health and Hospitals</name>

<telecom use="WP" value="555-555-5000"/>

<addr>

<streetAddressLine>1001 Village Avenue</streetAddressLine>

<city>Portland</city>

<state>OR</state>

<postalCode>99123</postalCode>

<country>US</country>

</addr>

</representedOrganization>

</assignedEntity>

</performer>

</procedure>

Product Instance

[participantRole: templateId 2.16.840.1.113883.10.20.22.4.37 (open)]

Table 205: Product Instance Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Procedure Activity Procedure](#E_Procedure_Activity_Procedure) (optional)  [Non-Medicinal Supply Activity](#E_NonMedicinal_Supply_Activity) (optional) |  |

This clinical statement represents a particular device that was placed in or used as part of a procedure or other act. This provides a record of the identifier and other details about the given product that was used. For example, it is important to have a record that indicates not just that a hip prostheses was placed in a patient but that it was a particular hip prostheses number with a unique identifier.

The FDA Amendments Act specifies the creation of a Unique Device Identification (UDI) System that requires the label of devices to bear a unique identifier that will standardize device identification and identify the device through distribution and use.

The UDI should be sent in the participantRole/id.

Table 206: Product Instance Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | participantRole[templateId/@root = '2.16.840.1.113883.10.20.22.4.37'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [7900](#C_7900) | 2.16.840.1.113883.5.110 (RoleClass) = MANU |
|  | templateId | 1..1 | SHALL |  | [7901](#C_7901) |  |
|  | @root | 1..1 | SHALL |  | [10522](#C_10522) | 2.16.840.1.113883.10.20.22.4.37 |
|  | id | 1..\* | SHALL |  | [7902](#C_7902) |  |
|  | playingDevice | 1..1 | SHALL |  | [7903](#C_7903) |  |
|  | code | 0..1 | SHOULD |  | [16837](#C_16837) |  |
|  | scopingEntity | 1..1 | SHALL |  | [7905](#C_7905) |  |
|  | id | 1..\* | SHALL |  | [7908](#C_7908) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="MANU" Manufactured Product (CodeSystem: RoleClass 2.16.840.1.113883.5.110 **STATIC**) (CONF:7900).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:7901) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.37" (CONF:10522).
3. **SHALL** contain at least one [1..\*] **id** (CONF:7902).
4. **SHALL** contain exactly one [1..1] **playingDevice** (CONF:7903).
   1. This playingDevice **SHOULD** contain zero or one [0..1] **code** (CONF:16837).
5. **SHALL** contain exactly one [1..1] **scopingEntity** (CONF:7905).
   1. This scopingEntity **SHALL** contain at least one [1..\*] **id** (CONF:7908).

Figure : Product Instance (IMPACT) example

<participantRole classCode="MANU">

<!-- \*\* Product instance \*\* -->

<templateId root="2.16.840.1.113883.10.20.22.4.37"/>

<id root="eb936010-7b17-11db-9fe1-0800200c9a68"/>

<!-- \*\* 10.19.8.4 Type of Pump \*\* -->

<!-- \*\* 10.19.7.3 "What" supply \*\* -->

<playingDevice>

<code code="PCA" codeSystem="2.16.840.1.113883.12.164"

codeSystemName="Admistration device (HL7)" displayName="PCA Pump"/>

</playingDevice>

<!-- \*\* 10.19.7.1 Where Supplies Ordered \*\* -->

<scopingEntity>

<id root="eb936010-7b17-11db-9fe1-0800200c9b67"/>

<desc>Good Health Durable Medical Equipment</desc>

</scopingEntity>

</participantRole>

## Question Answer Pattern

[observation: templateId 2.16.840.1.113883.10.20.25.4.5 (open)]

Table 207: Question Answer Pattern Contexts

| Used By: | Contains Entries: |
| --- | --- |
| Any Section (See: [Model of Use Patterns](#_Model_of_Use)) |  |

The Question Answer Pattern entry template may be used for question and answer patterns found in assessment instruments as described in the Model of Use. The observation/value of in the question/answer pattern will vary depending the pattern.

Table 208: Question Answer Pattern Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.25.4.5'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [17430](#C_17430) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [17431](#C_17431) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [17428](#C_17428) |  |
|  | @root | 1..1 | SHALL |  | [17429](#C_17429) | 2.16.840.1.113883.10.20.25.4.5 |
|  | code | 1..1 | SHALL |  | [17434](#C_17434) |  |
|  | translation | 1..1 | SHALL |  | [17497](#C_17497) |  |
|  | statusCode | 1..1 | SHALL |  | [17438](#C_17438) |  |
|  | @code | 1..1 | SHALL |  | [23433](#C_23433) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | value | 1..1 | SHALL |  | [17439](#C_17439) |  |
|  | entryRelationship | 0..\* | MAY |  | [22625](#C_22625) |  |
|  | @typeCode | 1..1 | SHALL |  | [22626](#C_22626) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |

1. SHALL contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:17430).
2. SHALL contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:17431).
3. SHALL contain exactly one [1..1] templateId (CONF:17428) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.25.4.5" (CONF:17429).
4. SHALL contain exactly one [1..1] code (CONF:17434).

The translation code further specifies the source instrument and the associated code system.

* 1. This code SHALL contain exactly one [1..1] translation (CONF:17497).

1. SHALL contain exactly one [1..1] statusCode (CONF:17438).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:23433).
2. SHALL contain exactly one [1..1] value (CONF:17439).

The Model of Use question and answer observation may contain one or more entryRelationships with a corresponding Model of Meaning Representation. A standard Model of Meaning representation may be expressed in a variety of applicable clinical vocabularies (e.g., SNOMED CT®, ICF, et cetera), coupled with the HL7 RIM. In many cases, precedent Model of Meaning representation exists and should be adhered to within the framework of the Consolidated CDA specification.[[29]](#footnote-29) Additional information on the Model of Meaning can be found in the [Model of Meaning](#_Model_of_Meaning) section of this guide.

1. MAY contain zero or more [0..\*] entryRelationship (CONF:22625).
   1. The entryRelationship, if present, SHALL contain exactly one [1..1] @typeCode="REFR" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:22626).

Figure : Question Answer Pattern (IMPACT) example

<observation classCode="OBS" moodCode="EVN">

<!-- \*\* Question Answer Pattern \*\* -->

<templateId root="2.16.840.1.113883.10.20.25.4.5"/>

<!-- \*\* Other Response Pattern \*\* -->

<templateId root="2.16.840.1.113883.10.20.25.4.6"/>

<code nullFlavor=“OTH”>

<originalText>Has this clinician received a verbal hand-off?</originalText>

<translation nullFlavor="NA"/>

</code>

<statusCode code="completed"/>

<value xsi:type="BL" value="true"/>

</observation>

Other Response Pattern

[observation: templateId 2.16.840.1.113883.10.20.25.4.6 (open)]

Table 209: Other Response Pattern Contexts

| Used By: | Contains Entries: |
| --- | --- |
| Any Section (See: [Model of Use Patterns](#_Model_of_Use)) |  |

The other response pattern template is used when questions require a specific non-coded answer such as an integer, text, number string, physical quantity, time stamp. The data type "ED" should only be used when a more specific data type cannot be assigned.

Table 210: Other Response Pattern Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.25.4.6'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [17456](#C_17456) |  |
|  | @root | 1..1 | SHALL |  | [17457](#C_17457) | 2.16.840.1.113883.10.20.25.4.6 |
|  | value | 1..1 | SHALL |  | [17442](#C_17442) |  |

1. Conforms to [Question Answer Pattern](#E_Question_Answer_Pattern) template (2.16.840.1.113883.10.20.25.4.5).
2. SHALL contain exactly one [1..1] templateId (CONF:17456) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.25.4.6" (CONF:17457).
3. SHALL contain exactly one [1..1] value (CONF:17442).
   1. The observation/value in Other Response Data Type Pattern SHOULD be assigned the most specific data type possible (CONF:17444).

Figure : Other Response Pattern (IMPACT) example

<observation classCode="OBS" moodCode="EVN">

<!-- \*\* Question Answer Pattern \*\* -->

<templateId root="2.16.840.1.113883.10.20.25.4.5"/>

<!-- \*\* Other Response Pattern \*\* -->

<templateId root="2.16.840.1.113883.10.20.25.4.6"/>

<code nullFlavor=“OTH”>

<originalText>Has this clinician received a verbal hand-off?</originalText>

<translation nullFlavor="NA"/>

</code>

<statusCode code="completed"/>

<value xsi:type="BL" value="true"/>

</observation>

Typical Response Pattern

[observation: templateId 2.16.840.1.113883.10.20.25.4.8 (open)]

Table 211: Typical Response Pattern Contexts

| Used By: | Contains Entries: |
| --- | --- |
| Any Section (See: [Model of Use Patterns](#_Model_of_Use)) |  |

The typical response pattern template is used for questions where only one answer can be chosen and the answer is coded. The corresponding code is represented as a code, the score is represented in observation/value/translation/@code, where the corresponding codeSystem is LocalizedCodeSystemOID.

Table 212: Typical Response Pattern Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.25.4.8'] | | | | | |
|  | templateId | 1..1 | SHALL |  | [17458](#C_17458) |  |
|  | @root | 1..1 | SHALL |  | [17459](#C_17459) | 2.16.840.1.113883.10.20.25.4.8 |
|  | value | 1..1 | SHALL | CD | [17447](#C_17447) |  |
|  | @code | 1..1 | SHALL |  | [17448](#C_17448) |  |
|  | translation | 1..1 | SHALL |  | [17449](#C_17449) |  |

1. Conforms to [Question Answer Pattern](#E_Question_Answer_Pattern) template (2.16.840.1.113883.10.20.25.4.5).
2. SHALL contain exactly one [1..1] templateId (CONF:17458) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.25.4.8" (CONF:17459).
3. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:17447).
   1. This value SHALL contain exactly one [1..1] @code (CONF:17448).
   2. This value SHALL contain exactly one [1..1] translation (CONF:17449).
      1. If numeric score or code, observation/value/@ code SHALL be the code or score and Observation/value/translation/@code valued with the answer set OID. Translation code system is a special OID assigned to the answer list (CONF:17450).

Reaction Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.9 (open)]

Table 213: Reaction Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Medication Activity](#E_Medication_Activity) (optional)  [Allergy - Intolerance Observation](#E_Allergy__Intolerance_Observation) (optional)  [Immunization Activity](#E_Immunization_Activity) (optional)  [Substance or Device Allergy - Intolerance Observation](#E_Substance_or_Device_Allergy__Intolera) (optional) | [Medication Activity](#E_Medication_Activity)  [Procedure Activity Procedure](#E_Procedure_Activity_Procedure)  [Severity Observation](#E_Severity_Observation) |

This clinical statement represents an undesired symptom, finding, etc., due to an administered or exposed substance. A reaction can be defined with respect to its severity, and can have been treated by one or more interventions.

Table 214: Reaction Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
| Green Reaction Observation | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.9'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [7325](#C_7325) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [7326](#C_7326) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [7323](#C_7323) |  |
|  | @root | 1..1 | SHALL |  | [10523](#C_10523) | 2.16.840.1.113883.10.20.22.4.9 |
|  | id | 1..1 | SHALL |  | [7329](#C_7329) |  |
|  | code | 1..1 | SHALL |  | [16851](#C_16851) |  |
| reactionFreeText | text | 0..1 | SHOULD |  | [7330](#C_7330) |  |
|  | reference | 0..1 | SHOULD |  | [15917](#C_15917) |  |
|  | @value | 0..1 | SHOULD |  | [15918](#C_15918) |  |
|  | statusCode | 1..1 | SHALL |  | [7328](#C_7328) |  |
|  | @code | 1..1 | SHALL |  | [19114](#C_19114) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | effectiveTime | 0..1 | SHOULD |  | [7332](#C_7332) |  |
|  | low | 0..1 | SHOULD |  | [7333](#C_7333) |  |
|  | high | 0..1 | SHOULD |  | [7334](#C_7334) |  |
| reactionCoded | value | 1..1 | SHALL | CD | [7335](#C_7335) | 2.16.840.1.113883.3.88.12.3221.7.4 (Problem Value Set) |
|  | entryRelationship | 0..\* | MAY |  | [7337](#C_7337) |  |
|  | @typeCode | 1..1 | SHALL |  | [7338](#C_7338) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON |
|  | @inversionInd | 1..1 | SHALL |  | [7343](#C_7343) | true |
|  | procedure | 1..1 | SHALL |  | [15920](#C_15920) |  |
|  | entryRelationship | 0..\* | MAY |  | [7340](#C_7340) |  |
|  | @typeCode | 1..1 | SHALL |  | [7341](#C_7341) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON |
|  | @inversionInd | 1..1 | SHALL |  | [7344](#C_7344) | true |
|  | substanceAdministration | 1..1 | SHALL |  | [15921](#C_15921) |  |
| severity | entryRelationship | 0..1 | SHOULD |  | [7580](#C_7580) |  |
|  | @typeCode | 1..1 | SHALL |  | [7581](#C_7581) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ |
|  | @inversionInd | 1..1 | SHALL |  | [10375](#C_10375) | true |
|  | observation | 1..1 | SHALL |  | [15922](#C_15922) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:7325).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:7326).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:7323) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.9" (CONF:10523).
4. **SHALL** contain exactly one [1..1] **id** (CONF:7329).
5. **SHALL** contain exactly one [1..1] **code** (CONF:16851).
   1. 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:16852).
6. **SHOULD** contain zero or one [0..1] **text** (CONF:7330).
   1. The text, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:15917).
      1. The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:15918).
         1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:15919).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:7328).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19114).
8. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:7332).
   1. The effectiveTime, if present, **SHOULD** contain zero or one [0..1] **low** (CONF:7333).
   2. The effectiveTime, if present, **SHOULD** contain zero or one [0..1] **high** (CONF:7334).
9. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the @code **SHALL** be selected from ValueSet Problem Value Set 2.16.840.1.113883.3.88.12.3221.7.4 **DYNAMIC** (CONF:7335).
10. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:7337) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="RSON" Has reason (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:7338).
    2. **SHALL** contain exactly one [1..1] **@inversionInd**="true" True (CONF:7343).
    3. **SHALL** contain exactly one [1..1] [**Procedure Activity Procedure**](#E_Procedure_Activity_Procedure) (templateId:2.16.840.1.113883.10.20.22.4.14) (CONF:15920).
       1. This procedure activity is intended to contain information about procedures that were performed in response to an allergy reaction (CONF:16853).
11. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:7340) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="RSON" Has reason (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:7341).
    2. **SHALL** contain exactly one [1..1] **@inversionInd**="true" True (CONF:7344).
    3. **SHALL** contain exactly one [1..1] [**Medication Activity**](#E_Medication_Activity) (templateId:2.16.840.1.113883.10.20.22.4.16) (CONF:15921).
       1. This medication activity is intended to contain information about medications that were administered in response to an allergy reaction (CONF:16840).
12. **SHOULD** contain zero or one [0..1] **entryRelationship** (CONF:7580) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" Has subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:7581).
    2. **SHALL** contain exactly one [1..1] **@inversionInd**="true" TRUE (CONF:10375).
    3. **SHALL** contain exactly one [1..1] [**Severity Observation**](#E_Severity_Observation) (templateId:2.16.840.1.113883.10.20.22.4.8) (CONF:15922).

Figure : Reaction Observation (IMPACT) example

<observation classCode="OBS" moodCode="EVN">

<!-- Reaction Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.9"/>

<id root="4adc1020-7b14-11db-9fe1-0800200c9a64"/>

<code nullFlavor="NA"/>

<statusCode code="completed"/>

<value xsi:type="CD" code="422587007"

codeSystem="2.16.840.1.113883.6.96"

displayName="Nausea"/>

</observation>

Result Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.2 (open)]

Table 215: Result Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Result Organizer](#E_Result_Organizer) (required) |  |

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

The result observation includes a statusCode to allow recording the status of an observation. If a Result Observation is not completed, the Result Organizer must include corresponding statusCode. “Pending” results (e.g., a test has been run but results have not been reported yet) should be represented as “active” ActStatus.

