



HL7 CDA® R2 Implementation Guide:
C-CDA Templates for Clinical Notes STU Companion Guide
Release 4 - US Realm
January 2023
Standard for Trial Use Ballot

Appendix A: Templates defined in C-CDA R2.1 Companion Guide V4

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Logical Observation Identifiers Names & Codes (LOINC)	Regenstrief Institute
International Classification of Diseases (ICD) codes	World Health Organization (WHO)
NUCC Health Care Provider Taxonomy code set	American Medical Association. Please see www.nucc.org . AMA licensing contact: 312-464-5022 (AMA IP services)

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1 DOCUMENT

1.1 US Realm Header (V4)

[ClinicalDocument: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.1.1:2023-05-01 (open)]

Table 1: US Realm Header (V4) Contexts

Contained By:	Contains:
	Related Person Relationship and Name Participant (optional)

This template defines constraints that represent common administrative and demographic concepts for US Realm CDA documents. Further specification, such as ClinicalDocument/code, are provided in document templates that conform to this template.

Table 2: US Realm Header (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
ClinicalDocument (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.1.1:2023-05-01)					
realmCode	1..1	SHALL		4537-16791	US
typeId	1..1	SHALL		4537-5361	
@root	1..1	SHALL		4537-5250	2.16.840.1.113883.1.3
@extension	1..1	SHALL		4537-5251	POCD_HD000040
templateId	1..1	SHALL		4537-5252	
@root	1..1	SHALL		4537-10036	2.16.840.1.113883.10.20.22.1.1
@extension	1..1	SHALL		4537-32503	2023-05-01
id	1..1	SHALL		4537-5363	
code	1..1	SHALL		4537-5253	
title	1..1	SHALL		4537-5254	
effectiveTime	1..1	SHALL		4537-5256	US Realm Date and Time (DTM.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.4)
confidentialityCode	1..1	SHALL		4537-5259	urn:oid:2.16.840.1.113883.1.11.16926 (HL7 BasicConfidentialityKind)
languageCode	1..1	SHALL		4537-5372	urn:oid:2.16.840.1.113883.1.11.11526 (Language)
setId	0..1	MAY		4537-5261	
versionNumber	0..1	MAY		4537-5264	
recordTarget	1..*	SHALL		4537-5266	
patientRole	1..1	SHALL		4537-5267	
id	1..*	SHALL		4537-5268	
addr	1..*	SHALL		4537-5271	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2)

XPath	Card.	Verb	Data Type	CONF#	Value
telecom	1..*	SHALL		4537-5280	
@use	0..1	SHOULD		4537-5375	urn:oid:2.16.840.1.113883.11.20.9.20 (Telecom Use (US Realm Header))
patient	1..1	SHALL		4537-5283	
name	1..*	SHALL		4537-5284	US Realm Patient Name (PTN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1
administrativeGenderCode	1..1	SHALL		4537-6394	urn:oid:2.16.840.1.113883.1.1 1.1 (Administrative Gender (HL7 V3))
birthTime	1..1	SHALL		4537-5298	
sdct:deceasedInd	0..1	MAY		4537-32990	
sdct:deceasedTime	0..1	MAY		4537-32988	
@value	1..1	SHALL		4537-32989	
maritalStatusCode	0..1	SHOULD		4537-5303	urn:oid:2.16.840.1.113883.1.1 1.12212 (Marital Status)
religiousAffiliationCode	0..1	MAY		4537-5317	urn:oid:2.16.840.1.113883.1.1 1.19185 (Religious Affiliation)
raceCode	1..1	SHALL		4537-5322	urn:oid:2.16.840.1.113883.3.2 074.1.1.3 (Race Category Excluding Nulls)
sdct:raceCode	0..*	MAY		4537-7263	urn:oid:2.16.840.1.113883.1.1 1.14914 (Race Value Set)
ethnicGroupCode	1..1	SHALL		4537-5323	urn:oid:2.16.840.1.114222.4.1 1.837 (Ethnicity)
sdct:ethnicGroupCode	0..*	MAY		4537-32901	urn:oid:2.16.840.1.114222.4.1 1.877 (Detailed Ethnicity)
guardian	0..*	MAY		4537-5325	
code	0..1	SHOULD		4537-5326	urn:oid:2.16.840.1.113883.11.20.12.1 (Personal And Legal Relationship Role Type)
addr	0..*	SHOULD		4537-5359	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2
telecom	0..*	SHOULD		4537-5382	

XPath	Card.	Verb	Data Type	CONF#	Value
@use	0..1	SHOULD		4537-7993	urn:oid:2.16.840.1.113883.11.20.9.20 (Telecom Use (US Realm Header))
guardianPerson	1..1	SHALL		4537-5385	
name	1..*	SHALL		4537-5386	US Realm Person Name (PN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1)
birthplace	0..1	MAY		4537-5395	
place	1..1	SHALL		4537-5396	
addr	1..1	SHALL		4537-5397	
country	0..1	SHOULD		4537-5404	urn:oid:2.16.840.1.113883.3.88.12.80.63 (Country)
languageCommunication	0..*	SHOULD		4537-5406	
languageCode	1..1	SHALL		4537-5407	urn:oid:2.16.840.1.113883.1.11.11526 (Language)
modeCode	0..1	MAY		4537-5409	urn:oid:2.16.840.1.113883.1.11.12249 (LanguageAbilityMode)
proficiencyLevelCode	0..1	SHOULD		4537-9965	urn:oid:2.16.840.1.113883.1.11.12199 (LanguageAbilityProficiency)
preferenceInd	0..1	SHOULD		4537-5414	
providerOrganization	0..1	MAY		4537-5416	
id	1..*	SHALL		4537-5417	
@root	0..1	SHOULD		4537-16820	2.16.840.1.113883.4.6
name	1..*	SHALL		4537-5419	
telecom	1..*	SHALL		4537-5420	
@use	0..1	SHOULD		4537-7994	urn:oid:2.16.840.1.113883.11.20.9.20 (Telecom Use (US Realm Header))
addr	1..*	SHALL		4537-5422	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2)

XPath	Card.	Verb	Data Type	CONF#	Value
author	1..*	SHALL		4537-5444	
time	1..1	SHALL		4537-5445	US Realm Date and Time (DTM.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.4
assignedAuthor	1..1	SHALL		4537-5448	
id	1..*	SHALL		4537-5449	
id	0..1	SHOULD		4537-32882	
@nullFlavor	0..1	MAY		4537-32883	urn:oid:2.16.840.1.113883.5.1008 (HL7NullFlavor) = UNK
@root	1..1	SHALL		4537-32884	2.16.840.1.113883.4.6
@extension	0..1	SHOULD		4537-32885	
code	0..1	SHOULD		4537-16787	
@code	1..1	SHALL		4537-16788	urn:oid:2.16.840.1.114222.4.11.1066 (Healthcare Provider Taxonomy)
addr	1..*	SHALL		4537-5452	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2
telecom	1..*	SHALL		4537-5428	
@use	0..1	SHOULD		4537-7995	urn:oid:2.16.840.1.113883.11.20.9.20 (Telecom Use (US Realm Header))
assignedPerson	0..1	SHOULD		4537-5430	
name	1..*	SHALL		4537-16789	US Realm Person Name (PN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1
assignedAuthoringDevice	0..1	SHOULD		4537-16783	
manufacturerModelName	1..1	SHALL		4537-16784	
softwareName	1..1	SHALL		4537-16785	
dataEnterer	0..1	MAY		4537-5441	

XPath	Card.	Verb	Data Type	CONF#	Value
assignedEntity	1..1	SHALL		4537-5442	
id	1..*	SHALL		4537-5443	
@root	0..1	SHOULD		4537-16821	2.16.840.1.113883.4.6
code	0..1	MAY		4537-32173	urn:oid:2.16.840.1.114222.4.11.1066 (Healthcare Provider Taxonomy)
addr	1..*	SHALL		4537-5460	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2)
telecom	1..*	SHALL		4537-5466	
@use	0..1	SHOULD		4537-7996	urn:oid:2.16.840.1.113883.11.20.9.20 (Telecom Use (US Realm Header))
assignedPerson	1..1	SHALL		4537-5469	
name	1..*	SHALL		4537-5470	US Realm Person Name (PN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1)
informant	0..*	MAY		4537-8001	
assignedEntity	1..1	SHALL		4537-8002	
id	1..*	SHALL		4537-9945	
code	0..1	MAY		4537-32174	urn:oid:2.16.840.1.114222.4.11.1066 (Healthcare Provider Taxonomy)
addr	1..*	SHALL		4537-8220	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2)
assignedPerson	1..1	SHALL		4537-8221	
name	1..*	SHALL		4537-8222	US Realm Person Name (PN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1)
informant	0..*	MAY		4537-31355	
relatedEntity	1..1	SHALL		4537-31356	

XPath	Card.	Verb	Data Type	CONF#	Value
custodian	1..1	SHALL		4537-5519	
assignedCustodian	1..1	SHALL		4537-5520	
representedCustodianOrganization	1..1	SHALL		4537-5521	
id	1..*	SHALL		4537-5522	
@root	0..1	SHOULD		4537-16822	2.16.840.1.113883.4.6
name	1..1	SHALL		4537-5524	
telecom	1..1	SHALL		4537-5525	
@use	0..1	SHOULD		4537-7998	urn:oid:2.16.840.1.113883.11.20.9.20 (Telecom Use (US Realm Header))
addr	1..1	SHALL		4537-5559	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2)
informationRecipient	0..*	MAY		4537-5565	
intendedRecipient	1..1	SHALL		4537-5566	
id	0..*	MAY		4537-32399	
informationRecipient	0..1	MAY		4537-5567	
name	1..*	SHALL		4537-5568	US Realm Person Name (PN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1)
receivedOrganization	0..1	MAY		4537-5577	
name	1..1	SHALL		4537-5578	
legalAuthenticator	0..1	SHOULD		4537-5579	
time	1..1	SHALL		4537-5580	US Realm Date and Time (DTM.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.4)
signatureCode	1..1	SHALL		4537-5583	

XPath	Card.	Verb	Data Type	CONF#	Value
@code	1..1	SHALL		4537-5584	urn:oid:2.16.840.1.113883.5.89 (HL7ParticipationSignature) = S
sdtc:signatureText	0..1	MAY		4537-30810	
assignedEntity	1..1	SHALL		4537-5585	
id	1..*	SHALL		4537-5586	
@root	0..1	MAY		4537-16823	2.16.840.1.113883.4.6
code	0..1	MAY		4537-17000	urn:oid:2.16.840.1.114222.4.11.1066 (Healthcare Provider Taxonomy)
addr	1..*	SHALL		4537-5589	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2
telecom	1..*	SHALL		4537-5595	
@use	0..1	SHOULD		4537-7999	urn:oid:2.16.840.1.113883.11.20.9.20 (Telecom Use (US Realm Header))
assignedPerson	1..1	SHALL		4537-5597	
name	1..*	SHALL		4537-5598	US Realm Person Name (PN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1
authenticator	0..*	MAY		4537-5607	
time	1..1	SHALL		4537-5608	US Realm Date and Time (DTM.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.4
signatureCode	1..1	SHALL		4537-5610	
@code	1..1	SHALL		4537-5611	urn:oid:2.16.840.1.113883.5.89 (HL7ParticipationSignature) = S
sdtc:signatureText	0..1	MAY		4537-30811	
assignedEntity	1..1	SHALL		4537-5612	
id	1..*	SHALL		4537-5613	
@root	0..1	SHOULD		4537-	2.16.840.1.113883.4.6

XPath	Card.	Verb	Data Type	CONF#	Value
				16824	
code	0..1	MAY		4537-16825	
@code	0..1	MAY		4537-16826	urn:oid:2.16.840.1.114222.4.11.1066 (Healthcare Provider Taxonomy)
addr	1..*	SHALL		4537-5616	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2)
telecom	1..*	SHALL		4537-5622	
@use	0..1	SHOULD		4537-8000	urn:oid:2.16.840.1.113883.11.20.9.20 (Telecom Use (US Realm Header))
assignedPerson	1..1	SHALL		4537-5624	
name	1..*	SHALL		4537-5625	US Realm Person Name (PN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1)
participant	0..*	MAY		4537-10003	
time	0..1	MAY		4537-10004	
participant	0..*	SHOULD		4537-32994	Related Person Relationship and Name Participant (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.5.8:2023-05-01)
inFulfillmentOf	0..*	MAY		4537-9952	
order	1..1	SHALL		4537-9953	
id	1..*	SHALL		4537-9954	
documentationOf	0..*	MAY		4537-14835	
serviceEvent	1..1	SHALL		4537-14836	
effectiveTime	1..1	SHALL		4537-14837	
low	1..1	SHALL		4537-14838	
performer	0..*	SHOULD		4537-14839	

XPath	Card.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4537-14840	urn:oid:2.16.840.1.113883.1.11.19601 (x_ServiceEventPerformer)
functionCode	0..1	MAY		4537-16818	
@code	0..1	SHOULD		4537-32889	urn:oid:2.16.840.1.113762.1.4.1099.30 (Care Team Member Function)
assignedEntity	1..1	SHALL		4537-14841	
id	1..*	SHALL		4537-14846	
@root	0..1	SHOULD		4537-14847	2.16.840.1.113883.4.6
code	0..1	SHOULD		4537-14842	urn:oid:2.16.840.1.114222.4.11.1066 (Healthcare Provider Taxonomy)
authorization	0..*	MAY		4537-16792	
consent	1..1	SHALL		4537-16793	
id	0..*	MAY		4537-16794	
code	0..1	MAY		4537-16795	
statusCode	1..1	SHALL		4537-16797	
@code	1..1	SHALL		4537-16798	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = completed
componentOf	0..1	MAY		4537-9955	
encompassingEncounter	1..1	SHALL		4537-9956	
id	1..*	SHALL		4537-9959	
effectiveTime	1..1	SHALL		4537-9958	

1.1.1 Properties

1.1.1.1 realmCode

1. **SHALL** contain exactly one [1..1] **realmCode**="US" (CONF:4537-16791).
2. **SHALL** contain exactly one [1..1] **typeId** (CONF:4537-5361).

- a. This typeId **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.1.3" (CONF:4537-5250).
 - b. This typeId **SHALL** contain exactly one [1..1] @extension="POCD_HD000040" (CONF:4537-5251).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:4537-5252) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.1.1" (CONF:4537-10036).
 - b. **SHALL** contain exactly one [1..1] @extension="2023-05-01" (CONF:4537-32503).
4. **SHALL** contain exactly one [1..1] **id** (CONF:4537-5363).
 - a. This id **SHALL** be a globally unique identifier for the document (CONF:4537-9991).
5. **SHALL** contain exactly one [1..1] **code** (CONF:4537-5253).
 - a. This code **SHALL** specify the particular kind of document (e.g., History and Physical, Discharge Summary, Progress Note) (CONF:4537-9992).
 - b. This code **SHALL** be drawn from the LOINC document type ontology (LOINC codes where SCALE = DOC) (CONF:4537-32948).
6. **SHALL** contain exactly one [1..1] **title** (CONF:4537-5254).
 Note: The title can either be a locally defined name or the displayName corresponding to clinicalDocument/code
7. **SHALL** contain exactly one [1..1] US Realm Date and Time (DTM.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.4) (CONF:4537-5256).
8. **SHALL** contain exactly one [1..1] **confidentialityCode**, which **SHOULD** be selected from ValueSet [HL7 BasicConfidentialityKind](#) urn:oid:2.16.840.1.113883.1.11.16926 **DYNAMIC** (CONF:4537-5259).
9. **SHALL** contain exactly one [1..1] **languageCode**, which **SHALL** be selected from ValueSet [Language](#) urn:oid:2.16.840.1.113883.1.11.11526 **DYNAMIC** (CONF:4537-5372).
10. **MAY** contain zero or one [0..1] **setId** (CONF:4537-5261).
 - a. If setId is present versionNumber **SHALL** be present (CONF:4537-6380).
11. **MAY** contain zero or one [0..1] **versionNumber** (CONF:4537-5264).
 - a. If versionNumber is present setId **SHALL** be present (CONF:4537-6387).

1.1.1.2 recordTarget

The recordTarget records the administrative and demographic data of the patient whose health information is described by the clinical document; each recordTarget must contain at least one patientRole element

12. **SHALL** contain at least one [1..*] **recordTarget** (CONF:4537-5266).
 - a. Such recordTargets **SHALL** contain exactly one [1..1] **patientRole** (CONF:4537-5267).
 - i. This patientRole **SHALL** contain at least one [1..*] **id** (CONF:4537-5268).
 - ii. This patientRole **SHALL** contain at least one [1..*] US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2) (CONF:4537-5271).
 - iii. This patientRole **SHALL** contain at least one [1..*] **telecom** (CONF:4537-5280).

1. Such telecoms **SHOULD** contain zero or one [0..1] @use, which **SHALL** be selected from ValueSet [Telecom Use \(US Realm Header\)](#) urn:oid:2.16.840.1.113883.11.20.9.20 **DYNAMIC** (CONF:4537-5375).
- iv. This patientRole **SHALL** contain exactly one [1..1] patient (CONF:4537-5283).
 1. This patient **SHALL** contain at least one [1..*] US Realm Patient Name (PTN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1) (CONF:4537-5284).
 2. This patient **SHALL** contain exactly one [1..1] administrativeGenderCode, which **SHALL** be selected from ValueSet [Administrative Gender \(HL7 V3\)](#) urn:oid:2.16.840.1.113883.1.11.1 **DYNAMIC** (CONF:4537-6394).
 3. This patient **SHALL** contain exactly one [1..1] birthTime (CONF:4537-5298).
 - a. **SHALL** be precise to year (CONF:4537-5299).
 - b. **SHOULD** be precise to day (CONF:4537-5300).

For cases where information about newborn's time of birth needs to be captured.

- c. **MAY** be precise to the minute (CONF:4537-32418).
4. This patient **MAY** contain zero or one [0..1] sdctc:deceasedInd (CONF:4537-32990).
 - a. If sdctc:deceasedInd="true", then sdctc:deceasedTime **SHALL** be present (CONF:4537-32993).
5. This patient **MAY** contain zero or one [0..1] sdctc:deceasedTime (CONF:4537-32988).
 - a. The sdctc:deceasedTime, if present, **SHALL** contain exactly one [1..1] @value (CONF:4537-32989).
 - i. **SHALL** be precise to to the year (CONF:4537-32991).
 - ii. **SHOULD** be precise to the day (CONF:4537-32992).
6. This patient **SHOULD** contain zero or one [0..1] maritalStatusCode, which **SHALL** be selected from ValueSet [Marital Status](#) urn:oid:2.16.840.1.113883.1.11.12212 **DYNAMIC** (CONF:4537-5303).
7. This patient **MAY** contain zero or one [0..1] religiousAffiliationCode, which **SHALL** be selected from ValueSet [Religious Affiliation](#) urn:oid:2.16.840.1.113883.1.11.19185 **DYNAMIC** (CONF:4537-5317).
8. This patient **SHALL** contain exactly one [1..1] raceCode, which **SHALL** be selected from ValueSet [Race Category Excluding Nulls](#) urn:oid:2.16.840.1.113883.3.2074.1.1.3 **DYNAMIC** (CONF:4537-5322).
9. This patient **MAY** contain zero or more [0..*] sdctc:raceCode, which **SHALL** be selected from ValueSet [Race Value Set](#) urn:oid:2.16.840.1.113883.1.11.14914 **DYNAMIC** (CONF:4537-

7263).

Note: The `sdtc:raceCode` is only used to record additional values when the patient has indicated multiple races or additional race detail beyond the five categories required for Meaningful Use Stage 2. 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 additional `raceCode` elements.

- a. If `sdtc:raceCode` is present, then the patient **SHALL** contain [1..1] `raceCode` (CONF:4537-31347).
10. This patient **SHALL** contain exactly one [1..1] `ethnicGroupCode`, which **SHALL** be selected from ValueSet [Ethnicity](#)
`urn:oid:2.16.840.1.114222.4.11.837` **DYNAMIC** (CONF:4537-5323).
11. This patient **MAY** contain zero or more [0..*] `sdtc:ethnicGroupCode`, which **SHALL** be selected from ValueSet [Detailed Ethnicity](#)
`urn:oid:2.16.840.1.114222.4.11.877` **DYNAMIC** (CONF:4537-32901).
12. This patient **MAY** contain zero or more [0..*] `guardian` (CONF:4537-5325).
 - a. The guardian, if present, **SHOULD** contain zero or one [0..1] `code`, which **SHALL** be selected from ValueSet [Personal And Legal Relationship Role Type](#)
`urn:oid:2.16.840.1.113883.11.20.12.1` **DYNAMIC** (CONF:4537-5326).
 - b. The guardian, if present, **SHOULD** contain zero or more [0..*] US Realm Address (AD.US.FIELDED) (identifier:
`urn:oid:2.16.840.1.113883.10.20.22.5.2`) (CONF:4537-5359).
 - c. The guardian, if present, **SHOULD** contain zero or more [0..*] `telecom` (CONF:4537-5382).
 - i. The telecom, if present, **SHOULD** contain zero or one [0..1] `@use`, which **SHALL** be selected from ValueSet [Telecom Use \(US Realm Header\)](#)
`urn:oid:2.16.840.1.113883.11.20.9.20` **DYNAMIC** (CONF:4537-7993).
 - d. The guardian, if present, **SHALL** contain exactly one [1..1] `guardianPerson` (CONF:4537-5385).
 - i. This `guardianPerson` **SHALL** contain at least one [1..*] US Realm Person Name (PN.US.FIELDED)
(identifier:
`urn:oid:2.16.840.1.113883.10.20.22.5.1.1`) (CONF:4537-5386).
13. This patient **MAY** contain zero or one [0..1] `birthplace` (CONF:4537-5395).
 - a. The birthplace, if present, **SHALL** contain exactly one [1..1] `place` (CONF:4537-5396).

- i. This place **SHALL** contain exactly one [1..1] **addr** (CONF:4537-5397).
 1. This **addr** **SHOULD** contain zero or one [0..1] **country**, which **SHALL** be selected from ValueSet [Country](#) urn:oid:2.16.840.1.113883.3.88.12.80.63 **DYNAMIC** (CONF:4537-5404).
 2. If country is US, this **addr** **SHALL** contain exactly one [1..1] **state**, which **SHALL** be selected from ValueSet StateValueSet 2.16.840.1.113883.3.88.12.80.1 **DYNAMIC** (CONF:4537-5402).
Note: A nullFlavor of 'UNK' may be used if the state is unknown.
 3. If country is US, this **addr** **MAY** contain zero or one [0..1] **postalCode**, which **SHALL** be selected from ValueSet PostalCode urn:oid:2.16.840.1.113883.3.88.12.80.2 **DYNAMIC** (CONF:4537-5403).
14. This patient **SHOULD** contain zero or more [0..*] **languageCommunication** (CONF:4537-5406).
 - a. The languageCommunication, if present, **SHALL** contain exactly one [1..1] **languageCode**, which **SHALL** be selected from ValueSet [Language](#) urn:oid:2.16.840.1.113883.1.11.11526 **DYNAMIC** (CONF:4537-5407).
 - b. The languageCommunication, if present, **MAY** contain zero or one [0..1] **modeCode**, which **SHALL** be selected from ValueSet [LanguageAbilityMode](#) urn:oid:2.16.840.1.113883.1.11.12249 **DYNAMIC** (CONF:4537-5409).
 - c. The languageCommunication, if present, **SHOULD** contain zero or one [0..1] **proficiencyLevelCode**, which **SHALL** be selected from ValueSet [LanguageAbilityProficiency](#) urn:oid:2.16.840.1.113883.1.11.12199 **DYNAMIC** (CONF:4537-9965).
 - d. The languageCommunication, if present, **SHOULD** contain zero or one [0..1] **preferenceInd** (CONF:4537-5414).
- v. This patientRole **MAY** contain zero or one [0..1] **providerOrganization** (CONF:4537-5416).
 1. The providerOrganization, if present, **SHALL** contain at least one [1..*] **id** (CONF:4537-5417).
 - a. Such ids **SHOULD** contain zero or one [0..1] **@root="2.16.840.1.113883.4.6" National Provider Identifier** (CONF:4537-16820).
 2. The providerOrganization, if present, **SHALL** contain at least one [1..*] **name** (CONF:4537-5419).

3. The providerOrganization, if present, **SHALL** contain at least one [1..*] **telecom** (CONF:4537-5420).
 - a. Such telecoms **SHOULD** contain zero or one [0..1] **@use**, which **SHALL** be selected from ValueSet [Telecom Use \(US Realm Header\)](#) urn:oid:2.16.840.1.113883.11.20.9.20 **DYNAMIC** (CONF:4537-7994).
4. The providerOrganization, if present, **SHALL** contain at least one [1..*] US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2) (CONF:4537-5422).

1.1.1.3 author

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

13. **SHALL** contain at least one [1..*] **author** (CONF:4537-5444).
 - a. Such authors **SHALL** contain exactly one [1..1] US Realm Date and Time (DTM.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.4) (CONF:4537-5445).
 - b. Such authors **SHALL** contain exactly one [1..1] **assignedAuthor** (CONF:4537-5448).
 - i. This assignedAuthor **SHALL** contain at least one [1..*] **id** (CONF:4537-5449).

If this assignedAuthor is an assignedPerson

- ii. This assignedAuthor **SHOULD** contain zero or one [0..1] **id** (CONF:4537-32882) such that it

If id with @root="2.16.840.1.113883.4.6" National Provider Identifier is unknown then

1. **MAY** contain zero or one [0..1] **@nullFlavor="UNK"** Unknown (CodeSystem: HL7NullFlavor urn:oid:2.16.840.1.113883.5.1008) (CONF:4537-32883).
2. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.4.6"** National Provider Identifier (CONF:4537-32884).
3. **SHOULD** contain zero or one [0..1] **@extension** (CONF:4537-32885).

Only if this assignedAuthor is an assignedPerson should the assignedAuthor contain a code.

- iii. This assignedAuthor **SHOULD** contain zero or one [0..1] **code** (CONF:4537-16787).
 1. The code, if present, **SHALL** contain exactly one [1..1] **@code**, which **SHOULD** be selected from ValueSet [Healthcare Provider Taxonomy](#) urn:oid:2.16.840.1.114222.4.11.1066 **DYNAMIC** (CONF:4537-16788).
- iv. This assignedAuthor **SHALL** contain at least one [1..*] US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2) (CONF:4537-5452).
- v. This assignedAuthor **SHALL** contain at least one [1..*] **telecom** (CONF:4537-5428).

1. Such telecoms **SHOULD** contain zero or one [0..1] @use, which **SHALL** be selected from ValueSet [Telecom Use \(US Realm Header\)](#) urn:oid:2.16.840.1.113883.11.20.9.20 **DYNAMIC** (CONF:4537-7995).
- vi. This assignedAuthor **SHOULD** contain zero or one [0..1] assignedPerson (CONF:4537-5430).
 1. The assignedPerson, if present, **SHALL** contain at least one [1..*] US Realm Person Name (PN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1) (CONF:4537-16789).
- vii. This assignedAuthor **SHOULD** contain zero or one [0..1] assignedAuthoringDevice (CONF:4537-16783).
 1. The assignedAuthoringDevice, if present, **SHALL** contain exactly one [1..1] manufacturerModelName (CONF:4537-16784).
 2. The assignedAuthoringDevice, if present, **SHALL** contain exactly one [1..1] softwareName (CONF:4537-16785).
- viii. There **SHALL** be exactly one assignedAuthor/assignedPerson or exactly one assignedAuthor/assignedAuthoringDevice (CONF:4537-16790).

1.1.1.4 dataEnterer

The dataEnterer element represents the person who transferred the content, written or dictated, into the clinical document. To clarify, an author provides the content found within the header or body of a document, subject to their own interpretation; a dataEnterer adds an author's information to the electronic system.

14. **MAY** contain zero or one [0..1] dataEnterer (CONF:4537-5441).
 - a. The dataEnterer, if present, **SHALL** contain exactly one [1..1] assignedEntity (CONF:4537-5442).
 - i. This assignedEntity **SHALL** contain at least one [1..*] id (CONF:4537-5443).
 1. Such ids **SHOULD** contain zero or one [0..1] @root="2.16.840.1.113883.4.6" National Provider Identifier (CONF:4537-16821).
 - ii. This assignedEntity **MAY** contain zero or one [0..1] code, which **SHOULD** be selected from ValueSet [Healthcare Provider Taxonomy](#) urn:oid:2.16.840.1.114222.4.11.1066 **DYNAMIC** (CONF:4537-32173).
 - iii. This assignedEntity **SHALL** contain at least one [1..*] US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2) (CONF:4537-5460).
 - iv. This assignedEntity **SHALL** contain at least one [1..*] telecom (CONF:4537-5466).
 1. Such telecoms **SHOULD** contain zero or one [0..1] @use, which **SHALL** be selected from ValueSet [Telecom Use \(US Realm Header\)](#) urn:oid:2.16.840.1.113883.11.20.9.20 **DYNAMIC** (CONF:4537-7996).
 - v. This assignedEntity **SHALL** contain exactly one [1..1] assignedPerson (CONF:4537-5469).

1. This assignedPerson **SHALL** contain at least one [1..*] US Realm Person Name (PN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1) (CONF:4537-5470).

1.1.1.5 informant

The informant element describes an information source for any content within the clinical document. This informant is constrained for use when the source of information is an assigned health care provider for the patient.