Table 216: Result Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.2'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [7130](#C_7130) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [7131](#C_7131) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [7136](#C_7136) |  |
|  | @root | 1..1 | SHALL |  | [9138](#C_9138) | 2.16.840.1.113883.10.20.22.4.2 |
|  | id | 1..\* | SHALL |  | [7137](#C_7137) |  |
|  | code | 1..1 | SHALL |  | [7133](#C_7133) |  |
|  | text | 0..1 | SHOULD |  | [7138](#C_7138) |  |
|  | reference | 0..1 | SHOULD |  | [15924](#C_15924) |  |
|  | @value | 0..1 | SHOULD |  | [15925](#C_15925) |  |
|  | statusCode | 1..1 | SHALL |  | [7134](#C_7134) |  |
|  | @code | 1..1 | SHALL |  | [14849](#C_14849) | 2.16.840.1.113883.11.20.9.39 (Result Status) |
|  | effectiveTime | 1..1 | SHALL |  | [7140](#C_7140) |  |
|  | value | 1..1 | SHALL |  | [7143](#C_7143) |  |
|  | interpretationCode | 0..\* | SHOULD |  | [7147](#C_7147) |  |
|  | methodCode | 0..1 | MAY | SET<CE> | [7148](#C_7148) |  |
|  | targetSiteCode | 0..1 | MAY | SET<CD> | [7153](#C_7153) |  |
|  | author | 0..1 | MAY |  | [7149](#C_7149) |  |
|  | referenceRange | 0..\* | SHOULD |  | [7150](#C_7150) |  |
|  | observationRange | 1..1 | SHALL |  | [7151](#C_7151) |  |
|  | code | 0..0 | SHALL NOT |  | [7152](#C_7152) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:7130).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:7131).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:7136) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.2" (CONF:9138).
4. **SHALL** contain at least one [1..\*] **id** (CONF:7137).
5. **SHALL** contain exactly one [1..1] **code** (CONF:7133).
   1. **SHOULD** be from LOINC (CodeSystem: 2.16.840.1.113883.6.1) or SNOMED CT (CodeSystem: 2.16.840.1.113883.6.96) (CONF:19211).
   2. Laboratory results **SHOULD** be from LOINC (CodeSystem: 2.16.840.1.113883.6.1) or other constrained terminology named by the US Department of Health and Human Services Office of National Coordinator or other federal agency. Local and/or regional codes for laboratory results are allowed. The Local and/or regional codes **SHOULD** be sent in the translation element. See the Local code example figure (CONF:19212).
6. **SHOULD** contain zero or one [0..1] **text** (CONF:7138).
   1. The text, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:15924).
      1. The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:15925).
         1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:15926).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:7134).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet Result Status 2.16.840.1.113883.11.20.9.39 **STATIC** (CONF:14849).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:7140).
   1. Represents clinically effective time of the measurement, which may be when the measurement was performed (e.g., a BP measurement), or may be when sample was taken (and measured some time afterwards) (CONF:16838).
9. **SHALL** contain exactly one [1..1] **value** (CONF:7143).
10. **SHOULD** contain zero or more [0..\*] **interpretationCode** (CONF:7147).
11. **MAY** contain zero or one [0..1] **methodCode** (CONF:7148).
12. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:7153).
13. **MAY** contain zero or one [0..1] **author** (CONF:7149).
14. **SHOULD** contain zero or more [0..\*] **referenceRange** (CONF:7150).
    1. The referenceRange, if present, **SHALL** contain exactly one [1..1] **observationRange** (CONF:7151).
       1. This observationRange **SHALL NOT** contain [0..0] **code** (CONF:7152).

Table : Result Status Value Set

| Value Set: Result Status 2.16.840.1.113883.11.20.9.39 STATIC 2012-07-01 | | |
| --- | --- | --- |
| Code System(s): | ActStatus 2.16.840.1.113883.5.14 | |
| Description: | This value set indicates the status of the results observation or organizer | |
| Code | Code System | Print Name |
| aborted | ActStatus | aborted |
| active | ActStatus | active |
| cancelled | ActStatus | cancelled |
| completed | ActStatus | completed |
| held | ActStatus | held |
| suspended | ActStatus | suspended |

Figure : Result Observation (IMPACT) example

<observation classCode="OBS" moodCode="EVN">

<!-- Result observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.2"/>

<id root="107c2dc0-67a5-11db-bd13-0800200c9a66"/>

<code code="34714-6" displayName="INR" codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"> </code>

<statusCode code="completed"/>

<effectiveTime value="200003231428"/>

<value xsi:type="PQ" value="2.5" unit="{INR}"/>

</observation>

Cognitive Status Result Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.74 (open)]

Table 218: Cognitive Status Result Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Functional Status Section](#S_Functional_Status_Section) (optional)  [Cognitive Status Result Organizer](#E_Cognitive_Status_Result_Organizer) (required) | [Assessment Scale Observation](#E_Assessment_Scale_Observation)  [Caregiver Characteristics](#E_Caregiver_Characteristics)  [Non-Medicinal Supply Activity](#E_NonMedicinal_Supply_Activity) |

This clinical statement contains details of an evaluation or assessment of a patient’s cognitive status. The evaluation may include assessment of a patient's mood, memory, and ability to make decisions. The statement, if present, will include supporting caregivers, non-medical devices, and the time period for which the evaluation and assessment were performed.

This is different from a cognitive status problem observation, which is a clinical statement that describes a patient's cognitive condition, findings, or symptoms. Examples of cognitive problem observations are inability to recall, amnesia, dementia, and aggressive behavior.

Table 219: Cognitive Status Result Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.74'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [14249](#C_14249) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [14250](#C_14250) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [14255](#C_14255) |  |
|  | @root | 1..1 | SHALL |  | [14256](#C_14256) | 2.16.840.1.113883.10.20.22.4.74 |
|  | id | 1..\* | SHALL |  | [14257](#C_14257) |  |
|  | code | 1..1 | SHALL |  | [14591](#C_14591) |  |
|  | @code | 0..1 | SHOULD |  | [14592](#C_14592) | 2.16.840.1.113883.6.96 (SNOMED-CT) = 373930000 |
|  | text | 0..1 | SHOULD |  | [14258](#C_14258) |  |
|  | reference | 0..1 | SHOULD |  | [15549](#C_15549) |  |
|  | @value | 0..1 | SHOULD |  | [15550](#C_15550) |  |
|  | statusCode | 1..1 | SHALL |  | [14254](#C_14254) |  |
|  | @code | 1..1 | SHALL |  | [19092](#C_19092) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | effectiveTime | 1..1 | SHALL |  | [14261](#C_14261) |  |
|  | value | 1..1 | SHALL |  | [14263](#C_14263) |  |
|  | interpretationCode | 0..\* | SHOULD |  | [14264](#C_14264) |  |
|  | methodCode | 0..1 | MAY | SET<CE> | [14265](#C_14265) |  |
|  | targetSiteCode | 0..1 | MAY | SET<CD> | [14270](#C_14270) |  |
|  | author | 0..1 | MAY |  | [14266](#C_14266) |  |
|  | entryRelationship | 0..\* | MAY |  | [14272](#C_14272) |  |
|  | @typeCode | 1..1 | SHALL |  | [14593](#C_14593) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |
|  | supply | 1..1 | SHALL |  | [14273](#C_14273) |  |
|  | entryRelationship | 0..\* | MAY |  | [14276](#C_14276) |  |
|  | @typeCode | 1..1 | SHALL |  | [14594](#C_14594) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |
|  | observation | 1..1 | SHALL |  | [14277](#C_14277) |  |
|  | entryRelationship | 0..\* | MAY |  | [14469](#C_14469) |  |
|  | @typeCode | 1..1 | SHALL |  | [14595](#C_14595) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
|  | observation | 1..1 | SHALL |  | [14470](#C_14470) |  |
|  | referenceRange | 0..\* | SHOULD |  | [14267](#C_14267) |  |
|  | observationRange | 1..1 | SHALL |  | [14268](#C_14268) |  |
|  | code | 0..0 | SHALL NOT |  | [14269](#C_14269) |  |

1. Conforms to [**Result Observation**](#E_Result_Observation) template (2.16.840.1.113883.10.20.22.4.2).
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:14249).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:14250).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:14255) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.74" (CONF:14256).
5. **SHALL** contain at least one [1..\*] **id** (CONF:14257).
6. **SHALL** contain exactly one [1..1] **code** (CONF:14591).
   1. This code **SHOULD** contain zero or one [0..1] **@code**="373930000" Cognitive function finding (CodeSystem: SNOMED-CT 2.16.840.1.113883.6.96 **STATIC**) (CONF:14592).
7. **SHOULD** contain zero or one [0..1] **text** (CONF:14258).
   1. The text, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:15549).
      1. The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:15550).
         1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:15551).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:14254).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19092).

Represents clinically effective time of the measurement, which may be the time the measurement was performed (e.g., a BP measurement), or may be the time the sample was taken (and measured some time afterwards).

1. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:14261).
2. **SHALL** contain exactly one [1..1] **value** (CONF:14263).
   1. If xsi:type=“CD”, **SHOULD** contain a code from SNOMED CT (CodeSystem: 2.16.840.1.113883.6.96) (CONF:14271).
3. **SHOULD** contain zero or more [0..\*] **interpretationCode** (CONF:14264).
4. **MAY** contain zero or one [0..1] **methodCode** (CONF:14265).
5. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:14270).
6. **MAY** contain zero or one [0..1] **author** (CONF:14266).
7. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:14272) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" refers to (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:14593).
   2. **SHALL** contain exactly one [1..1] [**Non-Medicinal Supply Activity**](#E_NonMedicinal_Supply_Activity) (templateId:2.16.840.1.113883.10.20.22.4.50) (CONF:14273).
8. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:14276) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" refers to (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:14594).
   2. **SHALL** contain exactly one [1..1] [**Caregiver Characteristics**](#E_Caregiver_Characteristics) (templateId:2.16.840.1.113883.10.20.22.4.72) (CONF:14277).
9. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:14469) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:14595).
   2. **SHALL** contain exactly one [1..1] [**Assessment Scale Observation**](#E_Assessment_Scale_Observation) (templateId:2.16.840.1.113883.10.20.22.4.69) (CONF:14470).
10. **SHOULD** contain zero or more [0..\*] **referenceRange** (CONF:14267).
    1. The referenceRange, if present, **SHALL** contain exactly one [1..1] **observationRange** (CONF:14268).
       1. This observationRange **SHALL NOT** contain [0..0] **code** (CONF:14269).

Figure : Cognitive Status Result Observation (IMPACT) example

<observation classCode="OBS" moodCode="EVN">

<!-- Cognitive Status Result Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.74"/>

<id root="c6b5a04b-2bf4-49d1-8336-636a3813df0a"/>

<!-- The cognitive status parameter being evaluated. -->

<code nullFlavor=”OTH”>

<originalText>Mental status at transfer</originalText>

</code>

<statusCode code="completed"/>

<effectiveTime value="200903111230"/>

<value xsi:type="ST">Delirious</value>

</observation>

Functional Status Result Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.67 (open)]

Table 220: Functional Status Result Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Functional Status Section](#S_Functional_Status_Section) (optional)  [Functional Status Result Organizer](#E_Functional_Status_Result_Organizer) (required) | [Assessment Scale Observation](#E_Assessment_Scale_Observation)  [Caregiver Characteristics](#E_Caregiver_Characteristics)  [Non-Medicinal Supply Activity](#E_NonMedicinal_Supply_Activity) |

This clinical statement represents details of an evaluation or assessment of a patient's functional status. The evaluation may include assessment of a patient's language, vision, hearing, activities of daily living, behavior, general function, mobility, and self-care status. The statement, if present, will include supporting caregivers, non-medical devices, and the time period for which the evaluation and assessment were performed.

Table 221: Functional Status Result Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.67'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [13905](#C_13905) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [13906](#C_13906) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [13889](#C_13889) |  |
|  | @root | 1..1 | SHALL |  | [13890](#C_13890) | 2.16.840.1.113883.10.20.22.4.67 |
|  | id | 1..\* | SHALL |  | [13907](#C_13907) |  |
|  | code | 1..1 | SHALL |  | [13908](#C_13908) | 2.16.840.1.113883.6.1 (LOINC) |
|  | @code | 0..1 | SHALL |  | [26448](#C_26448) | 2.16.840.1.113883.6.1 (LOINC) |
|  | text | 0..1 | SHOULD |  | [13926](#C_13926) |  |
|  | reference | 0..1 | SHOULD |  | [13927](#C_13927) |  |
|  | statusCode | 1..1 | SHALL |  | [13929](#C_13929) |  |
|  | @code | 1..1 | SHALL |  | [19101](#C_19101) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | effectiveTime | 1..1 | SHALL |  | [13930](#C_13930) |  |
|  | value | 1..1 | SHALL |  | [13932](#C_13932) |  |
|  | interpretationCode | 0..\* | SHOULD |  | [13933](#C_13933) |  |
|  | methodCode | 0..1 | MAY |  | [13934](#C_13934) |  |
|  | targetSiteCode | 0..1 | MAY |  | [13935](#C_13935) |  |
|  | author | 0..1 | MAY |  | [13936](#C_13936) |  |
|  | entryRelationship | 0..1 | MAY |  | [13892](#C_13892) |  |
|  | @typeCode | 1..1 | SHALL |  | [14596](#C_14596) | REFR |
|  | supply | 1..1 | SHALL |  | [14218](#C_14218) |  |
|  | entryRelationship | 0..1 | MAY |  | [13895](#C_13895) |  |
|  | @typeCode | 1..1 | SHALL |  | [14597](#C_14597) | REFR |
|  | observation | 1..1 | SHALL |  | [13897](#C_13897) |  |
|  | entryRelationship | 0..1 | MAY |  | [14465](#C_14465) |  |
|  | @typeCode | 1..1 | SHALL |  | [14598](#C_14598) | COMP |
|  | observation | 1..1 | SHALL |  | [14466](#C_14466) |  |
|  | referenceRange | 0..\* | SHOULD |  | [13937](#C_13937) |  |
|  | observation Range | 1..1 | SHALL |  | [13938](#C_13938) |  |

1. Conforms to [**Result Observation**](#E_Result_Observation) template (2.16.840.1.113883.10.20.22.4.2).
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:13905).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:13906).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:13889) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.67" (CONF:13890).
5. **SHALL** contain at least one [1..\*] **id** (CONF:13907).
6. **SHALL** contain exactly one [1..1] **code** (CodeSystem: LOINC 2.16.840.1.113883.6.1 **STATIC**) (CONF:13908).
   1. This code **SHALL** contain zero or one [0..1] **@code**, which **SHOULD** be selected from CodeSystem LOINC (2.16.840.1.113883.6.1) **STATIC** (CONF:26448).
7. **SHOULD** contain zero or one [0..1] **text** (CONF:13926).
   1. The text, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:13927).
      1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:13928).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:13929).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19101).

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)

1. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:13930).
2. **SHALL** contain exactly one [1..1] **value** (CONF:13932).
   1. If xsi:type=“CD”, **SHOULD** contain a code from SNOMED CT (CodeSystem: 2.16.840.1.113883.6.96) (CONF:14234).
3. **SHOULD** contain zero or more [0..\*] **interpretationCode** (CONF:13933).
4. **MAY** contain zero or one [0..1] **methodCode** (CONF:13934).
5. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:13935).
6. **MAY** contain zero or one [0..1] **author** (CONF:13936).
7. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:13892) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" refers to (CONF:14596).
   2. **SHALL** contain exactly one [1..1] [**Non-Medicinal Supply Activity**](#E_NonMedicinal_Supply_Activity) (templateId:2.16.840.1.113883.10.20.22.4.50) (CONF:14218).
8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:13895) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" refers to (CONF:14597).
   2. **SHALL** contain exactly one [1..1] [**Caregiver Characteristics**](#E_Caregiver_Characteristics) (templateId:2.16.840.1.113883.10.20.22.4.72) (CONF:13897).
9. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:14465) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" has component (CONF:14598).
   2. **SHALL** contain exactly one [1..1] [**Assessment Scale Observation**](#E_Assessment_Scale_Observation) (templateId:2.16.840.1.113883.10.20.22.4.69) (CONF:14466).
10. **SHOULD** contain zero or more [0..\*] **referenceRange** (CONF:13937).
    1. The referenceRange, if present, **SHALL** contain exactly one [1..1] **observationRange** (CONF:13938).
       1. This observationRange **SHALL NOT** contain [0..0] code (CONF:13939).

Figure : Functional Status Result Observation (IMPACT) example

<observation classCode="OBS" moodCode="EVN">

<!-- Functional Status Result Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.67"/>

<id root="c6b5a04b-2bf4-49d1-8336-636a3813df0b"/>

<code nullFlavor=”OTH”>

<originalText>DSM Axis 5</originalText>

</code>

<statusCode code="completed"/>

<!-- When the score was determined -->

<effectiveTime value="20120214"/>

<!-- The actual value of the score. However the denominator is implicit in the type of score e.g. DSM-Axis-5 out of 100, or Pain-Score out of 10. -->

<value xsi:type="INT" value="98"/>

</observation>

Result Organizer

[organizer: templateId 2.16.840.1.113883.10.20.22.4.1 (open)]

Table 222: Result Organizer Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Results Section (entries required)](#S_Results_Section_entries_required) (required)  [Results Section (entries optional)](#S_Results_Section_entries_optional) (optional) | [Result Observation](#E_Result_Observation) |

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 the organizer/code or organizer/id is unknown.

If any Result Observation within the organizer has a statusCode of ‘active’, the Result Organizer must also have as statusCode of ‘active.

Table 223: Result Organizer Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | organizer[templateId/@root = '2.16.840.1.113883.10.20.22.4.1'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [7121](#C_7121) | 2.16.840.1.113883.5.6 (HL7ActClass) |
|  | @moodCode | 1..1 | SHALL |  | [7122](#C_7122) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [7126](#C_7126) |  |
|  | @root | 1..1 | SHALL |  | [9134](#C_9134) | 2.16.840.1.113883.10.20.22.4.1 |
|  | id | 1..\* | SHALL |  | [7127](#C_7127) |  |
|  | code | 1..1 | SHALL |  | [7128](#C_7128) |  |
|  | statusCode | 1..1 | SHALL |  | [7123](#C_7123) |  |
|  | @code | 1..1 | SHALL |  | [14848](#C_14848) | 2.16.840.1.113883.11.20.9.39 (Result Status) |
|  | component | 1..\* | SHALL |  | [7124](#C_7124) |  |
|  | observation | 1..1 | SHALL |  | [14850](#C_14850) |  |

1. **SHALL** contain exactly one [1..1] **@classCode** (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:7121).
   1. **SHOULD** contain zero or one [0..1] @classCode="CLUSTER" Cluster (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) OR **SHOULD** contain zero or one [0..1] @classCode="BATTERY" Battery (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) (CONF:7165).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:7122).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:7126) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.1" (CONF:9134).
4. **SHALL** contain at least one [1..\*] **id** (CONF:7127).
5. **SHALL** contain exactly one [1..1] **code** (CONF:7128).
   1. **SHOULD** be selected from LOINC (codeSystem 2.16.840.1.113883.6.1) or SNOMED CT (codeSystem 2.16.840.1.113883.6.96), and **MAY** be selected from CPT-4 (codeSystem 2.16.840.1.113883.6.12) (CONF:19218).
   2. 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:19219).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:7123).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet Result Status 2.16.840.1.113883.11.20.9.39 **STATIC** (CONF:14848).
7. **SHALL** contain at least one [1..\*] **component** (CONF:7124) such that it
   1. **SHALL** contain exactly one [1..1] [**Result Observation**](#E_Result_Observation) (templateId:2.16.840.1.113883.10.20.22.4.2) (CONF:14850).

Figure : Result Organizer (IMPACT) example

<organizer classCode="BATTERY" moodCode="EVN">

<!-- Result organizer template -->

<templateId root="2.16.840.1.113883.10.20.22.4.1"/>

<id root="7d5a02b0-67a4-11db-bd13-0800200c9a66"/>

<code nullFlavor="NI"/>

<statusCode code="completed"/>

<component>

<observation classCode="OBS" moodCode="EVN">

<!-- Result observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.2"/>

...

</observation>

</component>

</organizer>

Cognitive Status Result Organizer

[organizer: templateId 2.16.840.1.113883.10.20.22.4.75 (open)]

Table 224: Cognitive Status Result Organizer Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Functional Status Section](#S_Functional_Status_Section) (optional) | [Cognitive Status Result Observation](#E_Cognitive_Status_Result_Observation) |

This clinical statement identifies a set of cognitive status result observations. It contains information applicable to all of the contained cognitive status result observations. A result organizer may be used to group questions in a Patient Health Questionnaire (PHQ).

An appropriate nullFlavor can be used when the organizer/code or organizer/id is unknown.

Table 225: Cognitive Status Result Organizer Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | organizer[templateId/@root = '2.16.840.1.113883.10.20.22.4.75'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [14369](#C_14369) | 2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER |
|  | @moodCode | 1..1 | SHALL |  | [14371](#C_14371) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [14375](#C_14375) |  |
|  | @root | 1..1 | SHALL |  | [14376](#C_14376) | 2.16.840.1.113883.10.20.22.4.75 |
|  | id | 1..\* | SHALL |  | [14377](#C_14377) |  |
|  | code | 1..1 | SHALL |  | [14378](#C_14378) |  |
|  | @code | 0..1 | SHOULD |  | [14697](#C_14697) |  |
|  | statusCode | 1..1 | SHALL |  | [14372](#C_14372) |  |
|  | @code | 1..1 | SHALL |  | [19093](#C_19093) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | component | 1..\* | SHALL |  | [14373](#C_14373) |  |
|  | observation | 1..1 | SHALL |  | [14381](#C_14381) |  |

1. Conforms to [**Result Organizer**](#E_Result_Organizer) template (2.16.840.1.113883.10.20.22.4.1).
2. **SHALL** contain exactly one [1..1] **@classCode**="CLUSTER", which **SHALL** be selected from CodeSystem HL7ActClass (2.16.840.1.113883.5.6) **STATIC** (CONF:14369).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:14371).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:14375) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.75" (CONF:14376).
5. **SHALL** contain at least one [1..\*] **id** (CONF:14377).
6. **SHALL** contain exactly one [1..1] **code** (CONF:14378).
   1. This code **SHOULD** contain zero or one [0..1] **@code** (CONF:14697).
      1. Should be selected from ICF (codeSystem 2.16.840.1.113883.6.254) or SNOMED CT (codeSystem 2.16.840.1.113883.6.96) (CONF:14698).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:14372).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19093).
8. **SHALL** contain at least one [1..\*] **component** (CONF:14373) such that it
   1. **SHALL** contain exactly one [1..1] [**Cognitive Status Result Observation**](#E_Cognitive_Status_Result_Observation) (templateId:2.16.840.1.113883.10.20.22.4.74) (CONF:14381).

Functional Status Result Organizer

[organizer: templateId 2.16.840.1.113883.10.20.22.4.66 (open)]

Table 226: Functional Status Result Organizer Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Functional Status Section](#S_Functional_Status_Section) (optional) | [Functional Status Result Observation](#E_Functional_Status_Result_Observation) |

This clinical statement identifies a set of functional status result observations. It contains information applicable to all of the contained functional status result observations. A functional status organizer may group self-care observations related to a patient's ability to feed, bathe, and dress.

An appropriate nullFlavor can be used when the organizer/code or organizer/id is unknown.

Table 227: Functional Status Result Organizer Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | organizer[templateId/@root = '2.16.840.1.113883.10.20.22.4.66'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [14355](#C_14355) | 2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER |
|  | @moodCode | 1..1 | SHALL |  | [14357](#C_14357) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [14361](#C_14361) |  |
|  | @root | 1..1 | SHALL |  | [14362](#C_14362) | 2.16.840.1.113883.10.20.22.4.66 |
|  | id | 1..\* | SHALL |  | [14363](#C_14363) |  |
|  | code | 1..1 | SHALL |  | [14364](#C_14364) |  |
|  | @code | 0..1 | SHOULD |  | [14747](#C_14747) |  |
|  | statusCode | 1..1 | SHALL |  | [14358](#C_14358) |  |
|  | @code | 1..1 | SHALL |  | [19102](#C_19102) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | component | 1..\* | SHALL |  | [14359](#C_14359) |  |
|  | observation | 1..1 | SHALL |  | [14368](#C_14368) |  |

1. Conforms to [**Result Organizer**](#E_Result_Organizer) template (2.16.840.1.113883.10.20.22.4.1).
2. **SHALL** contain exactly one [1..1] **@classCode**="CLUSTER", which **SHALL** be selected from CodeSystem HL7ActClass (2.16.840.1.113883.5.6) **STATIC** (CONF:14355).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:14357).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:14361) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.66" (CONF:14362).
5. **SHALL** contain at least one [1..\*] **id** (CONF:14363).
6. **SHALL** contain exactly one [1..1] **code** (CONF:14364).
   1. This code **SHOULD** contain zero or one [0..1] **@code** (CONF:14747).
      1. **SHOULD** be selected from ICF (codeSystem 2.16.840.1.113883.6.254) or SNOMED CT (codeSystem 2.16.840.1.113883.6.96) (CONF:14748).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:14358).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19102).
8. **SHALL** contain at least one [1..\*] **component** (CONF:14359) such that it
   1. **SHALL** contain exactly one [1..1] [**Functional Status Result Observation**](#E_Functional_Status_Result_Observation) (templateId:2.16.840.1.113883.10.20.22.4.67) (CONF:14368).

Service Delivery Location

[participantRole: templateId 2.16.840.1.113883.10.20.22.4.32 (open)]

Table 228: Service Delivery Location Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Procedure Activity Procedure](#E_Procedure_Activity_Procedure) (optional)  [Procedure Activity Act](#E_Procedure_Activity_Act) (optional)  [Procedure Activity Observation](#E_Procedure_Activity_Observation) (optional)  [Encounter Activities](#E_Encounter_Activities) (optional) |  |

This clinical statement represents the location of a service event where an act, observation or procedure took place.

Table 229: Service Delivery Location Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | participantRole[templateId/@root = '2.16.840.1.113883.10.20.22.4.32'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [7758](#C_7758) | 2.16.840.1.113883.5.111 (RoleCode) = SDLOC |
|  | templateId | 1..1 | SHALL |  | [7635](#C_7635) |  |
|  | @root | 1..1 | SHALL |  | [10524](#C_10524) | 2.16.840.1.113883.10.20.22.4.32 |
|  | code | 1..1 | SHALL |  | [16850](#C_16850) | 2.16.840.1.113883.1.11.20275 (HealthcareServiceLocation) |
|  | addr | 0..\* | SHOULD |  | [7760](#C_7760) |  |
|  | telecom | 0..\* | SHOULD |  | [7761](#C_7761) |  |
|  | playingEntity | 0..1 | MAY |  | [7762](#C_7762) |  |
|  | @classCode | 1..1 | SHALL |  | [7763](#C_7763) | 2.16.840.1.113883.5.41 (EntityClass) = PLC |
|  | name | 0..1 | MAY |  | [16037](#C_16037) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="SDLOC" (CodeSystem: RoleCode 2.16.840.1.113883.5.111 **STATIC**) (CONF:7758).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:7635) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.32" (CONF:10524).
3. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet HealthcareServiceLocation 2.16.840.1.113883.1.11.20275 **STATIC** (CONF:16850).
4. **SHOULD** contain zero or more [0..\*] **addr** (CONF:7760).
5. **SHOULD** contain zero or more [0..\*] **telecom** (CONF:7761).
6. **MAY** contain zero or one [0..1] **playingEntity** (CONF:7762).
   1. The playingEntity, if present, **SHALL** contain exactly one [1..1] **@classCode**="PLC" (CodeSystem: EntityClass 2.16.840.1.113883.5.41 **STATIC**) (CONF:7763).
   2. The playingEntity, if present, **MAY** contain zero or one [0..1] **name** (CONF:16037).

Table : HealthcareServiceLocation Value Set (excerpt)

| Value Set: HealthcareServiceLocation 2.16.840.1.113883.1.11.20275 DYNAMIC | | |
| --- | --- | --- |
| Code System(s): | HealthcareServiceLocation 2.16.840.1.113883.6.259 | |
| Description: | A comprehensive classification of locations and settings where healthcare services are provided. This value set is based on the National Healthcare Safety Network (NHSN) location code system that has been developed over a number of years through CDC's interaction with a variety of healthcare facilities and is intended to serve a variety of reporting needs where coding of healthcare service locations is required.  Full value set may be found at: <http://phinvads.cdc.gov/vads/SearchAllVocab_search.action?searchOptions.searchText=Healthcare+Service+Location+%28NHSN%29> | |
| Code | Code System | Print Name |
| 1024-9 | HealthcareServiceLocation | Critical Care Unit |
| 1117-1 | HealthcareServiceLocation | Family Medicine Clinic |
| 1128-8 | HealthcareServiceLocation | Pediatric Clinic |
| 1160-1 | HealthcareServiceLocation | Urgent Care Center |
| … |  |  |

Figure : Service Delivery Location (IMPACT) example

<participantRole classCode="SDLOC">

<templateId root="2.16.840.1.113883.10.20.22.4.32"/>

<code code="1108-0" codeSystem="2.16.840.1.113883.6.259"

codeSystemName="HealthcareServiceLocation"

displayName="Emergency Department"/>

<addr>

<streetAddressLine>1002 Health Care Drive</streetAddressLine>

<city>Ann Arbor</city>

<state>MI</state>

<postalCode>02368</postalCode>

<country>US</country>

</addr>

<telecom nullFlavor="UNK"/>

<playingEntity classCode="PLC">

<name>Community Hospital</name>

</playingEntity>

</participantRole>

Severity Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.8 (open)]

Table 231: Severity Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Reaction Observation](#E_Reaction_Observation) (optional)  [Allergy - Intolerance Observation](#E_Allergy__Intolerance_Observation) (optional)  [Substance or Device Allergy - Intolerance Observation](#E_Substance_or_Device_Allergy__Intolera) (required) |  |

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 - Intolerance Observation, Reaction Observation or both. When the Severity Observation is associated directly with an Allergy it characterizes the Allergy. When the Severity Observation is associated with a Reaction Observation it characterizes a Reaction. A person may manifest many symptoms in a reaction to a single substance, and each reaction to the substance can be represented. However, each reaction observation can have only one severity observation associated with it. For example, someone may have a rash reaction observation as well as an itching reaction observation, but each can have only one level of severity.

Table 232: Severity Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
| Green Severity Observation | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.8'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [7345](#C_7345) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [7346](#C_7346) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [7347](#C_7347) |  |
|  | @root | 1..1 | SHALL |  | [10525](#C_10525) | 2.16.840.1.113883.10.20.22.4.8 |
|  | code | 1..1 | SHALL |  | [19168](#C_19168) |  |
|  | @code | 1..1 | SHALL |  | [19169](#C_19169) | 2.16.840.1.113883.5.4 (ActCode) = SEV |
| severityFreeText | text | 0..1 | SHOULD |  | [7350](#C_7350) |  |
|  | reference | 0..1 | SHOULD |  | [15928](#C_15928) |  |
|  | @value | 0..1 | SHOULD |  | [15929](#C_15929) |  |
|  | statusCode | 1..1 | SHALL |  | [7352](#C_7352) |  |
|  | @code | 1..1 | SHALL |  | [19115](#C_19115) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| severityCoded | value | 1..1 | SHALL | CD | [7356](#C_7356) | 2.16.840.1.113883.3.88.12.3221.6.8 (Problem Severity) |
|  | interpretationCode | 0..\* | SHOULD |  | [9117](#C_9117) |  |
|  | @code | 0..1 | SHOULD |  | [16038](#C_16038) | 2.16.840.1.113883.1.11.78 (Observation Interpretation (HL7)) |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:7345).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:7346).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:7347) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.8" (CONF:10525).
4. **SHALL** contain exactly one [1..1] **code** (CONF:19168).
   1. This code **SHALL** contain exactly one [1..1] **@code**="SEV" (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:19169).
5. **SHOULD** contain zero or one [0..1] **text** (CONF:7350).
   1. The text, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:15928).
      1. The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:15929).
         1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:15930).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:7352).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19115).
7. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the @code **SHALL** be selected from ValueSet Problem Severity 2.16.840.1.113883.3.88.12.3221.6.8 **DYNAMIC** (CONF:7356).
8. **SHOULD** contain zero or more [0..\*] **interpretationCode** (CONF:9117).
   1. The interpretationCode, if present, **SHOULD** contain zero or one [0..1] **@code**, which **SHOULD** be selected from ValueSet Observation Interpretation (HL7) 2.16.840.1.113883.1.11.78 **DYNAMIC** (CONF:16038).