15. **MAY** contain zero or more [0..*] **informant** (CONF:4537-8001) such that it
 - a. **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:4537-8002).
 - i. This assignedEntity **SHALL** contain at least one [1..*] **id** (CONF:4537-9945).
 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:4537-9946).
 - ii. This assignedEntity **MAY** contain zero or one [0..1] **code**, which **SHOULD** be selected from ValueSet [Healthcare Provider Taxonomy](#) urn:oid:2.16.840.1.114222.4.11.1066 **DYNAMIC** (CONF:4537-32174).
 - iii. This assignedEntity **SHALL** contain at least one [1..*] US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2) (CONF:4537-8220).
 - iv. This assignedEntity **SHALL** contain exactly one [1..1] **assignedPerson** (CONF:4537-8221).
 1. This assignedPerson **SHALL** contain at least one [1..*] US Realm Person Name (PN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1) (CONF:4537-8222).

1.1.1.6 informant

The informant element describes an information source (who is not a provider) for any content within the clinical document. This informant would be used when the source of information has a personal relationship with the patient or is the patient.

16. **MAY** contain zero or more [0..*] **informant** (CONF:4537-31355) such that it
 - a. **SHALL** contain exactly one [1..1] **relatedEntity** (CONF:4537-31356).

1.1.1.7 custodian

The custodian element represents the organization that is in charge of maintaining and is entrusted with the care of the document.

There is only one custodian per CDA document. Allowing that a CDA document may not represent the original form of the authenticated document, 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.

17. **SHALL** contain exactly one [1..1] **custodian** (CONF:4537-5519).

- a. This custodian **SHALL** contain exactly one [1..1] **assignedCustodian** (CONF:4537-5520).
 - i. This assignedCustodian **SHALL** contain exactly one [1..1] **representedCustodianOrganization** (CONF:4537-5521).
 1. This representedCustodianOrganization **SHALL** contain at least one [1..*] **id** (CONF:4537-5522).
 - a. Such ids **SHOULD** contain zero or one [0..1] **@root="2.16.840.1.113883.4.6"** National Provider Identifier (CONF:4537-16822).
 2. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **name** (CONF:4537-5524).
 3. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **telecom** (CONF:4537-5525).
 - a. This telecom **SHOULD** contain zero or one [0..1] **@use**, which **SHALL** be selected from ValueSet [Telecom Use \(US Realm Header\)](#) urn:oid:2.16.840.1.113883.11.20.9.20 **DYNAMIC** (CONF:4537-7998).
 4. This representedCustodianOrganization **SHALL** contain exactly one [1..1] US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2) (CONF:4537-5559).

1.1.1.8 informationRecipient

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

18. **MAY** contain zero or more [0..*] **informationRecipient** (CONF:4537-5565).
 - a. The informationRecipient, if present, **SHALL** contain exactly one [1..1] **intendedRecipient** (CONF:4537-5566).
 - i. This intendedRecipient **MAY** contain zero or more [0..*] **id** (CONF:4537-32399).
 - ii. This intendedRecipient **MAY** contain zero or one [0..1] **informationRecipient** (CONF:4537-5567).
 1. The informationRecipient, if present, **SHALL** contain at least one [1..*] US Realm Person Name (PN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1) (CONF:4537-5568).
 - iii. This intendedRecipient **MAY** contain zero or one [0..1] **receivedOrganization** (CONF:4537-5577).
 1. The receivedOrganization, if present, **SHALL** contain exactly one [1..1] **name** (CONF:4537-5578).

1.1.1.9 legalAuthenticator

The legalAuthenticator identifies the single person legally responsible for the document and must be present if the document has been legally authenticated. 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. Based on local practice, clinical documents may be released before legal authentication.

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.

19. **SHOULD** contain zero or one [0..1] **legalAuthenticator** (CONF:4537-5579).

- a. The legalAuthenticator, if present, **SHALL** contain exactly one [1..1] US Realm Date and Time (DTM.US.FIELDED) (identifier:
urn:oid:2.16.840.1.113883.10.20.22.5.4) (CONF:4537-5580).
- b. The legalAuthenticator, if present, **SHALL** contain exactly one [1..1] **signatureCode** (CONF:4537-5583).
 - i. This signatureCode **SHALL** contain exactly one [1..1] **@code="S"**
(CodeSystem: HL7ParticipationSignature
urn:oid:2.16.840.1.113883.5.89 **STATIC**) (CONF:4537-5584).

1.1.1.10 sdct:signatureText

The sdct:signatureText extension provides a location in CDA for a textual or multimedia depiction of the signature by which the participant endorses and accepts responsibility for his or her participation in the Act as specified in the Participation.typeCode. Details of what goes in the field are described in the HL7 CDA Digital Signature Standard balloted in Fall 2013.

- c. The legalAuthenticator, if present, **MAY** contain zero or one [0..1] **sdct:signatureText** (CONF:4537-30810).

Note: The signature can be represented either inline or by reference according to the ED data type. Typical cases for CDA are:

 - 1) Electronic signature: this attribute can represent virtually any electronic signature scheme.
 - 2) Digital signature: this attribute can represent digital signatures by reference to a signature data block that is constructed in accordance to a digital signature standard, such as XML-DSIG, PKCS#7, PGP, etc.
- d. The legalAuthenticator, if present, **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:4537-5585).
 - i. This assignedEntity **SHALL** contain at least one [1..*] **id** (CONF:4537-5586).
 1. Such ids **MAY** contain zero or one [0..1]
@root="2.16.840.1.113883.4.6" National Provider Identifier
(CONF:4537-16823).
 - ii. This assignedEntity **MAY** contain zero or one [0..1] **code**, which **SHOULD** be selected from ValueSet [Healthcare Provider Taxonomy](#)
urn:oid:2.16.840.1.114222.4.11.1066 **DYNAMIC** (CONF:4537-17000).

- iii. This assignedEntity **SHALL** contain at least one [1..*] US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2) (CONF:4537-5589).
- iv. This assignedEntity **SHALL** contain at least one [1..*] **telecom** (CONF:4537-5595).
 - 1. Such telecoms **SHOULD** contain zero or one [0..1] @use, which **SHALL** be selected from ValueSet Telecom Use (US Realm Header) (identifier: urn:oid:2.16.840.1.113883.11.20.9.20 **DYNAMIC** (CONF:4537-7999).
- v. This assignedEntity **SHALL** contain exactly one [1..1] **assignedPerson** (CONF:4537-5597).
 - 1. This assignedPerson **SHALL** contain at least one [1..*] US Realm Person Name (PN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1) (CONF:4537-5598).

1.1.1.11 authenticator

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

20. **MAY** contain zero or more [0..*] **authenticator** (CONF:4537-5607) such that it
- a. **SHALL** contain exactly one [1..1] US Realm Date and Time (DTM.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.4) (CONF:4537-5608).
 - b. **SHALL** contain exactly one [1..1] **signatureCode** (CONF:4537-5610).
 - i. This signatureCode **SHALL** contain exactly one [1..1] @code="S" (CodeSystem: HL7ParticipationSignature urn:oid:2.16.840.1.113883.5.89 **STATIC**) (CONF:4537-5611).

The sdtc:signatureText extension provides a location in CDA for a textual or multimedia depiction of the signature by which the participant endorses and accepts responsibility for his or her participation in the Act as specified in the Participation.typeCode. Details of what goes in the field are described in the HL7 CDA Digital Signature Standard balloted in Fall of 2013.

- c. **MAY** contain zero or one [0..1] **sdtc:signatureText** (CONF:4537-30811).
 Note: The signature can be represented either inline or by reference according to the ED data type. Typical cases for CDA are:
 - 1) Electronic signature: this attribute can represent virtually any electronic signature scheme.
 - 2) Digital signature: this attribute can represent digital signatures by reference to a signature data block that is constructed in accordance to a digital signature standard, such as XML-DSIG, PKCS#7, PGP, etc.
- d. **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:4537-5612).
 - i. This assignedEntity **SHALL** contain at least one [1..*] **id** (CONF:4537-5613).
 - 1. Such ids **SHOULD** contain zero or one [0..1] @root="2.16.840.1.113883.4.6" National Provider Identifier (CONF:4537-16824).

- ii. This assignedEntity **MAY** contain zero or one [0..1] **code** (CONF:4537-16825).
 - 1. The code, if present, **MAY** contain zero or one [0..1] **@code**, which **SHOULD** be selected from ValueSet [Healthcare Provider Taxonomy](#) urn:oid:2.16.840.1.114222.4.11.1066 **DYNAMIC** (CONF:4537-16826).
- iii. This assignedEntity **SHALL** contain at least one [1..*] US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2) (CONF:4537-5616).
- iv. This assignedEntity **SHALL** contain at least one [1..*] **telecom** (CONF:4537-5622).
 - 1. Such telecoms **SHOULD** contain zero or one [0..1] **@use**, which **SHALL** be selected from ValueSet [Telecom Use \(US Realm Header\)](#) urn:oid:2.16.840.1.113883.11.20.9.20 **DYNAMIC** (CONF:4537-8000).
- v. This assignedEntity **SHALL** contain exactly one [1..1] **assignedPerson** (CONF:4537-5624).
 - 1. This assignedPerson **SHALL** contain at least one [1..*] US Realm Person Name (PN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1) (CONF:4537-5625).

1.1.1.12 participant

The participant element identifies supporting entities, including parents, relatives, caregivers, insurance policyholders, guarantors, and others 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).

21. **MAY** contain zero or more [0..*] **participant** (CONF:4537-10003) such that it
- a. **MAY** contain zero or one [0..1] **time** (CONF:4537-10004).
 - b. **SHALL** contain associatedEntity/associatedPerson *AND/OR* associatedEntity/scopingOrganization (CONF:4537-10006).
 - c. When participant/@typeCode is *IND*, associatedEntity/@classCode **SHOULD** be selected from ValueSet 2.16.840.1.113883.11.20.9.33 INDRoleclassCodes *DYNAMIC* (CONF:4537-10007).

1.1.1.13 participant

This templated participant represents a **person** that has a relationship to the patient. (e.g., parent, next-of-kin, neighbor). The related person's name is required and it is recommended that the person's contact information is present. The more specific CDA participant of Guardian (recordTarget/patientRole/patient/guardian) can be used to represent a legally responsible guardian of the patient within the header. This template may be used to represent a person with any relationship to the patient within the header, or at the entry level when pertinent to a particular clinical statement.

22. **SHOULD** contain zero or more [0..*] **participant** which includes [Related Person Relationship and Name Participant](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.5.8:2023-05-01) (CONF:4537-32994).

1.1.1.14 inFulfillmentOf

The inFulfillmentOf element represents orders that are fulfilled by this document such as a radiologists' report of an x-ray.

23. **MAY** contain zero or more [0..*] **inFulfillmentOf** (CONF:4537-9952).
- a. The inFulfillmentOf, if present, **SHALL** contain exactly one [1..1] **order** (CONF:4537-9953).
 - i. This order **SHALL** contain at least one [1..*] **id** (CONF:4537-9954).

1.1.1.15 documentationOf

24. **MAY** contain zero or more [0..*] **documentationOf** (CONF:4537-14835).

A serviceEvent represents the main act being documented, such as a colonoscopy or a cardiac stress study. 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 template.

- a. The documentationOf, if present, **SHALL** contain exactly one [1..1] **serviceEvent** (CONF:4537-14836).
 - i. This serviceEvent **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:4537-14837).
 1. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:4537-14838).

1.1.1.16 performer

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.

- ii. This serviceEvent **SHOULD** contain zero or more [0..*] **performer** (CONF:4537-14839).
 1. The performer, if present, **SHALL** contain exactly one [1..1] **@typeCode**, which **SHALL** be selected from ValueSet [x ServiceEventPerformer](#) urn:oid:2.16.840.1.113883.1.11.19601 **STATIC** (CONF:4537-14840).
 2. The performer, if present, **MAY** contain zero or one [0..1] **functionCode** (CONF:4537-16818).
 - a. The functionCode, if present, **SHOULD** contain zero or one [0..1] **@code**, which **SHOULD** be selected from ValueSet [Care Team](#)

Member Function

urn:oid:2.16.840.1.113762.1.4.1099.30 **DYNAMIC**
(CONF:4537-32889).

3. The performer, if present, **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:4537-14841).
 - a. This assignedEntity **SHALL** contain at least one [1..*] **id** (CONF:4537-14846).
 - i. Such ids **SHOULD** contain zero or one [0..1] **@root**="2.16.840.1.113883.4.6" National Provider Identifier (CONF:4537-14847).
 - b. This assignedEntity **SHOULD** contain zero or one [0..1] **code**, which **SHOULD** be selected from ValueSet Healthcare Provider Taxonomy
urn:oid:2.16.840.1.114222.4.11.1066 **DYNAMIC**
(CONF:4537-14842).

1.1.1.17 authorization

The authorization element represents information about the patient's consent.

The type of consent 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'.

The authorization consent is used for referring to consents that are documented elsewhere in the EHR or medical record for a health condition and/or treatment that is described in the CDA document.

25. **MAY** contain zero or more [0..*] **authorization** (CONF:4537-16792) such that it
 - a. **SHALL** contain exactly one [1..1] **consent** (CONF:4537-16793).
 - i. This consent **MAY** contain zero or more [0..*] **id** (CONF:4537-16794).
 - ii. This consent **MAY** contain zero or one [0..1] **code** (CONF:4537-16795).
Note: The type of consent (e.g., a consent to perform the related serviceEvent) is conveyed in consent/code.
 - iii. This consent **SHALL** contain exactly one [1..1] **statusCode** (CONF:4537-16797).
 1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:4537-16798).

1.1.1.18 componentOf

The encompassing encounter represents the setting of the clinical encounter during which the document act(s) or ServiceEvent(s) 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.

26. **MAY** contain zero or one [0..1] **componentOf** (CONF:4537-9955).

- a. The componentOf, if present, **SHALL** contain exactly one [1..1] **encompassingEncounter** (CONF:4537-9956).
 - i. This encompassingEncounter **SHALL** contain at least one [1..*] **id** (CONF:4537-9959).
 - ii. This encompassingEncounter **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:4537-9958).

Table 3: Race Value Set

Value Set: Race Value Set urn:oid:2.16.840.1.113883.1.11.14914 (Clinical Focus: All concepts that can describe a person's "race" as defined by the United States Bureau of Census),(Data Element Scope: Personal Demographic information, can be multiple.),(Inclusion Criteria: All descendant concepts from the concept "1000-9 Race", excluding that root concept, as derived from the Race and Ethnicity - CDC code system.),(Exclusion Criteria: Concepts that are not a descendant of "Race", therefore, no concepts descendant from "2133-7 Ethnicity". Also the root concept "Race".) This value set was imported on 6/29/2019 with a version of 20190522. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.14914/expansion			
Code	Code System	Code System OID	Print Name
1002-5	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	American Indian or Alaska Native
1004-1	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	American Indian
1006-6	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Abenaki
1008-2	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Algonquian
1010-8	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Apache
1011-6	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Chiricahua
1012-4	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Fort Sill Apache
1013-2	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Jicarilla Apache
1014-0	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Lipan Apache
1015-7	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Mescalero Apache
...			

Table 4: Telecom Use (US Realm Header)

Value Set: Telecom Use (US Realm Header) urn:oid:2.16.840.1.113883.11.20.9.20 (Clinical Focus: The purpose for which an entity is assigned a telecom address),(Data Element Scope:),(Inclusion Criteria:),(Exclusion Criteria:) This value set was imported on 5/27/2022 with a version of Latest. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.9.20/expansion			
Code	Code System	Code System OID	Print Name
AS	HL7AddressUse	urn:oid:2.16.840.1.113883.5.1119	answering service
EC	HL7AddressUse	urn:oid:2.16.840.1.113883.5.1119	emergency contact
HP	HL7AddressUse	urn:oid:2.16.840.1.113883.5.1119	primary home
HV	HL7AddressUse	urn:oid:2.16.840.1.113883.5.1119	vacation home
MC	HL7AddressUse	urn:oid:2.16.840.1.113883.5.1119	mobile contact)
PG	HL7AddressUse	urn:oid:2.16.840.1.113883.5.1119	pager
WP	HL7AddressUse	urn:oid:2.16.840.1.113883.5.1119	work place

Table 5: Personal And Legal Relationship Role Type

<p>Value Set: Personal And Legal Relationship Role Type urn:oid:2.16.840.1.113883.11.20.12.1 (Clinical Focus: A personal or legal relationship records the role of a person in relation to another person, or a person to himself or herself. This value set is to be used when recording relationships based on personal or family ties or through legal assignment of responsibility.),(Data Element Scope: C-CDA v2.1 Any person role such as Guardian and associatedEntity. Many @code references.),(Inclusion Criteria: Union of: (Descendants of _PersonalRelationshipRoleType OR Descendants of RESPRSN)),(Exclusion Criteria: not in the inclusion criteria)</p> <p>This value set was imported on 10/12/2022 with a version of Latest.</p> <p>Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.12.1/expansion</p>			
Code	Code System	Code System OID	Print Name
ADOPTF	HL7RoleCode	urn:oid:2.16.840.1.113883.5.111	adoptive father
ADOPTM	HL7RoleCode	urn:oid:2.16.840.1.113883.5.111	adoptive mother
ADOPTP	HL7RoleCode	urn:oid:2.16.840.1.113883.5.111	adoptive parent
AUNT	HL7RoleCode	urn:oid:2.16.840.1.113883.5.111	aunt
BRO	HL7RoleCode	urn:oid:2.16.840.1.113883.5.111	brother
BROINLAW	HL7RoleCode	urn:oid:2.16.840.1.113883.5.111	brother-in-law
CHILD	HL7RoleCode	urn:oid:2.16.840.1.113883.5.111	child
CHLDADOPT	HL7RoleCode	urn:oid:2.16.840.1.113883.5.111	adopted child
CHLDFOST	HL7RoleCode	urn:oid:2.16.840.1.113883.5.111	foster child
CHLDINLAW	HL7RoleCode	urn:oid:2.16.840.1.113883.5.111	child-in-law
...			

Table 6: Country

Value Set: Country urn:oid:2.16.840.1.113883.3.88.12.80.63			
This identifies the codes for the representation of names of countries, territories and areas of geographical interest. Contains the ISO 3166-1 code elements available in the alpha-2 code of ISOs country code standard.			
Value Set Source: http://hl7.org/fhir/ValueSet/iso3166-1-2			
Code	Code System	Code System OID	Print Name
AD	ISO 3166 Part 1 Country Codes, 2nd Edition, Alpha-2	urn:oid:1.0.3166.1.2.2	Andorra
AE	ISO 3166 Part 1 Country Codes, 2nd Edition, Alpha-2	urn:oid:1.0.3166.1.2.2	United Arab Emirates
AF	ISO 3166 Part 1 Country Codes, 2nd Edition, Alpha-2	urn:oid:1.0.3166.1.2.2	Afghanistan
AG	ISO 3166 Part 1 Country Codes, 2nd Edition, Alpha-2	urn:oid:1.0.3166.1.2.2	Antigua and Barbuda
AI	ISO 3166 Part 1 Country Codes, 2nd Edition, Alpha-2	urn:oid:1.0.3166.1.2.2	Anguilla
AL	ISO 3166 Part 1 Country Codes, 2nd Edition, Alpha-2	urn:oid:1.0.3166.1.2.2	Albania
AM	ISO 3166 Part 1 Country Codes, 2nd Edition, Alpha-2	urn:oid:1.0.3166.1.2.2	Armenia
AO	ISO 3166 Part 1 Country Codes, 2nd Edition, Alpha-2	urn:oid:1.0.3166.1.2.2	Angola
AQ	ISO 3166 Part 1 Country Codes, 2nd Edition, Alpha-2	urn:oid:1.0.3166.1.2.2	Antarctica
AR	ISO 3166 Part 1 Country Codes, 2nd Edition, Alpha-2	urn:oid:1.0.3166.1.2.2	Argentina
...			

Table 7: Language

Value Set: Language urn:oid:2.16.840.1.113883.1.11.11526 A value set of codes defined by Internet RFC 5646. Use 2 character code if one exists. Use 3 character code if a 2 character code does not exist. Including type = region is allowed See http://www.iana.org/assignments/language-subtag-registry/language-subtag-registry Value Set Source: http://www.loc.gov/standards/iso639-2/php/code_list.php			
Code	Code System	Code System OID	Print Name
aa	Language	urn:oid:2.16.840.1.113883.6.121	Afar
ab	Language	urn:oid:2.16.840.1.113883.6.121	Abkhazian
ace	Language	urn:oid:2.16.840.1.113883.6.121	Achinese
ach	Language	urn:oid:2.16.840.1.113883.6.121	Acoli
ada	Language	urn:oid:2.16.840.1.113883.6.121	Adangme
ady	Language	urn:oid:2.16.840.1.113883.6.121	Adyghe; Adygei
ae	Language	urn:oid:2.16.840.1.113883.6.121	Avestan
af	Language	urn:oid:2.16.840.1.113883.6.121	Afrikaans
afa	Language	urn:oid:2.16.840.1.113883.6.121	Afro-Asiatic (Other)
afh	Language	urn:oid:2.16.840.1.113883.6.121	Afrihili
...			

Table 8: LanguageAbilityMode

Value Set: LanguageAbilityMode urn:oid:2.16.840.1.113883.1.11.12249 (Clinical Focus: Channels for expressing and receiving human language),(Data Element Scope:),(Inclusion Criteria:),(Exclusion Criteria:)			
This value set was imported on 6/25/2019 with a version of 20190425. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.12249/expansion			
Code	Code System	Code System OID	Print Name
ESGN	HL7LanguageAbilityMode	urn:oid:2.16.840.1.113883.5.60	Expressed signed
ESP	HL7LanguageAbilityMode	urn:oid:2.16.840.1.113883.5.60	Expressed spoken
EWR	HL7LanguageAbilityMode	urn:oid:2.16.840.1.113883.5.60	Expressed written
RSGN	HL7LanguageAbilityMode	urn:oid:2.16.840.1.113883.5.60	Received signed
RSP	HL7LanguageAbilityMode	urn:oid:2.16.840.1.113883.5.60	Received spoken
RWR	HL7LanguageAbilityMode	urn:oid:2.16.840.1.113883.5.60	Received written

Table 9: LanguageAbilityProficiency

Value Set: LanguageAbilityProficiency urn:oid:2.16.840.1.113883.1.11.12199 (Clinical Focus: A person's level of proficiency in a language),(Data Element Scope:),(Inclusion Criteria:),(Exclusion Criteria:)			
This value set was imported on 6/25/2019 with a version of 20190425. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.12199/expansion			
Code	Code System	Code System OID	Print Name
E	HL7LanguageAbilityProficiency	urn:oid:2.16.840.1.113883.5.61	Excellent
F	HL7LanguageAbilityProficiency	urn:oid:2.16.840.1.113883.5.61	Fair
G	HL7LanguageAbilityProficiency	urn:oid:2.16.840.1.113883.5.61	Good
P	HL7LanguageAbilityProficiency	urn:oid:2.16.840.1.113883.5.61	Poor

Table 10: Administrative Gender (HL7 V3)

Value Set: Administrative Gender (HL7 V3) urn:oid:2.16.840.1.113883.1.11.1 (Clinical Focus: The gender of a person used for administrative purposes (as opposed to clinical gender)),(Data Element Scope:),(Inclusion Criteria: All codes in the HL7 V3 AdministrativeGender code system),(Exclusion Criteria:)			
This value set was imported on 9/29/2020 with a version of Latest. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.1/expansion			
Code	Code System	Code System OID	Print Name
F	Administrative Gender	urn:oid:2.16.840.1.113883.5.1	Female
M	Administrative Gender	urn:oid:2.16.840.1.113883.5.1	Male
UN	Administrative Gender	urn:oid:2.16.840.1.113883.5.1	Undifferentiated

Table 11: Marital Status

Value Set: Marital Status urn:oid:2.16.840.1.113883.1.11.12212 (Clinical Focus: The domestic partnership status of a person.), (Data Element Scope: Marital Status), (Inclusion Criteria: All codes in the HL7 MaritalStatus code system), (Exclusion Criteria: Any non-selectable codes) This value set was imported on 6/25/2019 with a version of 20190517. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.12212/expansion			
Code	Code System	Code System OID	Print Name
A	HL7MaritalStatus	urn:oid:2.16.840.1.113883.5.2	Annulled
C	HL7MaritalStatus	urn:oid:2.16.840.1.113883.5.2	Common Law
D	HL7MaritalStatus	urn:oid:2.16.840.1.113883.5.2	Divorced
I	HL7MaritalStatus	urn:oid:2.16.840.1.113883.5.2	Interlocutory
L	HL7MaritalStatus	urn:oid:2.16.840.1.113883.5.2	Legally Separated
M	HL7MaritalStatus	urn:oid:2.16.840.1.113883.5.2	Married
P	HL7MaritalStatus	urn:oid:2.16.840.1.113883.5.2	Polygamous
S	HL7MaritalStatus	urn:oid:2.16.840.1.113883.5.2	Never Married
T	HL7MaritalStatus	urn:oid:2.16.840.1.113883.5.2	Domestic partner
U	HL7MaritalStatus	urn:oid:2.16.840.1.113883.5.2	unmarried
...			

Table 12: Religious Affiliation

Value Set: Religious Affiliation urn:oid:2.16.840.1.113883.1.11.19185 (Clinical Focus: A person's faith affiliation),(Data Element Scope:),(Inclusion Criteria: All codes in the HL7 ReligiousAffiliation code system),(Exclusion Criteria:) This value set was imported on 6/29/2019 with a version of 20190425. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.19185/expansion			
Code	Code System	Code System OID	Print Name
1001	HL7ReligiousAffiliation	urn:oid:2.16.840.1.113883.5.1076	Adventist
1002	HL7ReligiousAffiliation	urn:oid:2.16.840.1.113883.5.1076	African Religions
1003	HL7ReligiousAffiliation	urn:oid:2.16.840.1.113883.5.1076	Afro-Caribbean Religions
1004	HL7ReligiousAffiliation	urn:oid:2.16.840.1.113883.5.1076	Agnosticism
1005	HL7ReligiousAffiliation	urn:oid:2.16.840.1.113883.5.1076	Anglican
1006	HL7ReligiousAffiliation	urn:oid:2.16.840.1.113883.5.1076	Animism
1007	HL7ReligiousAffiliation	urn:oid:2.16.840.1.113883.5.1076	Atheism
1008	HL7ReligiousAffiliation	urn:oid:2.16.840.1.113883.5.1076	Babi & Baha'I faiths
1009	HL7ReligiousAffiliation	urn:oid:2.16.840.1.113883.5.1076	Baptist
1010	HL7ReligiousAffiliation	urn:oid:2.16.840.1.113883.5.1076	Bon
...			

Table 13: Race Category Excluding Nulls

<p>Value Set: Race Category Excluding Nulls urn:oid:2.16.840.1.113883.3.2074.1.1.3 (Clinical Focus: The top-level "Race" concepts as defined by US Office of Management and Budget (OMB), excluding "Other race". All "Race" concepts in the Race and Ethnicity - CDC code system roll-up to one of these codes.), (Data Element Scope: Demographic categorization of a person's race (can be multiple).), (Inclusion Criteria: Direct children of the "1000-9 Race" concept in the Race and Ethnicity Code system.), (Exclusion Criteria: Specifically exclude "2131-1 Other Race" and any descendant of the concepts defined in the inclusion criteria.)</p> <p>This value set was imported on 6/18/2020 with a version of Latest.</p> <p>Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.3.2074.1.1.3/expansion</p>			
Code	Code System	Code System OID	Print Name
1002-5	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	American Indian or Alaska Native
2028-9	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Asian
2054-5	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Black or African American
2076-8	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Native Hawaiian or Other Pacific Islander
2106-3	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	White

Table 14: Ethnicity

<p>Value Set: Ethnicity urn:oid:2.16.840.1.114222.4.11.837 (Clinical Focus:), (Data Element Scope:), (Inclusion Criteria:), (Exclusion Criteria:)</p> <p>This value set was imported on 10/14/2020 with a version of Latest.</p> <p>Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.114222.4.11.837/expansion</p>			
Code	Code System	Code System OID	Print Name
2135-2	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Hispanic or Latino
2186-5	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Not Hispanic or Latino

Table 15: Detailed Ethnicity

<p>Value Set: Detailed Ethnicity urn:oid:2.16.840.1.114222.4.11.877</p> <p>(Clinical Focus: All concepts that can describe a person's "ethnicity" as defined by the United States Bureau of Census. This includes the US Office of Management and Budget (OMB) two top-level ethnicity categories, plus all the more detailed descendant ethnicity concepts used by the US Bureau of Census.),(Data Element Scope: Personal Demographic information, can be multiple.),(Inclusion Criteria: All descendant concepts from the concept "2133-7 Ethnicity", excluding that root concept, as derived from the Race and Ethnicity - CDC code system.),(Exclusion Criteria: Concepts that are not a descendant of "2133-7 Ethnicity", therefore, no concepts descendant from "1000-9 Race". Also the root concept "Ethnicity".)</p> <p>This value set was imported on 6/24/2019 with a version of 20190518.</p> <p>Value Set Source:</p> <p>https://vsac.nlm.nih.gov/valueset/2.16.840.1.114222.4.11.877/expansion</p>			
Code	Code System	Code System OID	Print Name
2137-8	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Spaniard
2138-6	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Andalusian
2139-4	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Asturian
2140-2	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Castillian
2141-0	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Catalonian
2142-8	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Belearic Islander
2143-6	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Gallego
2144-4	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Valencian
2145-1	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Canarian
2146-9	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Spanish Basque
...			