Table : Problem Severity Value Set

| Value Set: Problem Severity 2.16.840.1.113883.3.88.12.3221.6.8 DYNAMIC | | |
| --- | --- | --- |
| Code System(s): | SNOMED CT 2.16.840.1.113883.6.96 | |
| Description: | This is a description of the level of the severity of the problem. | |
| Code | Code System | Print Name |
| 255604002 | SNOMED CT | Mild (qualifier value) |
| 371923003 | SNOMED CT | Mild to moderate (qualifier value) |
| 6736007 | SNOMED CT | Moderate (severity modifier) (qualifier value) |
| 371924009 | SNOMED CT | Moderate to severe (qualifier value) |
| 24484000 | SNOMED CT | Severe (severity modifier) (qualifier value) |
| 399166001 | SNOMED CT | Fatal (qualifier value) |

Figure : Severity Observation (IMPACT) example

<observation classCode="OBS" moodCode="EVN">

<!-- Severity Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.8"/>

<code code="SEV" displayName="Severity Observation"

codeSystem="2.16.840.1.113883.5.4" codeSystemName="ActCode"/>

<statusCode code="completed"/>

<value xsi:type="CD" code="371924009" displayName="Moderate to severe"

codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"/>

</observation>

Social History Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.38 (open)]

Table 234: Social History Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Social History Section](#S_Social_History_Section) (optional) |  |

This Social History Observation defines the patient’s occupational, personal (e.g., lifestyle), social, and environmental history and health risk factors, as well as administrative data such as marital status, race, ethnicity, and religious affiliation.

Table 235: Social History Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.38'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [8548](#C_8548) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [8549](#C_8549) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [8550](#C_8550) |  |
|  | @root | 1..1 | SHALL |  | [10526](#C_10526) | 2.16.840.1.113883.10.20.22.4.38 |
|  | id | 1..\* | SHALL |  | [8551](#C_8551) |  |
|  | code | 1..1 | SHALL |  | [8558](#C_8558) |  |
|  | @code | 0..1 | SHOULD |  | [19220](#C_19220) | 2.16.840.1.113883.3.88.12.80.60 (Social History Type Value Set) |
|  | originalText | 0..1 | SHOULD |  | [19221](#C_19221) |  |
|  | reference | 0..1 | SHOULD |  | [19222](#C_19222) |  |
|  | @value | 0..1 | SHOULD |  | [19223](#C_19223) |  |
|  | statusCode | 1..1 | SHALL |  | [8553](#C_8553) |  |
|  | @code | 1..1 | SHALL |  | [19117](#C_19117) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | value | 0..1 | SHOULD |  | [8559](#C_8559) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:8548).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:8549).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:8550) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.38" (CONF:10526).
4. **SHALL** contain at least one [1..\*] **id** (CONF:8551).
5. **SHALL** contain exactly one [1..1] **code** (CONF:8558).
   1. This code **SHOULD** contain zero or one [0..1] **@code**, which **SHOULD** be selected from ValueSet Social History Type Value Set 2.16.840.1.113883.3.88.12.80.60 **STATIC** (CONF:19220).
   2. This code **SHOULD** contain zero or one [0..1] **originalText** (CONF:19221).
      1. The originalText, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:19222).
         1. The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:19223).
            1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:19224).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:8553).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19117).
7. **SHOULD** contain zero or one [0..1] **value** (CONF:8559).
   1. Observation/value can be any data type. Where Observation/value is a physical quantity, the unit of measure **SHALL** be expressed using a valid Unified Code for Units of Measure (UCUM) expression (CONF:8555).

Table : Social History Type Set Definition Value Set

| Value Set: Social History Type Set Definition 2.16.840.1.113883.3.88.12.80.60   STATIC 2008-12-18 | | |
| --- | --- | --- |
| Code System(s): | SNOMED CT 2.16.840.1.113883.6.96 | |
| Code | Code System | Print Name |
| 229819007 | SNOMED CT | Tobacco use and exposure |
| 256235009 | SNOMED CT | Exercise |
| 160573003 | SNOMED CT | Alcohol intake |
| 364393001 | SNOMED CT | Nutritional observable |
| 364703007 | SNOMED CT | Employment detail |
| 425400000 | SNOMED CT | Toxic exposure status |
| 363908000 | SNOMED CT | Details of drug misuse behavior |
| 228272008 | SNOMED CT | Health-related behavior |
| 105421008 | SNOMED CT | Educational Achievement |

Figure : Social History Observation (IMPACT) example

<observation classCode="OBS" moodCode="EVN">

<!-- \*\* Social history observation \*\* -->

<templateId root="2.16.840.1.113883.10.20.22.4.38"/>

<id root="45efb604-7049-4a2e-ad33-d38556c9636c"/>

<code code="363908000" codeSystem="2.16.840.1.113883.6.96"

displayName="Details of drug misuse behavior">

<originalText>Illicit Substance Use</originalText>

</code>

<statusCode code="completed"/>

<effectiveTime>

<low value="20090227"/>

</effectiveTime>

<!-- 10.17.6.4 Illicit Substance Use -->

<value xsi:type="ST">Illicit Substance Use</value>

</observation>

Substance or Device Allergy - Intolerance Observation

[observation: templateId 2.16.840.1.113883.10.20.24.3.90 (open)]

Table 237: Substance or Device Allergy - Intolerance Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
|  | [Allergy Status Observation](#E_Allergy_Status_Observation)  [Reaction Observation](#E_Reaction_Observation)  [Severity Observation](#E_Severity_Observation) |

This clinical statement represents that an allergy or adverse reaction to a substance or device exists or does not exist. The agent that is the cause of the allergy or adverse reaction is represented as a participant in the observation.

Table 238: Substance or Device Allergy - Intolerance Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.24.3.90'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [16303](#C_16303) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [16304](#C_16304) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [16305](#C_16305) |  |
|  | @root | 1..1 | SHALL |  | [16306](#C_16306) | 2.16.840.1.113883.10.20.24.3.90 |
|  | id | 1..\* | SHALL |  | [16307](#C_16307) |  |
|  | code | 1..1 | SHALL |  | [16345](#C_16345) |  |
|  | @code | 1..1 | SHALL |  | [16346](#C_16346) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
|  | statusCode | 1..1 | SHALL |  | [16308](#C_16308) |  |
|  | @code | 1..1 | SHALL |  | [26354](#C_26354) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | effectiveTime | 1..1 | SHALL |  | [16309](#C_16309) |  |
|  | value | 1..1 | SHALL | CD | [16312](#C_16312) |  |
|  | @code | 1..1 | SHALL | CS | [16317](#C_16317) | 2.16.840.1.113883.3.88.12.3221.6.2 (Allergy/Adverse Event Type Value Set) |
|  | participant | 0..\* | SHOULD |  | [16318](#C_16318) |  |
|  | @typeCode | 1..1 | SHALL |  | [16319](#C_16319) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM |
|  | participantRole | 1..1 | SHALL |  | [16320](#C_16320) |  |
|  | @classCode | 1..1 | SHALL |  | [16321](#C_16321) | 2.16.840.1.113883.5.110 (RoleClass) = MANU |
|  | playingEntity | 1..1 | SHALL |  | [16322](#C_16322) |  |
|  | @classCode | 1..1 | SHALL |  | [16323](#C_16323) | 2.16.840.1.113883.5.41 (EntityClass) = MMAT |
|  | code | 1..1 | SHALL |  | [16324](#C_16324) |  |
|  | originalText | 0..1 | SHOULD |  | [16326](#C_16326) |  |
|  | reference | 0..1 | SHOULD |  | [16327](#C_16327) |  |
|  | @value | 0..1 | SHOULD |  | [16328](#C_16328) |  |
|  | translation | 0..\* | MAY | SET<PQR> | [16330](#C_16330) |  |
|  | entryRelationship | 0..1 | MAY |  | [16333](#C_16333) |  |
|  | @typeCode | 1..1 | SHALL |  | [16335](#C_16335) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ |
|  | @inversionInd | 1..1 | SHALL |  | [16334](#C_16334) | true |
|  | observation | 1..1 | SHALL |  | [16336](#C_16336) |  |
|  | entryRelationship | 0..\* | SHOULD |  | [16337](#C_16337) |  |
|  | @typeCode | 1..1 | SHALL |  | [16339](#C_16339) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = MFST |
|  | @inversionInd | 1..1 | SHALL |  | [16338](#C_16338) | true |
|  | observation | 1..1 | SHALL |  | [16340](#C_16340) |  |
|  | entryRelationship | 1..1 | SHALL |  | [16341](#C_16341) |  |
|  | @typeCode | 1..1 | SHALL |  | [16342](#C_16342) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ |
|  | @inversionInd | 1..1 | SHALL |  | [16343](#C_16343) | true |
|  | observation | 1..1 | SHALL |  | [16344](#C_16344) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:16303).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:16304).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:16305) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.90" (CONF:16306).
4. **SHALL** contain at least one [1..\*] **id** (CONF:16307).
5. **SHALL** contain exactly one [1..1] **code** (CONF:16345).
   1. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:16346).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:16308).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:26354).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:16309).
8. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:16312).
   1. This value **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet Allergy/Adverse Event Type Value Set 2.16.840.1.113883.3.88.12.3221.6.2 **DYNAMIC** (CONF:16317).
9. **SHOULD** contain zero or more [0..\*] **participant** (CONF:16318).
   1. The participant, if present, **SHALL** contain exactly one [1..1] **@typeCode**="CSM" Consumable (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:16319).
   2. The participant, if present, **SHALL** contain exactly one [1..1] **participantRole** (CONF:16320).
      1. This participantRole **SHALL** contain exactly one [1..1] **@classCode**="MANU" Manufactured Product (CodeSystem: RoleClass 2.16.840.1.113883.5.110 **STATIC**) (CONF:16321).
      2. This participantRole **SHALL** contain exactly one [1..1] **playingEntity** (CONF:16322).
         1. This playingEntity **SHALL** contain exactly one [1..1] **@classCode**="MMAT" Manufactured Material (CodeSystem: EntityClass 2.16.840.1.113883.5.41 **STATIC**) (CONF:16323).
         2. This playingEntity **SHALL** contain exactly one [1..1] **code** (CONF:16324).
            1. This code **SHOULD** contain zero or one [0..1] **originalText** (CONF:16326).

The originalText, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:16327).

The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:16328).

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:16329).

* + - * 1. This code **MAY** contain zero or more [0..\*] **translation** (CONF:16330).
        2. In an allergy to a specific medication the code **SHALL** be selected from the ValueSet 2.16.840.1.113883.3.88.12.80.16 Medication Brand Name **DYNAMIC** or the ValueSet 2.16.840.1.113883.3.88.12.80.17 Medication Clinical Drug **DYNAMIC** (CONF:16325).
        3. In an allergy to a class of medications the code **SHALL** be selected from the ValueSet 2.16.840.1.113883.3.88.12.80.18 Medication Drug Class **DYNAMIC** (CONF:16331).
        4. In an allergy to a food or other substance the code **SHALL** be selected from the ValueSet 2.16.840.1.113883.3.88.12.80.20 Ingredient Name **DYNAMIC** (CONF:16332).

1. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:16333) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" Has subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:16335).
   2. **SHALL** contain exactly one [1..1] **@inversionInd**="true" True (CONF:16334).
   3. **SHALL** contain exactly one [1..1] [**Allergy Status Observation**](#E_Allergy_Status_Observation) (templateId:2.16.840.1.113883.10.20.22.4.28) (CONF:16336).
2. **SHOULD** contain zero or more [0..\*] **entryRelationship** (CONF:16337) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="MFST" Is Manifestation of (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:16339).
   2. **SHALL** contain exactly one [1..1] **@inversionInd**="true" True (CONF:16338).
   3. **SHALL** contain exactly one [1..1] [**Reaction Observation**](#E_Reaction_Observation) (templateId:2.16.840.1.113883.10.20.22.4.9) (CONF:16340).
3. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:16341) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" Has Subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:16342).
   2. **SHALL** contain exactly one [1..1] **@inversionInd**="true" True (CONF:16343).
   3. **SHALL** contain exactly one [1..1] [**Severity Observation**](#E_Severity_Observation) (templateId:2.16.840.1.113883.10.20.22.4.8) (CONF:16344).

Allergy - Intolerance Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.7 (open)]

Table 239: Allergy - Intolerance Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Allergy Problem Act](#E_Allergy_Problem_Act) (required) | [Allergy Status Observation](#E_Allergy_Status_Observation)  [Reaction Observation](#E_Reaction_Observation)  [Severity Observation](#E_Severity_Observation) |

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 - Intolerance observation. While the agent is often implicit in the alert observation (e.g. “allergy to penicillin”), it should also be asserted explicitly as an entity. The manufactured material participant is used to represent natural and non-natural occurring substances.

NOTE: The agent responsible for an allergy or adverse reaction is not always a manufactured material (for example, food allergies), nor is it necessarily consumed. The following constraints reflect limitations in the base CDA R2 specification, and should be used to represent any type of responsible agent.

Table 240: Allergy - Intolerance Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
| Green Allergy –Intolerance Observation | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.7'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [7379](#C_7379) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [7380](#C_7380) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [7381](#C_7381) |  |
|  | @root | 1..1 | SHALL |  | [10488](#C_10488) | 2.16.840.1.113883.10.20.22.4.7 |
|  | id | 1..\* | SHALL |  | [7382](#C_7382) |  |
|  | code | 1..1 | SHALL |  | [15947](#C_15947) |  |
|  | @code | 1..1 | SHALL |  | [15948](#C_15948) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
|  | statusCode | 1..1 | SHALL |  | [19084](#C_19084) |  |
|  | @code | 1..1 | SHALL |  | [19085](#C_19085) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| adverseEventDate | effectiveTime | 1..1 | SHALL |  | [7387](#C_7387) |  |
|  | value | 1..1 | SHALL | CD | [7390](#C_7390) |  |
|  | originalText | 0..1 | SHOULD |  | [7422](#C_7422) |  |
|  | reference | 0..1 | MAY |  | [15949](#C_15949) |  |
|  | @value | 0..1 | SHOULD |  | [15950](#C_15950) |  |
| adverseEventType | @code | 1..1 | SHALL |  | [9139](#C_9139) | 2.16.840.1.113883.3.88.12.3221.6.2 (Allergy/Adverse Event Type Value Set) |
| product | participant | 0..1 | SHOULD |  | [7402](#C_7402) |  |
|  | @typeCode | 1..1 | SHALL |  | [7403](#C_7403) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM |
| productDetail | participantRole | 1..1 | SHALL |  | [7404](#C_7404) |  |
|  | @classCode | 1..1 | SHALL |  | [7405](#C_7405) | 2.16.840.1.113883.5.110 (RoleClass) = MANU |
|  | playingEntity | 1..1 | SHALL |  | [7406](#C_7406) |  |
|  | @classCode | 1..1 | SHALL |  | [7407](#C_7407) | 2.16.840.1.113883.5.41 (EntityClass) = MMAT |
| productCoded | code | 1..1 | SHALL |  | [7419](#C_7419) |  |
| productFreeText | originalText | 0..1 | SHOULD |  | [7424](#C_7424) |  |
|  | reference | 0..1 | SHOULD |  | [7425](#C_7425) |  |
|  | @value | 0..1 | SHOULD |  | [15952](#C_15952) |  |
|  | translation | 0..\* | MAY | SET<PQR> | [7431](#C_7431) |  |
|  | entryRelationship | 0..1 | MAY |  | [7440](#C_7440) |  |
|  | @typeCode | 1..1 | SHALL |  | [7906](#C_7906) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ |
|  | @inversionInd | 1..1 | SHALL |  | [7446](#C_7446) | true |
|  | observation | 1..1 | SHALL |  | [15954](#C_15954) |  |
| reaction | entryRelationship | 0..\* | SHOULD |  | [7447](#C_7447) |  |
|  | @typeCode | 1..1 | SHALL |  | [7907](#C_7907) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = MFST |
|  | @inversionInd | 1..1 | SHALL |  | [7449](#C_7449) | true |
|  | observation | 1..1 | SHALL |  | [15955](#C_15955) |  |
| severity | entryRelationship | 0..1 | SHOULD |  | [9961](#C_9961) |  |
|  | @typeCode | 1..1 | SHALL |  | [9962](#C_9962) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ |
|  | @inversionInd | 1..1 | SHALL |  | [9964](#C_9964) | true |
|  | observation | 1..1 | SHALL |  | [15956](#C_15956) |  |