Table 16: Healthcare Provider Taxonomy

Value Set: Healthcare Provider Taxonomy urn:oid:2.16.840.1.114222.4.11.1066 (Clinical Focus: Represent the "type" of health care provider individual or organization using the National Uniform Claims Committee (NUCC) code system),(Data Element Scope: The assignedEntity attribute),(Inclusion Criteria: All codes in the NUCC Provider Taxonomy code system),(Exclusion Criteria: None) This value set was imported on 6/24/2019 with a version of 20190521. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.114222.4.11.1066/expansion			
Code	Code System	Code System OID	Print Name
10	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.113883.6.101	Provider has a medical condition that impairs or limits him/her to practice
101Y00000X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.113883.6.101	Behavioral Health & Social Service Providers; Counselor
101YA0400X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.113883.6.101	Behavioral Health & Social Service Providers; Counselor, Addiction (Substance Use Disorder)
101YM0800X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.113883.6.101	Behavioral Health & Social Service Providers; Counselor, Mental Health
101YP1600X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.113883.6.101	Behavioral Health & Social Service Providers; Counselor, Pastoral
101YP2500X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.113883.6.101	Behavioral Health & Social Service Providers; Counselor, Professional
101YS0200X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.113883.6.101	Behavioral Health & Social Service Providers; Counselor, School
102L00000X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.113883.6.101	Behavioral Health & Social Service Providers; Psychoanalyst
102X00000X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.113883.6.101	Behavioral Health & Social Service Providers; Poetry Therapist
103G00000X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.113883.6.101	Behavioral Health & Social Service Providers; Clinical Neuropsychologist
...			

Table 17: INDRoleclassCodes

Value Set: INDRoleclassCodes urn:oid:2.16.840.1.113883.11.20.9.33			
Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.9.33/expansion			
Code	Code System	Code System OID	Print Name
PRS	HL7RoleClass	urn:oid:2.16.840.1.113883.5.110	personal relationship
NOK	HL7RoleClass	urn:oid:2.16.840.1.113883.5.110	next of kin
CAREGIVER	HL7RoleClass	urn:oid:2.16.840.1.113883.5.110	caregiver
AGNT	HL7RoleClass	urn:oid:2.16.840.1.113883.5.110	agent
GUAR	HL7RoleClass	urn:oid:2.16.840.1.113883.5.110	guarantor
ECON	HL7RoleClass	urn:oid:2.16.840.1.113883.5.110	emergency contact

Table 18: Care Team Member Function

<p>Value Set: Care Team Member Function urn:oid:2.16.840.1.113762.1.4.1099.30</p> <p>(Clinical Focus: This set of concepts describes the function performed on a patient-centered care team. This value set contains concepts that describe a functional role played by a member of a care team on a particular care team.),(Data Element Scope: A functional role on a patient's care team.),(Inclusion Criteria: The set of commonly played roles on a patient-centered care team.),(Exclusion Criteria: Functional roles on care teams that are not patient-centered. For example, hospital's may define teams of practitioners who fill roles that are relevant to the function of the hospital's operation. These roles would not be included when they are not roles that would be played on a patient-centered care team.)</p> <p>This value set was imported on 10/12/2022 with a version of Latest.</p> <p>Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.1099.30/expansion</p>			
Code	Code System	Code System OID	Print Name
106289002	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Dentist (occupation)
106291005	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Dietician/public health nutritionist (occupation)
106292003	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Professional nurse (occupation)
106293008	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Nursing personnel (occupation)
106294002	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Midwifery personnel (occupation)
106296000	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Physiotherapist/occupational therapist (occupation)
106310008	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Worker in religion (occupation)
106311007	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Minister of religion/related member of religious order (occupation)
106330007	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Philologist, translator/interpreter (occupation)
11015003	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Minister of religion (occupation)
...			

Table 19: x_ServiceEventPerformer

Value Set: x_ServiceEventPerformer urn:oid:2.16.840.1.113883.1.11.19601 (Clinical Focus: Characterize the degree of responsibility of the event performer),(Data Element Scope: Performer type code per C-CDA r2.1 CONF:1198- 14840),(Inclusion Criteria: only selected codes),(Exclusion Criteria: only selected codes) This value set was imported on 5/27/2022 with a version of Latest. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.19601/expansion			
Code	Code System	Code System OID	Print Name
PPRF	HL7ParticipationType	urn:oid:2.16.840.1.113883.5.90	primary performer
PRF	HL7ParticipationType	urn:oid:2.16.840.1.113883.5.90	performer
SPRF	HL7ParticipationType	urn:oid:2.16.840.1.113883.5.90	secondary performer

Table 20: HL7 BasicConfidentialityKind

Value Set: HL7 BasicConfidentialityKind urn:oid:2.16.840.1.113883.1.11.16926 (Clinical Focus: Commonly used confidentiality constraints placed upon clinical documents),(Data Element Scope:),(Inclusion Criteria:),(Exclusion Criteria:) This value set was imported on 6/25/2019 with a version of 20190425. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.16926/expansion			
Code	Code System	Code System OID	Print Name
N	HL7Confidentiality	urn:oid:2.16.840.1.113883.5.25	normal
R	HL7Confidentiality	urn:oid:2.16.840.1.113883.5.25	restricted
V	HL7Confidentiality	urn:oid:2.16.840.1.113883.5.25	very restricted

Figure 1: US Realm Header Example

```
<ClinicalDocument>
  <realmCode code="US" />
  <typeId extension="POCD_HD000040" root="2.16.840.1.113883.1.3" />
  <!-- CCD template -->
  <templateId root="2.16.840.1.113883.10.20.22.1.1" extension="2015-08-01" />
  <!-- Globally unique identifier for the document -->
  <id extension="TT988" root="2.16.840.1.113883.19.5.99999.1" />
  <code code="34133-9" displayName="Summarization of Episode Note"
codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" />
  <!-- Title of the document -->
  <title>Patient Chart Summary</title>
  <effectiveTime value="201209151030-0800" />
  <confidentialityCode code="N" displayName="normal" codeSystem="2.16.840.1.113883.5.25"
codeSystemName="Confidentiality" />
  <languageCode code="en-US" />
  <setId extension="STT988" root="2.16.840.1.113883.19.5.99999.19" />
  <!-- Version of the document -->
  <versionNumber value="1" />
  . . .
</ClinicalDocument>
```

Figure 2: recordTarget Example

```
<recordTarget>
  <patientRole>
    <id extension="444-22-2222" root="2.16.840.1.113883.4.1" />
    <!-- Example 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>2222 Home Street</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:+1(555)555-2003" use="HP" />
    <!-- HP is "primary home" from HL7 AddressUse 2.16.840.1.113883.5.1119 -->
    <patient>
      <!-- The first name element represents what the patient is known as -->
      <name use="I">
        <given>Eve</given>
        <!-- The "SP" is "Spouse" from
        HL7 Code System EntityNamePartQualifier 2.16.840.1.113883.5.43 -->
        <family qualifier="SP">Betterhalf</family>
      </name>
      <!-- The second name element represents another name
      associated with the patient -->
      <name>
        <given>Eve</given>
        <!-- The "BR" is "Birth" from
        HL7 Code System EntityNamePartQualifier 2.16.840.1.113883.5.43 -->
        <family qualifier="BR">Everywoman</family>
      </name>
    </patient>
  </patientRole>
</recordTarget>
```

```

        <administrativeGenderCode code="F" displayName="Female"
codeSystem="2.16.840.1.113883.5.1" codeSystemName="AdministrativeGender" />
        <!-- Date of birth need only be precise to the day -->
        <birthTime value="19750501" />
        <maritalStatusCode code="M" displayName="Married"
codeSystem="2.16.840.1.113883.5.2" codeSystemName="MaritalStatusCode" />
        <religiousAffiliationCode code="1013" displayName="Christian (non-Catholic,
non-specific)" codeSystem="2.16.840.1.113883.5.1076" codeSystemName="HL7 Religious
Affiliation" />
        <!-- CDC Race and Ethnicity code set contains the five minimum
        race and ethnicity categories defined by OMB Standards -->
        <raceCode code="2106-3" displayName="White"
codeSystem="2.16.840.1.113883.6.238" codeSystemName="Race & Ethnicity - CDC" />
        <!-- The raceCode extension is only used if raceCode is valued -->
        <sdtc:raceCode code="2076-8" displayName="Hawaiian or Other Pacific Islander"
codeSystem="2.16.840.1.113883.6.238" codeSystemName="Race & Ethnicity - CDC" />
        <ethnicGroupCode code="2186-5" displayName="Not Hispanic or Latino"
codeSystem="2.16.840.1.113883.6.238" codeSystemName="Race & Ethnicity - CDC" />
        <guardian>
            <code code="POWATT" displayName="Power of Attorney"
codeSystem="2.16.840.1.113883.1.11.19830" codeSystemName="ResponsibleParty" />
            <addr use="HP">
                <streetAddressLine>2222 Home Street</streetAddressLine>
                <city>Beaverton</city>
                <state>OR</state>
                <postalCode>97867</postalCode>
                <country>US</country>
            </addr>
            <telecom value="tel:+1(555)555-2008" use="MC" />
            <guardianPerson>
                <name>
                    <given>Boris</given>
                    <given qualifier="CL">Bo</given>
                    <family>Betterhalf</family>
                </name>
            </guardianPerson>
        </guardian>
        <birthplace>
            <place>
                <addr>
                    <streetAddressLine>4444 Home Street</streetAddressLine>
                    <city>Beaverton</city>
                    <state>OR</state>
                    <postalCode>97867</postalCode>
                    <country>US</country>
                </addr>
            </place>
        </birthplace>
        <languageCommunication>
            <languageCode code="eng" />
            <!-- "eng" is ISO 639-2 alpha-3 code for "English" -->
            <modeCode code="ESP" displayName="Expressed spoken"
codeSystem="2.16.840.1.113883.5.60" codeSystemName="LanguageAbilityMode" />
            <proficiencyLevelCode code="G" displayName="Good"
codeSystem="2.16.840.1.113883.5.61" codeSystemName="LanguageAbilityProficiency" />
            <!-- Patient's preferred language -->
            <preferenceInd value="true" />

```



```

        </languageCommunication>
    </patient>
    <providerOrganization>
        <id extension="219BX" root="1.1.1.1.1.1.1.2" />
        <name>The DoctorsTogether Physician Group</name>
        <telecom use="WP" value="tel: +(555)-555-5000" />
        <addr>
            <streetAddressLine>1007 Health Drive</streetAddressLine>
            <city>Portland</city>
            <state>OR</state>
            <postalCode>99123</postalCode>
            <country>US</country>
        </addr>
    </providerOrganization>
</patientRole>
</recordTarget>

```

Figure 3: author Example

```

<author>
    <time value="201209151030-0800" />
    <assignedAuthor>
        <id extension="5555555555" root="2.16.840.1.113883.4.6" />
        <code code="163W00000X" displayName="Registered nurse"
codeSystem="2.16.840.1.113883.5.53" codeSystemName="Health Care Provider Taxonomy" />
        <addr>
            <streetAddressLine>1004 Healthcare Drive </streetAddressLine>
            <city>Portland</city>
            <state>OR</state>
            <postalCode>99123</postalCode>
            <country>US</country>
        </addr>
        <telecom use="WP" value="tel:+1(555)555-1004" />
        <assignedPerson>
            <name>
                <given>Patricia</given>
                <given qualifier="CL">Patty</given>
                <family>Primary</family>
                <suffix qualifier="AC">M.D.</suffix>
            </name>
        </assignedPerson>
    </assignedAuthor>
</author>

```

Figure 4: dateEnterer Example

```
<dataEnterer>
  <assignedEntity>
    <id extension="333777777" root="2.16.840.1.113883.4.6" />
    <addr>
      <streetAddressLine>1007 Healthcare Drive</streetAddressLine>
      <city>Portland</city>
      <state>OR</state>
      <postalCode>99123</postalCode>
      <country>US</country>
    </addr>
    <telecom use="WP" value="tel:+1(555)555-1050" />
    <assignedPerson>
      <name>
        <given>Ellen</given>
        <family>Enter</family>
      </name>
    </assignedPerson>
  </assignedEntity>
</dataEnterer>
```

Figure 5: Assigned Health Care Provider informant Example

```
<informant>
  <assignedEntity>
    <id extension="8888888888" root="1.1.1.1.1.1.1.3" />
    <addr>
      <streetAddressLine>1007 Healthcare Drive</streetAddressLine>
      <city>Portland</city>
      <state>OR</state>
      <postalCode>99123</postalCode>
      <country>US</country>
    </addr>
    <telecom use="WP" value="tel:+1(555)555-1003" />
    <assignedPerson>
      <name>
        <given>Harold</given>
        <family>Hippocrates</family>
        <suffix qualifier="AC">M.D.</suffix>
      </name>
    </assignedPerson>
    <representedOrganization>
      <name>The DoctorsApart Physician Group</name>
    </representedOrganization>
  </assignedEntity>
</informant>
```

Figure 6: Personal Relation informant Example

```
<informant>
  <relatedEntity classCode="PRS">
    <!-- classCode "PRS" represents a person with personal relationship with the
patient -->
    <code code="SPS" displayName="SPOUSE" codeSystem="2.16.840.1.113883.1.11.19563"
codeSystemName="Personal Relationship Role Type Value Set" />
    <relatedPerson>
      <name>
        <given>Boris</given>
        <given qualifier="CL">Bo</given>
        <family>Betterhalf</family>
      </name>
    </relatedPerson>
  </relatedEntity>
</informant>
```

Figure 7: custodian Example

```
<custodian>
  <assignedCustodian>
    <representedCustodianOrganization>
      <id extension="321CX" root="1.1.1.1.1.1.1.1.3" />
      <name>Good Health HIE</name>
      <telecom use="WP" value="tel:+1(555)555-1009" />
      <addr use="WP">
        <streetAddressLine>1009 Healthcare Drive </streetAddressLine>
        <city>Portland</city>
        <state>OR</state>
        <postalCode>99123</postalCode>
        <country>US</country>
      </addr>
    </representedCustodianOrganization>
  </assignedCustodian>
</custodian>
```

Figure 8: informationRecipient Example

```
<informationRecipient>
  <intendedRecipient>
    <informationRecipient>
      <name>
        <given>Sara</given>
        <family>Specialize</family>
        <suffix qualifier="AC">M.D.</suffix>
      </name>
    </informationRecipient>
    <receivedOrganization>
      <name>The DoctorsApart Physician Group</name>
    </receivedOrganization>
  </intendedRecipient>
</informationRecipient>
```

Figure 9: Digital signature Example

```
<sdtec:signatureText mediaType="text/xml"
representation="B64">omSJUEdmde9j44zmMiromSJUEdmde9j44zmMirdMDSsWdIJdksIJR3373jeu83
6edjzMMIjdMDSsWdIJdksIJR3373jeu83MNYD83jmMdomSJUEdmde9j44zmMir
... MNYD83jmMdomSJUEdmde9j44zmMir6edjzMMIjdMDSsWdIJdksIJR3373jeu83
4zmMir6edjzMMIjdMDSsWdIJdksIJR3373jeu83==</sdtec:signatureText>
```

Figure 10: legalAuthenticator Example

```
<legalAuthenticator>
  <time value="20120915223615-0800" />
  <signatureCode code="S" />
  <assignedEntity>
    <id extension="5555555555" root="2.16.840.1.113883.4.6" />
    <code code="207QA0505X" displayName="Adult Medicine"
codeSystem="2.16.840.1.113883.5.53" codeSystemName="Health Care Provider Taxonomy" />
    <addr>
      <streetAddressLine>1004 Healthcare Drive </streetAddressLine>
      <city>Portland</city>
      <state>OR</state>
      <postalCode>99123</postalCode>
      <country>US</country>
    </addr>
    <telecom use="WP" value="tel:+1(555)555-1004" />
    <assignedPerson>
      <name>
        <given>Patricia</given>
        <given qualifier="CL">Patty</given>
        <family>Primary</family>
        <suffix qualifier="AC">M.D.</suffix>
      </name>
    </assignedPerson>
  </assignedEntity>
</legalAuthenticator>
```

Figure 11: authenticator Example

```
<authenticator>
  <time value="201209151030-0800" />
  <signatureCode code="S" />
  <assignedEntity>
    <id extension="5555555555" root="2.16.840.1.113883.4.6" />
    <code code="207QA0505X" displayName="Adult Medicine"
codeSystem="2.16.840.1.113883.5.53" codeSystemName="Health Care Provider Taxonomy" />
    <addr>
      <streetAddressLine>1004 Healthcare Drive</streetAddressLine>
      <city>Portland</city>
      <state>OR</state>
      <postalCode>99123</postalCode>
      <country>US</country>
    </addr>
    <telecom use="WP" value="tel:+1(555)555-1004" />
    <assignedPerson>
      <name>
        <given>Patricia</given>
        <given qualifier="CL">Patty</given>
        <family>Primary</family>
        <suffix qualifier="AC">M.D.</suffix>
      </name>
    </assignedPerson>
  </assignedEntity>
</authenticator>
```

Figure 12: Supporting Person participant Example

```
<participant typeCode="IND">
  <!-- typeCode "IND" represents an individual -->
  <associatedEntity classCode="NOK">
    <!-- classCode "NOK" represents the patient's next of kin-->
    <addr use="HP">
      <streetAddressLine>2222 Home Street</streetAddressLine>
      <city>Beaverton</city>
      <state>OR</state>
      <postalCode>97867</postalCode>
      <country>US</country>
    </addr>
    <telecom value="tel:+1(555)555-2008" use="MC" />
    <associatedPerson>
      <name>
        <given>Boris</given>
        <given qualifier="CL">Bo</given>
        <family>Betterhalf</family>
      </name>
    </associatedPerson>
  </associatedEntity>
</participant>
<!-- Entities playing multiple roles are recorded in multiple participants -->
<participant typeCode="IND">
  <associatedEntity classCode="ECON">
    <!-- classCode "ECON" represents an emergency contact -->
    <addr use="HP">
      <streetAddressLine>2222 Home Street</streetAddressLine>
      <city>Beaverton</city>
      <state>OR</state>
      <postalCode>97867</postalCode>
      <country>US</country>
    </addr>
    <telecom value="tel:+1(555)555-2008" use="MC" />
    <associatedPerson>
      <name>
        <given>Boris</given>
        <given qualifier="CL">Bo</given>
        <family>Betterhalf</family>
      </name>
    </associatedPerson>
  </associatedEntity>
</participant>
```

Figure 13: inFulfillmentOf Example

```
<inFulfillmentOf typeCode="FLFS">
  <order classCode="ACT" moodCode="RQO">
    <id root="629deb70-5306-11df-9879-0800200c9a66" extension="1298989898" />
    <code code="1011220" displayName="Clinical pathology consultation"
codeSystem="2.16.840.1.113883.6.12" codeSystemName="CPT" />
  </order>
</inFulfillmentOf>
```

Figure 14: performer Example

```
<performer typeCode="PRF">
  <functionCode code="PCP" displayName="Primary Care Provider"
codeSystem="2.16.840.1.113883.5.88" codeSystemName="ParticipationFunction">
    <originalText>Primary Care Provider</originalText>
  </functionCode>
  <assignedEntity>
    <id extension="5555555555" root="2.16.840.1.113883.4.6" />
    <code code="207QA0505X" displayName="Adult Medicine"
codeSystem="2.16.840.1.113883.5.53" codeSystemName="Health Care Provider Taxonomy" />
    <addr>
      <streetAddressLine>1004 Healthcare Drive </streetAddressLine>
      <city>Portland</city>
      <state>OR</state>
      <postalCode>99123</postalCode>
      <country>US</country>
    </addr>
    <telecom use="WP" value="tel:+1(555)555-1004" />
    <assignedPerson>
      <name>
        <given>Patricia</given>
        <given qualifier="CL">Patty</given>
        <family>Primary</family>
        <suffix qualifier="AC">M.D.</suffix>
      </name>
    </assignedPerson>
    <representedOrganization>
      <id extension="219BX" root="1.1.1.1.1.1.1.1.2" />
      <name>The DoctorsTogether Physician Group</name>
      <telecom use="WP" value="tel: +(555)-555-5000" />
      <addr>
        <streetAddressLine>1004 Health Drive</streetAddressLine>
        <city>Portland</city>
        <state>OR</state>
        <postalCode>99123</postalCode>
        <country>US</country>
      </addr>
    </representedOrganization>
  </assignedEntity>
</performer>
```

Figure 15: documentationOf Example

```
<documentationOf>
  <serviceEvent classCode="PCPR">
    <!-- The effectiveTime reflects the provision of care summarized in the document.
    In this scenario, the provision of care summarized is the lifetime for the patient -->
    <effectiveTime>
      <low value="19750501" />
      <!-- The low value represents when the summarized provision of care began.
      In this scenario, the patient's date of birth -->
      <high value="20120915" />
      <!-- The high value represents when the summarized provision of care being
      ended. In this scenario, when chart summary was created -->
    </effectiveTime>
    <performer typeCode="PRF">
      <functionCode code="PCP" displayName="Primary Care Provider"
      codeSystem="2.16.840.1.113883.5.88" codeSystemName="ParticipationFunction">
        <originalText>Primary Care Provider</originalText>
      </functionCode>
      <assignedEntity>
        <id extension="5555555555" root="2.16.840.1.113883.4.6" />
        <code code="207QA0505X" displayName="Adult Medicine"
        codeSystem="2.16.840.1.113883.5.53" codeSystemName="Health Care Provider Taxonomy" />
        <addr>
          <streetAddressLine>1004 Healthcare Drive </streetAddressLine>
          <city>Portland</city>
          <state>OR</state>
          <postalCode>99123</postalCode>
          <country>US</country>
        </addr>
        <telecom use="WP" value="tel:+1(555)555-1004" />
      </assignedEntity>
      <assignedPerson>
        <name>
          <given>Patricia</given>
          <given qualifier="CL">Patty</given>
          <family>Primary</family>
          <suffix qualifier="AC">M.D.</suffix>
        </name>
      </assignedPerson>
      <representedOrganization>
        <id extension="219BX" root="1.1.1.1.1.1.1.1.2" />
        <name>The DoctorsTogether Physician Group</name>
        <telecom use="WP" value="tel: +(555)-555-5000" />
        <addr>
          <streetAddressLine>1004 Health Drive</streetAddressLine>
          <city>Portland</city>
          <state>OR</state>
          <postalCode>99123</postalCode>
          <country>US</country>
        </addr>
      </representedOrganization>
    </assignedEntity>
  </performer>
</serviceEvent>
</documentationOf>
```


Figure 16: authorization 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>
```

Figure 17: Record Target Example with DeceasedInd="true"

```
<recordTarget>
  <patientRole>
    <!-- The @root OID below (which is fictional) would be specific to an institution's
record identifier system. -->
    <id root="2.16.840.1.113883.3.6132" extension="345678912-0154"/>
    <!-- HP is "primary home" from valueSet 2.16.840.1.113883.1.11.10637 -->
    <addr use="HP">
      <streetAddressLine>1437 Jennyhill Ln.</streetAddressLine>
      <city>Hollywood</city>
      <postalCode>90068</postalCode>
      <state>CA</state>
      <country>US</country>
    </addr>
    <!-- While this may be included, you may choose to exclude contact information on
deceased patients -->
    <telecom nullFlavor="NA" />
    <patient>
      <!-- At a 2020 C-CDA Implement-a-thon, it was discussed that some EHR implementations
may be changing names when patient is expired/deceased -->
      <!-- Changing a name based on death is NOT a recommended practice. Instead update the
sdct:deceasedInd and sdct:deceasedTime fields -->
      <name use="L">
        <given>Adam</given>
        <family>Rumpelstiltskin</family>
      </name>
      <!-- Sex at birth and gender identity may be specified in social history -->
      <administrativeGenderCode code="M" codeSystem="2.16.840.1.113883.5.1"
displayName="Male" codeSystemName="AdministrativeGender"/>
      <birthTime value="19521022"/>
      <!-- A full CDA example may include the Deceased Observation to indicate cause
of death -->
      <!-- A Deceased Observation may be present in any section; Problem List is a
suitable location -->
      <!-- Stylesheets are strongly recommended to include human viewable rendering of the
deceased indication and time when present -->
      <!-- Systems may send deceased indication, time, or both. Sending only time is not
recommended. -->
      <sdct:deceasedInd value="true" />
      <sdct:deceasedTime value="20180315" />
      <maritalStatusCode code="M" displayName="Married"
codeSystem="2.16.840.1.113883.5.2" codeSystemName="MaritalStatus"/>
      <religiousAffiliationCode code="1013" displayName="Christian (non-Catholic,
non-specific)" codeSystem="2.16.840.1.113883.5.1076" codeSystemName="HL7 Religious
Affiliation"/>
    </patient>
  </patientRole>
</recordTarget>
```

```

        <!-- CDC Race and Ethnicity code set contains the five minimum race and
        ethnicity categories defined by OMB Standards -->
        <raceCode code="2106-3" displayName="White"
codeSystem="2.16.840.1.113883.6.238" codeSystemName="OMB Standards for Race and
Ethnicity"/>
        <ethnicGroupCode code="2186-5" displayName="Not Hispanic or Latino"
codeSystem="2.16.840.1.113883.6.238" codeSystemName="OMB Standards for Race and
Ethnicity"/>
        <languageCommunication>
            <languageCode code="en-US"/>
            <!-- "eng" is ISO 639-2 alpha-3 code for "English" -->
            <modeCode code="ESP" displayName="Expressed spoken"
codeSystem="2.16.840.1.113883.5.60" codeSystemName="LanguageAbilityMode"/>
            <proficiencyLevelCode code="E" displayName="Excellent"
codeSystem="2.16.840.1.113883.5.61" codeSystemName="LanguageAbilityProficiency"/>
            <preferenceInd value="true"/>
        </languageCommunication>
    </patient>
</patientRole>
</recordTarget>

```

2 SECTION

2.1 Care Teams Section (V2)

[section: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.2.500:2022-06-01
(open)]

Table 21: Care Teams Section (V2) Contexts

Contained By:	Contains:
	Care Team Organizer (V2) (optional)

The Care Team Section is used to share historical and current Care Team information.

The Care Team Section may be included in any type of C-CDA structured document that is an open template.

An individual can have more than one Care Team. A Care Team can exist over time such as a longitudinal care team which includes historical members that may be active or inactive on the care team as needed. Or a Care Team, such as a rehabilitation team, may exist to address a person's needs associated with a particular care event, or a team can be based on addressing a specific condition.

The Care Team Organizer entry template used in the C-CDA Care Teams Section is meant to support the foundation of effective communication, interaction channels and maintenance of current clinical context awareness for the patient, caregivers and care providers to promote care coordination.

Table 22: Care Teams Section (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.2.500:2022-06-01)					
templateId	1..1	SHALL		4515-3	
@root	1..1	SHALL		4515-7	2.16.840.1.113883.10.20.22.2.500
@extension	1..1	SHALL		4515-8	2022-06-01
code	1..1	SHALL		4515-5	
@code	1..1	SHALL		4515-9	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 85847-2
@codeSystem	1..1	SHALL		4515-10	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
title	1..1	SHALL		4515-4	
text	1..1	SHALL		4515-6	
entry	0..*	SHOULD		4515-1	
organizer	1..1	SHALL		4515-159	Care Team Organizer (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.500:2022-06-01

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:4515-3) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.2.500" (CONF:4515-7).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2022-06-01" (CONF:4515-8).
2. **SHALL** contain exactly one [1..1] **code** (CONF:4515-5) such that it
 - a. **SHALL** contain exactly one [1..1] **@code**="85847-2" Patient Care team information (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:4515-9).
 - b. **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.1" (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:4515-10).
3. **SHALL** contain exactly one [1..1] **title** (CONF:4515-4).
4. **SHALL** contain exactly one [1..1] **text** (CONF:4515-6).
5. **SHOULD** contain zero or more [0..*] **entry** (CONF:4515-1) such that it
 - a. **SHALL** contain exactly one [1..1] Care Team Organizer (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.500:2022-06-01) (CONF:4515-159).

Figure 18: Care Teams Section Example