1. Conforms to [**Substance or Device Allergy - Intolerance Observation**](#E_Substance_or_Device_Allergy__Intolera) template (2.16.840.1.113883.10.20.24.3.90).
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:7379).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:7380).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:7381) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.7" (CONF:10488).
5. **SHALL** contain at least one [1..\*] **id** (CONF:7382).
6. **SHALL** contain exactly one [1..1] **code** (CONF:15947).
   1. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:15948).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:19084).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19085).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:7387).
   1. If it is unknown when the allergy began, this effectiveTime **SHALL** contain low/@nullFLavor="UNK" (CONF:9103).
   2. If the allergy is no longer a concern, this effectiveTime **MAY** contain zero or one [0..1] high (CONF:10082).
9. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:7390).
   1. This value **SHOULD** contain zero or one [0..1] **originalText** (CONF:7422).
      1. The originalText, if present, **MAY** contain zero or one [0..1] **reference** (CONF:15949).
         1. The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:15950).
            1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:15951).
   2. This value **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet Allergy/Adverse Event Type Value Set 2.16.840.1.113883.3.88.12.3221.6.2 **DYNAMIC** (CONF:9139).
10. **SHOULD** contain zero or one [0..1] **participant** (CONF:7402) such that it
    1. **SHALL** contain exactly one [1..1] **@typeCode**="CSM" Consumable (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:7403).
    2. **SHALL** contain exactly one [1..1] **participantRole** (CONF:7404).
       1. This participantRole **SHALL** contain exactly one [1..1] **@classCode**="MANU" Manufactured Product (CodeSystem: RoleClass 2.16.840.1.113883.5.110 **STATIC**) (CONF:7405).
       2. This participantRole **SHALL** contain exactly one [1..1] **playingEntity** (CONF:7406).
          1. This playingEntity **SHALL** contain exactly one [1..1] **@classCode**="MMAT" Manufactured Material (CodeSystem: EntityClass 2.16.840.1.113883.5.41 **STATIC**) (CONF:7407).
          2. This playingEntity **SHALL** contain exactly one [1..1] **code** (CONF:7419).
             1. This code **SHOULD** contain zero or one [0..1] **originalText** (CONF:7424).

The originalText, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:7425).

The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:15952).

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:15953).

* + - * 1. This code **MAY** contain zero or more [0..\*] **translation** (CONF:7431).
        2. In an allergy to a specific medication the code **SHALL** be selected from the ValueSet 2.16.840.1.113883.3.88.12.80.16 Medication Brand Name **DYNAMIC** or the ValueSet 2.16.840.1.113883.3.88.12.80.17 Medication Clinical Drug **DYNAMIC** (CONF:7421).
        3. In an allergy to a class of medications the code **SHALL** be selected from the ValueSet 2.16.840.1.113883.3.88.12.80.18 Medication Drug Class **DYNAMIC** (CONF:10083).
        4. In an allergy to a food or other substance the code **SHALL** be selected from the ValueSet 2.16.840.1.113883.3.88.12.80.20 Ingredient Name **DYNAMIC** (CONF:10084).

1. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:7440) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" Has subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:7906).
   2. **SHALL** contain exactly one [1..1] **@inversionInd**="true" True (CONF:7446).
   3. **SHALL** contain exactly one [1..1] [**Allergy Status Observation**](#E_Allergy_Status_Observation) (templateId:2.16.840.1.113883.10.20.22.4.28) (CONF:15954).
2. **SHOULD** contain zero or more [0..\*] **entryRelationship** (CONF:7447) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="MFST" Is Manifestation of (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:7907).
   2. **SHALL** contain exactly one [1..1] **@inversionInd**="true" True (CONF:7449).
   3. **SHALL** contain exactly one [1..1] [**Reaction Observation**](#E_Reaction_Observation) (templateId:2.16.840.1.113883.10.20.22.4.9) (CONF:15955).
3. **SHOULD** contain zero or one [0..1] **entryRelationship** (CONF:9961) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" Has Subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:9962).
   2. **SHALL** contain exactly one [1..1] **@inversionInd**="true" True (CONF:9964).
   3. **SHALL** contain exactly one [1..1] [**Severity Observation**](#E_Severity_Observation) (templateId:2.16.840.1.113883.10.20.22.4.8) (CONF:15956).

Table : : Allergy/Adverse Event Type Value Set

| Value Set: Allergy/Adverse Event Type 2.16.840.1.113883.3.88.12.3221.6.2 DYNAMIC | | |
| --- | --- | --- |
| Code System(s): | SNOMED CT 2.16.840.1.113883.6.96 | |
| Description: | This describes the type of product and intolerance suffered by the patient  <http://phinvads.cdc.gov/vads/ViewValueSet.action?id=7AFDBFB5-A277-DE11-9B52-0015173D1785> | |
| Code | Code System | Print Name |
| 420134006 | SNOMED CT | Propensity to adverse reactions (disorder) |
| 418038007 | SNOMED CT | Propensity to adverse reactions to substance (disorder) |
| 419511003 | SNOMED CT | Propensity to adverse reactions to drug (disorder) |
| 418471000 | SNOMED CT | Propensity to adverse reactions to food (disorder) |
| 419199007 | SNOMED CT | Allergy to substance (disorder) |
| 416098002 | SNOMED CT | Drug allergy (disorder) |
| 414285001 | SNOMED CT | Food allergy (disorder) |
| 59037007 | SNOMED CT | Drug intolerance (disorder) |
| 235719002 | SNOMED CT | Food intolerance (disorder) |

Figure : Allergy Intolerance Observation (IMPACT) example

<observation classCode="OBS" moodCode="EVN">

<!-- Allergy - Intolerance Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.7"/>

<id root="4adc1020-7b14-11db-9fe1-0800200c9a66"/>

<code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>

<statusCode code="completed"/>

<effectiveTime>

<low value="20070501"/>

<high value="20090227"/>

</effectiveTime>

<value xsi:type="CD" code="420134006"

displayName="Propensity to adverse reactions (disorder)"

codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"> </value>

<participant typeCode="CSM">

<participantRole classCode="MANU">

<playingEntity classCode="MMAT">

<code code="1191" displayName="Aspirin"

codeSystem="2.16.840.1.113883.6.88"

codeSystemName="RxNorm”/>

</playingEntity>

</participantRole>

</participant>

<entryRelationship typeCode="SUBJ" inversionInd="true">

<observation classCode="OBS" moodCode="EVN">

<!-- Allergy Status Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.28"/>

...

</observation>

</entryRelationship>

<entryRelationship typeCode="MFST" inversionInd="true">

<observation classCode="OBS" moodCode="EVN">

<!-- Reaction Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.9"/>

...

</observation>

</entryRelationship>

<entryRelationship typeCode="SUBJ" inversionInd="true">

<observation classCode="OBS" moodCode="EVN">

<!-- Severity Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.8"/>

...

</observation>

</entryRelationship>

</observation>

Tobacco Use

[observation: templateId 2.16.840.1.113883.10.20.22.4.85 (open)]

Table 242: Tobacco Use Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Social History Section](#S_Social_History_Section) (optional) |  |

This clinical statement represents a patient’s tobacco use. All types of tobacco use are represented using the codes from the tobacco use and exposure - finding hierarchy in SNOMED CT.

Table 243: Tobacco Use Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.85'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [16558](#C_16558) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [16559](#C_16559) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [16566](#C_16566) |  |
|  | @root | 1..1 | SHALL |  | [16567](#C_16567) | 2.16.840.1.113883.10.20.22.4.85 |
|  | code | 1..1 | SHALL |  | [19174](#C_19174) |  |
|  | @code | 1..1 | SHALL |  | [19175](#C_19175) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
|  | statusCode | 1..1 | SHALL |  | [16561](#C_16561) |  |
|  | @code | 1..1 | SHALL |  | [19118](#C_19118) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | effectiveTime | 1..1 | SHALL |  | [16564](#C_16564) |  |
|  | low | 1..1 | SHALL |  | [16565](#C_16565) |  |
|  | value | 1..1 | SHALL | CD | [16562](#C_16562) |  |
|  | @code | 1..1 | SHALL |  | [16563](#C_16563) | 2.16.840.1.113883.11.20.9.41 (Tobacco Use) |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:16558).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:16559).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:16566) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.85" (CONF:16567).
4. **SHALL** contain exactly one [1..1] **code** (CONF:19174).
   1. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:19175).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:16561).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19118).
6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:16564).
   1. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:16565).
7. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:16562).
   1. This value **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet Tobacco Use 2.16.840.1.113883.11.20.9.41 **DYNAMIC** (CONF:16563).

Table : Tobacco Use Value Set

| Value Set: Tobacco Use 2.16.840.1.113883.11.20.9.41DYNAMIC | | |
| --- | --- | --- |
| Code System(s): | SNOMED CT 2.16.840.1.113883.6.96 | |
| Description: | Contains all values descending from the SNOMED CT® 365980008 tobacco use and exposure - finding hierarchy  <http://www.nlm.nih.gov/research/umls/Snomed/snomed_main.html> | |
| Code | Code System | Print Name |
| 81703003 | SNOMED-CT | Chews tobacco |
| 228494002 | SNOMED-CT | Snuff user |
| 59978006 | SNOMED-CT | Cigar smoker |
| 43381005 | SNOMED-CT | Passive smoker |
| 449868002 | SNOMED CT | Current every day smoker |
| 428041000124106 | SNOMED CT | Current some day smoker |
| 8517006 | SNOMED CT | Former smoker |
| 266919005 | SNOMED CT | Never smoker |
| 77176002 | SNOMED CT | Smoker, current status unknown |
| 266927001 | SNOMED CT | Unknown if ever smoked |
| … |  |  |

Smoking Status Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.78 (open)]

Table 245: Smoking Status Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Social History Section](#S_Social_History_Section) (optional) |  |

This clinical statement represents a patient’s current smoking status. The vocabulary selected for this clinical statement is the best approximation of the statuses in Meaningful Use (MU) Stage 1.

If the patient is a smoker (77176002), the effectiveTime/low element must be present. If the patient is an ex-smoker (8517006), both the effectiveTime/low and effectiveTime/high element must be present.

The smoking status value set includes a special code to communicate if the smoking status is unknown which is different from how Consolidated CDA generally communicates unknown information.

Table : Smoking Status Value Set

| Value Set: Smoking Status 2.16.840.1.113883.11.20.9.38 STATIC 2012-07-01 | | |
| --- | --- | --- |
| Code System(s): | SNOMED CT 2.16.840.1.113883.6.96 | |
| Description: | This value set indicates the current smoking status of a patient | |
| Code | Code System | Print Name |
| 449868002 | SNOMED CT | Current every day smoker |
| 428041000124106 | SNOMED CT | Current some day smoker |
| 8517006 | SNOMED CT | Former smoker |
| 266919005 | SNOMED CT | Never smoker (Never Smoked) |
| 77176002 | SNOMED CT | Smoker, current status unknown |
| 266927001 | SNOMED CT | Unknown if ever smoked |

Table 247: Smoking Status Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.78'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [14806](#C_14806) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [14807](#C_14807) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [14815](#C_14815) |  |
|  | @root | 1..1 | SHALL |  | [14816](#C_14816) | 2.16.840.1.113883.10.20.22.4.78 |
|  | code | 1..1 | SHALL |  | [19170](#C_19170) |  |
|  | @code | 1..1 | SHALL |  | [19171](#C_19171) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
|  | statusCode | 1..1 | SHALL |  | [14809](#C_14809) |  |
|  | @code | 1..1 | SHALL |  | [19116](#C_19116) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | effectiveTime | 1..1 | SHALL |  | [14814](#C_14814) |  |
|  | low | 1..1 | SHALL |  | [14818](#C_14818) |  |
|  | value | 1..1 | SHALL | CD | [14810](#C_14810) |  |
|  | @code | 1..1 | SHALL |  | [14817](#C_14817) | 2.16.840.1.113883.11.20.9.38 (Smoking Status) |

1. Conforms to [**Tobacco Use**](#E_Tobacco_Use) template (2.16.840.1.113883.10.20.22.4.85).
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:14806).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:14807).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:14815) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.78" (CONF:14816).
5. **SHALL** contain exactly one [1..1] **code** (CONF:19170).
   1. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:19171).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:14809).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19116).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:14814).
   1. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:14818).
8. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:14810).
   1. This value **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet Smoking Status 2.16.840.1.113883.11.20.9.38 **STATIC** (CONF:14817).

Vital Sign Observation

[observation: templateId 2.16.840.1.113883.10.20.22.4.27 (open)]

Table 248: Vital Sign Observation Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Vital Signs Organizer](#E_Vital_Signs_Organizer) (required) |  |

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

Table 249: Vital Sign Observation Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.22.4.27'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [7297](#C_7297) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | [7298](#C_7298) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [7299](#C_7299) |  |
|  | @root | 1..1 | SHALL |  | [10527](#C_10527) | 2.16.840.1.113883.10.20.22.4.27 |
|  | id | 1..\* | SHALL |  | [7300](#C_7300) |  |
|  | code | 1..1 | SHALL |  | [7301](#C_7301) | 2.16.840.1.113883.3.88.12.80.62 (Vital Sign Result Value Set) |
|  | text | 0..1 | SHOULD |  | [7302](#C_7302) |  |
|  | reference | 0..1 | SHOULD |  | [15943](#C_15943) |  |
|  | @value | 0..1 | SHOULD |  | [15944](#C_15944) |  |
|  | statusCode | 1..1 | SHALL |  | [7303](#C_7303) |  |
|  | @code | 1..1 | SHALL |  | [19119](#C_19119) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | effectiveTime | 1..1 | SHALL |  | [7304](#C_7304) |  |
|  | value | 1..1 | SHALL | PQ | [7305](#C_7305) |  |
|  | interpretationCode | 0..1 | MAY |  | [7307](#C_7307) |  |
|  | methodCode | 0..1 | MAY | SET<CE> | [7308](#C_7308) |  |
|  | targetSiteCode | 0..1 | MAY | SET<CD> | [7309](#C_7309) |  |
|  | author | 0..1 | MAY |  | [7310](#C_7310) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:7297).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:7298).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:7299) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.27" (CONF:10527).
4. **SHALL** contain at least one [1..\*] **id** (CONF:7300).
5. **SHALL** contain exactly one [1..1] **code**, which **SHOULD** be selected from ValueSet Vital Sign Result Value Set 2.16.840.1.113883.3.88.12.80.62 **DYNAMIC** (CONF:7301).
6. **SHOULD** contain zero or one [0..1] **text** (CONF:7302).
   1. The text, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:15943).
      1. The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:15944).
         1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:15945).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:7303).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19119).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:7304).
9. **SHALL** contain exactly one [1..1] **value** with @xsi:type="PQ" (CONF:7305).
10. **MAY** contain zero or one [0..1] **interpretationCode** (CONF:7307).
11. **MAY** contain zero or one [0..1] **methodCode** (CONF:7308).
12. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:7309).
13. **MAY** contain zero or one [0..1] **author** (CONF:7310).

Table : Vital Sign Result Type Value Set

| Value Set: HITSP Vital Sign Result Type 2.16.840.1.113883.3.88.12.80.62 DYNAMIC | | |
| --- | --- | --- |
| Code System(s): | LOINC 2.16.840.1.113883.6.1 | |
| Description: | This identifies the vital sign result type | |
| Code | Code System | Print Name |
| 9279-1 | LOINC | Respiratory Rate |
| 8867-4 | LOINC | Heart Rate |
| 2710-2 | LOINC | O2 % BldC Oximetry |
| 8480-6 | LOINC | BP Systolic |
| 8462-4 | LOINC | BP Diastolic |
| 8310-5 | LOINC | Body Temperature |
| 8302-2 | LOINC | Height |
| 8306-3 | LOINC | Height (Lying) |
| 8287-5 | LOINC | Head Circumference |
| 3141-9 | LOINC | Weight Measured |
| 39156-5 | LOINC | BMI (Body Mass Index) |
| 3140-1 | LOINC | BSA (Body Surface Area) |

Figure : Vital Sign Observation (IMPACT Height) example

<!-- 10.4.1.1.10 Height -->

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.22.4.27"/>

<!-- Vital Sign Observation template -->

<id root="c6f88321-67ad-11db-bd13-0800200c9a66"/>

<code code="**8302-2**"

codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

displayName="**Height**"/>

<statusCode code="completed"/>

<effectiveTime value="**20120407**"/>

<value xsi:type="PQ"

value="**177**"

unit="**cm**"/>

</observation>

Vital Signs Organizer

[organizer: templateId 2.16.840.1.113883.10.20.22.4.26 (open)]

Table 251: Vital Signs Organizer Contexts

| **Used By:** | **Contains Entries:** |
| --- | --- |
| [Vital Signs Section (entries required)](#S_Vital_Signs_Section_entries_required) (required)  [Vital Signs Section (entries optional)](#S_Vital_Signs_Section_entries_optional) (optional) | [Vital Sign Observation](#E_Vital_Sign_Observation) |

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 the organizer/code or organizer/id is unknown.

Table 252: Vital Signs Organizer Constraints Overview

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | organizer[templateId/@root = '2.16.840.1.113883.10.20.22.4.26'] | | | | | |
|  | @classCode | 1..1 | SHALL |  | [7279](#C_7279) | 2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER |
|  | @moodCode | 1..1 | SHALL |  | [7280](#C_7280) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | [7281](#C_7281) |  |
|  | @root | 1..1 | SHALL |  | [10528](#C_10528) | 2.16.840.1.113883.10.20.22.4.26 |
|  | id | 1..\* | SHALL |  | [7282](#C_7282) |  |
|  | code | 1..1 | SHALL |  | [19176](#C_19176) |  |
|  | @code | 1..1 | SHALL |  | [19177](#C_19177) | 2.16.840.1.113883.6.96 (SNOMED-CT) = 46680005 |
|  | statusCode | 1..1 | SHALL |  | [7284](#C_7284) |  |
|  | @code | 1..1 | SHALL |  | [19120](#C_19120) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | effectiveTime | 1..1 | SHALL |  | [7288](#C_7288) |  |
|  | component | 1..\* | SHALL |  | [7285](#C_7285) |  |
|  | observation | 1..1 | SHALL |  | [15946](#C_15946) |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="CLUSTER" CLUSTER (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:7279).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:7280).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:7281) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.26" (CONF:10528).
4. **SHALL** contain at least one [1..\*] **id** (CONF:7282).
5. **SHALL** contain exactly one [1..1] **code** (CONF:19176).
   1. This code **SHALL** contain exactly one [1..1] **@code**="46680005" Vital signs (CodeSystem: SNOMED-CT 2.16.840.1.113883.6.96 **STATIC**) (CONF:19177).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:7284).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:19120).

The effectiveTime represents clinically effective time of the measurement, which is most likely when the measurement was performed (e.g., a BP measurement).

1. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:7288).
2. **SHALL** contain at least one [1..\*] **component** (CONF:7285) such that it
   1. **SHALL** contain exactly one [1..1] [**Vital Sign Observation**](#E_Vital_Sign_Observation) (templateId:2.16.840.1.113883.10.20.22.4.27) (CONF:15946).

Figure : Vital Signs Organizer (IMPACT) example

<organizer classCode="CLUSTER" moodCode="EVN">

<!-- Vital signs organizer template -->

<templateId root="2.16.840.1.113883.10.20.22.4.26"/>

<id root="c6f88320-67ad-11db-bd13-0800200c9a66"/>

<code code="46680005" codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED -CT"

displayName="Vital signs"/>

<statusCode code="completed"/>

<effectiveTime value="20120407"/>

<component>

<!-- 10.4.1.1.10 IMPACT Data Element: Height -->

<observation classCode="OBS" moodCode="EVN">

<!-- Vital Sign Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.27"/>

...

</observation>

</component>

</organizer>

# References

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1. Acronyms and Abbreviations

ADL activity of daily living

ARRA American Recovery and Reinvestment Act of 2009

C-CDA Consolidated Clinical Document Architecture

CCD Continuity of Care Document

CDA Clinical Document Architecture

CDA R2 CDA Release 2

CDC Centers for Disease Control and Prevention

CPR cardiopulmonary resuscitation

DME durable medical equipment

DSTU Draft Standard for Trial Use

EHR Electronic Health Record

HIE health information exchange

HL7 Health Level Seven

IDE Impact Data Element

IG Implementation Guide

IMPACT Improving Massachusetts Post-Acute Care Transfers

INTERACT Interventions to Reduce Acute Care Transfers

LCC Longitudinal Coordination of Care

LOINC Logical Observation Identifiers Names and Codes

LTPAC long-term and post-acute care

MASS HIE Massachusetts Health Information Exchange

MASS LTPAC Massachusetts Long-Term and Post-Acute Care

NHSN National Healthcare Safety Network

OID object identifier

R2 Release 2

RIM Reference Information Model

RMIM Refined Message Information Model

S&I Standards and Interoperability Framework

SEE Surrogate EHR Environment

SID Standard Insurance Dataset

SNOMED CT Systematized Nomenclature of Medicine, Clinical Terms

UTF Universal Transfer Form

VIS vaccine information statement

XML Extensible Mark-up Language

1. Template IDs Used in this Guide

This appendix lists all templateIds used in this guide in [alphabetical order](#T_Alpha_List_Of_TemplateIds) and in [containment order](#T_Template_Containment).

Table 253: Alphabetical List of Templates in This Guide

| Template Title | Template Type | templateId |
| --- | --- | --- |
| [Transfer of Care Document](#D_Transfer_of_Care_Document) | document | 2.16.840.1.113883.10.20.22.1.12 |
| [US Realm Header](#D_US_Realm_Header) | document | 2.16.840.1.113883.10.20.22.1.1 |
| [Advance Directives Section (entries optional)](#S_Advance_Directives_Section_entries_opt) | section | 2.16.840.1.113883.10.20.22.2.21 |
| [Allergies Section (entries optional)](#S_Allergies_Section_entries_optional) | section | 2.16.840.1.113883.10.20.22.2.6 |
| [Allergies Section (entries required)](#S_Allergies_Section_entries_required) | section | 2.16.840.1.113883.10.20.22.2.6.1 |
| [Assessment Section](#S_Assessment_Section) | section | 2.16.840.1.113883.10.20.22.2.8 |
| [Chief Complaint and Reason for Visit Section](#S_Chief_Complaint_and_Reason_for_Visit_S) | section | 2.16.840.1.113883.10.20.22.2.13 |
| [Encounters Section (entries optional)](#S_Encounters_Section_entries_optional) | section | 2.16.840.1.113883.10.20.22.2.22 |
| [Encounters Section (entries required)](#S_Encounters_Section_entries_required) | section | 2.16.840.1.113883.10.20.22.2.22.1 |
| [Family History Section](#S_Family_History_Section) | section | 2.16.840.1.113883.10.20.22.2.15 |
| [Functional Status Section](#S_Functional_Status_Section) | section | 2.16.840.1.113883.10.20.22.2.14 |
| [History of Past Illness Section](#S_History_of_Past_Illness_Section) | section | 2.16.840.1.113883.10.20.22.2.20 |
| [History of Present Illness Section](#S_History_of_Present_Illness_Section) | section | 1.3.6.1.4.1.19376.1.5.3.1.3.4 |
| [Hospital Discharge Diagnosis Section](#S_Hospital_Discharge_Diagnosis_Section) | section | 2.16.840.1.113883.10.20.22.2.24 |
| [Immunizations Section (entries optional)](#S_Immunizations_Section_entries_optional) | section | 2.16.840.1.113883.10.20.22.2.2 |
| [Immunizations Section (entries required)](#S_Immunizations_Section_entries_required) | section | 2.16.840.1.113883.10.20.22.2.2.1 |
| [Medical Equipment Section](#S_Medical_Equipment_Section) | section | 2.16.840.1.113883.10.20.22.2.23 |
| [Medications Section (entries optional)](#S_Medications_Section_entries_optional) | section | 2.16.840.1.113883.10.20.22.2.1 |
| [Medications Section (entries required)](#S_Medications_Section_entries_required) | section | 2.16.840.1.113883.10.20.22.2.1.1 |
| [Payers Section](#S_Payers_Section) | section | 2.16.840.1.113883.10.20.22.2.18 |
| [Plan of Care Section](#S_Plan_of_Care_Section) | section | 2.16.840.1.113883.10.20.22.2.10 |
| [Problem Section (entries optional)](#S_Problem_Section_entries_optional) | section | 2.16.840.1.113883.10.20.22.2.5 |
| [Problem Section (entries required)](#S_Problem_Section_entries_required) | section | 2.16.840.1.113883.10.20.22.2.5.1 |
| [Procedures Section (entries optional)](#S_Procedures_Section_entries_optional) | section | 2.16.840.1.113883.10.20.22.2.7 |
| [Procedures Section (entries required)](#S_Procedures_Section_entries_required) | section | 2.16.840.1.113883.10.20.22.2.7.1 |
| [Results Section (entries optional)](#S_Results_Section_entries_optional) | section | 2.16.840.1.113883.10.20.22.2.3 |
| [Results Section (entries required)](#S_Results_Section_entries_required) | section | 2.16.840.1.113883.10.20.22.2.3.1 |
| [Social History Section](#S_Social_History_Section) | section | 2.16.840.1.113883.10.20.22.2.17 |
| [Vital Signs Section (entries optional)](#S_Vital_Signs_Section_entries_optional) | section | 2.16.840.1.113883.10.20.22.2.4 |
| [Vital Signs Section (entries required)](#S_Vital_Signs_Section_entries_required) | section | 2.16.840.1.113883.10.20.22.2.4.1 |
| [Advance Directive Observation](#E_Advance_Directive_Observation) | entry | 2.16.840.1.113883.10.20.22.4.48 |
| [Age Observation](#E_Age_Observation) | entry | 2.16.840.1.113883.10.20.22.4.31 |
| [Allergy - Intolerance Observation](#E_Allergy__Intolerance_Observation) | entry | 2.16.840.1.113883.10.20.22.4.7 |
| [Allergy Problem Act](#E_Allergy_Problem_Act) | entry | 2.16.840.1.113883.10.20.22.4.30 |
| [Allergy Status Observation](#E_Allergy_Status_Observation) | entry | 2.16.840.1.113883.10.20.22.4.28 |
| [Assertion Pattern](#E_Assertion_Pattern) | entry | 2.16.840.1.113883.10.20.25.4.7 |
| [Assessment Scale Observation](#E_Assessment_Scale_Observation) | entry | 2.16.840.1.113883.10.20.22.4.69 |
| [Assessment Scale Supporting Observation](#E_Assessment_Scale_Supporting_Observati) | entry | 2.16.840.1.113883.10.20.22.4.86 |
| [Caregiver Characteristics](#E_Caregiver_Characteristics) | entry | 2.16.840.1.113883.10.20.22.4.72 |
| [Cognitive Status Problem Observation](#E_Cognitive_Status_Problem_Observation) | entry | 2.16.840.1.113883.10.20.22.4.73 |
| [Cognitive Status Result Observation](#E_Cognitive_Status_Result_Observation) | entry | 2.16.840.1.113883.10.20.22.4.74 |
| [Cognitive Status Result Organizer](#E_Cognitive_Status_Result_Organizer) | entry | 2.16.840.1.113883.10.20.22.4.75 |
| [Coverage Activity](#E_Coverage_Activity) | entry | 2.16.840.1.113883.10.20.22.4.60 |
| [Drug Vehicle](#E_Drug_Vehicle) | entry | 2.16.840.1.113883.10.20.22.4.24 |
| [Encounter Activities](#E_Encounter_Activities) | entry | 2.16.840.1.113883.10.20.22.4.49 |
| [Encounter Diagnosis](#E_Encounter_Diagnosis) | entry | 2.16.840.1.113883.10.20.22.4.80 |
| [Estimated Date of Delivery](#E_Estimated_Date_of_Delivery) | entry | 2.16.840.1.113883.10.20.15.3.1 |
| [Family History Death Observation](#E_Family_History_Death_Observation) | entry | 2.16.840.1.113883.10.20.22.4.47 |
| [Family History Observation](#E_Family_History_Observation) | entry | 2.16.840.1.113883.10.20.22.4.46 |
| [Family History Organizer](#E_Family_History_Organizer) | entry | 2.16.840.1.113883.10.20.22.4.45 |
| [Functional Status Problem Observation](#E_Functional_Status_Problem_Observation) | entry | 2.16.840.1.113883.10.20.22.4.68 |
| [Functional Status Result Observation](#E_Functional_Status_Result_Observation) | entry | 2.16.840.1.113883.10.20.22.4.67 |
| [Functional Status Result Organizer](#E_Functional_Status_Result_Organizer) | entry | 2.16.840.1.113883.10.20.22.4.66 |
| [Health Status Observation](#E_Health_Status_Observation) | entry | 2.16.840.1.113883.10.20.22.4.5 |
| [Highest Pressure Ulcer Stage](#E_Highest_Pressure_Ulcer_Stage) | entry | 2.16.840.1.113883.10.20.22.4.77 |
| [Hospital Discharge Diagnosis](#E_Hospital_Discharge_Diagnosis) | entry | 2.16.840.1.113883.10.20.22.4.33 |
| [Immunization Activity](#E_Immunization_Activity) | entry | 2.16.840.1.113883.10.20.22.4.52 |
| [Immunization Medication Information](#E_Immunization_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.54 |
| [Immunization Refusal Reason](#E_Immunization_Refusal_Reason) | entry | 2.16.840.1.113883.10.20.22.4.53 |
| [Indication](#E_Indication) | entry | 2.16.840.1.113883.10.20.22.4.19 |
| [Instructions](#E_Instructions) | entry | 2.16.840.1.113883.10.20.22.4.20 |
| [Medication Activity](#E_Medication_Activity) | entry | 2.16.840.1.113883.10.20.22.4.16 |
| [Medication Dispense](#E_Medication_Dispense) | entry | 2.16.840.1.113883.10.20.22.4.18 |
| [Medication Information](#E_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.23 |
| [Medication Supply Order](#E_Medication_Supply_Order) | entry | 2.16.840.1.113883.10.20.22.4.17 |
| [Non-Medicinal Supply Activity](#E_NonMedicinal_Supply_Activity) | entry | 2.16.840.1.113883.10.20.22.4.50 |
| [Number of Pressure Ulcers Observation](#E_Number_of_Pressure_Ulcers_Observation) | entry | 2.16.840.1.113883.10.20.22.4.76 |
| [Other Response Pattern](#E_Other_Response_Pattern) | entry | 2.16.840.1.113883.10.20.25.4.6 |
| [Plan of Care Activity Act](#E_Plan_of_Care_Activity_Act) | entry | 2.16.840.1.113883.10.20.22.4.39 |
| [Plan of Care Activity Encounter](#E_Plan_of_Care_Activity_Encounter) | entry | 2.16.840.1.113883.10.20.22.4.40 |
| [Plan of Care Activity Observation](#E_Plan_of_Care_Activity_Observation) | entry | 2.16.840.1.113883.10.20.22.4.44 |
| [Plan of Care Activity Procedure](#E_Plan_of_Care_Activity_Procedure) | entry | 2.16.840.1.113883.10.20.22.4.41 |
| [Plan of Care Activity Substance Administration](#E_Plan_of_Care_Activity_Substance_Admini) | entry | 2.16.840.1.113883.10.20.22.4.42 |
| [Plan of Care Activity Supply](#E_Plan_of_Care_Activity_Supply) | entry | 2.16.840.1.113883.10.20.22.4.43 |
| [Policy Activity](#E_Policy_Activity) | entry | 2.16.840.1.113883.10.20.22.4.61 |
| [Precondition for Substance Administration](#E_Precondition_for_Substance_Administrat) | entry | 2.16.840.1.113883.10.20.22.4.25 |
| [Pregnancy Observation](#E_Pregnancy_Observation) | entry | 2.16.840.1.113883.10.20.15.3.8 |
| [Pressure Ulcer Observation](#E_Pressure_Ulcer_Observation_) | entry | 2.16.840.1.113883.10.20.22.4.70 |
| [Problem Concern Act (Condition)](#E_Problem_Concern_Act_Condition) | entry | 2.16.840.1.113883.10.20.22.4.3 |
| [Problem Observation](#E_Problem_Observation) | entry | 2.16.840.1.113883.10.20.22.4.4 |
| [Problem Status](#E_Problem_Status) | entry | 2.16.840.1.113883.10.20.22.4.6 |
| [Procedure Activity Act](#E_Procedure_Activity_Act) | entry | 2.16.840.1.113883.10.20.22.4.12 |
| [Procedure Activity Observation](#E_Procedure_Activity_Observation) | entry | 2.16.840.1.113883.10.20.22.4.13 |
| [Procedure Activity Procedure](#E_Procedure_Activity_Procedure) | entry | 2.16.840.1.113883.10.20.22.4.14 |
| [Product Instance](#E_Product_Instance) | entry | 2.16.840.1.113883.10.20.22.4.37 |
| [Question Answer Pattern](#E_Question_Answer_Pattern) | entry | 2.16.840.1.113883.10.20.25.4.5 |
| [Reaction Observation](#E_Reaction_Observation) | entry | 2.16.840.1.113883.10.20.22.4.9 |
| [Result Observation](#E_Result_Observation) | entry | 2.16.840.1.113883.10.20.22.4.2 |
| [Result Organizer](#E_Result_Organizer) | entry | 2.16.840.1.113883.10.20.22.4.1 |
| [Service Delivery Location](#E_Service_Delivery_Location) | entry | 2.16.840.1.113883.10.20.22.4.32 |
| [Severity Observation](#E_Severity_Observation) | entry | 2.16.840.1.113883.10.20.22.4.8 |
| [Smoking Status Observation](#E_Smoking_Status_Observation) | entry | 2.16.840.1.113883.10.20.22.4.78 |
| [Social History Observation](#E_Social_History_Observation) | entry | 2.16.840.1.113883.10.20.22.4.38 |
| [Substance or Device Allergy - Intolerance Observation](#E_Substance_or_Device_Allergy__Intolera) | entry | 2.16.840.1.113883.10.20.24.3.90 |
| [Tobacco Use](#E_Tobacco_Use) | entry | 2.16.840.1.113883.10.20.22.4.85 |
| [Typical Response Pattern](#E_Typical_Response_Pattern) | entry | 2.16.840.1.113883.10.20.25.4.8 |
| [Vital Sign Observation](#E_Vital_Sign_Observation) | entry | 2.16.840.1.113883.10.20.22.4.27 |
| [Vital Signs Organizer](#E_Vital_Signs_Organizer) | entry | 2.16.840.1.113883.10.20.22.4.26 |