```
<section>
  <templateId root="2.16.840.1.113883.10.20.22.2.500" extension="2019-07-01"/>
  <templateId root="2.16.840.1.113883.10.20.22.2.500" extension="2022-06-01"/>
  <code code="85847-2" codeSystem="2.16.840.1.113883.6.1"/>
  <title>Patient Care Teams</title>
  <text>
    <list>
      <item>
        <content ID= "CareTeamName1">Inpatient Diabetes Care Team</content> (
          <content>Active</content>) (10/08/2018 - )
          <table>
            <thead>
              <tr>
                <th>Member</th>
                <th>Role on Team</th>
                <th>Status</th>
                <th>Date</th>
              </tr>
            </thead>
            <tbody>
              <tr>
                <td>Dr. Henry Seven </td>
                <td ID="CT1_M01">PCP</td>
                <td>(Active)</td>
                <td>10/18/2019</td>
              </tr>
            </tbody>
          </table>
        </item>
      </list>
    </text>
  <entry>
    <!--Care Team Organizer-->
    ... entry info here, if coded data available for care team members...
  </entry>
</section>
```

2.2 Notes Section

[section: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.2.65:2016-11-01
(open)]

Table 23: Notes Section Contexts

Contained By:	Contains:
	Note Activity (required)

The Notes Section allow for inclusion of clinical documentation which does not fit precisely within any other C-CDA section. Multiple Notes sections may be included in a document provided they each include different types of note content as indicated by a different section.code.

The Notes Section SHOULD NOT be used in place of a more specific C-CDA section. For example,

notes about procedure should be placed within the Procedures Section, not a Notes Section. When a Notes Section is present, Note Activity entries contain structured information about the note information allowing it to be more machine processable.

Table 24: Notes Section Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.2.65:2016-11-01)					
templateId	1..1	SHALL		3250-16935	
@root	1..1	SHALL		3250-16936	2.16.840.1.113883.10.20.22.2.65
@extension	1..1	SHALL		3250-16938	2016-11-01
code	1..1	SHALL		3250-16892	urn:oid:2.16.840.1.113883.11.20.9.68 (Note Types)
title	1..1	SHALL		3250-16891	
text	1..1	SHALL		3250-16894	
entry	1..*	SHALL		3250-16904	
act	1..1	SHALL		3250-16905	Note Activity (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.202:2016-11-01)

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:3250-16935) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.2.65" (CONF:3250-16936).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-11-01" (CONF:3250-16938).
2. **SHALL** contain exactly one [1..1] **code**, which **SHOULD** be selected from ValueSet [Note Types](#) urn:oid:2.16.840.1.113883.11.20.9.68 **DYNAMIC** (CONF:3250-16892).

This title should reflect the kind of notes included in this section, corresponding to the code.

3. **SHALL** contain exactly one [1..1] **title** (CONF:3250-16891).

The narrative **SHOULD** contain human-readable representations using standard CDA narrative markup of each note to ensure widest compatibility with receivers. While allowed by CDA, the use of <renderMultiMedia> elements, which contain a referencedObject attribute pointing to an <observationMedia> or <regionOfInterest> element in the discrete entries, is discouraged in Note Sections because rendering support for these elements is not widespread.

4. **SHALL** contain exactly one [1..1] **text** (CONF:3250-16894).

If section/@nullFlavor is not present:

5. **SHALL** contain at least one [1..*] **entry** (CONF:3250-16904) such that it

- a. **SHALL** contain exactly one [1..1] Note Activity (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.22.4.202:2016-11-01) (CONF:3250-
16905).

Table 25: Note Types

<p>Value Set: Note Types urn:oid:2.16.840.1.113883.11.20.9.68</p> <p>(Clinical Focus: Types of clinical notes that may exist in an EHR as narrative text, and may not have associated structured data, but are relevant and need to be included in the interoperable documentation as narrative notes. Although the content of the note is not coded, the type of note is known. The note type code is used to encode the type of note being exchanged.),(Data Element Scope: Section or entry.),(Inclusion Criteria: LOINC codes where class=DOC.ontology.), (Exclusion Criteria: CHARINDEX('CONSENT',LNC.COMPONENT) = 0 OR CHARINDEX('Advance directives',LNC.COMPONENT) = 0 OR CHARINDEX('Agreement',LNC.COMPONENT) = 0 OR CHARINDEX('ALERT',LNC.COMPONENT) = 0 OR CHARINDEX('REPORT',LNC.COMPONENT) = 0 OR CHARINDEX('certificate',LNC.COMPONENT) = 0 OR CHARINDEX('Flowsheet',LNC.COMPONENT) = 0 OR CHARINDEX('SIGNOUT NOTE',LNC.COMPONENT) = 0 OR CHARINDEX('DIAGRAM',LNC.COMPONENT) = 0 OR CHARINDEX('Do not resuscitate',LNC.COMPONENT) = 0 OR CHARINDEX('LICENSE',LNC.COMPONENT) = 0 OR CHARINDEX('Form',LNC.COMPONENT) = 0 OR CHARINDEX('Letter',LNC.COMPONENT) = 0 OR CHARINDEX('document',LNC.COMPONENT) = 0 OR CHARINDEX('Living will',LNC.COMPONENT) = 0 OR CHARINDEX('Power of attorney',LNC.COMPONENT) = 0 OR CHARINDEX('Prescription',LNC.COMPONENT) = 0 OR CHARINDEX('VA C&P',LNC.COMPONENT) = 0 OR CHARINDEX('product list',LNC.COMPONENT) = 0 OR CHARINDEX('IMAGE',LNC.COMPONENT) = 0 OR CHARINDEX('ORDER',LNC.COMPONENT) = 0 OR CHARINDEX('CARD',LNC.COMPONENT) = 0)</p> <p>This value set was imported on 11/22/2022 with a version of Latest.</p> <p>Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.9.68/expansion</p>			
Code	Code System	Code System OID	Print Name
100018-1	LOINC	urn:oid:2.16.840.1.113883.6.1	Hospice care Note
11488-4	LOINC	urn:oid:2.16.840.1.113883.6.1	Consult note
11490-0	LOINC	urn:oid:2.16.840.1.113883.6.1	Physician Discharge summary
11492-6	LOINC	urn:oid:2.16.840.1.113883.6.1	Provider-unspecified, History and physical note
11502-2	LOINC	urn:oid:2.16.840.1.113883.6.1	Laboratory report
11504-8	LOINC	urn:oid:2.16.840.1.113883.6.1	Surgical operation note
11505-5	LOINC	urn:oid:2.16.840.1.113883.6.1	Physician procedure note
11506-3	LOINC	urn:oid:2.16.840.1.113883.6.1	Progress note
11507-1	LOINC	urn:oid:2.16.840.1.113883.6.1	Occupational therapy Progress note
11508-9	LOINC	urn:oid:2.16.840.1.113883.6.1	Physical therapy Progress note
...			

Figure 19: Note Section Example

```
<section>
  <!-- Notes Section -->
  <templateId root="2.16.840.1.113883.10.20.22.2.65" extension="2016-11-01"/>
  <code code="11488-4" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
displayName="Consultation note"/>
  <title>Consultation Notes</title>
  <text>
    <list>
      <item ID="ConsultNote1">
        <paragraph>Dr. Specialist - September 8, 2016</paragraph>
        <paragraph>Evaluated patient due to symptoms of...</paragraph>
      </item>
    </list>
  </text>
  <!-- Note Activity entry -->
  <entry>
    <act classCode="ACT" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.202" extension="2016-11-01"/>
      <code code="34109-9" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
displayName="Note">
        <!-- Code must match or be equivalent to section code -->
        <translation code="11488-4" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Consultation note" />
      </code>
      <text>
        <reference value="#ConsultNote1" />
      </text>
      <statusCode code="completed"/>
      <!-- Clinically-relevant time of the note -->
      <effectiveTime value="20160908" />
      <!--...-->
    </act>
  </entry>
</section>
```

3 ENTRY

3.1 Assessment Scale Observation (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.69:2022-06-01
(open)]

Table 26: Assessment Scale Observation (V2) Contexts

Contained By:	Contains:
Disability Status Observation (optional)	

An assessment scale is a collection of observations that together can yield a calculated or non-calculated summary evaluation of a one or more conditions. 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), Glasgow Coma Scale (assesses coma and impaired consciousness), and WE CARE (Well Child Care, Evaluation, Community Resources, Advocacy, Referral, Education - a clinic-based screening and referral system developed for pediatric settings).

When an Assessment Scale Observation is contained in a Problem Observation, a Social History Observation or a Procedure instance that is Social Determinant of Health focused, that Assessment scale **MAY** contain assessment scale observations that represent question and answer pairs from SDOH screening instruments that are represented in LOINC. Note that guidance on the use of LOINC in assessment scales already exists in Assessment Scale Observation constraints and Assessment Scale Supporting Observations constraints.

Table 27: Assessment Scale Observation (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.69:2022-06-01)					
@classCode	1..1	SHALL		4515-14434	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		4515-14435	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4515-14436	
@root	1..1	SHALL		4515-14437	2.16.840.1.113883.10.20.22.4.69
@extension	1..1	SHALL		4515-33037	2022-06-01
id	1..*	SHALL		4515-14438	
code	1..1	SHALL		4515-14439	urn:oid:2.16.840.1.113883.6.1 (LOINC)
derivationExpr	0..1	MAY		4515-14637	
statusCode	1..1	SHALL		4515-14444	
@code	1..1	SHALL		4515-19088	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		4515-14445	
value	1..1	SHALL		4515-14450	
interpretationCode	0..*	MAY		4515-14459	
translation	0..*	MAY		4515-14888	
author	0..*	MAY		4515-14460	
entryRelationship	0..*	SHOULD		4515-14451	
@typeCode	1..1	SHALL		4515-16741	COMP
observation	1..1	SHALL		4515-16742	Assessment Scale Supporting Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.86)
referenceRange	0..*	MAY		4515-16799	
observationRange	1..1	SHALL		4515-16800	
text	0..1	SHOULD		4515-	

XPath	Card.	Verb	Data Type	CONF#	Value
				16801	
reference	0..1	SHOULD		4515-16802	
@value	0..1	MAY		4515-16803	

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4515-14434).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4515-14435).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:4515-14436) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.69"** (CONF:4515-14437).
 - b. **SHALL** contain exactly one [1..1] **@extension="2022-06-01"** (CONF:4515-33037).
4. **SHALL** contain at least one [1..*] **id** (CONF:4515-14438).
5. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from CodeSystem LOINC (urn:oid:2.16.840.1.113883.6.1) **DYNAMIC** (CONF:4515-14439).

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

6. **MAY** contain zero or one [0..1] **derivationExpr** (CONF:4515-14637).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4515-14444).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:4515-19088).

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)

8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:4515-14445).
9. **SHALL** contain exactly one [1..1] **value** (CONF:4515-14450).
10. **MAY** contain zero or more [0..*] **interpretationCode** (CONF:4515-14459).
 - a. The interpretationCode, if present, **MAY** contain zero or more [0..*] **translation** (CONF:4515-14888).
11. **MAY** contain zero or more [0..*] **author** (CONF:4515-14460).
12. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:4515-14451) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="COMP"** has component (CONF:4515-16741).
 - b. **SHALL** contain exactly one [1..1] Assessment Scale Supporting Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.86) (CONF:4515-16742).
13. **MAY** contain zero or more [0..*] **referenceRange** (CONF:4515-16799).

- a. The referenceRange, if present, **SHALL** contain exactly one [1..1] **observationRange** (CONF:4515-16800).

The text 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)

- i. This observationRange **SHOULD** contain zero or one [0..1] **text** (CONF:4515-16801).
 1. The text, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:4515-16802).
 - a. The reference, if present, **MAY** contain zero or one [0..1] **@value** (CONF:4515-16803).
 - i. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:4515-16804).

Figure 20: Assessment Scale Observation Example

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.69" extension="2022-06-01"/>
  <id root="c6b5a04b-2bf4-49d1-8336-636a3813df0b"/>
  <code code="54614-3" displayName="Brief Interview for Mental Status"
codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
  <derivationExpr>Text description of the calculation</derivationExpr>
  <statusCode code="completed"/>
  <effectiveTime value="20120214"/>
  <!-- Summed score of the component values -->
  <value xsi:type="INT" value="7"/>
  <entryRelationship typeCode="COMP">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.86"/>
      . . .
    </observation>
  </entryRelationship>
</observation>
```

Figure 21: Assessment Scale Observation - Hunger Vital Signs Example

```

<entry>
  <observation classCode="OBS" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.69" extension="2022-06-01"/>
    <id root="c6b5a04b-2bf4-49d1-8336-636a3813df0b"/>
    <code code="88121-9" displayName="Hunger Vital Signs"
codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
    <derivationExpr>Text description of the calculation</derivationExpr>
    <statusCode code="completed"/>
    <effectiveTime value="20120214"/>
    <!-- Summed score of the component values -->
    <value xsi:type="INT" value="2"/>
    <entryRelationship typeCode="COMP">
      <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.86"/>
        <id root="f4dce790-8328-11db-9fe1-0800200c9a44"/>
        <code code="88122-7" displayName="(I/We) worried whether (my/our) food
would run out before (I/we) got money to buy more" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC"/>
        <statusCode code="completed"/>
        <value xsi:type="CD" code="LA28397-0" displayName="Often true"
codeSystem="2.16.840.1.113883.6.1">
          <translation code="1" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC"/>
        </value>
      </observation>
    </entryRelationship>
    <entryRelationship typeCode="COMP">
      <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.86"/>
        <id root="f4dce790-8328-11db-9fe1-0800200c9a44"/>
        <code code="88123-5" displayName="Within the past 12Mo the food we bought
just didn't last and we didn't have money to get more" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC"/>
        <statusCode code="completed"/>
        <value xsi:type="CD" code="LA28397-0" displayName="Often true"
codeSystem="2.16.840.1.113883.6.1">
          <translation code="1" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC"/>
        </value>
      </observation>
    </entryRelationship>
    <entryRelationship typeCode="COMP">
      <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.86"/>
        <id root="f4dce790-8328-11db-9fe1-0800200c9a44"/>
        <code code="88124-3" displayName="Food insecurity risk [HVS]"
codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
        <statusCode code="completed"/>
        <value xsi:type="CD" code="LA19952-3" displayName="At risk"
codeSystem="2.16.840.1.113883.6.1"/>
      </observation>
    </entryRelationship>
  </observation>
</entry>

```

3.2 Assessment Scale Supporting Observation (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.86:2022-06-01 (open)]

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 physical, cognitive, functional status, social observations or answers to questions.

Table 28: Assessment Scale Supporting Observation (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.86:2022-06-01)					
@classCode	1..1	SHALL		4515-16715	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		4515-16716	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4515-16722	
@root	1..1	SHALL		4515-16723	2.16.840.1.113883.10.20.22.4.86
@extension	1..1	SHALL		4515-33036	2022-06-01
id	1..*	SHALL		4515-16724	
code	1..1	SHALL		4515-19178	urn:oid:2.16.840.1.113883.6.1 (LOINC)
statusCode	1..1	SHALL		4515-16720	
@code	1..1	SHALL		4515-19089	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
value	1..*	SHALL		4515-16754	

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4515-16715).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4515-16716).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:4515-16722) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.86" (CONF:4515-16723).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2022-06-01" (CONF:4515-33036).
4. **SHALL** contain at least one [1..*] **id** (CONF:4515-16724).
5. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from CodeSystem LOINC (urn:oid:2.16.840.1.113883.6.1) **DYNAMIC** (CONF:4515-19178).

6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4515-16720).
 - a. This **statusCode** **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:4515-19089).
7. **SHALL** contain at least one [1..*] **value** (CONF:4515-16754).
 - a. If **xsi:type="CD"**, **MAY** have a translation code to further specify the source if the instrument has an applicable code system and value set for the integer (CONF:14639) (CONF:4515-16755).

Figure 22: Assessment Scale Supporting Observation Example

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.86" extension="2022-06-01"/>
  <id root="f4dce790-8328-11db-9fe1-0800200c9a44"/>
  <code code="60715-0" displayName="Defensive Reaction - Head and Neck Response"
codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
  <statusCode code="completed"/>
  <value xsi:type="INT" value="3"/>
</observation>
```

3.3 Birth Sex Observation (V2)

```
[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.200:2023-05-01 (open)]
```

This observation represents the sex of the patient at birth. It is the sex that is entered on the person's birth certificate at time of birth.

This observation is not appropriate for recording patient gender (administrativeGender).

This observation is not appropriate for recording Gender Identity (GI), or Sex For Clinical Use (SFCU).

It is recommended systems include the Birth Sex observation in the Social History section.

Table 29: Birth Sex Observation (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.200:2023-05-01)					
@classCode	1..1	SHALL		4537-33041	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		4537-33042	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4537-33032	
@root	1..1	SHALL		4537-33036	2.16.840.1.113883.10.20.22.4.200
@extension	1..1	SHALL		4537-33037	2023-05-01
code	1..1	SHALL		4537-33033	
@code	1..1	SHALL		4537-33038	76689-9
@codeSystem	1..1	SHALL		4537-33039	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		4537-33031	
@code	1..1	SHALL		4537-33035	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		4537-33043	
low	1..1	SHALL NOT		4537-33044	
width	1..1	SHALL NOT		4537-33045	
high	1..1	SHALL NOT		4537-33046	
center	1..1	SHALL NOT		4537-33047	
value	1..1	SHALL	CD	4537-33034	urn:oid:2.16.840.1.113762.1.4.1 (ONC Administrative Sex)

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4537-33041).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4537-33042).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:4537-33032) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.200" (CONF:4537-33036).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2023-05-01" (CONF:4537-33037).

4. **SHALL** contain exactly one [1..1] **code** (CONF:4537-33033).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="76689-9" Sex Assigned At Birth (CONF:4537-33038).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.1" (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1 **STATIC**) (CONF:4537-33039).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4537-33031).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:4537-33035).
6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:4537-33043).

Note: This template represents a "snapshot in time" observation, simply reflecting the patient's sex at the time of the observation. As a result, the effectiveTime is constrained to just a time stamp. Since this represents Birth Sex it SHALL match the birthTime.

- a. This effectiveTime **SHALL NOT** contain exactly one [1..1] **low** (CONF:4537-33044).
 - b. This effectiveTime **SHALL NOT** contain exactly one [1..1] **width** (CONF:4537-33045).
 - c. This effectiveTime **SHALL NOT** contain exactly one [1..1] **high** (CONF:4537-33046).
 - d. This effectiveTime **SHALL NOT** contain exactly one [1..1] **center** (CONF:4537-33047).
7. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD", where the code **SHALL** be selected from ValueSet ONC Administrative Sex urn:oid:2.16.840.1.113762.1.4.1 **STATIC** 2016-06-01 (CONF:4537-33034).
 - a. If value/**@code** not from value set ONC Administrative Sex urn:oid:2.16.840.1.113762.1.4.1 **STATIC** 2016-06-01, then value/**@nullFlavor** **SHALL** be "UNK" (CONF:4537-33040).

Table 30: ONC Administrative Sex

Value Set: ONC Administrative Sex urn:oid:2.16.840.1.113762.1.4.1 (Clinical Focus: Gender identity restricted to only Male and Female used in administrative situations requiring a restriction to these two categories.),(Data Element Scope: Gender),(Inclusion Criteria: Male and Female only.),(Exclusion Criteria: Any gender identity that is not male or female.) This value set was imported on 10/17/2019 with a version of 20190425. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.1/expansion			
Code	Code System	Code System OID	Print Name
F	Administrative Gender	urn:oid:2.16.840.1.113883.5.1	Female
M	Administrative Gender	urn:oid:2.16.840.1.113883.5.1	Male

Figure 23: Birth Sex Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- New templateId for Birth Sex -->
  <!-- Not asserting conformance to Social History Observation due to different vocab. -->
  >
    <templateId root="2.16.840.1.113883.10.20.22.4.200" extension="2016-06-01"/>
    <code code="76689-9" codeSystem="2.16.840.1.113883.6.1" displayName="Sex Assigned At Birth"/>
    <text>
      <reference value="#BSex_Narrative1"/>
    </text>
    <statusCode code="completed"/>
    <!-- effectiveTime if present should match birthTime -->
    <!-- Request name change to QRDA value set (2.16.840.1.113762.1.4.1) - ONC Birth Sex ->
    <value xsi:type="CD" codeSystem="2.16.840.1.113883.5.1"
codeSystemName="AdministrativeGender"
      code="F" displayName="Female">
      <originalText>
        <reference value="#BSex_value"/>
      </originalText>
    </value>
    <author>
      ...
    </author>
  </observation>
```

3.4 Care Team Member Act (V2)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.500.1:2022-06-01
(open)]

Table 31: Care Team Member Act (V2) Contexts

Contained By:	Contains:
Care Team Organizer (V2) (required)	Note Activity (optional) Care Team Member Schedule Observation (V2) (optional)

This template is used to represent a member of the care team. Care team members can include healthcare and community services providers, caregivers, relatives, the patient themselves, etc. A care team member can be another care team or an organization.

Care team member attributes include the following:

- Care team member status on the care team
- Care team member time (e.g. duration, point-in-time, etc.) on the care team
- Schedule of the care team member describing when the care team member usually participates on the care team
- Care team member function on the care team such as the care team member specialty, relationship to the patient, and also role on the care team

- Care team member name, address, telecom, organization, etc.
- Care team member information (narrative description about the care team member)

The performer/assignedEntity/id may be set equal to (a pointer to) an id on a performer elsewhere in the document (header or entries) or a new performer can be described here. If the id is pointing to a performer already described elsewhere in the document, assignedEntity/id is sufficient to identify this performer and none of the remaining details of assignedEntity are required to be set. Application Software must be responsible for resolving the identifier back to its original object and then rendering the information in the correct place in the containing section's narrative text.

This id must be a pointer to another Performer.

Table 32: Care Team Member Act (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.500.1:2022-06-01)					
@classCode	1..1	SHALL		4515-53	PCPR
@moodCode	1..1	SHALL		4515-54	EVN
templateId	1..1	SHALL		4515-45	
@root	1..1	SHALL		4515-66	2.16.840.1.113883.10.20.22.4.500.1
@extension	1..1	SHALL		4515-67	2022-06-01
code	1..1	SHALL		4515-27	
@code	1..1	SHALL		4515-48	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 85847-2
@codeSystem	1..1	SHALL		4515-49	2.16.840.1.113883.6.1
statusCode	1..1	SHALL		4515-62	
@code	1..1	SHALL		4515-68	urn:oid:2.16.840.1.113883.1.1.1.15933 (ActStatus)
effectiveTime	1..1	SHALL		4515-33	
low	1..1	SHALL		4515-167	
high	0..1	MAY		4515-168	
performer	1..1	SHALL		4515-160	
sdtc:functionCode	0..1	MAY		4515-161	urn:oid:2.16.840.1.113762.1.4.1099.30 (Care Team Member Function)
assignedEntity	1..1	SHALL		4515-175	
id	1..*	SHALL		4515-176	
@root	0..1	SHOULD		4515-177	2.16.840.1.113883.4.6
addr	0..*	SHOULD		4515-182	
telecom	0..*	SHOULD		4515-183	
assignedPerson	0..1	SHOULD		4515-178	
name	1..1	SHALL		4515-179	US Realm Person Name (PN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1
representedOrganization	0..1	MAY		4515-181	
participant	0..*	MAY		4515-171	
@typeCode	1..1	SHALL		4515-174	urn:oid:2.16.840.1.113883.5.9.0 (HL7ParticipationType) = LOC
participantRole	1..1	SHALL		4515-173	
participant	0..*	MAY		4515-76	
@typeCode	1..1	SHALL		4515-78	urn:oid:2.16.840.1.113883.5.9.0 (HL7ParticipationType) = IND

XPath	Card.	Verb	Data Type	CONF#	Value
sdtc:functionCode	1..1	SHALL		4515-169	urn:oid:2.16.840.1.113762.1.4.1099.30 (Care Team Member Function)
entryRelationship	0..*	MAY		4515-86	
@typeCode	1..1	SHALL		4515-87	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
encounter	1..1	SHALL		4515-88	
id	1..1	SHALL		4515-89	
entryRelationship	0..*	MAY		4515-91	
@typeCode	1..1	SHALL		4515-92	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
act	1..1	SHALL		4515-93	Note Activity (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.202:2016-11-01)
entryRelationship	0..1	MAY		4515-94	
@typeCode	1..1	SHALL		4515-96	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-95	Care Team Member Schedule Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.500.3:2022-06-01)

1. **SHALL** contain exactly one [1..1] **@classCode**="PCPR" Provision of Care (CONF:4515-53).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CONF:4515-54).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:4515-45) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.500.1" (CONF:4515-66).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2022-06-01" (CONF:4515-67).
4. **SHALL** contain exactly one [1..1] **code** (CONF:4515-27).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="85847-2" Patient Care team information (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:4515-48).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.1" LOINC (CONF:4515-49).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4515-62).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet [ActStatus](#) urn:oid:2.16.840.1.113883.1.11.15933 **STATIC** 2019-05-27 (CONF:4515-68).
6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:4515-33).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:4515-167).
 - b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:4515-168).

7. **SHALL** contain exactly one [1..1] **performer** (CONF:4515-160) such that it
 - a. **MAY** contain zero or one [0..1] **sdct:functionCode**, which **SHOULD** be selected from ValueSet Care Team Member Function
 urn:oid:2.16.840.1.113762.1.4.1099.30 **DYNAMIC** (CONF:4515-161).
 Note: This sdct:functionCode represents the function or role of the member on the care team. For example, the care team member roles on the care team can be a caregiver and a professional nurse or a primary care provider and the care coordinator.
 - b. **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:4515-175).
 - i. This assignedEntity **SHALL** contain at least one [1..*] **id** (CONF:4515-176).
 1. Such ids **SHOULD** contain zero or one [0..1]
 @root="2.16.840.1.113883.4.6" National Provider Identifier (CONF:4515-177).
 2. If the assignedEntity/id is not referencing a Performer elsewhere in the document with an assignedPerson populated, this assignedEntity **SHALL** contain exactly one [1..1] assignedPerson (CONF:4515-180).
 - ii. This assignedEntity **SHOULD** contain zero or more [0..*] **addr** (CONF:4515-182).
 - iii. This assignedEntity **SHOULD** contain zero or more [0..*] **telecom** (CONF:4515-183).
 - iv. This assignedEntity **SHOULD** contain zero or one [0..1] **assignedPerson** (CONF:4515-178).
 Note: This assignedPerson must be present on at least one performer in this document for each unique assignedEntity/id.
 1. The assignedPerson, if present, **SHALL** contain exactly one [1..1] US Realm Person Name (PN.US.FIELDED) (identifier:
 urn:oid:2.16.840.1.113883.10.20.22.5.1.1) (CONF:4515-179).
 - v. This assignedEntity **MAY** contain zero or one [0..1] **representedOrganization** (CONF:4515-181).
 1. When a provider is working on behalf of an organization an addr & telecom **SHALL** be present in representedOrganization (CONF:4515-184).

This participant represents the location where the care team member provides the service

8. **MAY** contain zero or more [0..*] **participant** (CONF:4515-171) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="LOC"** Location (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4515-174).
 - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:4515-173).

This participant is used to express additional care team functions performed by this member of the team. Include additional participant to record additional roles (functionCode) this Care Team member plays.

9. **MAY** contain zero or more [0..*] **participant** (CONF:4515-76) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="IND"** Indirect Target (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4515-78).

- b. **SHALL** contain exactly one [1..1] **sdtc:functionCode**, which **SHALL** be selected from ValueSet Care Team Member Function urn:oid:2.16.840.1.113762.1.4.1099.30 **DYNAMIC** (CONF:4515-169).
 - c. This participantRole **SHALL** contain exactly one [1..1] @nullFlavor="NI" No Information. (CONF:4515-172).
10. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-86) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-87).
 - b. **SHALL** contain exactly one [1..1] **encounter** (CONF:4515-88).
 - i. This encounter **SHALL** contain exactly one [1..1] **id** (CONF:4515-89).
 - 1. If the id does not match an encounter/id from an encounter elsewhere within the same document and the id does not contain @nullFlavor=NA, then this entry **SHALL** conform to the Encounter Activity (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.49:2015-08-01) (CONF:4515-90).

This is the note activity to narratively describe information about the member on the care team.

11. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-91) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-92).
 - b. **SHALL** contain exactly one [1..1] Note Activity (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.202:2016-11-01) (CONF:4515-93).

This is the schedule of when or how frequently the care team member participates (or provides care to the patient) on the care team.

12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:4515-94) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-96).
 - b. **SHALL** contain exactly one [1..1] Care Team Member Schedule Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.500.3:2022-06-01) (CONF:4515-95).

Table 33: ActStatus

Value Set: ActStatus urn:oid:2.16.840.1.113883.1.11.15933 Contains the names (codes) for each of the states in the state-machine of the RIM Act class. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.15933/expansion			
Code	Code System	Code System OID	Print Name
normal	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	normal
aborted	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	aborted
active	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	active
cancelled	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	cancelled
completed	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	completed
held	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	held
new	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	new
suspended	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	suspended
nullified	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	nullified
obsolete	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	obsolete

Figure 24: Care Team Member Act Example

```
<!--Care Team Organizer-->
<entry>
  <organizer classCode="CLUSTER" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.500" extension="2019-07-01"/>
    ...

    <!--NEW Care Team Organizer Entry Template ID and extension-->
    ...

    <!-- #1 Care Team Member Act - This component is a care team member who is a
provider -->
    <component>
      <act classCode="PCPR" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.500.1" extension="2019-07-
01"/>
        <templateId root="2.16.840.1.113883.10.20.22.4.500.1" extension="2022-06-
01"/>

        <id root="1.5.5.5.5.5.5"/>
        <code code="85847-2" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Care Team Information"/>
        <!--Care Team Member Status -
https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.15933/expansion-->
        <statusCode code="active"/>
        <effectiveTime xsi:type="IVL_TS">
          <low value="201810081426-0500"/>
        </effectiveTime>
        <!--Attributes about the provider member - name-->
        <performer typeCode="PRF">
          <functionCode xmlns="urn:hl7-org:sdct" code="PCP" displayName="primary
care physician" codeSystem="2.16.840.1.113883.5.88" codeSystemName="ParticipationFunction">
            <originalText
              xmlns="urn:hl7-org:v3">
                <reference value="#CT1_M01"/></reference>
            </originalText>
          </functionCode>
          <!-- A care team member role -->
          <assignedEntity>
            <id root="B00B14E8-CDE4-48EA-8A09-01BC4945122A" extension="1"/>
            <id root="1.5.5.5.5.5.5"/>
            <assignedPerson>
              <name>
                <given>John</given>
                <given>D</given>
                <family>Smith</family>,
                <suffix>MD</suffix>
              </name>
            </assignedPerson>
          </assignedEntity>
        </performer>
      </act>
    </component>
  </organizer>
</entry>
```

3.5 Care Team Member Schedule Observation (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.500.3:2022-06-01 (open)]

Table 34: Care Team Member Schedule Observation (V2) Contexts

Contained By:	Contains:
Care Team Member Act (V2) (optional)	

This template represents the schedule of when the care team member participates on the care team. Examples include:

- An oncologist who participated on the care team for one week.
- A primary care provider who participated on a care team during one summer (e.g. in the case of patients who are snow-birds).
- A crisis team who participated on the care team for the patient during an inpatient stay (e.g. in the case of children with special needs).