Table 254: Template Containments

| Template Title | Template Type | templateId |
| --- | --- | --- |
| [Transfer of Care Document](#D_Transfer_of_Care_Document) | document | 2.16.840.1.113883.10.20.22.1.12 |
| [Advance Directives Section (entries optional)](#S_Advance_Directives_Section_entries_opt) | section | 2.16.840.1.113883.10.20.22.2.21 |
| [Advance Directive Observation](#E_Advance_Directive_Observation) | entry | 2.16.840.1.113883.10.20.22.4.48 |
| [Allergies Section (entries required)](#S_Allergies_Section_entries_required) | section | 2.16.840.1.113883.10.20.22.2.6.1 |
| [Allergy Problem Act](#E_Allergy_Problem_Act) | entry | 2.16.840.1.113883.10.20.22.4.30 |
| [Allergy - Intolerance Observation](#E_Allergy__Intolerance_Observation) | entry | 2.16.840.1.113883.10.20.22.4.7 |
| [Allergy Status Observation](#E_Allergy_Status_Observation) | entry | 2.16.840.1.113883.10.20.22.4.28 |
| [Reaction Observation](#E_Reaction_Observation) | entry | 2.16.840.1.113883.10.20.22.4.9 |
| [Medication Activity](#E_Medication_Activity) | entry | 2.16.840.1.113883.10.20.22.4.16 |
| [Drug Vehicle](#E_Drug_Vehicle) | entry | 2.16.840.1.113883.10.20.22.4.24 |
| [Indication](#E_Indication) | entry | 2.16.840.1.113883.10.20.22.4.19 |
| [Instructions](#E_Instructions) | entry | 2.16.840.1.113883.10.20.22.4.20 |
| [Medication Dispense](#E_Medication_Dispense) | entry | 2.16.840.1.113883.10.20.22.4.18 |
| [Immunization Medication Information](#E_Immunization_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.54 |
| [Medication Information](#E_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.23 |
| [Medication Supply Order](#E_Medication_Supply_Order) | entry | 2.16.840.1.113883.10.20.22.4.17 |
| [Immunization Medication Information](#E_Immunization_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.54 |
| [Instructions](#E_Instructions) | entry | 2.16.840.1.113883.10.20.22.4.20 |
| [Medication Information](#E_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.23 |
| [Medication Information](#E_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.23 |
| [Medication Supply Order](#E_Medication_Supply_Order) | entry | 2.16.840.1.113883.10.20.22.4.17 |
| [Immunization Medication Information](#E_Immunization_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.54 |
| [Instructions](#E_Instructions) | entry | 2.16.840.1.113883.10.20.22.4.20 |
| [Medication Information](#E_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.23 |
| [Precondition for Substance Administration](#E_Precondition_for_Substance_Administrat) | entry | 2.16.840.1.113883.10.20.22.4.25 |
| [Procedure Activity Procedure](#E_Procedure_Activity_Procedure) | entry | 2.16.840.1.113883.10.20.22.4.14 |
| [Indication](#E_Indication) | entry | 2.16.840.1.113883.10.20.22.4.19 |
| [Instructions](#E_Instructions) | entry | 2.16.840.1.113883.10.20.22.4.20 |
| [Medication Activity](#E_Medication_Activity) | entry | 2.16.840.1.113883.10.20.22.4.16 |
| [Drug Vehicle](#E_Drug_Vehicle) | entry | 2.16.840.1.113883.10.20.22.4.24 |
| [Indication](#E_Indication) | entry | 2.16.840.1.113883.10.20.22.4.19 |
| [Instructions](#E_Instructions) | entry | 2.16.840.1.113883.10.20.22.4.20 |
| [Medication Dispense](#E_Medication_Dispense) | entry | 2.16.840.1.113883.10.20.22.4.18 |
| [Immunization Medication Information](#E_Immunization_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.54 |
| [Medication Information](#E_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.23 |
| [Medication Supply Order](#E_Medication_Supply_Order) | entry | 2.16.840.1.113883.10.20.22.4.17 |
| [Immunization Medication Information](#E_Immunization_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.54 |
| [Instructions](#E_Instructions) | entry | 2.16.840.1.113883.10.20.22.4.20 |
| [Medication Information](#E_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.23 |
| [Medication Information](#E_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.23 |
| [Medication Supply Order](#E_Medication_Supply_Order) | entry | 2.16.840.1.113883.10.20.22.4.17 |
| [Immunization Medication Information](#E_Immunization_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.54 |
| [Instructions](#E_Instructions) | entry | 2.16.840.1.113883.10.20.22.4.20 |
| [Medication Information](#E_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.23 |
| [Precondition for Substance Administration](#E_Precondition_for_Substance_Administrat) | entry | 2.16.840.1.113883.10.20.22.4.25 |
| [Product Instance](#E_Product_Instance) | entry | 2.16.840.1.113883.10.20.22.4.37 |
| [Service Delivery Location](#E_Service_Delivery_Location) | entry | 2.16.840.1.113883.10.20.22.4.32 |
| [Severity Observation](#E_Severity_Observation) | entry | 2.16.840.1.113883.10.20.22.4.8 |
| [Severity Observation](#E_Severity_Observation) | entry | 2.16.840.1.113883.10.20.22.4.8 |
| [Assessment Section](#S_Assessment_Section) | section | 2.16.840.1.113883.10.20.22.2.8 |
| [Chief Complaint and Reason for Visit Section](#S_Chief_Complaint_and_Reason_for_Visit_S) | section | 2.16.840.1.113883.10.20.22.2.13 |
| [Encounters Section (entries required)](#S_Encounters_Section_entries_required) | section | 2.16.840.1.113883.10.20.22.2.22.1 |
| [Encounter Activities](#E_Encounter_Activities) | entry | 2.16.840.1.113883.10.20.22.4.49 |
| [Encounter Diagnosis](#E_Encounter_Diagnosis) | entry | 2.16.840.1.113883.10.20.22.4.80 |
| [Problem Observation](#E_Problem_Observation) | entry | 2.16.840.1.113883.10.20.22.4.4 |
| [Age Observation](#E_Age_Observation) | entry | 2.16.840.1.113883.10.20.22.4.31 |
| [Health Status Observation](#E_Health_Status_Observation) | entry | 2.16.840.1.113883.10.20.22.4.5 |
| [Problem Status](#E_Problem_Status) | entry | 2.16.840.1.113883.10.20.22.4.6 |
| [Indication](#E_Indication) | entry | 2.16.840.1.113883.10.20.22.4.19 |
| [Service Delivery Location](#E_Service_Delivery_Location) | entry | 2.16.840.1.113883.10.20.22.4.32 |
| [Family History Section](#S_Family_History_Section) | section | 2.16.840.1.113883.10.20.22.2.15 |
| [Family History Organizer](#E_Family_History_Organizer) | entry | 2.16.840.1.113883.10.20.22.4.45 |
| [Family History Observation](#E_Family_History_Observation) | entry | 2.16.840.1.113883.10.20.22.4.46 |
| [Age Observation](#E_Age_Observation) | entry | 2.16.840.1.113883.10.20.22.4.31 |
| [Family History Death Observation](#E_Family_History_Death_Observation) | entry | 2.16.840.1.113883.10.20.22.4.47 |
| [Functional Status Section](#S_Functional_Status_Section) | section | 2.16.840.1.113883.10.20.22.2.14 |
| [Assessment Scale Observation](#E_Assessment_Scale_Observation) | entry | 2.16.840.1.113883.10.20.22.4.69 |
| [Assessment Scale Supporting Observation](#E_Assessment_Scale_Supporting_Observati) | entry | 2.16.840.1.113883.10.20.22.4.86 |
| [Caregiver Characteristics](#E_Caregiver_Characteristics) | entry | 2.16.840.1.113883.10.20.22.4.72 |
| [Cognitive Status Problem Observation](#E_Cognitive_Status_Problem_Observation) | entry | 2.16.840.1.113883.10.20.22.4.73 |
| [Assessment Scale Observation](#E_Assessment_Scale_Observation) | entry | 2.16.840.1.113883.10.20.22.4.69 |
| [Assessment Scale Supporting Observation](#E_Assessment_Scale_Supporting_Observati) | entry | 2.16.840.1.113883.10.20.22.4.86 |
| [Caregiver Characteristics](#E_Caregiver_Characteristics) | entry | 2.16.840.1.113883.10.20.22.4.72 |
| [Non-Medicinal Supply Activity](#E_NonMedicinal_Supply_Activity) | entry | 2.16.840.1.113883.10.20.22.4.50 |
| [Product Instance](#E_Product_Instance) | entry | 2.16.840.1.113883.10.20.22.4.37 |
| [Cognitive Status Result Observation](#E_Cognitive_Status_Result_Observation) | entry | 2.16.840.1.113883.10.20.22.4.74 |
| [Assessment Scale Observation](#E_Assessment_Scale_Observation) | entry | 2.16.840.1.113883.10.20.22.4.69 |
| [Assessment Scale Supporting Observation](#E_Assessment_Scale_Supporting_Observati) | entry | 2.16.840.1.113883.10.20.22.4.86 |
| [Caregiver Characteristics](#E_Caregiver_Characteristics) | entry | 2.16.840.1.113883.10.20.22.4.72 |
| [Non-Medicinal Supply Activity](#E_NonMedicinal_Supply_Activity) | entry | 2.16.840.1.113883.10.20.22.4.50 |
| [Product Instance](#E_Product_Instance) | entry | 2.16.840.1.113883.10.20.22.4.37 |
| [Cognitive Status Result Organizer](#E_Cognitive_Status_Result_Organizer) | entry | 2.16.840.1.113883.10.20.22.4.75 |
| [Cognitive Status Result Observation](#E_Cognitive_Status_Result_Observation) | entry | 2.16.840.1.113883.10.20.22.4.74 |
| [Assessment Scale Observation](#E_Assessment_Scale_Observation) | entry | 2.16.840.1.113883.10.20.22.4.69 |
| [Assessment Scale Supporting Observation](#E_Assessment_Scale_Supporting_Observati) | entry | 2.16.840.1.113883.10.20.22.4.86 |
| [Caregiver Characteristics](#E_Caregiver_Characteristics) | entry | 2.16.840.1.113883.10.20.22.4.72 |
| [Non-Medicinal Supply Activity](#E_NonMedicinal_Supply_Activity) | entry | 2.16.840.1.113883.10.20.22.4.50 |
| [Product Instance](#E_Product_Instance) | entry | 2.16.840.1.113883.10.20.22.4.37 |
| [Functional Status Problem Observation](#E_Functional_Status_Problem_Observation) | entry | 2.16.840.1.113883.10.20.22.4.68 |
| [Assessment Scale Observation](#E_Assessment_Scale_Observation) | entry | 2.16.840.1.113883.10.20.22.4.69 |
| [Assessment Scale Supporting Observation](#E_Assessment_Scale_Supporting_Observati) | entry | 2.16.840.1.113883.10.20.22.4.86 |
| [Caregiver Characteristics](#E_Caregiver_Characteristics) | entry | 2.16.840.1.113883.10.20.22.4.72 |
| [Non-Medicinal Supply Activity](#E_NonMedicinal_Supply_Activity) | entry | 2.16.840.1.113883.10.20.22.4.50 |
| [Product Instance](#E_Product_Instance) | entry | 2.16.840.1.113883.10.20.22.4.37 |
| [Functional Status Result Observation](#E_Functional_Status_Result_Observation) | entry | 2.16.840.1.113883.10.20.22.4.67 |
| [Assessment Scale Observation](#E_Assessment_Scale_Observation) | entry | 2.16.840.1.113883.10.20.22.4.69 |
| [Assessment Scale Supporting Observation](#E_Assessment_Scale_Supporting_Observati) | entry | 2.16.840.1.113883.10.20.22.4.86 |
| [Caregiver Characteristics](#E_Caregiver_Characteristics) | entry | 2.16.840.1.113883.10.20.22.4.72 |
| [Non-Medicinal Supply Activity](#E_NonMedicinal_Supply_Activity) | entry | 2.16.840.1.113883.10.20.22.4.50 |
| [Product Instance](#E_Product_Instance) | entry | 2.16.840.1.113883.10.20.22.4.37 |
| [Functional Status Result Organizer](#E_Functional_Status_Result_Organizer) | entry | 2.16.840.1.113883.10.20.22.4.66 |
| [Functional Status Result Observation](#E_Functional_Status_Result_Observation) | entry | 2.16.840.1.113883.10.20.22.4.67 |
| [Assessment Scale Observation](#E_Assessment_Scale_Observation) | entry | 2.16.840.1.113883.10.20.22.4.69 |
| [Assessment Scale Supporting Observation](#E_Assessment_Scale_Supporting_Observati) | entry | 2.16.840.1.113883.10.20.22.4.86 |
| [Caregiver Characteristics](#E_Caregiver_Characteristics) | entry | 2.16.840.1.113883.10.20.22.4.72 |
| [Non-Medicinal Supply Activity](#E_NonMedicinal_Supply_Activity) | entry | 2.16.840.1.113883.10.20.22.4.50 |
| [Product Instance](#E_Product_Instance) | entry | 2.16.840.1.113883.10.20.22.4.37 |
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| [Non-Medicinal Supply Activity](#E_NonMedicinal_Supply_Activity) | entry | 2.16.840.1.113883.10.20.22.4.50 |
| [Product Instance](#E_Product_Instance) | entry | 2.16.840.1.113883.10.20.22.4.37 |
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| [Problem Observation](#E_Problem_Observation) | entry | 2.16.840.1.113883.10.20.22.4.4 |
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| [Indication](#E_Indication) | entry | 2.16.840.1.113883.10.20.22.4.19 |
| [Instructions](#E_Instructions) | entry | 2.16.840.1.113883.10.20.22.4.20 |
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| [Instructions](#E_Instructions) | entry | 2.16.840.1.113883.10.20.22.4.20 |
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| [Instructions](#E_Instructions) | entry | 2.16.840.1.113883.10.20.22.4.20 |
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| [Drug Vehicle](#E_Drug_Vehicle) | entry | 2.16.840.1.113883.10.20.22.4.24 |
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| [Instructions](#E_Instructions) | entry | 2.16.840.1.113883.10.20.22.4.20 |
| [Medication Information](#E_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.23 |
| [Medication Information](#E_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.23 |
| [Medication Supply Order](#E_Medication_Supply_Order) | entry | 2.16.840.1.113883.10.20.22.4.17 |
| [Immunization Medication Information](#E_Immunization_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.54 |
| [Instructions](#E_Instructions) | entry | 2.16.840.1.113883.10.20.22.4.20 |
| [Medication Information](#E_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.23 |
| [Precondition for Substance Administration](#E_Precondition_for_Substance_Administrat) | entry | 2.16.840.1.113883.10.20.22.4.25 |
| [Reaction Observation](#E_Reaction_Observation) | entry | 2.16.840.1.113883.10.20.22.4.9 |
| [Severity Observation](#E_Severity_Observation) | entry | 2.16.840.1.113883.10.20.22.4.8 |
| [Product Instance](#E_Product_Instance) | entry | 2.16.840.1.113883.10.20.22.4.37 |
| [Service Delivery Location](#E_Service_Delivery_Location) | entry | 2.16.840.1.113883.10.20.22.4.32 |
| [Results Section (entries required)](#S_Results_Section_entries_required) | section | 2.16.840.1.113883.10.20.22.2.3.1 |
| [Result Organizer](#E_Result_Organizer) | entry | 2.16.840.1.113883.10.20.22.4.1 |
| [Result Observation](#E_Result_Observation) | entry | 2.16.840.1.113883.10.20.22.4.2 |
| [Social History Section](#S_Social_History_Section) | section | 2.16.840.1.113883.10.20.22.2.17 |
| [Pregnancy Observation](#E_Pregnancy_Observation) | entry | 2.16.840.1.113883.10.20.15.3.8 |
| [Estimated Date of Delivery](#E_Estimated_Date_of_Delivery) | entry | 2.16.840.1.113883.10.20.15.3.1 |
| [Smoking Status Observation](#E_Smoking_Status_Observation) | entry | 2.16.840.1.113883.10.20.22.4.78 |
| [Social History Observation](#E_Social_History_Observation) | entry | 2.16.840.1.113883.10.20.22.4.38 |
| [Tobacco Use](#E_Tobacco_Use) | entry | 2.16.840.1.113883.10.20.22.4.85 |
| [Vital Signs Section (entries required)](#S_Vital_Signs_Section_entries_required) | section | 2.16.840.1.113883.10.20.22.2.4.1 |
| [Vital Signs Organizer](#E_Vital_Signs_Organizer) | entry | 2.16.840.1.113883.10.20.22.4.26 |
| [Vital Sign Observation](#E_Vital_Sign_Observation) | entry | 2.16.840.1.113883.10.20.22.4.27 |
| [US Realm Header](#D_US_Realm_Header) | document | 2.16.840.1.113883.10.20.22.1.1 |
| [Assertion Pattern](#E_Assertion_Pattern) | entry | 2.16.840.1.113883.10.20.25.4.7 |
| [Other Response Pattern](#E_Other_Response_Pattern) | entry | 2.16.840.1.113883.10.20.25.4.6 |
| [Question Answer Pattern](#E_Question_Answer_Pattern) | entry | 2.16.840.1.113883.10.20.25.4.5 |
| [Typical Response Pattern](#E_Typical_Response_Pattern) | entry | 2.16.840.1.113883.10.20.25.4.8 |
| [Substance or Device Allergy - Intolerance Observation](#E_Substance_or_Device_Allergy__Intolera) | entry | 2.16.840.1.113883.10.20.24.3.90 |
| [Allergy Status Observation](#E_Allergy_Status_Observation) | entry | 2.16.840.1.113883.10.20.22.4.28 |
| [Reaction Observation](#E_Reaction_Observation) | entry | 2.16.840.1.113883.10.20.22.4.9 |
| [Medication Activity](#E_Medication_Activity) | entry | 2.16.840.1.113883.10.20.22.4.16 |
| [Drug Vehicle](#E_Drug_Vehicle) | entry | 2.16.840.1.113883.10.20.22.4.24 |
| [Indication](#E_Indication) | entry | 2.16.840.1.113883.10.20.22.4.19 |
| [Instructions](#E_Instructions) | entry | 2.16.840.1.113883.10.20.22.4.20 |
| [Medication Dispense](#E_Medication_Dispense) | entry | 2.16.840.1.113883.10.20.22.4.18 |
| [Immunization Medication Information](#E_Immunization_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.54 |
| [Medication Information](#E_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.23 |
| [Medication Supply Order](#E_Medication_Supply_Order) | entry | 2.16.840.1.113883.10.20.22.4.17 |
| [Immunization Medication Information](#E_Immunization_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.54 |
| [Instructions](#E_Instructions) | entry | 2.16.840.1.113883.10.20.22.4.20 |
| [Medication Information](#E_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.23 |
| [Medication Information](#E_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.23 |
| [Medication Supply Order](#E_Medication_Supply_Order) | entry | 2.16.840.1.113883.10.20.22.4.17 |
| [Immunization Medication Information](#E_Immunization_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.54 |
| [Instructions](#E_Instructions) | entry | 2.16.840.1.113883.10.20.22.4.20 |
| [Medication Information](#E_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.23 |
| [Precondition for Substance Administration](#E_Precondition_for_Substance_Administrat) | entry | 2.16.840.1.113883.10.20.22.4.25 |
| [Procedure Activity Procedure](#E_Procedure_Activity_Procedure) | entry | 2.16.840.1.113883.10.20.22.4.14 |
| [Indication](#E_Indication) | entry | 2.16.840.1.113883.10.20.22.4.19 |
| [Instructions](#E_Instructions) | entry | 2.16.840.1.113883.10.20.22.4.20 |
| [Medication Activity](#E_Medication_Activity) | entry | 2.16.840.1.113883.10.20.22.4.16 |
| [Drug Vehicle](#E_Drug_Vehicle) | entry | 2.16.840.1.113883.10.20.22.4.24 |
| [Indication](#E_Indication) | entry | 2.16.840.1.113883.10.20.22.4.19 |
| [Instructions](#E_Instructions) | entry | 2.16.840.1.113883.10.20.22.4.20 |
| [Medication Dispense](#E_Medication_Dispense) | entry | 2.16.840.1.113883.10.20.22.4.18 |
| [Immunization Medication Information](#E_Immunization_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.54 |
| [Medication Information](#E_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.23 |
| [Medication Supply Order](#E_Medication_Supply_Order) | entry | 2.16.840.1.113883.10.20.22.4.17 |
| [Immunization Medication Information](#E_Immunization_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.54 |
| [Instructions](#E_Instructions) | entry | 2.16.840.1.113883.10.20.22.4.20 |
| [Medication Information](#E_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.23 |
| [Medication Information](#E_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.23 |
| [Medication Supply Order](#E_Medication_Supply_Order) | entry | 2.16.840.1.113883.10.20.22.4.17 |
| [Immunization Medication Information](#E_Immunization_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.54 |
| [Instructions](#E_Instructions) | entry | 2.16.840.1.113883.10.20.22.4.20 |
| [Medication Information](#E_Medication_Information) | entry | 2.16.840.1.113883.10.20.22.4.23 |
| [Precondition for Substance Administration](#E_Precondition_for_Substance_Administrat) | entry | 2.16.840.1.113883.10.20.22.4.25 |
| [Product Instance](#E_Product_Instance) | entry | 2.16.840.1.113883.10.20.22.4.37 |
| [Service Delivery Location](#E_Service_Delivery_Location) | entry | 2.16.840.1.113883.10.20.22.4.32 |
| [Severity Observation](#E_Severity_Observation) | entry | 2.16.840.1.113883.10.20.22.4.8 |
| [Severity Observation](#E_Severity_Observation) | entry | 2.16.840.1.113883.10.20.22.4.8 |