Table 35: Care Team Member Schedule Observation (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.500.3:2022-06-01)					
@classCode	1..1	SHALL		4515-33026	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		4515-33027	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4515-33019	
@root	1..1	SHALL		4515-33022	2.16.840.1.113883.10.20.22.4.500.3
@extension	1..1	SHALL		4515-19	2022-06-01
code	1..1	SHALL		4515-13	
@code	1..1	SHALL		4515-33023	57203-2
@codeSystem	1..1	SHALL		4515-33024	2.16.840.1.113883.6.1
text	1..1	SHALL		4515-33020	
reference	1..1	SHALL		4515-16	
@value	1..1	SHALL		4515-33025	
statusCode	1..1	SHALL		4515-33018	
@code	1..1	SHALL		4515-33021	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
value	1..1	SHALL	IVL_TS	4515-14	
low	1..1	SHALL		4515-33030	
high	0..1	SHOULD		4515-33029	

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4515-33026).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4515-33027).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:4515-33019) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.500.3" (CONF:4515-33022).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2022-06-01" (CONF:4515-19).
4. **SHALL** contain exactly one [1..1] **code** (CONF:4515-13).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="57203-2" Episode Timing [CMS Assessment] (CONF:4515-33023).

- b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.1" LOINC (CONF:4515-33024).
- 5. **SHALL** contain exactly one [1..1] **text** (CONF:4515-33020).
 - a. This text **SHALL** contain exactly one [1..1] **reference** (CONF:4515-16).
 - i. This reference **SHALL** contain exactly one [1..1] **@value** (CONF:4515-33025).
- 6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4515-33018).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:4515-33021).

Observation/value Interval Time Stamp holds the time range the Care Team Member participated on the Care Team of the patient.

- 7. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="IVL_TS" (CONF:4515-14).
 - a. This value **SHALL** contain exactly one [1..1] **low** (CONF:4515-33030).
 - b. This value **SHOULD** contain zero or one [0..1] **high** (CONF:4515-33029).

Figure 25: Care Team Member Schedule Observation Example

```
<!-- Care Team Member Schedule Observation (contained in Care Team Member Act) -->
<entry>
  <observation classCode="OBS" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.500.3" extension="2016-06-01"/>
    <templateId root="2.16.840.1.113883.10.20.22.4.500.3" extension="2022-06-01"/>
    <code code="57203-2" displayName="Episode Timing [CMS Assessment]"
codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
    <text>
      <reference value="#CareTeam_CT"/>
    </text>
    <statusCode code="completed"/>
    <value xsi:type="IVL_TS">
      <low value="20210401"/>
      <high value="20210412"/>
    </value>
  </observation>
</entry>
```

3.6 Care Team Organizer (V2)

[organizer: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.500:2022-06-01 (open)]

Table 36: Care Team Organizer (V2) Contexts

Contained By:	Contains:
Care Teams Section (V2) (optional)	Note Activity (optional) Care Team Type Observation (optional) Care Team Member Act (V2) (required)

This organizer template contains information about a single care team.

The author of the organizer is the person who documented the care team information.

The participants of the organizer are the care team lead(s) and the care team organization.

The components of the organizer contain the following information:

- The encounter that caused the care team to be formed
- Narrative information about the care team
- The care team members
- Reasons for the care team
- The care team type(s) - a care team can have multiple care team types

Table 37: Care Team Organizer (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
organizer (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.500:2022-06-01)					
@classCode	1..1	SHALL		4515-124	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER
@moodCode	1..1	SHALL		4515-125	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4515-112	
@root	1..1	SHALL		4515-117	2.16.840.1.113883.10.20.22.4.500
@extension	1..1	SHALL		4515-118	2022-06-01
id	1..*	SHALL		4515-126	
code	1..1	SHALL		4515-114	
@code	1..1	SHALL		4515-120	86744-0
@codeSystem	1..1	SHALL		4515-121	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
originalText	0..1	SHOULD		4515-154	
reference	1..1	SHALL		4515-155	
@value	1..1	SHALL		4515-156	
statusCode	1..1	SHALL		4515-113	
@code	1..1	SHALL		4515-119	urn:oid:2.16.840.1.113883.1.11.15933 (ActStatus)
effectiveTime	1..1	SHALL		4515-127	
low	1..1	SHALL		4515-157	
high	0..1	MAY		4515-158	
author	0..*	SHOULD		4515-116	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
participant	0..*	SHOULD		4515-128	
@typeCode	1..1	SHALL		4515-129	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PPRF
sdtc:functionCode	0..1	MAY		4515-130	urn:oid:2.16.840.1.113762.1.4.1099.30 (Care Team Member Function)
participantRole	1..1	SHALL		4515-131	
id	1..*	SHALL		4515-132	
participant	0..*	MAY		4515-134	
@typeCode	1..1	SHALL		4515-137	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC
participantRole	1..1	SHALL		4515-135	

XPath	Card.	Verb	Data Type	CONF#	Value
id	1..*	SHALL		4515-138	
addr	0..1	SHOULD		4515-139	
telecom	0..*	SHOULD		4515-140	
playingEntity	1..1	SHALL		4515-136	
@classCode	1..1	SHALL		4515-141	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = PLC
name	1..1	SHALL		4515-142	
component	0..*	MAY		4515-110	
observation	1..1	SHALL		4515-163	Care Team Type Observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.500.2:2019-07-01)
component	0..*	MAY		4515-146	
act	1..1	SHALL		4515-147	Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122)
component	0..*	MAY		4515-148	
encounter	1..1	SHALL		4515-164	
id	1..*	SHALL		4515-165	
component	0..1	MAY		4515-150	
act	1..1	SHALL		4515-151	Note Activity (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.202:2016-11-01)
component	1..*	SHALL		4515-152	
act	1..1	SHALL		4515-166	Care Team Member Act (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.500.1:2022-06-01)

1. **SHALL** contain exactly one [1..1] @classCode="CLUSTER" CLUSTER (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4515-124).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4515-125).
3. **SHALL** contain exactly one [1..1] templateId (CONF:4515-112) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.500" (CONF:4515-117).
 - b. **SHALL** contain exactly one [1..1] @extension="2022-06-01" (CONF:4515-118).
4. **SHALL** contain at least one [1..*] id (CONF:4515-126).
5. **SHALL** contain exactly one [1..1] code (CONF:4515-114).
 - a. This code **SHALL** contain exactly one [1..1] @code="86744-0" Care Team (CONF:4515-120).

- b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.1" LOINC (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:4515-121).
- c. This code **SHOULD** contain zero or one [0..1] **originalText** (CONF:4515-154) such that it
 - i. **SHALL** contain exactly one [1..1] **reference** (CONF:4515-155).

The value attribute references the narrative in section.text where the care team name is rendered. The intention of this reference is to clarify which care team this Organizer refers to.

- 1. This reference **SHALL** contain exactly one [1..1] **@value** (CONF:4515-156).
- 6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4515-113).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet ActStatus urn:oid:2.16.840.1.113883.1.11.15933 **STATIC** (CONF:4515-119).
Note: When statusCode has a value set, its value MAY be rendered in the narrative.
- 7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:4515-127).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:4515-157).
 - b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:4515-158).
- 8. **SHOULD** contain zero or more [0..*] Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:4515-116).

This Participant represents the Care Team lead.

- 9. **SHOULD** contain zero or more [0..*] **participant** (CONF:4515-128) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="PPRF" Primary Performer (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4515-129).
 - b. **MAY** contain zero or one [0..1] **sdtc:functionCode**, which **SHOULD** be selected from ValueSet Care Team Member Function urn:oid:2.16.840.1.113762.1.4.1099.30 **DYNAMIC** (CONF:4515-130).
Note: Describes the person's, caregiver's or health care provider's functional role on the care team.
 - c. **SHALL** contain exactly one [1..1] **participantRole** (CONF:4515-131).
 - i. This participantRole **SHALL** contain at least one [1..*] **id** (CONF:4515-132).
 - 1. This id **SHALL** match a performer/assignedEntity/id of at least one Care Team Member described in component/act (CONF:4515-133).
- 10. **MAY** contain zero or more [0..*] **participant** (CONF:4515-134) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="LOC" Location (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4515-137).
 - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:4515-135).
 - i. This participantRole **SHALL** contain at least one [1..*] **id** (CONF:4515-138).
 - ii. This participantRole **SHOULD** contain zero or one [0..1] **addr** (CONF:4515-139).
 - iii. This participantRole **SHOULD** contain zero or more [0..*] **telecom** (CONF:4515-140).

- iv. This participantRole **SHALL** contain exactly one [1..1] **playingEntity** (CONF:4515-136).
 1. This playingEntity **SHALL** contain exactly one [1..1] **@classCode="PLC" Place** (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:4515-141).
 2. This playingEntity **SHALL** contain exactly one [1..1] **name** (CONF:4515-142).
 11. **MAY** contain zero or more [0..*] **component** (CONF:4515-110) such that it
 - a. **SHALL** contain exactly one [1..1] **Care Team Type Observation** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.500.2:2019-07-01) (CONF:4515-163).
- The following components represent the reasons for the existence of the care team. These entry references are typically a health concern, risk concern or problem but can also be some other entry present in the document.
12. **MAY** contain zero or more [0..*] **component** (CONF:4515-146) such that it
 - a. **SHALL** contain exactly one [1..1] Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122) (CONF:4515-147).
 13. **MAY** contain zero or more [0..*] **component** (CONF:4515-148) such that it
 - a. **SHALL** contain exactly one [1..1] **encounter** (CONF:4515-164).
 - i. This encounter **SHALL** contain at least one [1..*] **id** (CONF:4515-165).
 Note: 1. If the id does not match an encounter/id from an encounter elsewhere within the same document and the id does not contain @nullFlavor=NA, then this entry SHALL conform to the Encounter Activity (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.49:2015-08-01) (CONF:4435-145).
 14. **MAY** contain zero or one [0..1] **component** (CONF:4515-150) such that it
 - a. **SHALL** contain exactly one [1..1] **Note Activity** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.202:2016-11-01) (CONF:4515-151).
 15. **SHALL** contain at least one [1..*] **component** (CONF:4515-152) such that it
 - a. **SHALL** contain exactly one [1..1] **Care Team Member Act (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.500.1:2022-06-01) (CONF:4515-166).

Figure 26: Care Team Organizer Example

```

<!--Care Team Organizer-->
<entry>
  <organizer classCode="CLUSTER" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.500" extension="2019-07-01"/>
    <templateId root="2.16.840.1.113883.10.20.22.4.500" extension="2022-06-01"/>
    <!--NEW Care Team Organizer Entry Template ID and extension-->
    <id root="1.1.1.1.1.1"/>
    <code code="86744-0" codeSystem="2.16.840.1.113883.6.1"
      codeSystemName="LOINC" displayName="Care Team">
      <originalText>
        <reference value="#CareTeamName1"/>
      </originalText>
    </code>
    <!--Care Team Status -
https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.15933/expansion-->
    <statusCode code="active"/>
    <effectiveTime>
      <low value="201810081426-0500"/>
    </effectiveTime>
    <!-- This participant is the Care Team Lead (1..1)-->
    <!-- Care Team Lead is one of the contained care team members in the list of care
team members-->
    <participant typeCode="PPRF">
      <participantRole>
        <!--<This id matches at least one of the member's id in the Care Team
Member act template-->
        <id root="1.5.5.5.5.5.5"/>
      </participantRole>
    </participant>
    <!-- #1 Care Team Member Act - This component is a care team member who is a
provider -->
    <component>
      <act classCode="PCPR" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.500.1" extension="2019-07-
01"/>
        <templateId root="2.16.840.1.113883.10.20.22.4.500.1" extension="2022-06-
01"/>
        <id root="1.5.5.5.5.5.5"/>
        <code code="85847-2" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Care Team Information"/>
        <!--Care Team Member Status -
https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.15933/expansion-->
        <statusCode code="active"/>
        <effectiveTime xsi:type="IVL_TS">
          <low value="201810081426-0500"/>
        </effectiveTime>
        <!--Attributes about the provider member - name-->
        <performer typeCode="PRF">
          <functionCode xmlns="urn:hl7-org:sdct" code="PCP" displayName="primary
care physician" codeSystem="2.16.840.1.113883.5.88" codeSystemName="ParticipationFunction">
            <originalText>
              xmlns="urn:hl7-org:v3">
                <reference value="#CT1_M01"/>
              </originalText>
            </functionCode>

```

```

        <!-- A care team member role -->
        <assignedEntity>
          <id root="B00B14E8-CDE4-48EA-8A09-01BC4945122A"extension="1"/>
          <id root="1.5.5.5.5.5.5"/>
          <assignedPerson>
            <name>
              <given>John</given>
              <given>D</given>
              <family>Smith</family>,
              <suffix>MD</suffix>
            </name>
          </assignedPerson>
        </assignedEntity>
      </performer>
    </act>
  </component>
</organizer>
</entry>

```

3.7 Care Team Type Observation

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.500.2:2019-07-01 (open)]

Table 38: Care Team Type Observation Contexts

Contained By:	Contains:
Care Team Organizer (V2) (optional)	

This template is used to express the care team type. A care team can have multiple care team types. Examples include but are not limited to:

- Condition focused, longitudinal care team
- Event focused, Home & Community Based Services care team
- Condition focused, clinical research care team
- Public health focused, Longitudinal care-coordination care team

Table 39: Care Team Type Observation Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.500.2:2019-07-01)					
@classCode	1..1	SHALL		4435-101	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		4435-102	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4435-99	
@root	1..1	SHALL		4435-106	2.16.840.1.113883.10.20.22.4.500.2
@extension	1..1	SHALL		4435-108	2019-07-01
code	1..1	SHALL		4435-97	
@code	1..1	SHALL		4435-103	86744-0
@codeSystem	1..1	SHALL		4435-104	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		4435-100	
@code	1..1	SHALL		4435-107	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
value	1..1	SHALL	CD	4435-98	
@code	1..1	SHALL		4435-109	urn:oid:2.16.840.1.113883.4.642.3.155 (Care Team Category)

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4435-101).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4435-102).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:4435-99) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.500.2" (CONF:4435-106).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2019-07-01" (CONF:4435-108).
4. **SHALL** contain exactly one [1..1] **code** (CONF:4435-97).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="86744-0" Care Team (CONF:4435-103).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.1" LOINC (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:4435-104).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4435-100).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:4435-107).
6. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:4435-98) such that it

- a. **SHALL** contain exactly one [1..1] @code, which **SHALL** be selected from ValueSet [Care Team Category](#) urn:oid:2.16.840.1.113883.4.642.3.155 **DYNAMIC** (CONF:4435-109).

Table 40: Care Team Category

Value Set: Care Team Category urn:oid:2.16.840.1.113883.4.642.3.155 (Clinical Focus: Indicates the type of care team.),(Data Element Scope: Each care team can have multiple care team type categories assigned to describe it.),(Inclusion Criteria: Specific concepts determined to be terms used to classify a care team, for example: Event-focused, Longitudinal care coordination focused, Condition focused, Public health focused. This is the LOINC List LL4590-7 that is connected to LOINC 86744-0 Care Team),(Exclusion Criteria:) This value set was imported on 10/17/2019 with a version of 20191015. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.4.642.3.155/expansion			
Code	Code System	Code System OID	Print Name
LA27975-4	LOINC	urn:oid:2.16.840.1.113883.6.1	Event-focused care team
LA27976-2	LOINC	urn:oid:2.16.840.1.113883.6.1	Encounter-focused care team
LA27977-0	LOINC	urn:oid:2.16.840.1.113883.6.1	Episode of care-focused care team
LA27978-8	LOINC	urn:oid:2.16.840.1.113883.6.1	Condition-focused care team
LA27980-4	LOINC	urn:oid:2.16.840.1.113883.6.1	Clinical research-focused care team
LA28865-6	LOINC	urn:oid:2.16.840.1.113883.6.1	Longitudinal care-coordination focused care team
LA28866-4	LOINC	urn:oid:2.16.840.1.113883.6.1	Home & Community Based Services (HCBS)-focused care team
LA28867-2	LOINC	urn:oid:2.16.840.1.113883.6.1	Public health-focused care team

Figure 27: Care Team Type Observation Example

<pre> <observation classCode="OBS" moodCode="EVN"> <templateId root="2.16.840.1.113883.10.20.22.4.500.2" extention="2019-07-01"/> <!--Care Team Type--> <code code="86744-0" codeSystem="2.16.840.1.113883.6.1" displayName="Care team" /> <statusCode code="completed" /> <value xsi:type="CD" code="LA28865-6" codeSystem="2.16.840.1.113883.6.1" displayName="Longitudinal care-coordination focused care team"/> </observation> </pre>
--

3.8 Date of Diagnosis Act

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.502:2022-06-01
(open)]

Table 41: Date of Diagnosis Act Contexts

Contained By:	Contains:
Problem Observation (V4) (optional)	

This template represents the Date of Diagnosis, which is the date of first determination by a qualified professional of the presence of a problem or condition affecting a patient.

The date of diagnosis is usually not the same date as the date of condition onset. A patient may have a condition for some time before it is formally diagnosed.

Table 42: Date of Diagnosis Act Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.502:2022-06-01)					
@classCode	1..1	SHALL		4515-33010	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = ACT
@moodCode	1..1	SHALL		4515-33011	urn:oid:2.16.840.1.113883.5.1 001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4515-33000	
@root	1..1	SHALL		4515-33002	2.16.840.1.113883.10.20.22.4 .502
@extension	1..1	SHALL		4515-33003	2022-06-01
code	1..1	SHALL		4515-33001	
@code	0..1	SHALL		4515-33004	77975-1
@codeSystem	1..1	SHALL		4515-33005	2.16.840.1.113883.6.1
statusCode	1..1	SHALL		4515-33006	urn:oid:2.16.840.1.113883.5.1 4 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		4515-33007	
@value	1..1	SHALL		4515-33008	
low	0..0	SHALL NOT		4515-33016	
high	0..0	SHALL NOT		4515-33017	

1. **SHALL** contain exactly one [1..1] **@classCode="ACT"** Act (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4515-33010).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4515-33011).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:4515-33000) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.502"** (CONF:4515-33002).
 - b. **SHALL** contain exactly one [1..1] **@extension="2022-06-01"** (CONF:4515-33003).
4. **SHALL** contain exactly one [1..1] **code** (CONF:4515-33001).
 - a. This code **SHALL** contain zero or one [0..1] **@code="77975-1"** Earliest date of diagnosis (CONF:4515-33004).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem="2.16.840.1.113883.6.1"** LOINC (CONF:4515-33005).
5. **SHALL** contain exactly one [1..1] **statusCode="completed"** Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4515-33006).
6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:4515-33007).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **@value** (CONF:4515-33008).
 - i. **SHALL** be precise to at least the year (CONF:4515-33009).
 - b. This effectiveTime **SHALL NOT** contain [0..0] **low** (CONF:4515-33016).
 - c. This effectiveTime **SHALL NOT** contain [0..0] **high** (CONF:4515-33017).

Figure 28: Date of Diagnosis Act Example

```

<!-- INSIDE PROBLEM OBSERVATION -->
<entryRelationship typeCode="COMP">
  <act classCode="ACT" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.502" extension="2022-06-01"/>
    <code code="77975-1" codeSystem="2.16.840.1.113883.6.1"
      codeSystemName="LOINC"
      displayName="Earliest date of diagnosis"/>
    <text>
      <reference value="#ProblemObs_1_PS1"/>
    </text>
    <statusCode code="completed"/>
    <!-- SHALL to the year (MAY be more specific) -->
    <effectiveTime value="200802"/>
  </act>
</entryRelationship>

```

3.9 Disability Status Observation

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.505:2023-05-01 (open)]

Table 43: Disability Status Observation Contexts

Contained By:	Contains:
	Assessment Scale Observation (V2) (optional)

This template represents an assessment of patients' perception of their physical, cognitive, intellectual, or psychiatric disabilities. It may contain an Assessment Scale Observation that holds the six-item set of questions used on the American Community Survey (ACS) to gauge disability, defined here: [HHS Implementation Guidance on Data Collection Standards for Race, Ethnicity, Sex, Primary Language, and Disability Status](#)

This template SHOULD be included zero or more times [0..*] in the Functional Status Section V2 or the Functional Status Organizer (V2).

Table 44: Disability Status Observation Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.505:2023-05-01)					
@classCode	1..1	SHALL		4537-32620	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		4537-32621	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4537-32619	
@root	1..1	SHALL		4537-32622	2.16.840.1.113883.10.20.22.4.505
@extension	1..1	SHALL		4537-32623	2023-05-01
code	1..1	SHALL		4537-32624	
@code	1..1	SHALL		4537-33023	89571-4
@codeSystem	1..1	SHALL		4537-33024	2.16.840.1.113883.6.1
statusCode	1..1	SHALL		4537-32625	
@code	1..1	SHALL		4537-32626	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		4537-32627	
value	1..1	SHALL		4537-32628	urn:oid:1.3.6.1.4.1.12009.10.1.3932 (CUBS_Disability)
entryRelationship	0..*	MAY		4537-32629	
@typeCode	1..1	SHALL		4537-32631	COMP
observation	1..1	SHALL		4537-32630	Assessment Scale Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.69:2022-06-01)

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:4537-32620).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4537-32621).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:4537-32619) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.505" (CONF:4537-32622).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2023-05-01" (CONF:4537-32623).
4. **SHALL** contain exactly one [1..1] **code** (CONF:4537-32624).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="89571-4" Disability Status [CUBS] (CONF:4537-33023).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.1" (CONF:4537-33024).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4537-32625).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4537-32626).
6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:4537-32627).
7. **SHALL** contain exactly one [1..1] **value**, which **MAY** be selected from ValueSet CUBS Disability urn:oid:1.3.6.1.4.1.12009.10.1.3932 **DYNAMIC** (CONF:4537-32628).
8. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4537-32629) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" has component (CONF:4537-32631).
 - b. **SHALL** contain exactly one [1..1] Assessment Scale Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.69:2022-06-01) (CONF:4537-32630).
 - i. A system **MAY** record the six-item set of questions and their answers options from the American Community Survey (ACS) in the Assessment Scale Observation using the Disability Status Assessment value set (CONF:4537-33057).

Table 45: CUBS_Disability

Value Set: CUBS_Disability urn:oid:1.3.6.1.4.1.12009.10.1.3932 This set of values is the LOINC Answer List for the LOINC Code "Comprehensive Universal Behavior Health Screen (CUBS)© "89571-4 Disability status [CUBS] Value Set Source: https://loinc.org/LL5052-7/			
Code	Code System	Code System OID	Print Name
LA29240-1	LOINC	urn:oid:2.16.840.1.113883.6.1	I'm Thriving - no identified disability
LA29241-9	LOINC	urn:oid:2.16.840.1.113883.6.1	I'm Building Capacity - I have an asymptomatic condition controlled by services or medication
LA29242-7	LOINC	urn:oid:2.16.840.1.113883.6.1	I'm Safe - I rarely have acute or chronic symptoms affecting housing, employment, social interactions, etc
LA29243-5	LOINC	urn:oid:2.16.840.1.113883.6.1	I'm Vulnerable - I sometimes or periodically have acute or chronic symptoms affecting housing, employment, social interactions, etc.
LA29244-3	LOINC	urn:oid:2.16.840.1.113883.6.1	I'm in Crisis - acute or chronic symptoms affecting housing, employment, social interactions, etc.
...			

Figure 29: Disability Status Observation

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.505" extension="2023-05-01"/>
  <code code="89571-4" displayName="Disability Status [CUBS]"
codeSystem="2.16.840.1.113883.6.1"/>
  <statusCode code="completed"/>
  <effectiveTime value="20221111"/>
  <!-- From LOINC Answer Set associated with Disability Status [CUBS] -->
  <value code="LA29243-5" displayName="I'm Vulnerable - I sometimes or periodically have
acute or chronic symptoms affecting housing, employment, social interactions, etc."
codeSystem="2.16.840.1.113883.6.1"/>
  <!-- May contain anAssessment Scale template With Assessment Scale observation
containing the 6 disability related questions as required by Section 4302 of the Affordable
Care Act -->
  <entryRelationship typeCode="COMP">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.69" extension="2022-06-01"/>
      <id root="c6b5a04b-2bf4-49d1-8336-636a3813df0b"/>
      <code code="69919-9" displayName="Race, ethnicity, sex, primary language,
disability - Health and Human Services (HHS) panel [HHS.ACA Section 4302]"
codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
      <statusCode code="completed"/>
      <effectiveTime value="20120214"/>
      <value nullFlavor="NA"/>
      <entryRelationship typeCode="COMP">
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.86"/>
          <id root="f4dce790-8328-11db-9fe1-0800200c9a44"/>
          <code code="69856-3" displayName="Are you deaf, or do you have serious
difficulty hearing?" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
          <statusCode code="completed"/>
          <value xsi:type="CD" code="LA33-6" displayName="Yes"
codeSystem="2.16.840.1.113883.6.1"/>
        </observation>
      </entryRelationship>
    </entryRelationship typeCode="COMP">
      <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.86"/>
        <id root="f4dce790-8328-11db-9fe1-0800200c9a44"/>
        <code code="69857-1" displayName="Are you blind, or do you have serious
difficulty seeing, even when wearing glasses?" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC"/>
        <statusCode code="completed"/>
        <value xsi:type="CD" code="LA33-6" displayName="Yes"
codeSystem="2.16.840.1.113883.6.1"/>
      </observation>
    </entryRelationship>
  </entryRelationship typeCode="COMP">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.86"/>
      <id root="f4dce790-8328-11db-9fe1-0800200c9a44"/>
      <code code="69858-9" displayName="Because of a physical, mental, or
emotional condition, do you have serious difficulty concentrating, remembering, or making
decisions??" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
      <statusCode code="completed"/>
```

```

        <value xsi:type="CD" code="LA33-6" displayName="Yes"
codeSystem="2.16.840.1.113883.6.1"/>
      </observation>
    </entryRelationship>
    <entryRelationship typeCode="COMP">
      <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.86"/>
        <id root="f4dce790-8328-11db-9fe1-0800200c9a44"/>
        <code code="69859-7" displayName="Do you have serious difficulty
walking or climbing stairs?" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
        <statusCode code="completed"/>
        <value xsi:type="CD" code="LA33-6" displayName="Yes"
codeSystem="2.16.840.1.113883.6.1"/>
      </observation>
    </entryRelationship>
    <entryRelationship typeCode="COMP">
      <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.86"/>
        <id root="f4dce790-8328-11db-9fe1-0800200c9a44"/>
        <code code="69860-5" displayName="Do you have difficulty dressing or
bathing?" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
        <statusCode code="completed"/>
        <value xsi:type="CD" code="LA33-6" displayName="Yes"
codeSystem="2.16.840.1.113883.6.1"/>
      </observation>
    </entryRelationship>
    <entryRelationship typeCode="COMP">
      <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.86"/>
        <id root="f4dce790-8328-11db-9fe1-0800200c9a44"/>
        <code code="69861-3" displayName="Because of a physical, mental, or
emotional condition, do you have difficulty doing errands alone such as visiting a
physician's office or shopping?" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC"/>
        <statusCode code="completed"/>
        <value xsi:type="CD" code="LA33-6" displayName="Yes"
codeSystem="2.16.840.1.113883.6.1"/>
      </observation>
    </entryRelationship>
  </observation>
</observation>

```

3.10 Goal Observation (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.121:2022-06-01 (open)]

This template represents a patient health goal. A Goal Observation template may have related components that are acts, encounters, observations, procedures, substance administrations, or supplies. A goal identifies a future desired condition or state. Goals are often related to physical or mental health conditions or diseases, but also may be related to a Social Determinant of Health (SDOH) risks or states. For example, to have adequate quality meals and snacks, gain transportation security - able to access health and social needs). SDOH data relate to conditions in which people live,

learn, work, and play and their effects on health risks and outcomes. A Goal is established by the patient or provider.

A goal may be a patient or provider goal. If the author is set to the recordTarget (patient), this is a patient goal. If the author is set to a provider, this is a provider goal. If both patient and provider are set as authors, this is a negotiated goal.

A goal usually has a related health concern and/or risk.

A goal may have components consisting of other goals (milestones). These milestones are related to the overall goal through entryRelationships.

Table 46: Goal Observation (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.121:2022-06-01)					
@classCode	1..1	SHALL		4515-30418	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		4515-30419	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = GOL
templateId	1..1	SHALL		4515-8583	
@root	1..1	SHALL		4515-10512	2.16.840.1.113883.10.20.22.4.121
@extension	1..1	SHALL		4515-32886	2022-06-01
id	1..*	SHALL		4515-32332	
code	1..1	SHALL		4515-30784	urn:oid:2.16.840.1.113883.6.1 (LOINC)
statusCode	1..1	SHALL		4515-32333	
@code	1..1	SHALL		4515-32334	urn:oid:2.16.840.1.113883.1.11.15933 (ActStatus)
effectiveTime	0..1	SHOULD		4515-32335	
value	0..1	MAY		4515-32743	
author	0..*	SHOULD		4515-30995	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..*	MAY		4515-30701	
@typeCode	1..1	SHALL		4515-30702	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
act	1..1	SHALL		4515-30703	Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122)
entryRelationship	0..*	MAY		4515-30704	
@typeCode	1..1	SHALL		4515-30705	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
act	1..1	SHALL		4515-32879	Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122)
entryRelationship	0..1	SHOULD		4515-30785	

XPath	Card.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4515-30786	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-30787	Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143)
entryRelationship	0..*	MAY		4515-31448	
@typeCode	1..1	SHALL		4515-31449	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		4515-32880	Goal Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.121)
entryRelationship	0..*	MAY		4515-31559	
@typeCode	1..1	SHALL		4515-31560	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
act	1..1	SHALL		4515-31588	Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122)
reference	0..*	MAY		4515-32754	
@typeCode	1..1	SHALL		4515-32755	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
externalDocument	1..1	SHALL		4515-32756	External Document Reference (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.115:2014-06-09)

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:4515-30418).
2. **SHALL** contain exactly one [1..1] **@moodCode="GOL"** Goal (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4515-30419).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:4515-8583) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.121"** (CONF:4515-10512).
 - b. **SHALL** contain exactly one [1..1] **@extension="2022-06-01"** (CONF:4515-32886).
4. **SHALL** contain at least one [1..*] **id** (CONF:4515-32332).
5. **SHALL** contain exactly one [1..1] **code**, which **SHOULD** be selected from CodeSystem LOINC (urn:oid:2.16.840.1.113883.6.1) (CONF:4515-30784).
 - a. When the Goal is Social Determinant of Health Goal, the observation/code **SHOULD** contain exactly one [1..1] code, which **SHOULD** contain exactly one [1..1]

@code="8689-2 "History of Social function" This code **SHALL** contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.1" (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:4515-32887).

6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4515-32333).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code, which **SHALL** be selected from ValueSet ActStatus urn:oid:2.16.840.1.113883.1.11.15933 **STATIC** (CONF:4515-32334).
7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:4515-32335).
8. **MAY** contain zero or one [0..1] **value** (CONF:4515-32743).
 - a. When the Goal is Social Determinant of Health Goal, the observation/value **SHOULD** be selected from ValueSet Social Determinant of Health Goals**DYNAMIC** (CONF:4515-32963).

If the author is the recordTarget (patient), this is a patient goal. If the author is a provider, this is a provider goal. If both patient and provider are authors, this is a negotiated goal. If no author is present, it is assumed the document or section author(s) is the author of this goal.

9. **SHOULD** contain zero or more [0..*] Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:4515-30995).

The following entryRelationship represents the relationship between a Goal Observation and a Health Concern Act (Goal Observation REFERS TO Health Concern Act). As Health Concern Act is already defined in Health Concerns Section, rather than clone the whole Health Concern Act template, an Entry Reference may be used in entryRelationship to refer the template.

10. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-30701) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-30702).
 - b. **SHALL** contain exactly one [1..1] Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122) (CONF:4515-30703).

The following entryRelationship represents a planned component of the goal such as Planned Encounter (V2), Planned Observation (V2), Planned Procedure (V2), Planned Medication Activity (V2), Planned Supply (V2), Planned Act (V2) or Planned Immunization Activity. Because these entries are already described in the Interventions Section of the CDA document instance, rather than repeating the full content of the entries, the Entry Reference template may be used to reference the entries.

11. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-30704) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-30705).
 - b. **SHALL** contain exactly one [1..1] Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122) (CONF:4515-32879).

The following entryRelationship represents the priority that the patient or a provider puts on the goal.

12. **SHOULD** contain zero or one [0..1] **entryRelationship** (CONF:4515-30785) such that it

- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-30786).
- b. **SHALL** contain exactly one [1..1] Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143) (CONF:4515-30787).

The following entryRelationship represents the relationship between two Goal Observations where the target is a component of the source (Goal Observation HAS COMPONENT Goal Observation). The component goal (target) is a Milestone.

- 13. **MAY** contain zero or more [0..*] entryRelationship (CONF:4515-31448) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31449).
 - b. **SHALL** contain exactly one [1..1] Goal Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.121) (CONF:4515-32880).

Where a Goal Observation needs to reference another entry already described in the CDA document instance, rather than repeating the full content of the entry, the Entry Reference template may be used to reference this entry.

- 14. **MAY** contain zero or more [0..*] entryRelationship (CONF:4515-31559) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31560).
 - b. **SHALL** contain exactly one [1..1] Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122) (CONF:4515-31588).

Where it is necessary to reference an external clinical document such a Referral document, Discharge Summary document etc., the External Document Reference template can be used to reference this document. However, if this Care Plan document is replacing or appending another Care Plan document in the same set, that relationship is set in the header, using ClinicalDocument/relatedDocument.

- 15. **MAY** contain zero or more [0..*] reference (CONF:4515-32754).
 - a. The reference, if present, **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-32755).
 - b. The reference, if present, **SHALL** contain exactly one [1..1] External Document Reference (identifier: urn:h17ii:2.16.840.1.113883.10.20.22.4.115:2014-06-09) (CONF:4515-32756).

Figure 30: Goal Observation Example

```
<observation classCode="OBS" moodCode="GOL">
  <templateId root="2.16.840.1.113883.10.20.22.4.121" />
  <templateId root="2.16.840.1.113883.10.20.22.4.121" extension="2022-06-01" />
  <id root="3700b3b0-fbed-11e2-b778-0800200c9a66" />
  <code code="59408-5"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="Oxygen saturation in Arterial blood by Pulse oximetry" />
  <statusCode code="active" />
  <effectiveTime value="20130902" />
  <value xsi:type="IVL_PQ">
    <low value="92" unit="%" />
  </value>
  <!--
  If the author is set to the recordTarget (patient), this is a patient goal.
  If the author is set to a provider, this is a provider goal.
  If both patient and provider are set as authors, this is a negotiated goal.
-->
  <!-- Provider Author -->
  <author>
    <templateId root="2.16.840.1.113883.10.20.22.4.119" />
    ...
  </author>
  <!-- Patient Author -->
  <author typeCode="AUT">
    <templateId root="2.16.840.1.113883.10.20.22.4.119" />
    ...
  </author>
  <!-- This entryRelationship represents the relationship "Goal REFERS TO Health Concern"
-->
  <entryRelationship typeCode="REFR">
    <!-- Entry Reference Concern Act -->
    <act classCode="ACT" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.122" />
      <!-- This id points to an already defined Health Concern in the Health Concerns
Section -->
      <id root="4eab0e52-dd7d-4285-99eb-72d32ddb195c" />
      ...
    </act>
  </entryRelationship>
  <!-- Priority Preference -->
  <entryRelationship typeCode="RSON">
    <!-- Priority Preference - this is the preference that the patient
(specified by the Author Participation template) places on the Goal -->
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.143" />
      ...
    </observation>
  </entryRelationship>
  <!-- Priority Preference - this is the preference that the provider
(specified by the Author Participation template) places on the Goal -->
  <entryRelationship typeCode="RSON">
    <!-- Priority Preference -->
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.143" />
```

```

...
    </observation>
  </entryRelationship>
</observation>

```

Figure 31: Social Determinant of Health Goal Example

```

<entry>
  <observation classCode="OBS" moodCode="GOL">
    <templateId root="2.16.840.1.113883.10.20.22.4.121" />
    <templateId root="2.16.840.1.113883.10.20.22.4.121" extension="2022-06-01"/>
    <id extension="3241" root="1.2.840.114350.1.13.6289.1.7.2.737179"/>
    <code code="8689-2" displayName="History of Social function"
codeSystem="2.16.840.1.113883.5.61" codeSystemName="LOINC">
      <originalText>
        <reference value="#goal1"/>
      </originalText>
    </code>
    <statusCode code="active"/>
    <effectiveTime>
      <!-- The effectiveTime/low indicates the desired "Achieve by" date -->
      <low value="20220814"/>
      <high nullFlavor="NI"/>
      <value xsi:type="CD" code="1078229009" displayName="Food security (finding)"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"/>
    </effectiveTime>
  </observation>
</entry>

```

Figure 32: Social Determinant of Health Text Goal Example

```
<component>
  <section>
    <!-- Goals Section -->
    <templateId root="2.16.840.1.113883.10.20.22.2.60"/>
    <code code="61146-7" displayName="Goals" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC"/>
    <title>Goals Section</title>
    <text>
      <paragraph ID="Goals">Patient wants to move into Cherry Street subsidized
housing</paragraph>
    </text>
    <entry>
      <!-- Goal Observation -->
      <observation classCode="OBS" moodCode="GOL">
        <!-- Goal Observation -->
        <templateId root="2.16.840.1.113883.10.20.22.4.121"/>
        <templateId root="2.16.840.1.113883.10.20.22.4.121" extension="2022-06-
01"/>
          extension="2022-06-01"/>
        <!-- If you have an id for your goal, include here -->
        <id nullFlavor="UNK"/>
        <code nullFlavor="UNK"/>
        <text>
          <reference value="#Goals"></reference>
        </text>
        <statusCode code="active"/>
        <!-- Author could be included to indicate a patient authored goal or a
provider different than the document or section author. -->
      </observation>
    </entry>
  </section>
</component>
```

3.11 Health Concern Act (V3)

```
[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.132:2022-06-01
(open)]
```

This template represents a health concern.

It is a wrapper for a single health concern which may be derived from a variety of sources within an EHR (such as Problem List, Family History, Social History, Social Worker Note, etc.).

A Health Concern Act is used to track non-optimal physical or psychological situations drawing the patient to the healthcare system. These may be from the perspective of the care team or from the perspective of the patient.

When the underlying condition is of concern (i.e., as long as the condition, whether active or resolved, is of ongoing concern and interest), the statusCode is “active”. Only when the underlying condition is no longer of concern is the statusCode set to “completed”. The effectiveTime reflects the time that the underlying condition was felt to be a concern; it may or may not correspond to the effectiveTime of the condition (e.g., even five years later, a prior heart attack may remain a concern).

Health concerns require intervention(s) to increase the likelihood of achieving the goals of care for the patient and they specify the condition oriented reasons for creating the plan.

Table 47: Health Concern Act (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.132:2022-06-01)					
@classCode	1..1	SHALL		4515-30750	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		4515-30751	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4515-30752	
@root	1..1	SHALL		4515-30753	2.16.840.1.113883.10.20.22.4.132
@extension	1..1	SHALL		4515-32861	2022-06-01
id	1..*	SHALL		4515-30754	
code	1..1	SHALL		4515-32310	
@code	1..1	SHALL		4515-32311	75310-3
@codeSystem	1..1	SHALL		4515-32312	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		4515-30758	
@code	1..1	SHALL		4515-32313	urn:oid:2.16.840.1.113883.11.20.9.19 (ProblemAct statusCode)
effectiveTime	0..1	MAY		4515-30759	
author	0..*	SHOULD		4515-31546	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..*	MAY		4515-30761	
@typeCode	1..1	SHALL		4515-30762	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-31001	Problem Observation (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.4:2015-08-01)
entryRelationship	0..*	MAY		4515-31007	
@typeCode	1..1	SHALL		4515-31008	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR

XPath	Card.	Verb	Data Type	CONF#	Value
observation	1..1	SHALL		4515-31186	Allergy - Intolerance Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.7:2014-06-09)
entryRelationship	0..*	MAY		4515-31157	
@typeCode	1..1	SHALL		4515-31158	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
act	1..1	SHALL		4515-32106	Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122)
entryRelationship	0..*	MAY		4515-31160	
@typeCode	1..1	SHALL		4515-31161	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
act	1..1	SHALL		4515-32107	Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122)
entryRelationship	0..*	MAY		4515-31190	
@typeCode	1..1	SHALL		4515-31191	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-31192	Assessment Scale Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.69)
entryRelationship	0..*	MAY		4515-31232	
@typeCode	1..1	SHALL		4515-31264	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-31265	Self-Care Activities (ADL and IADL) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.128)
entryRelationship	0..*	MAY		4515-31234	
@typeCode	1..1	SHALL		4515-31268	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-31273	Mental Status Observation (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.74:2015-08-01)
entryRelationship	0..*	MAY		4515-	

XPath	Card.	Verb	Data Type	CONF#	Value
				31235	
@typeCode	1..1	SHALL		4515-31269	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-31275	Smoking Status - Meaningful Use (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.78:2014-06-09)
entryRelationship	0..*	MAY		4515-31236	
@typeCode	1..1	SHALL		4515-31270	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
act	1..1	SHALL		4515-31277	Encounter Diagnosis (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.80:2015-08-01)
entryRelationship	0..*	MAY		4515-31237	
@typeCode	1..1	SHALL		4515-31279	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
organizer	1..1	SHALL		4515-31280	Family History Organizer (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.45:2015-08-01)
entryRelationship	0..*	MAY		4515-31238	
@typeCode	1..1	SHALL		4515-31282	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-31283	Functional Status Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.67:2014-06-09)
entryRelationship	0..*	MAY		4515-31241	
@typeCode	1..1	SHALL		4515-31291	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
act	1..1	SHALL		4515-31292	Hospital Admission Diagnosis (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.34:2015-08-01)
entryRelationship	0..*	MAY		4515-31244	
@typeCode	1..1	SHALL		4515-31300	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType)

XPath	Card.	Verb	Data Type	CONF#	Value
					= REFR
observation	1..1	SHALL		4515-31301	Nutrition Assessment (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.138
entryRelationship	0..*	MAY		4515-31246	
@typeCode	1..1	SHALL		4515-31306	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
act	1..1	SHALL		4515-31307	Postprocedure Diagnosis (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.51:2015-08-01
entryRelationship	0..*	MAY		4515-31247	
@typeCode	1..1	SHALL		4515-31309	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-31310	Pregnancy Observation (identifier: urn:oid:2.16.840.1.113883.10.20.15.3.8
entryRelationship	0..*	MAY		4515-31248	
@typeCode	1..1	SHALL		4515-31312	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
act	1..1	SHALL		4515-31313	Preoperative Diagnosis (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.65:2015-08-01
entryRelationship	0..*	MAY		4515-31250	
@typeCode	1..1	SHALL		4515-31318	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-31319	Reaction Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.9:2014-06-09
entryRelationship	0..*	MAY		4515-31251	
@typeCode	1..1	SHALL		4515-31321	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-31322	Result Observation (V3) (identifier:

XPath	Card.	Verb	Data Type	CONF#	Value
					urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01
entryRelationship	0..*	MAY		4515-31252	
@typeCode	1..1	SHALL		4515-31324	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-31325	Sensory Status (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.127
entryRelationship	0..*	MAY		4515-31253	
@typeCode	1..1	SHALL		4515-31327	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-31328	Social History Observation (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.38:2015-08-01
entryRelationship	0..*	MAY		4515-31254	
@typeCode	1..1	SHALL		4515-32961	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-31331	Substance or Device Allergy - Intolerance Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.90:2014-06-09
entryRelationship	0..*	MAY		4515-31255	
@typeCode	1..1	SHALL		4515-31333	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-31334	Tobacco Use (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.85:2014-06-09
entryRelationship	0..*	MAY		4515-31256	
@typeCode	1..1	SHALL		4515-31336	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-31337	Vital Sign Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.27:2014-06-09
entryRelationship	0..*	MAY		4515-31257	

XPath	Card.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4515-31339	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-31340	Longitudinal Care Wound Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.114:2015-08-01
entryRelationship	0..*	MAY		4515-31365	
@typeCode	1..1	SHALL		4515-31366	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SPRT
observation	1..1	SHALL		4515-31367	Problem Observation (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.4:2015-08-01
entryRelationship	0..*	MAY		4515-31368	
@typeCode	1..1	SHALL		4515-31369	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-31370	Caregiver Characteristics (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.72
entryRelationship	0..*	MAY		4515-31371	
@typeCode	1..1	SHALL		4515-31372	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-31373	Cultural and Religious Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.111
entryRelationship	0..*	MAY		4515-31374	
@typeCode	1..1	SHALL		4515-31375	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-31376	Characteristics of Home Environment (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.109
entryRelationship	0..*	MAY		4515-31377	
@typeCode	1..1	SHALL		4515-31378	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR

XPath	Card.	Verb	Data Type	CONF#	Value
observation	1..1	SHALL		4515-31379	Nutritional Status Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.124
entryRelationship	0..*	MAY		4515-31380	
@typeCode	1..1	SHALL		4515-31381	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
organizer	1..1	SHALL		4515-31382	Result Organizer (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.1:2015-08-01
entryRelationship	0..*	MAY		4515-31442	
@typeCode	1..1	SHALL		4515-31443	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-31444	Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143
entryRelationship	0..*	MAY		4515-31549	
@typeCode	1..1	SHALL		4515-31550	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
act	1..1	SHALL		4515-31551	Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122
reference	0..*	MAY		4515-32757	
@typeCode	1..1	SHALL		4515-32758	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
externalDocument	1..1	SHALL		4515-32759	External Document Reference (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.115:2014-06-09

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:4515-30750).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4515-30751).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:4515-30752) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.132" (CONF:4515-30753).

- b. **SHALL** contain exactly one [1..1] **@extension**="2022-06-01" (CONF:4515-32861).
- 4. **SHALL** contain at least one [1..*] **id** (CONF:4515-30754).
- 5. **SHALL** contain exactly one [1..1] **code** (CONF:4515-32310).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="75310-3" Health Concern (CONF:4515-32311).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.1" (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:4515-32312).
- 6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4515-30758).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet [ProblemAct statusCode](#) urn:oid:2.16.840.1.113883.11.20.9.19 **STATIC** (CONF:4515-32313).
- 7. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4515-30759).

A health concern may be a patient or provider concern. If the author is set to the recordTarget (patient), this is a patient concern. If the author is set to a provider, this is a provider concern. If both patient and provider are set as authors, this is a concern of both the patient and the provider.

- 8. **SHOULD** contain zero or more [0..*] Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:4515-31546).
- 9. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-30761) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-30762).
 - b. **SHALL** contain exactly one [1..1] Problem Observation (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.4:2015-08-01) (CONF:4515-31001).
- 10. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31007) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31008).
 - b. **SHALL** contain exactly one [1..1] Allergy - Intolerance Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.7:2014-06-09) (CONF:4515-31186).

The following entryRelationship represents the relationship between two Health Concern Acts where there is a general relationship between the source and the target (Health Concern REFERS TO Health Concern). For example, a patient has 2 health concerns identified in a CARE Plan: Failure to Thrive and Poor Feeding, while it could be that one may have caused the other, at the time of care planning and documentation it is not necessary, nor desirable to have to assert what caused what. The Entry Reference template is used here because the target Health Concern Act will be defined elsewhere in the Health Concerns Section and thus a reference to that template is all that is required.

- 11. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31157) such that it

- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31158).
- b. **SHALL** contain exactly one [1..1] Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122) (CONF:4515-32106).
 - i. The Entry Reference template **SHALL** contain an id that references a Health Concern Act (CONF:4515-32860).

The following entryRelationship represents the relationship between two Health Concern Acts where the target is a component of the source (Health Concern HAS COMPONENT Health Concern). For example, a patient has an Impaired Mobility Health Concern. There may then be the need to document several component health concerns, such as "Unable to Transfer Bed to Chair", "Unable to Rise from Commode", "Short of Breath Walking with Walker". The Entry Reference template is used here because the target Health Concern Act will be defined elsewhere in the Health Concerns Section and thus a reference to that template is all that is required.

- 12. **MAY** contain zero or more [0..*] entryRelationship (CONF:4515-31160) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31161).
 - b. **SHALL** contain exactly one [1..1] Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122) (CONF:4515-32107).
 - i. The Entry Reference template **SHALL** contain an id that references a Health Concern Act (CONF:4515-32745).
- 13. **MAY** contain zero or more [0..*] entryRelationship (CONF:4515-31190) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31191).
 - b. **SHALL** contain exactly one [1..1] Assessment Scale Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.69) (CONF:4515-31192).
- 14. **MAY** contain zero or more [0..*] entryRelationship (CONF:4515-31232) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31264).
 - b. **SHALL** contain exactly one [1..1] Self-Care Activities (ADL and IADL) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.128) (CONF:4515-31265).
- 15. **MAY** contain zero or more [0..*] entryRelationship (CONF:4515-31234) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31268).
 - b. **SHALL** contain exactly one [1..1] Mental Status Observation (V3) (identifier: urn:h17ii:2.16.840.1.113883.10.20.22.4.74:2015-08-01) (CONF:4515-31273).
- 16. **MAY** contain zero or more [0..*] entryRelationship (CONF:4515-31235) such that it

- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31269).
 - b. **SHALL** contain exactly one [1..1] Smoking Status - Meaningful Use (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.78:2014-06-09) (CONF:4515-31275).
- 17. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31236) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31270).
 - b. **SHALL** contain exactly one [1..1] Encounter Diagnosis (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.80:2015-08-01) (CONF:4515-31277).
- 18. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31237) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers To (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31279).
 - b. **SHALL** contain exactly one [1..1] Family History Organizer (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.45:2015-08-01) (CONF:4515-31280).
- 19. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31238) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31282).
 - b. **SHALL** contain exactly one [1..1] Functional Status Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.67:2014-06-09) (CONF:4515-31283).
- 20. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31241) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31291).
 - b. **SHALL** contain exactly one [1..1] Hospital Admission Diagnosis (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.34:2015-08-01) (CONF:4515-31292).
- 21. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31244) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31300).
 - b. **SHALL** contain exactly one [1..1] Nutrition Assessment (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.138) (CONF:4515-31301).
- 22. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31246) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31306).

- b. **SHALL** contain exactly one [1..1] Postprocedure Diagnosis (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.51:2015-08-01) (CONF:4515-31307).
- 23. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31247) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31309).
 - b. **SHALL** contain exactly one [1..1] Pregnancy Observation (identifier: urn:oid:2.16.840.1.113883.10.20.15.3.8) (CONF:4515-31310).
- 24. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31248) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31312).
 - b. **SHALL** contain exactly one [1..1] Preoperative Diagnosis (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.65:2015-08-01) (CONF:4515-31313).
- 25. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31250) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31318).
 - b. **SHALL** contain exactly one [1..1] Reaction Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.9:2014-06-09) (CONF:4515-31319).
- 26. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31251) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31321).
 - b. **SHALL** contain exactly one [1..1] Result Observation (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01) (CONF:4515-31322).
- 27. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31252) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31324).
 - b. **SHALL** contain exactly one [1..1] Sensory Status (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.127) (CONF:4515-31325).
- 28. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31253) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31327).
 - b. **SHALL** contain exactly one [1..1] Social History Observation (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.38:2015-08-01) (CONF:4515-31328).
- 29. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31254) such that it

- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-32961).
 - b. **SHALL** contain exactly one [1..1] Substance or Device Allergy - Intolerance Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.90:2014-06-09) (CONF:4515-31331).
30. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31255) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31333).
 - b. **SHALL** contain exactly one [1..1] Tobacco Use (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.85:2014-06-09) (CONF:4515-31334).
31. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31256) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31336).
 - b. **SHALL** contain exactly one [1..1] Vital Sign Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.27:2014-06-09) (CONF:4515-31337).
32. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31257) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31339).
 - b. **SHALL** contain exactly one [1..1] Longitudinal Care Wound Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.114:2015-08-01) (CONF:4515-31340).

The following entryRelationship represents the relationship Health Concern HAS SUPPORT Observation.

33. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31365) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="SPRT" Has support (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31366).
 - b. **SHALL** contain exactly one [1..1] Problem Observation (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.4:2015-08-01) (CONF:4515-31367).
34. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31368) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31369).
 - b. **SHALL** contain exactly one [1..1] Caregiver Characteristics (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.72) (CONF:4515-31370).
35. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31371) such that it

- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31372).
 - b. **SHALL** contain exactly one [1..1] Cultural and Religious Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.111) (CONF:4515-31373).
36. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31374) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31375).
 - b. **SHALL** contain exactly one [1..1] Characteristics of Home Environment (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.109) (CONF:4515-31376).
37. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31377) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31378).
 - b. **SHALL** contain exactly one [1..1] Nutritional Status Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.124) (CONF:4515-31379).
38. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31380) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31381).
 - b. **SHALL** contain exactly one [1..1] Result Organizer (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.1:2015-08-01) (CONF:4515-31382).

The following entryRelationship represents the priority that the patient or a provider puts on the health concern.

39. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31442) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31443).
 - b. **SHALL** contain exactly one [1..1] Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143) (CONF:4515-31444).

Where a Health Concern needs to reference another entry already described in the CDA document instance, rather than repeating the full content of the entry, the Entry Reference template may be used to reference this entry.

40. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31549) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31550).
 - b. **SHALL** contain exactly one [1..1] Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122) (CONF:4515-31551).

Where it is necessary to reference an external clinical document such as a Referral document, Discharge Summary document etc., the External Document Reference template can be used to

reference this document. However, if this Care Plan document is replacing or appending another Care Plan document in the same set, that relationship is set in the header, using ClinicalDocument/relatedDocument.

41. **MAY** contain zero or more [0..*] **reference** (CONF:4515-32757).
- a. The reference, if present, **SHALL** contain exactly one [1..1] @**typeCode**="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-32758).
 - b. The reference, if present, **SHALL** contain exactly one [1..1] External Document Reference (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.115:2014-06-09) (CONF:4515-32759).
42. When this Health Concern Act is a Social Determinant of Health Health Concern it **SHOULD** contain zero or more [0..*] entryRelationship subentries such that it contains an observation with an observation/value selected from ValueSet [Social Determinant of Health Conditions 2.16.840.1.113762.1.4.1196.788](#)**DYNAMIC** (CONF:4515-32962).

Table 48: ProblemAct statusCode

Value Set: ProblemAct statusCode urn:oid:2.16.840.1.113883.11.20.9.19 A ValueSet of HL7 actStatus codes for use on the concern act Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.9.19/expansion			
Code	Code System	Code System OID	Print Name
completed	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	Completed
aborted	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	Aborted
active	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	Active
suspended	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	Suspended

Figure 33: Health Concern Act Example

```
<act classCode="ACT" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.132" />
  <templateId root="2.16.840.1.113883.10.20.22.4.132" extension="2015-08-01"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.132" extension="2022-06-01"/>
  <id root="4eab0e52-dd7d-4285-99eb-72d32ddb195c" />
  <code code="75310-3"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="Health Concern" />
  <!-- This Health Concern has a statusCode of active because it is an active concern -->
  <statusCode code="active" />
  <!-- The effective time is the date that the Health Concern started being followed -
  this does not necessarily correlate to the onset date of the contained health issues-->
  <effectiveTime value="20130616" />
  <!-- Health Concern: Current every day smoker-->
  <entryRelationship typeCode="REFR">
    <!-- Tobacco Use (V2) -->
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.85" extension="2014-06-09" />
      ...
    </observation>
  </entryRelationship>
  <!-- Health Concern Problem: Respiratory insufficiency -->
  <entryRelationship typeCode="REFR">
    <!-- Problem Observation (V2) -->
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.4" extension="2015-08-01" />
      ...
    </observation>
  </entryRelationship>
  <!-- Health Concern Diagnosis: Pneumonia -->
  <entryRelationship typeCode="REFR">
    <!-- Problem Observation (V2) -->
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.4" extension="2015-08-01" />
      ...
    </observation>
  </entryRelationship>
  <!--
    This is an entry relationship of the SPRT (support) type which shows
    that the productive cough supports the Health Concern (Problem: Respiratory
    Insufficiency and Diagnosis: Pneumonia
    This entryRelationship represents the relationship:
    Health Concern HAS SUPPORT Observation
  -->
  <entryRelationship typeCode="SPRT">
    <!-- Problem Observation (V2) -->
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.4" extension="2015-08-01" />
      ...
    </observation>
  </entryRelationship>
  <!-- Priority Preference -->
  <entryRelationship typeCode="RSON">
    <!-- Priority Preference - this is the preference that the patient
```

```

    (specified by the Author Participation template)
    places on the Health Concern -->
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.143" />
    ...
    </observation>
  </entryRelationship>
  <!-- Priority Preference - this is the preference that the provider
  (specified by the Author Participation template)
  places on the Health Concern -->
  <entryRelationship typeCode="RSON">
    <!-- Priority Preference -->
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.143" />
    ...
    </observation>
  </entryRelationship>
</act>

```

Figure 34: Health Concern Act wrapping Social Determinant of Health Problem Observation Example