1. Summary of Vocabularies (Non-normative)

For the user’s convenience, this table summarizes the vocabularies (code systems) used in this guide.

Table : List of Vocabularies

|  |  |
| --- | --- |
| Root OIDs | |
| codeSystem | codeSystemName |
| 1.0.3166.1 | ISO 3166-1 Country Codes |
| 2.16.840.1.113883.1.11.11526 | Internet Society Language |
| 2.16.840.1.113883.12.164 | Admistration device (HL7) |
| 2.16.840.1.113883.12.292 | Vaccines administered (CVX) |
| 2.16.840.1.113883.12.443 | Provider Role |
| 2.16.840.1.113883.19 | ?? |
| 2.16.840.1.113883.3.26.1.1 | National Cancer Institute (NCI) Thesaurus |
| 2.16.840.1.113883.4.340 | MDSv3 |
| 2.16.840.1.113883.5.1 | AdministrativeGender |
| 2.16.840.1.113883.5.1001 | ActMood |
| 2.16.840.1.113883.5.1076 | HL7 Religious Affiliation |
| 2.16.840.1.113883.5.110 | RoleClass |
| 2.16.840.1.113883.5.111 | RoleCode |
| 2.16.840.1.113883.5.111 | HL7 FamilyMember |
| 2.16.840.1.113883.5.1119 | AddressUse |
| 2.16.840.1.113883.5.14 | ActStatus |
| 2.16.840.1.113883.5.2 | MaritalStatus |
| 2.16.840.1.113883.5.25 | HL7 Confidentiality Code |
| 2.16.840.1.113883.5.4 | HL7 actCode |
| 2.16.840.1.113883.5.43 | EntityNamePartQualifier |
| 2.16.840.1.113883.5.45 | EntityNameUse |
| 2.16.840.1.113883.5.6 | HL7ActClass |
| 2.16.840.1.113883.5.60 | LanguageAbilityMode |
| 2.16.840.1.113883.5.61 | LanguageAbilityProficiency |
| 2.16.840.1.113883.5.7 | ActPriority |
| 2.16.840.1.113883.5.8 | ActReason |
| 2.16.840.1.113883.5.90 | HL7ParticipationType |
| 2.16.840.1.113883.6.1 | LOINC® |
| 2.16.840.1.113883.6.101 | NUCCProviderCodes |
| 2.16.840.1.113883.6.12 | CPT |
| 2.16.840.1.113883.6.231 | US Postal Codes |
| 2.16.840.1.113883.6.238 | Race and Ethnicity - CDC |
| 2.16.840.1.113883.6.255.1336 | ASC X12 |
| 2.16.840.1.113883.6.259 | HL7 HealthcareServiceLocation |
| 2.16.840.1.113883.6.59 | CVX |
| 2.16.840.1.113883.6.8 | Unified Code for Units of Measure (UCUM) |
| 2.16.840.1.113883.6.88 | RxNorm |
| 2.16.840.1.113883.6.92 | FIPS 5-2 (State) |
| 2.16.840.1.113883.6.96 | SNOMED CT |

1. Lantana Consulting Group, Trifolia Workbench. [http://trifolia.lantanagroup.com](http://trifolia.lantanagroup.com/) [↑](#footnote-ref-1)
2. MeHI, “LAND and SEE architecture” web page. <http://mehi.masstech.org/what-we-do/hie/impact/land-and-see> [↑](#footnote-ref-2)
3. *HL7 Refinement, Constraint and Localization.* <http://www.hl7.org/v3ballot/html/infrastructure/conformance/conformance.htm> [↑](#footnote-ref-3)
4. *HL7 CDA R2,* <http://www.hl7.org/implement/standards/product_brief.cfm?product_id=7> [↑](#footnote-ref-4)
5. *HL7 IHE Health Story Consolidation.* <http://www.hl7.org/implement/standards/product_brief.cfm?product_id=258> [↑](#footnote-ref-5)
6. HHS, HIT Standards (Meaningful Use, Stage 1). http://www.gpo.gov/fdsys/pkg/FR-2010-07-28/pdf/2010-17210.pdf [↑](#footnote-ref-6)
7. ARRA 2009. <http://www.gpo.gov/fdsys/pkg/PLAW-111publ5/content-detail.html> [↑](#footnote-ref-7)
8. *HL7 CDA* *Framework for Questionnaire Assessments, DSTU Release 2.* <http://www.hl7.org/implement/standards/product_brief.cfm?product_id=298> [↑](#footnote-ref-8)
9. *HL7 CDA Long-Term Post-Acute Care Summary, DSTU Release 1.* <http://www.hl7.org/implement/standards/product_brief.cfm?product_id=291> [↑](#footnote-ref-9)
10. *HL7 CDA QRDA.* http://www.hl7.org/implement/standards/product\_brief.cfm?product\_id=35 [↑](#footnote-ref-10)
11. *HL7 Refinement, Constraint and Localization.* <http://www.hl7.org/v3ballot/html/infrastructure/conformance/conformance.htm> [↑](#footnote-ref-11)
12. INTERACT web site. <http://interact2.net/> [↑](#footnote-ref-12)
13. MeHI, “UTF and the CCD”. <http://mehi.masstech.org/what-we-do/hie/impact/univeral-transfer-form-ccd> [↑](#footnote-ref-13)
14. MeHI, “LAND and SEE architecture.” <http://mehi.masstech.org/what-we-do/hie/impact/land-and-see> [↑](#footnote-ref-14)
15. Lantana Consulting Group, Trifolia Workbench. <http://trifolia.lantanagroup.com> [↑](#footnote-ref-15)
16. *HL7 CDA* *Framework for Questionnaire Assessments, DSTU Release 2.* <http://www.hl7.org/implement/standards/product_brief.cfm?product_id=298> [↑](#footnote-ref-16)
17. *HL7 Version 3 Publishing Facilitator's Guide*. <http://www.hl7.org/v3ballot/html/help/pfg/pfg.htm> [↑](#footnote-ref-17)
18. *HL7 V3 Interoperability Standards,* <http://www.hl7.org/memonly/downloads/v3edition.cfm#V32010> [↑](#footnote-ref-18)
19. *HL7 Clinical Document Architecture (CDA Release 2)* <http://www.hl7.org/implement/standards/cda.cfm> [↑](#footnote-ref-19)
20. *HL7 Clinical Document Architecture (CDA Release 2)*. http://www.hl7.org/implement/standards/cda.cfm [↑](#footnote-ref-20)
21. WC3, *XML Path Language (XPath), Version 1.0*. <http://www.w3.org/TR/xpath/> [↑](#footnote-ref-21)
22. From CDA Normative Web edition: 4.2.1.7 ClinicalDocument.setId - Represents an identifier that is common across all document revisions and “Document Identification, Revisions, and Addenda” under 4.2.3.1 ParentDocument [↑](#footnote-ref-22)
23. From CDA Normative Web edition: 4.2.1.8 ClinicalDocument.versionNumber An integer value used to version successive replacement documents [↑](#footnote-ref-23)
24. For information on mixed content see Extensible Markup Language (XML) ([http://www.w3.org/TR/2008/REC-xml-20081126/#sec-mixed-content)](http://www.w3.org/)). [↑](#footnote-ref-24)
25. CDC, *The Pink Book. http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/D/vacc\_admin.pdf* [↑](#footnote-ref-25)
26. CDC, *The Pink Book. http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/D/vacc\_admin.pdf* [↑](#footnote-ref-26)
27. HL7, Pressure Ulcer DAM <http://wiki.hl7.org/images/b/be/PressureUlcerPreventionDomainAnalysisModel_May2011.pdf> [↑](#footnote-ref-27)
28. HL7, Domain Analysis Model. <http://pressureulcerpreventionmodel.com/DAM20110325/> (Accessed May 2, 2012.) [↑](#footnote-ref-28)
29. *HL7 IHE Health Story Consolidation.* <http://www.hl7.org/implement/standards/product_brief.cfm?product_id=258> [↑](#footnote-ref-29)