```
<!-- The Health Concern act -->
<act classCode="ACT" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.132"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.132"
    extension="2015-08-01"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.132"
    extension="2022-06-01"/>
  <id root="1.3.6.1.4.1.22812.4.222.334.4.32" extension="1148128"/>
  <code code="75310-3" displayName="Health concerns Document"
    codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
  <statusCode code="active"/>
  <entryRelationship typeCode="REFR">
    <!-- The Health Concern's (SDOH) Problem Observation wrapped by the Health Concern
act -->
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.4"
        extension="2015-08-01"/>
      <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
      <id extension="1148128"
        root="1.3.6.1.4.1.22812.4.222.334.4.1.2.1"/>
      <code code="404684003"
        displayName="Clinical Finding (finding)"
        codeSystem="2.16.840.1.113883.6.96"
        codeSystemName="SNOMED CT">
        <translation code="75321-0"
          displayName="Clinical Finding"
          codeSystem="2.16.840.1.113883.6.1"
          codeSystemName="LOINC"/>
      </code>
      <text>
        <reference
          value="#_delab32d-dd06-40c0-b7c2-5fed94e4ecd6"/>
      </text>
      <statusCode code="completed"/>
      <effectiveTime xsi:type="IVL_TS">
        <low value="20180701"/>
        <!-- The high value has a nullFlavor of "NI" (No Information) because it is
an ongoing finding -->
        <high nullFlavor="NI"/>
      </effectiveTime>
      <value xsi:type="CD" code="733423003"
        displayName="Food insecurity (finding)"
        codeSystem="2.16.840.1.113883.6.96"
        codeSystemName="SNOMED CT">
        <originalText>
          <reference value="#_HealthConcern1"/>
        </originalText>
      </value>
    </observation>
  </entryRelationship>
</act>
```

3.12 Indication (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2023-05-01
(open)]

This template represents the rationale for an action such as an encounter, a medication administration, or a procedure. The id element can be used to reference a problem recorded elsewhere in the document, or can be used with a code and value to record the problem. Indications for treatment are not laboratory results; rather the problem associated with the laboratory result should be cited (e.g., hypokalemia instead of a laboratory result of Potassium 2.0 mEq/L). Use the Drug Monitoring Act [templateId 2.16.840.1.113883.10.20.22.4.123] to indicate if a particular drug needs special monitoring (e.g., anticoagulant therapy). Use Precondition for Substance Administration (V2) [templateId 2.16.840.1.113883.10.20.22.4.25.2] to represent that a medication is to be administered only when the associated criteria are met.

Table 49: Indication (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2023-05-01)					
@classCode	1..1	SHALL		4537-7480	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		4537-7481	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4537-7482	
@root	1..1	SHALL		4537-10502	2.16.840.1.113883.10.20.22.4.19
@extension	1..1	SHALL		4537-32570	2023-05-01
id	1..*	SHALL		4537-7483	
code	1..1	SHALL		4537-31229	urn:oid:2.16.840.1.113883.3.88.12.3221.7.2 (Problem Type (SNOMEDCT))
statusCode	1..1	SHALL		4537-7487	
@code	1..1	SHALL		4537-19105	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	SHOULD		4537-7488	
value	0..1	MAY	CD	4537-7489	urn:oid:2.16.840.1.113883.3.88.12.3221.7.4 (Problem)
translation	0..*	MAY		4537-32975	
@code	1..1	SHALL		4537-32976	urn:oid:2.16.840.1.113883.6.90 (ICD-10-CM)

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4537-7480).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4537-7481).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:4537-7482) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.19"** (CONF:4537-10502).
 - b. **SHALL** contain exactly one [1..1] **@extension="2023-05-01"** (CONF:4537-32570).
4. **SHALL** contain at least one [1..*] **id** (CONF:4537-7483).
 Note: If the id element is used to reference a problem recorded elsewhere in the document then this id must equal another entry/id in the same document instance. Application Software must be responsible for resolving the identifier back to its original object and then rendering the information in the correct place in the containing section's narrative text. Its purpose is to obviate the need to repeat the complete XML representation of the referred to entry when relating one entry to another.
5. **SHALL** contain exactly one [1..1] **code**, which **MAY** be selected from ValueSet [Problem Type \(SNOMEDCT\)](#) urn:oid:2.16.840.1.113883.3.88.12.3221.7.2 **DYNAMIC** (CONF:4537-31229).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4537-7487).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:4537-19105).
7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:4537-7488).

If the ID element does not reference a problem recorded elsewhere in the document, then observation/value must be populated with a coded entry.

8. **MAY** contain zero or one [0..1] **value** with **@xsi:type="CD"**, where the code **MAY** be selected from ValueSet [Problem](#) urn:oid:2.16.840.1.113883.3.88.12.3221.7.4 **DYNAMIC** (CONF:4537-7489).
 - a. The value, if present, **MAY** contain zero or more [0..*] **translation** (CONF:4537-32975) such that it
 - i. **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from CodeSystem ICD-10-CM (urn:oid:2.16.840.1.113883.6.90) **DYNAMIC** (CONF:4537-32976).

Table 50: Problem

Value Set: Problem urn:oid:2.16.840.1.113883.3.88.12.3221.7.4 (Clinical Focus: A pathology or disorder identified in a patient),(Data Element Scope: Observations),(Inclusion Criteria: Limited to terms descending from the Clinical Findings (404684003) or Situation with Explicit Context (243796009) hierarchies.),(Exclusion Criteria: any concept not in the hierarchies specified) This value set was imported on 6/26/2019 with a version of 20190426. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.3.88.12.3221.7.4/expansion			
Code	Code System	Code System OID	Print Name
10000006	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Radiating chest pain (finding)
10001005	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Bacterial sepsis (disorder)
10007009	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Coffin-Siris syndrome (disorder)
1001000119102	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Pulmonary embolism with pulmonary infarction (disorder)
1001000124104	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Normal left ventricular systolic function (finding)
10017004	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Occlusal wear of teeth (disorder)
100191000119105	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Asymmetry of prostate (finding)
100211000119106	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Muscle spasm of thoracic back (disorder)
100231000119101	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Acquired pericardial cyst (disorder)
10028000	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Uncomplicated sedative, hypnotic AND/OR anxiolytic withdrawal (disorder)
...			

Table 51: Problem Type (SNOMEDCT)

Value Set: Problem Type (SNOMEDCT) urn:oid:2.16.840.1.113883.3.88.12.3221.7.2 (Clinical Focus: A problem observation categorization of the condition as represented in the SNOMED CT code system.), (Data Element Scope: Problem Observation), (Inclusion Criteria: High level condition types as selected for use.), (Exclusion Criteria: Only the codes selected.) This value set was imported on 6/20/2019 with a version of 20190319. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.3.88.12.3221.7.2/expansion			
Code	Code System	Code System OID	Print Name
248536006	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Finding of functional performance and activity (finding)
282291009	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Diagnosis interpretation (observable entity)
373930000	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Cognitive function finding (finding)
404684003	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Clinical finding (finding)
409586006	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Complaint (finding)
418799008	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Finding reported by subject or history provider (finding)
55607006	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Problem (finding)
64572001	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Disease (disorder)

Figure 35: Indication (V3) Example

```
<entry typeCode="DRIV">
  <substanceAdministration classCode="SBADM" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.16" extension="2014-06-09" />
    <!-- ** MEDICATION ACTIVITY -->
    <id root="cdbd33f0-6cde-11db-9fe1-0800200c9a66" />
    <text>
      <reference value="#Med1" /> 0.09 MG/ACTUAT inhalant solution, 2 puffs QID PRN
wheezing
    </text>
    ...
    <!-- Indication snippet inside a Medication Activity -->
    <entryRelationship typeCode="RSON">
      <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.19" extension="2023-05-01"
/>
        <!-- Note that this id equals the problem observation/id -->
        <id root="db734647-fc99-424c-a864-7e3cda82e703" />
        <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"
code="404684003" displayName="Finding"/>
        <statusCode code="completed" />
        <value xsi:type="CD" code="32398004" displayName="Bronchitis"
codeSystem="2.16.840.1.113883.6.96" />
        </observation>
      </entryRelationship>
      ...
    </substanceAdministration>
  </entry>
  <!-- Points to a problem on the problem list -->
  <!-- Problem observation template
  <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
  Note that this id equals the Indication observation/id
  <id root="db734647-fc99-424c-a864-7e3cda82e703"/> -->
```

3.13 Medication Dispense (V3)

```
[supply: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2023-05-01
(open)]
```

This template records the act of supplying medications (i.e., dispensing). The moodCode equaling "EVN" (Event), signals that the "supply" has occurred and thus has been dispensed.

Table 52: Medication Dispense (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
supply (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2023-05-01)					
@classCode	1..1	SHALL		4537-7451	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SPLY
@moodCode	1..1	SHALL		4537-7452	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4537-7453	
@root	1..1	SHALL		4537-10505	2.16.840.1.113883.10.20.22.4.18
@extension	1..1	SHALL		4537-32580	2023-05-01
id	1..*	SHALL		4537-7454	
code	1..1	SHALL		4537-32974	urn:oid:2.16.840.1.113883.4.642.3.1312 (MedicationDispense Status Codes)
statusCode	1..1	SHALL		4537-7455	
@code	1..1	SHALL		4537-32361	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	SHOULD		4537-7456	
repeatNumber	0..1	SHOULD		4537-7457	
quantity	0..1	SHOULD		4537-7458	
product	0..1	MAY		4537-7459	
manufacturedProduct	1..1	SHALL		4537-15607	Medication Information (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09)
product	0..1	MAY		4537-9331	
manufacturedProduct	1..1	SHALL		4537-31696	Immunization Medication Information (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09)
performer	0..1	MAY		4537-7461	
assignedEntity	1..1	SHALL		4537-7467	
addr	0..1	SHOULD		4537-7468	US Realm Address (AD.US.FIELDDED) (identifier:

XPath	Card.	Verb	Data Type	CONF#	Value
					urn:oid:2.16.840.1.113883.10.20.22.5.2
entryRelationship	0..1	MAY		4537-7473	
@typeCode	1..1	SHALL		4537-7474	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
supply	1..1	SHALL		4537-15606	Medication Supply Order (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09

1. **SHALL** contain exactly one [1..1] **@classCode**="SPLY" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4537-7451).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4537-7452).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:4537-7453) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.18" (CONF:4537-10505).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2023-05-01" (CONF:4537-32580).
4. **SHALL** contain at least one [1..*] **id** (CONF:4537-7454).

The MedicationDispense Status Codes value set is the same value set used in the FHIR Dispense Resource, is broader than and has more meaningful codes for the act of dispensing than are permitted at actStatus in CDA, thus actStatus code is fixed to "completed". Comments are welcome as to if this will confuse the industry and instead there should not be constraints on Supply/actCode, and instead we should bind actStatus to the closest codes available in the [HL7 v3 Code System ActStatus](#) and provide a mapping to the FHIR set.

5. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [MedicationDispense Status Codes](#) urn:oid:2.16.840.1.113883.4.642.3.1312 **DYNAMIC** (CONF:4537-32974).
 6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4537-7455).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:4537-32361).
 7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:4537-7456).
- In "EVN" (event) mood, the repeatNumber is the number of dispenses. For example, a repeatNumber of "3" indicates the third dispense.
8. **SHOULD** contain zero or one [0..1] **repeatNumber** (CONF:4537-7457).
 9. **SHOULD** contain zero or one [0..1] **quantity** (CONF:4537-7458).
 10. **MAY** contain zero or one [0..1] **product** (CONF:4537-7459) such that it

- a. **SHALL** contain exactly one [1..1] Medication Information (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09) (CONF:4537-15607).
- 11. **MAY** contain zero or one [0..1] **product** (CONF:4537-9331) such that it
 - a. **SHALL** contain exactly one [1..1] Immunization Medication Information (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09) (CONF:4537-31696).
- 12. **MAY** contain zero or one [0..1] **performer** (CONF:4537-7461).
 - a. The performer, if present, **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:4537-7467).
 - i. This assignedEntity **SHOULD** contain zero or one [0..1] US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2) (CONF:4537-7468).
 - 1. The content of addr **SHALL** be a conformant US Realm Address (AD.US.FIELDDED) (2.16.840.1.113883.10.20.22.5.2) (CONF:4537-10565).
- 13. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:4537-7473) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:4537-7474).
 - b. **SHALL** contain exactly one [1..1] Medication Supply Order (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09) (CONF:4537-15606).
- 14. A supply act **SHALL** contain one product/Medication Information *OR* one product/Immunization Medication Information template (CONF:4537-9333).

Table 53: MedicationDispense Status Codes

Value Set: MedicationDispense Status Codes urn:oid:2.16.840.1.113883.4.642.3.1312 A FHIR value set reflecting the possible stages of a medication dispensation. Value Set Source: http://hl7.org/fhir/R4/valueset-medicationdispense-status.html			
Code	Code System	Code System OID	Print Name
preparation	MedicationDispense Status Codes	urn:oid:2.16.840.1.113883.4.642.4.1313	Preparation
in-progress	MedicationDispense Status Codes	urn:oid:2.16.840.1.113883.4.642.4.1313	In-Progress
cancelled	MedicationDispense Status Codes	urn:oid:2.16.840.1.113883.4.642.4.1313	Cancelled
completed	MedicationDispense Status Codes	urn:oid:2.16.840.1.113883.4.642.4.1313	Completed
entered-in-error	MedicationDispense Status Codes	urn:oid:2.16.840.1.113883.4.642.4.1313	Entered in Error
stopped	MedicationDispense Status Codes	urn:oid:2.16.840.1.113883.4.642.4.1313	Stopped
declined	MedicationDispense Status Codes	urn:oid:2.16.840.1.113883.4.642.4.1313	Declined
unknown	MedicationDispense Status Codes	urn:oid:2.16.840.1.113883.4.642.4.1313	Unknown
...			

Figure 36: Medication Dispense (V3) Example

```
<supply classCode="SPLY" moodCode="EVN">
  <!-- ** Medication dispense (v3) ** -->
  <templateId root="2.16.840.1.113883.10.20.22.4.18" extension="2023-05-01"/>
  <id root="1.2.3.4.56789.1" extension="cb734647-fc99-424c-a864-7e3cda82e704"/>
  <!-- Medication Dispense Status -->
  <code code="in-progress" codeSystem="2.16.840.1.113883.4.642.4.1971"
codeSystemName="medicationdispense-status" displayName="In Progress"/>
  <!-- Fixed to completed -->
  <statusCode code="completed"/>
  <effectiveTime value="201208151450-0800"/>
  <repeatNumber value="1"/>
  <quantity value="75"/>
  <product>
    <manufacturedProduct classCode="MANU">
      <!-- ** Medication information ** -->
      <templateId root="2.16.840.1.113883.10.20.22.4.23" extension="2014-06-09"/>
      <templateId root="2.16.840.1.113883.10.20.22.4.23"/>
      <id root="2a620155-9d11-439e-92b3-5d9815ff4ee8"/>
      <manufacturedMaterial>
        <code code="573621" codeSystem="2.16.840.1.113883.6.88"
displayName="Proventil 0.09 MG/ACTUAT inhalant solution"/>
      </manufacturedMaterial>
      <manufacturerOrganization>
        <name>Medication Factory Inc.</name>
      </manufacturerOrganization>
    </manufacturedProduct>
  </product>
  <performer>
    <assignedEntity>
      <id extension="333222222" root="2.16.840.1.113883.4.6"/>
      <addr>
        <streetAddressLine>1016 Health Drive</streetAddressLine>
        <city>Portland</city>
        <state>OR</state>
        <postalCode>99123</postalCode>
        <country>US</country>
      </addr>
      <telecom use="WP" value="tel:+1(555)555-1016"/>
      <assignedPerson>
        <name>
          <given>Susan</given>
          <family>Script</family>
          <suffix qualifier="AC">Pharm.D.</suffix>
        </name>
      </assignedPerson>
      <representedOrganization>
        <name>People's Pharmacy</name>
      </representedOrganization>
    </assignedEntity>
  </performer>
</supply>
```


3.14 Note Activity

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.202:2016-11-01
(open)]

Table 54: Note Activity Contexts

Contained By:	Contains:
Notes Section (required) Care Team Member Act (V2) (optional) Care Team Organizer (V2) (optional)	

The Note Activity represents a clinical note. Notes require authorship, authentication, timing information, and references to other discrete data such as encounters. Similar to the Comment Activity, the Note Activity permits a more specific code to characterize the type of information available in the note. The Note Activity template SHOULD NOT be used in place of a more specific C-CDA entry. Note information included needs to be relevant and pertinent to the information being communicated in the document.

When the note information augments data represented in a more specific entry template, the Note Activity can be used in an entryRelationship to the associated standard C-CDA entry. For example, a Procedure Note added as an entryRelationship to a Procedure Activity Procedure entry).

The Note Activity template can be used as a standalone entry within a standard C-CDA section (e.g., a note about various procedures which have occurred during a visit as an entry in the Procedures Section) when it does not augment another standard entry. It may also be used to provide additional data about the source of a currently narrative-only section, such as Hospital Course.

Finally, if the type of data in the note is not known or no single C-CDA section is appropriate enough, the Note Activity should be placed in a Notes Section. (e.g., a free-text consultation note or a note which includes subjective, objective, assessment, and plan information combined).

An alternative is to place the Note Activity as an entryRelationship to an Encounter Activity entry in the Encounters Section, but implementers may wish to group notes categorically into a separate location in CDA documents rather than overloading the Encounters Section.

Table 55: Note Activity Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.202:2016-11-01)					
@classCode	1..1	SHALL		3250-16899	ACT
@moodCode	1..1	SHALL		3250-16900	EVN
templateId	1..1	SHALL		3250-16933	
@root	1..1	SHALL		3250-16934	2.16.840.1.113883.10.20.22.4.202
@extension	1..1	SHALL		3250-16937	2016-11-01
code	1..1	SHALL		3250-16895	
@code	1..1	SHALL		3250-16940	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 34109-9
@codeSystem	1..1	SHALL		3250-16941	2.16.840.1.113883.6.1
translation	0..*	SHOULD		3250-16939	urn:oid:2.16.840.1.113883.11.20.9.68 (Note Types)
text	1..1	SHALL		3250-16896	
@mediaType	0..1	MAY		3250-16906	urn:oid:2.16.840.1.113883.11.20.7.1 (SupportedFileFormats)
reference	1..1	SHALL		3250-16897	
@nullFlavor	0..0	SHALL NOT		3250-16920	
@value	1..1	SHALL		3250-16898	
statusCode	1..1	SHALL		3250-16916	
effectiveTime	1..1	SHALL		3250-16903	
@value	0..1	SHOULD		3250-16917	
author	1..*	SHALL		3250-16913	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
participant	0..*	MAY		3250-16923	
@typeCode	1..1	SHALL		3250-16925	LA
time	1..1	SHALL		3250-	US Realm Date and Time

XPath	Card.	Verb	Data Type	CONF#	Value
				16926	(DT.US.FIELDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.3)
participantRole	1..1	SHALL		3250-16924	
id	1..*	SHALL		3250-16927	
playingEntity	0..1	MAY		3250-16928	
name	1..*	SHALL		3250-16929	US Realm Person Name (PN.US.FIELDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1)
entryRelationship	0..*	SHOULD		3250-16907	
@typeCode	1..1	SHALL		3250-16921	COMP
@inversionInd	1..1	SHALL		3250-16922	true
@negationInd	0..1	MAY		3250-16931	
encounter	1..1	SHALL		3250-16908	
id	1..*	SHALL		3250-16909	
reference	0..*	MAY		3250-16910	
externalDocument	1..1	SHALL		3250-16911	
id	1..1	SHALL		3250-16915	
code	0..1	SHOULD		3250-16918	

1. **SHALL** contain exactly one [1..1] @classCode="ACT" Act (CONF:3250-16899).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CONF:3250-16900).
3. **SHALL** contain exactly one [1..1] templateId (CONF:3250-16933) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.202" (CONF:3250-16934).
 - b. **SHALL** contain exactly one [1..1] @extension="2016-11-01" (CONF:3250-16937).
4. **SHALL** contain exactly one [1..1] code (CONF:3250-16895).
 - a. This code **SHALL** contain exactly one [1..1] @code="34109-9" Note (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:3250-16940).
 - b. This code **SHALL** contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.1" LOINC (CONF:3250-16941).

- c. This code **SHOULD** contain zero or more [0..*] **translation**, which **SHOULD** be selected from ValueSet [Note Types](#) urn:oid:2.16.840.1.113883.11.20.9.68 **DYNAMIC** (CONF:3250-16939).
 - i. If the Note Activity is within a Note Section, the translation **SHOULD** match or specialize the section code (CONF:3250-16942).
Note: For example, a cardiologist consult note may specialize a consult note but not a progress note.
 - ii. If the Note Activity is within a narrative-only section (e.g. Hospital Course), the translation **MAY** match the section code (CONF:3250-16943).
- 5. **SHALL** contain exactly one [1..1] **text** (CONF:3250-16896).

If the note was originally in another format, such as RTF, this element may also contain the base-64-encoded raw data of the note in addition to a reference to the narrative.

- a. This text **MAY** contain zero or one [0..1] **@mediaType**, which **SHOULD** be selected from ValueSet [SupportedFileFormats](#) urn:oid:2.16.840.1.113883.11.20.7.1 **DYNAMIC** (CONF:3250-16906).
 - i. If @mediaType is present, the text **SHALL** contain exactly one [1..1] **@representation="B64"** and mixed content corresponding to the contents of the note (CONF:3250-16912).
- b. This text **SHALL** contain exactly one [1..1] **reference** (CONF:3250-16897).

The note activity must reference human-readable content in the narrative, so this reference must not be null.

- i. This reference **SHALL NOT** contain [0..0] **@nullFlavor** (CONF:3250-16920).
- ii. This reference **SHALL** contain exactly one [1..1] **@value** (CONF:3250-16898).
 - 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:3250-16902).

Indicates the status of the note. The most common statusCode is completed indicating the note is signed and finalized.

- 6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3250-16916).

The effectiveTime represents the clinically relevant time of the note. The precise timestamp of creation / updating should be conveyed in author/time.

- 7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:3250-16903).
 - a. This effectiveTime **SHOULD** contain zero or one [0..1] **@value** (CONF:3250-16917).

Represents the person(s) who wrote the note.

- 8. **SHALL** contain at least one [1..*] Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:3250-16913).

Represents the person(s) legally responsible for the contents of the note.

- 9. **MAY** contain zero or more [0..*] **participant** (CONF:3250-16923) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="LA"** Legal Authenticator (CONF:3250-16925).

Indicates the time of signing the note.

- b. **SHALL** contain exactly one [1..1] US Realm Date and Time (DT.US.FIELDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.3) (CONF:3250-16926).
- c. **SHALL** contain exactly one [1..1] **participantRole** (CONF:3250-16924).

This may be the ID of the note author. If so, no additional information in this participant is required.

- i. This participantRole **SHALL** contain at least one [1..*] **id** (CONF:3250-16927).
- ii. This participantRole **MAY** contain zero or one [0..1] **playingEntity** (CONF:3250-16928).
 - 1. The playingEntity, if present, **SHALL** contain at least one [1..*] US Realm Person Name (PN.US.FIELDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1) (CONF:3250-16929).
- iii. If no id matches an author or participant elsewhere in the document, then playingEntity **SHALL** be present (CONF:3250-16930).

Links the note to an encounter. If the Note Activity is present within a document containing an encompassingEncounter, then this entryRelationship is optional and the note is associated with the encounter represented by the encompassingEncounter.

10. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:3250-16907) such that it

- a. **SHALL** contain exactly one [1..1] **@typeCode="COMP"** (CONF:3250-16921).
- b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** (CONF:3250-16922).

To communicate that the note is not associated with any encounter, this entryRelationship MAY be included with **@negationInd="true"** and **encounter/id/@nullFlavor="NA"**. The negationInd + encounter indicate this note is not associated with any encounter.

- c. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3250-16931).
- d. **SHALL** contain exactly one [1..1] **encounter** (CONF:3250-16908).
 - i. This encounter **SHALL** contain at least one [1..*] **id** (CONF:3250-16909).
 - 1. If the id does not match an encounter/id from the Encounters Section or encompassingEncounter within the same document and the id does not contain **@nullFlavor="NA"**, then this entry **SHALL** conform to the Encounter Activity (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.49:2015-08-01) (CONF:3250-16914).

Represents an unstructured C-CDA document containing the original contents of the note in the original format.

11. **MAY** contain zero or more [0..*] **reference** (CONF:3250-16910) such that it

- a. **SHALL** contain exactly one [1..1] **externalDocument** (CONF:3250-16911).
 - i. This externalDocument **SHALL** contain exactly one [1..1] **id** (CONF:3250-16915).
 - ii. This externalDocument **SHOULD** contain zero or one [0..1] **code** (CONF:3250-16918).

Table 56: SupportedFileFormats

Value Set: SupportedFileFormats urn:oid:2.16.840.1.113883.11.20.7.1 (Clinical Focus: Indicates the file format of an unstructured document contained in a CDA Unstructured Document.),(Data Element Scope: File format concepts selected from the mediatype code system.),(Inclusion Criteria: Include concepts where the file format is supported by an Unstructured Document.),(Exclusion Criteria: Exclude concepts where the file format is not supported by an Unstructured Document.) This value set was imported on 10/12/2022 with a version of Latest. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.7.1/expansion			
Code	Code System	Code System OID	Print Name
application/msword	Media Type	urn:oid:2.16.840.1.113883.5.79	MSWORD
application/pdf	Media Type	urn:oid:2.16.840.1.113883.5.79	PDF
audio	Media Type	urn:oid:2.16.840.1.113883.5.79	AudioMediaType
audio/basic	Media Type	urn:oid:2.16.840.1.113883.5.79	Basic Audio
audio/k32adpcm	Media Type	urn:oid:2.16.840.1.113883.5.79	K32ADPCM Audio
audio/mpeg	Media Type	urn:oid:2.16.840.1.113883.5.79	MPEG audio layer 3
image/gif	Media Type	urn:oid:2.16.840.1.113883.5.79	GIF Image
image/jpeg	Media Type	urn:oid:2.16.840.1.113883.5.79	JPEG Image
image/png	Media Type	urn:oid:2.16.840.1.113883.5.79	PNG Image
image/tiff	Media Type	urn:oid:2.16.840.1.113883.5.79	TIFF Image
...			

Figure 37: Note Activity as entryRelationship to C-CDA Entry

```
<?xml version="1.0" encoding="UTF-8"?>
<section>
  <!-- C-CDA 2.1 Procedures Section -->
  <templateId root="2.16.840.1.113883.10.20.22.2.7.1"/>
  <templateId root="2.16.840.1.113883.10.20.22.2.7.1" extension="2014-06-09"/>
  <code code="47519-4" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
displayName="HISTORY OF PROCEDURES"/>
  <title>Procedures</title>
  <text>
    <table>
      <thead>
        <tr>
          <th>Description</th>
          <th>Date and Time (Range)</th>
          <th>Status</th>
          <th>Notes</th>
        </tr>
      </thead>
      <tbody>
        <tr ID="Procedure1">
          <td ID="ProcedureDesc1">Laparoscopic appendectomy</td>
          <td>(03 Feb 2014 09:22am- 03 Feb 2014 11:15am)</td>
          <td>Completed</td>
          <td ID="ProcedureNote1">
            <paragraph>Dr. Physician - 03 Feb 2014</paragraph>
            <paragraph>Free-text note about the procedure.</paragraph>
          </td>
        </tr>
      </tbody>
    </table>
  </text>
  <entry typeCode="DRIV">
    <!-- Procedures should be used for care that directly changes the patient's
physical state.-->
    <procedure moodCode="EVN" classCode="PROC">
      <templateId root="2.16.840.1.113883.10.20.22.4.14" extension="2014-06-09"/>
      <id root="64af26d5-88ef-4169-ba16-c6ef16a1824f"/>
      <code code="6025007" displayName="Laparoscopic appendectomy"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED-CT">
        <originalText>
          <reference value="#ProcedureDesc1" />
        </originalText>
      </code>
      <text>
        <reference value="#Procedure1" />
      </text>
      <statusCode code="completed" />
      <effectiveTime>
        <low value="20140203092205-0700" />
        <high value="20140203111514-0700" />
      </effectiveTime>
      <!-- Note Activity entry -->
      <entryRelationship typeCode="COMP">
        <act classCode="ACT" moodCode="EVN">
```

```

01"/>
        <templateId root="2.16.840.1.113883.10.20.22.4.202" extension="2016-11-
codeSystemName="LOINC" displayName="note">
        <translation code="28570-0" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Procedure note" />
        </code>
        <text>
        <reference value="#ProcedureNote1" />
        </text>
        <statusCode code="completed"/>
        <!-- Clinically-relevant time of the note -->
        <effectiveTime value="20140203" />
        <!-- Author Participation -->
        <author>
        <templateId root="2.16.840.1.113883.10.20.22.4.119" />
        <!-- Time note was actually written -->
        <time value="20140204083215-0500" />
        <assignedAuthor>
        <id root="20cf14fb-b65c-4c8c-a54d-b0cca834c18c" />
        <assignedPerson>
        <name>Dr. Physician</name>
        </assignedPerson>
        </assignedAuthor>
        </author>
        <!-- Reference to encounter -->
        <entryRelationship typeCode="COMP" inversionInd="true">
        <encounter classCode="ENC" moodCode="EVN">
        <!-- Encounter ID matches an encounter in the Encounters Section -->
        <id root="1.2.3.4" />
        </encounter>
        </entryRelationship>
        </act>
        </entryRelationship>
        </procedure>
        </entry>
</section>

```


Figure 38: Note Activity as Standalone Entry

```
<section>
  <!-- C-CDA 2.1 Procedures Section, entries optional -->
  <templateId root="2.16.840.1.113883.10.20.22.2.7"/>
  <templateId root="2.16.840.1.113883.10.20.22.2.7" extension="2014-06-09"/>
  <code code="47519-4" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
displayName="HISTORY OF PROCEDURES"/>
  <title>Procedures</title>
  <text>
    <list>
      <item ID="ProcedureNote1">
        <paragraph>Dr. Physician - 03 Feb 2014</paragraph>
        <paragraph>Free-text note about procedures which have occurred during this
visit.</paragraph>
      </item>
    </list>
  </text>
  <!-- If section were entries required, an additional <entry nullFlavor="NI"> would be
required for a Procedure Activity -->
  <!-- Note Activity entry -->
  <entry>
    <act classCode="ACT" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.202" extension="2016-11-01"/>
      <code code="34109-9" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
displayName="Note">
        <translation code="28570-0" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Procedure note" />
      </code>
      <text>
        <reference value="#ProcedureNote1" />
      </text>
      <statusCode code="completed"/>
      <!-- Clinically-relevant time of the note -->
      <effectiveTime value="20140203" />
      <!-- Author Participation -->
      <author>
        <templateId root="2.16.840.1.113883.10.20.22.4.119" />
        <!-- Time note was actually written -->
        <time value="20140204083215-0500" />
        <assignedAuthor>
          <id root="20cf14fb-b65c-4c8c-a54d-b0cca834c18c" />
          <assignedPerson>
            <name>Dr. Physician</name>
          </assignedPerson>
        </assignedAuthor>
      </author>
      <!-- Reference to encounter -->
      <entryRelationship typeCode="COMP" inversionInd="true">
        <encounter classCode="ENC" moodCode="EVN">
          <!-- Encounter ID matches an encounter in the Encounters Section -->
          <id root="1.2.3.4" />
        </encounter>
      </entryRelationship>
    </act>
  </entry>
</section>
```

Figure 39: RTF Example

```
<section>
  <text>
    <list>
      <item ID="note1">
        <caption>Nursing Note written by Nick Nurse</caption>
        <paragraph>Completed rounds; no incident</paragraph>
      </item>
    </list>
  </text>
  <!-- Note Activity (extra markup removed to focus on <text>) -->
  <entry>
    <act>
      <code>...</code>
      <text mediaType="text/rtf"
representation="B64">e1xydGYxXGFuc2lcYW5zaWNwZzEyNTJcZGVmZjBcbm9laWNvbXBhdFxxZWZsYW5nMTAzM3
tcZm9udHRibHtcZjBcZm5pbFxmY2hhcnNldDagQ2FsaWJyaTt9fQ0KelwqXGdlbmVyYXRvciBSaWN0ZWQyMCA2LjMuO
TYwMHlcdmllld2tpbmQ0XHVjMSANC1xwYXJkXHNhMjAwXHNsMjc2XHNsbXVsdDFcZjBcZnMyMlxsYW5nOSBD21wbGV0
ZWQgcml1bmRzOyBubyBpbmNpZGVudFxxYXINCn0NCiA=

      <reference value="#note1"/>
    </text>
    <!--...-->
  </act>
</entry>
</section>
```

3.15 Planned Procedure (V3)

[procedure: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.41:2022-06-01
(open)]

This template represents planned alterations of the patient's physical condition. Examples of such procedures are tracheostomy, knee replacement, and craniectomy. The priority of the procedure to the patient and provider is communicated through Priority Preference. The effectiveTime indicates the time when the procedure is intended to take place and authorTime indicates when the documentation of the plan occurred. The Planned Procedure Template may also indicate the potential insurance coverage for the procedure.

Planned Procedure V3 Usage Note: Common practice in the industry has shown that Planned Procedure is the usually implemented CDA template for any type of intervention or procedure regardless of if the "immediate and primary outcome (post-condition) is the alteration of the physical condition of the patient", or not. As a result, it is recommended to use Planned Procedure when sending procedures also thought of as "interventions" such as "Home Environment Evaluation" or "Assessment of nutritional status".

Table 57: Planned Procedure (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
procedure (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.41:2022-06-01)					
@classCode	1..1	SHALL		4515-8568	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		4515-8569	urn:oid:2.16.840.1.113883.11.20.9.23 (Planned moodCode (Act/Encounter/Procedure))
templateId	1..1	SHALL		4515-30444	
@root	1..1	SHALL		4515-30445	2.16.840.1.113883.10.20.22.4.41
@extension	1..1	SHALL		4515-32554	2014-06-09
id	1..*	SHALL		4515-8571	
code	1..1	SHALL		4515-31976	
statusCode	1..1	SHALL		4515-30446	
@code	1..1	SHALL		4515-31978	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
effectiveTime	0..1	SHOULD		4515-30447	
methodCode	0..*	MAY		4515-31980	
targetSiteCode	0..*	MAY		4515-31981	urn:oid:2.16.840.1.113883.3.88.12.3221.8.9 (Body Site Value Set)
performer	0..*	MAY		4515-30449	
author	0..1	SHOULD		4515-31979	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..*	MAY		4515-31079	
@typeCode	1..1	SHALL		4515-31080	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-31081	Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143)
entryRelationship	0..*	MAY		4515-31982	
@typeCode	1..1	SHALL		4515-31983	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType)

XPath	Card.	Verb	Data Type	CONF#	Value
					= RSON
observation	1..1	SHALL		4515-31984	Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09)
entryRelationship	0..*	MAY		4515-31985	
@typeCode	1..1	SHALL		4515-31986	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		4515-31987	true
act	1..1	SHALL		4515-31989	Instruction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09)
entryRelationship	0..*	MAY		4515-31990	
@typeCode	1..1	SHALL		4515-31991	COMP
act	1..1	SHALL		4515-31992	Planned Coverage (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.129)
entryRelationship	0..*	MAY		4515-32994	
@typeCode	1..1	SHALL		4515-32998	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		4515-32995	Assessment Scale Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.69)
entryRelationship	0..*	MAY		4515-32996	
@typeCode	1..1	SHALL		4515-32999	RSON
act	1..1	SHALL		4515-32997	Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122)

1. **SHALL** contain exactly one [1..1] @classCode="PROC" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4515-8568).
2. **SHALL** contain exactly one [1..1] @moodCode, which **SHALL** be selected from ValueSet [Planned moodCode \(Act/Encounter/Procedure\)](#) urn:oid:2.16.840.1.113883.11.20.9.23 **STATIC** 2011-09-30 (CONF:4515-8569).
3. **SHALL** contain exactly one [1..1] templateId (CONF:4515-30444) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.41" (CONF:4515-30445).

- b. **SHALL** contain exactly one [1..1] **@extension**="2014-06-09" (CONF:4515-32554).
- 4. **SHALL** contain at least one [1..*] **id** (CONF:4515-8571).
- 5. **SHALL** contain exactly one [1..1] **code** (CONF:4515-31976).
 - a. The procedure/code in a planned procedure **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 (CodeSystem: 2.16.840.1.113883.6.12) **OR** IC-10-PCS (CodeSystem: 2.16.840.1.113883.6.4) **OR** HCPCS (Code System: 2.16.840.1.113762.1.4.1247.9) (CONF:4515-31977).
 - b. If the Planned Intervention Procedure is a Social Determinant of Health Planned Intervention Procedure, the procedure code **SHOULD** be selected from ValueSet Social Determinant of Health Service Request**DYNAMIC** (CONF:4515-32993).
- 6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4515-30446).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4515-31978).

The effectiveTime in a planned procedure represents the time that the procedure should occur.

- 7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:4515-30447).

In a planned procedure the provider may suggest that a procedure should be performed using a particular method.

MethodCode *SHALL NOT* conflict with the method inherent in Procedure / code.

- 8. **MAY** contain zero or more [0..*] **methodCode** (CONF:4515-31980).

The targetSiteCode is used to identify the part of the body of concern for the planned procedure.

- 9. **MAY** contain zero or more [0..*] **targetSiteCode**, which **SHALL** be selected from ValueSet Body Site Value Set urn:oid:2.16.840.1.113883.3.88.12.3221.8.9 **DYNAMIC** (CONF:4515-31981).

The clinician who is expected to perform the procedure could be identified using procedure/performer.

- 10. **MAY** contain zero or more [0..*] **performer** (CONF:4515-30449).

The author in a planned procedure represents the clinician who is requesting or planning the procedure.

- 11. **SHOULD** contain zero or one [0..1] Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:4515-31979).

The following entryRelationship represents the priority that a patient or a provider places on the procedure.

- 12. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31079) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31080).
 - b. **SHALL** contain exactly one [1..1] Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143) (CONF:4515-31081).

The following entryRelationship represents the indication for the procedure.

13. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31982) such that it
- SHALL** contain exactly one [1..1] **@typeCode="RSON"** Has Reason (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31983).
 - SHALL** contain exactly one [1..1] Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09) (CONF:4515-31984).

The following entryRelationship captures any instructions associated with the planned procedure.

14. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31985) such that it
- SHALL** contain exactly one [1..1] **@typeCode="SUBJ"** Has Subject (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31986).
 - SHALL** contain exactly one [1..1] **@inversionInd="true"** True (CONF:4515-31987).
 - SHALL** contain exactly one [1..1] Instruction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09) (CONF:4515-31989).

The following entryRelationship represents the insurance coverage the patient may have for the procedure.

15. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31990) such that it
- SHALL** contain exactly one [1..1] **@typeCode="COMP"** Has component (CONF:4515-31991).
 - SHALL** contain exactly one [1..1] Planned Coverage (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.129) (CONF:4515-31992).

When an Assessment Scale Observation is contained in a Procedure Template instance that is a Social Determinant of Health procedure, that Assessment scale **MAY** contain Assessment Scale observations that represent LOINC question and answer pairs from SDOH screening instruments.

16. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-32994) such that it
- SHALL** contain exactly one [1..1] **@typeCode="RSON"** Has reason (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-32998).
 - SHALL** contain exactly one [1..1] Assessment Scale Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.69) (CONF:4515-32995).

When an Entry Reference Template is contained in a Procedure Template instance that is a Social Determinant of Health procedure, that Entry Reference **MAY** refer to Assessment Scale Observation in the same document that represent LOINC question and answer pairs from SDOH screening instruments.

17. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-32996) such that it
- SHALL** contain exactly one [1..1] **@typeCode="RSON"** Has reason (CONF:4515-32999).

- b. **SHALL** contain exactly one [1..1] Entry Reference (identifier:
urn:oid:2.16.840.1.113883.10.20.22.4.122) (CONF:4515-32997).

Table 58: Planned moodCode (Act/Encounter/Procedure)

Value Set: Planned moodCode (Act/Encounter/Procedure) urn:oid:2.16.840.1.113883.11.20.9.23 This value set is used to restrict the moodCode on an act, an encounter or a procedure to future moods Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.9.23/expansion			
Code	Code System	Code System OID	Print Name
INT	HL7ActMood	urn:oid:2.16.840.1.113883.5.10.01	Intent
ARQ	HL7ActMood	urn:oid:2.16.840.1.113883.5.10.01	Appointment Request
PRMS	HL7ActMood	urn:oid:2.16.840.1.113883.5.10.01	Promise
PRP	HL7ActMood	urn:oid:2.16.840.1.113883.5.10.01	Proposal
RQO	HL7ActMood	urn:oid:2.16.840.1.113883.5.10.01	Request
APT	HL7ActMood	urn:oid:2.16.840.1.113883.5.10.01	Appointment

Table 59: Body Site Value Set

Value Set: Body Site Value Set urn:oid:2.16.840.1.113883.3.88.12.3221.8.9 (Clinical Focus: All SNOMED CT anatomic structures, locations, abnormal structures that can be considered to describe an anatomical site.),(Data Element Scope: data element describing body location),(Inclusion Criteria: SNOMED CT concepts descending from the Anatomical Structure (91723000) or Acquired body structure (body structure) (280115004) or Anatomical site notations for tumor staging (body structure) (258331007) or Body structure, altered from its original anatomical structure (morphologic abnormality) (118956008) or Physical anatomical entity (body structure) (91722005)),(Exclusion Criteria: none) This value set was imported on 6/24/2019 with a version of 20190420. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.3.88.12.3221.8.9/expansion			
Code	Code System	Code System OID	Print Name
10013000	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Lateral meniscus structure (body structure)
10024003	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Structure of base of lung (body structure)
10025002	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Structure of base of phalanx of index finger (body structure)
10026001	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Structure of ventral spinocerebellar tract of pons (body structure)
10036009	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Structure of nucleus pulposus of intervertebral disc of eighth thoracic vertebra (body structure)
10042008	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Structure of intervertebral foramen of fifth thoracic vertebra (body structure)
10047002	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Structure of transplanted lung (body structure)
1005009	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Entire diaphragmatic lymph node (body structure)
10052007	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Male structure (body structure)
10056005	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Structure of ophthalmic nerve (body structure)
...			

Figure 40: Planned Procedure Example

```
<entry>
  <procedure moodCode="RQO" classCode="PROC">
    <!-- **Planned Procedure template ** -->
    <templateId root="2.16.840.1.113883.10.20.22.4.41" />
    <templateId root="2.16.840.1.113883.10.20.22.4.41" extension="2014-06-09" />
    <templateId root="2.16.840.1.113883.10.20.22.4.41" extension="2022-06-01" />
    <!-- **Planned 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" />
    <statusCode code="active" />
    <effectiveTime value="20130613" />
    <!-- Author Participation -->
    <author typeCode="AUT">
      ...
    </author>
    <entryRelationship typeCode="REFR">
      <observation classCode="OBS" moodCode="EVN">
        <!-- Patient Priority Preference-->
        <templateId root="2.16.840.1.113883.10.20.22.4.142" />
        ...
      </observation>
    </entryRelationship>
    <entryRelationship typeCode="REFR">
      <observation classCode="OBS" moodCode="EVN">
        <!-- Provider Priority Preference-->
        <templateId root="2.16.840.1.113883.10.20.22.4.143" />
        ...
      </observation>
    </entryRelationship>
    <entryRelationship typeCode="RSON">
      <observation classCode="OBS" moodCode="EVN">
        <!-- Indication-->
        <templateId root="2.16.840.1.113883.10.20.22.4.19" extension="2014-06-09"
/>
        ...
      </observation>
    </entryRelationship>
    <entryRelationship typeCode="SUBJ">
      <act classCode="ACT" moodCode="INT">
        <!-- Instruction-->
        <templateId root="2.16.840.1.113883.10.20.22.4.20" extension="2014-06-09"
/>
        ...
      </act>
    </entryRelationship>
    <entryRelationship typeCode="COMP">
      <observation classCode="ACT" moodCode="INT">
        <!-- Planned Coverage -->
        <templateId root="2.16.840.1.113883.10.20.22.4.129" />
        ...
      </observation>
    </entryRelationship>
  </procedure>
</entry>
```

Figure 41: Social Determinant of Health Planned Procedure Example

```
<entry>
  <procedure classCode="PROC" moodCode="RQO">
    <templateId root="2.16.840.1.113883.10.20.22.4.41"/>
    <templateId root="2.16.840.1.113883.10.20.22.4.41" extension="2014-06-09"/>
    <templateId root="2.16.840.1.113883.10.20.22.4.41" extension="2022-06-01"/>
    <id extension="2448483" root="1.2.840.114350.1.13.5552.1.7.2.798268"/>
    <code code="464171000124102" codeSystem="2.16.840.1.113883.6.96"
displayName="Referral to Senior Farmers' Market Nutrition Program (procedure)"
codeSystemName="SNOMED-CT">
      <originalText>
        <reference value="#Procedure1name"/>
      </originalText>
    </code>
    <text>
      <reference value="#Procedure1"/>
    </text>
    <statusCode code="completed"/>
    <effectiveTime value="20160413"/>
  </procedure>
</entry>
```

3.16 Policy Activity (V4)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.61:2023-05-01 (open)]

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 of the coverage. The payer is represented as the performer of the policy activity.

Table 60: Policy Activity (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.61:2023-05-01)					
@classCode	1..1	SHALL		4537-8898	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		4537-8899	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4537-8900	
@root	1..1	SHALL		4537-10516	2.16.840.1.113883.10.20.22.4.61
@extension	1..1	SHALL		4537-32595	2023-05-01
id	1..*	SHALL		4537-8901	
code	1..1	SHALL		4537-8903	urn:oid:2.16.840.1.113883.3.88.12.3221.5.2 (Health Insurance Type)
translation	1..*	SHALL		4537-32852	urn:oid:2.16.840.1.114222.4.11.3591 (Payer)
statusCode	1..1	SHALL		4537-8902	
@code	1..1	SHALL		4537-19109	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
performer	1..1	SHALL		4537-8906	
@typeCode	1..1	SHALL		4537-8907	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PRF
templateId	1..1	SHALL		4537-16808	
@root	1..1	SHALL		4537-16809	2.16.840.1.113883.10.20.22.4.87
assignedEntity	1..1	SHALL		4537-8908	
id	1..*	SHALL		4537-8909	
code	0..1	SHOULD		4537-8914	
@code	1..1	SHALL		4537-15992	urn:oid:2.16.840.1.113883.1.11.10416 (Financially Responsible Party Type Value Set)
addr	0..1	MAY		4537-8910	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2)

XPath	Card.	Verb	Data Type	CONF#	Value
telecom	0..*	MAY		4537-8911	
representedOrganization	0..1	SHOULD		4537-8912	
name	0..1	SHOULD		4537-8913	
performer	0..*	SHOULD		4537-8961	
@typeCode	1..1	SHALL		4537-32971	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PRF
templateId	1..1	SHALL		4537-16810	
@root	1..1	SHALL		4537-16811	2.16.840.1.113883.10.20.22.4.88
time	0..1	SHOULD		4537-8963	
assignedEntity	1..1	SHALL		4537-8962	
code	1..1	SHALL		4537-8968	
@code	1..1	SHALL		4537-16096	GUAR
@codeSystem	1..1	SHALL		4537-32165	2.16.840.1.113883.5.110
addr	0..1	SHOULD		4537-8964	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2
telecom	0..*	SHOULD		4537-8965	
participant	1..1	SHALL		4537-8916	
@typeCode	1..1	SHALL		4537-8917	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = COV
templateId	1..1	SHALL		4537-16812	
@root	1..1	SHALL		4537-16814	2.16.840.1.113883.10.20.22.4.89
time	0..1	SHOULD		4537-8918	
low	0..1	SHOULD		4537-8919	
high	0..1	SHOULD		4537-8920	

XPath	Card.	Verb	Data Type	CONF#	Value
participantRole	1..1	SHALL		4537-8921	
id	1..*	SHALL		4537-8922	
code	1..1	SHALL		4537-8923	
@code	0..1	SHOULD		4537-16078	urn:oid:2.16.840.1.113883.1.11.18877 (Coverage Role Type Value Set)
addr	0..1	SHOULD		4537-8956	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2
playingEntity	0..1	SHOULD		4537-8932	
name	1..1	SHALL		4537-8930	
sdtc:birthTime	1..1	SHALL		4537-31344	
participant	0..1	SHOULD		4537-8934	
@typeCode	1..1	SHALL		4537-8935	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = HLD
templateId	1..1	SHALL		4537-16813	
@root	1..1	SHALL		4537-16815	2.16.840.1.113883.10.20.22.4.90
time	0..1	MAY		4537-8938	
participantRole	1..1	SHALL		4537-8936	
id	1..*	SHALL		4537-8937	
addr	0..1	SHOULD		4537-8925	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2
entryRelationship	1..*	SHALL		4537-8939	
@typeCode	1..1	SHALL		4537-8940	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR

1. **SHALL** contain exactly one [1..1] @classCode="ACT" Act (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4537-8898).

2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4537-8899).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:4537-8900) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.61" (CONF:4537-10516).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2023-05-01" (CONF:4537-32595).

This id is a unique identifier for the policy or program providing the coverage

4. **SHALL** contain at least one [1..*] **id** (CONF:4537-8901).
5. **SHALL** contain exactly one [1..1] **code**, which **SHOULD** be selected from ValueSet [Health Insurance Type](#) urn:oid:2.16.840.1.113883.3.88.12.3221.5.2 **DYNAMIC** (CONF:4537-8903).
 - a. This code **SHALL** contain at least one [1..*] **translation**, which **SHOULD** be selected from ValueSet [Payer](#) urn:oid:2.16.840.1.114222.4.11.3591 (CONF:4537-32852).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4537-8902).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:4537-19109).

This performer represents the Payer.

7. **SHALL** contain exactly one [1..1] **performer** (CONF:4537-8906) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="PRF" Performer (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90 **STATIC**) (CONF:4537-8907).
 - b. **SHALL** contain exactly one [1..1] **templateId** (CONF:4537-16808).
 - i. This templateId **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.87" Payer Performer (CONF:4537-16809).
 - c. **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:4537-8908).

This is the Payer id. The root is a unique identifier to an openly available assigning authority, such as National Association of Insurance Commissioners (NAIC) (2.16.840.1.113883.6.300), and the extension identifiers the payer within that authority.

- i. This assignedEntity **SHALL** contain at least one [1..*] **id** (CONF:4537-8909).
- ii. This assignedEntity **SHOULD** contain zero or one [0..1] **code** (CONF:4537-8914).
 1. The code, if present, **SHALL** contain exactly one [1..1] **@code**, which **SHOULD** be selected from ValueSet [Financially Responsible Party Type Value Set](#) urn:oid:2.16.840.1.113883.1.11.10416 **DYNAMIC** (CONF:4537-15992).
- iii. This assignedEntity **MAY** contain zero or one [0..1] US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2) (CONF:4537-8910).

- iv. This assignedEntity **MAY** contain zero or more [0..*] **telecom** (CONF:4537-8911).
- v. This assignedEntity **SHOULD** contain zero or one [0..1] **representedOrganization** (CONF:4537-8912).
 - 1. The representedOrganization, if present, **SHOULD** contain zero or one [0..1] **name** (CONF:4537-8913).

This performer represents the Guarantor.

- 8. **SHOULD** contain zero or more [0..*] **performer** (CONF:4537-8961) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="PRF"** Performer (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4537-32971).
 - b. **SHALL** contain exactly one [1..1] **templateId** (CONF:4537-16810).
 - i. This templateId **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.88"** Guarantor Performer (CONF:4537-16811).
 - c. **SHOULD** contain zero or one [0..1] **time** (CONF:4537-8963).
 - d. **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:4537-8962).
 - i. This assignedEntity **SHALL** contain exactly one [1..1] **code** (CONF:4537-8968).
 - 1. This code **SHALL** contain exactly one [1..1] **@code="GUAR"** Guarantor (CONF:4537-16096).
 - 2. This code **SHALL** contain exactly one [1..1] **@codeSystem="2.16.840.1.113883.5.110"** (CONF:4537-32165).
 - ii. This assignedEntity **SHOULD** contain zero or one [0..1] US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2) (CONF:4537-8964).
 - iii. This assignedEntity **SHOULD** contain zero or more [0..*] **telecom** (CONF:4537-8965).
 - iv. **SHOULD** include assignedEntity/assignedPerson/name AND/OR assignedEntity/representedOrganization/name (CONF:4537-8967).
- 9. **SHALL** contain exactly one [1..1] **participant** (CONF:4537-8916) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="COV"** Coverage target (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90 **STATIC**) (CONF:4537-8917).
 - b. **SHALL** contain exactly one [1..1] **templateId** (CONF:4537-16812).
 - i. This templateId **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.89"** Covered Party Participant (CONF:4537-16814).
 - c. **SHOULD** contain zero or one [0..1] **time** (CONF:4537-8918).
 - i. The time, if present, **SHOULD** contain zero or one [0..1] **low** (CONF:4537-8919).
 - ii. The time, if present, **SHOULD** contain zero or one [0..1] **high** (CONF:4537-8920).
 - d. **SHALL** contain exactly one [1..1] **participantRole** (CONF:4537-8921).
 - i. This participantRole **SHALL** contain at least one [1..*] **id** (CONF:4537-8922).

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:4537-8984).
- ii. This participantRole **SHALL** contain exactly one [1..1] **code** (CONF:4537-8923).
 1. This code **SHOULD** contain zero or one [0..1] **@code**, which **SHOULD** be selected from ValueSet [Coverage Role Type Value Set](#) urn:oid:2.16.840.1.113883.1.11.18877 **DYNAMIC** (CONF:4537-16078).
- iii. This participantRole **SHOULD** contain zero or one [0..1] US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2) (CONF:4537-8956).

This playingEntity records the covered party name and birthTime as represented by the health plan. This could match the information in recordTarget, or be different due to marriage or other reasons.

- iv. This participantRole **SHOULD** contain zero or one [0..1] **playingEntity** (CONF:4537-8932).
 1. The playingEntity, if present, **SHALL** contain exactly one [1..1] **name** (CONF:4537-8930).
 2. The playingEntity, if present, **SHALL** contain exactly one [1..1] **sdtc:birthTime** (CONF:4537-31344).
 - a. 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:4537-31345).

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.

10. **SHOULD** contain zero or one [0..1] **participant** (CONF:4537-8934) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="HLD"** Holder (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90 **STATIC**) (CONF:4537-8935).
 - b. **SHALL** contain exactly one [1..1] **templateId** (CONF:4537-16813).
 - i. This templateId **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.90"** Policy Holder Participant (CONF:4537-16815).
 - c. **MAY** contain zero or one [0..1] **time** (CONF:4537-8938).
 - d. **SHALL** contain exactly one [1..1] **participantRole** (CONF:4537-8936).
 - i. This participantRole **SHALL** contain at least one [1..*] **id** (CONF:4537-8937).
 1. This id is a unique identifier for the subscriber of the coverage (CONF:4537-10120).
 - ii. This participantRole **SHOULD** contain zero or one [0..1] US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2) (CONF:4537-8925).

- e. 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:4537-17139).
11. **SHALL** contain at least one [1..*] **entryRelationship** (CONF:4537-8939) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:4537-8940).
 - b. 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:4537-8942).
 - c. 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:4537-8943).

Table 61: Health Insurance Type

Value Set: Health Insurance Type urn:oid:2.16.840.1.113883.3.88.12.3221.5.2			
Code	Code System	Code System OID	Print Name
12	Insurance Type Code	urn:oid:2.16.840.1.113883.3.88.12.3221.5.2	Medicare Secondary Working Aged Beneficiary or Spouse with Employer Group Health Plan
13	Insurance Type Code	urn:oid:2.16.840.1.113883.3.88.12.3221.5.2	Medicare Secondary End-Stage Renal Disease Beneficiary in the 12 month coordination period with an employer's group health plan
14	Insurance Type Code	urn:oid:2.16.840.1.113883.3.88.12.3221.5.2	Medicare Secondary, No-fault Insurance including Auto is Primary
15	Insurance Type Code	urn:oid:2.16.840.1.113883.3.88.12.3221.5.2	Medicare Secondary Worker's Compensation
16	Insurance Type Code	urn:oid:2.16.840.1.113883.3.88.12.3221.5.2	Medicare Secondary Public Health Service (PHS) or Other Federal Agency
41	Insurance Type Code	urn:oid:2.16.840.1.113883.3.88.12.3221.5.2	Medicare Secondary Black Lung
42	Insurance Type Code	urn:oid:2.16.840.1.113883.3.88.12.3221.5.2	Medicare Secondary Veteran's Administration
43	Insurance Type Code	urn:oid:2.16.840.1.113883.3.88.12.3221.5.2	Medicare Secondary Disabled Beneficiary Under Age 65 with Large Group Health Plan (LGHP)
47	Insurance Type Code	urn:oid:2.16.840.1.113883.3.88.12.3221.5.2	Medicare Secondary, Other Liability Insurance is Primary
AP	Insurance Type Code	urn:oid:2.16.840.1.113883.3.88.12.3221.5.2	Auto Insurance Policy
...			

Table 62: Financially Responsible Party Type Value Set

Value Set: Financially Responsible Party Type Value Set urn:oid:2.16.840.1.113883.1.11.10416 (Clinical Focus: A relationship between two entities that is formally recognized, frequently by a contract or similar agreement),(Data Element Scope: Financially responsible person code),(Inclusion Criteria: All selectable descendants of RoleClassRelationshipFormal from the RoleClass HL7 code system),(Exclusion Criteria: none) This value set was imported on 6/24/2019 with a version of 20190517. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.10416/expansion			
Code	Code System	Code System OID	Print Name
AFFL	HL7RoleClass	urn:oid:2.16.840.1.113883.5.110	affiliate
AGNT	HL7RoleClass	urn:oid:2.16.840.1.113883.5.110	agent
ASSIGNED	HL7RoleClass	urn:oid:2.16.840.1.113883.5.110	assigned entity
CASEBJ	HL7RoleClass	urn:oid:2.16.840.1.113883.5.110	Case Subject
CIT	HL7RoleClass	urn:oid:2.16.840.1.113883.5.110	citizen
CLAIM	HL7RoleClass	urn:oid:2.16.840.1.113883.5.110	claimant
COMPAR	HL7RoleClass	urn:oid:2.16.840.1.113883.5.110	commissioning party
CON	HL7RoleClass	urn:oid:2.16.840.1.113883.5.110	contact
COVPTY	HL7RoleClass	urn:oid:2.16.840.1.113883.5.110	covered party
CRINV	HL7RoleClass	urn:oid:2.16.840.1.113883.5.110	clinical research investigator
...			

Table 63: Coverage Role Type Value Set

Value Set: Coverage Role Type Value Set urn:oid:2.16.840.1.113883.1.11.18877 (Clinical Focus: The role of the covered patient with respect to the coverage holder),(Data Element Scope:),(Inclusion Criteria: descendants of _CoverageRoleType [abstract term] in RoleCode 2.16.840.1.113883.5.111),(Exclusion Criteria:) This value set was imported on 6/24/2019 with a version of 20190425. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.18877/expansion			
Code	Code System	Code System OID	Print Name
FAMDEP	HL7RoleCode	urn:oid:2.16.840.1.113883.5.111	family dependent
FSTUD	HL7RoleCode	urn:oid:2.16.840.1.113883.5.111	full-time student
HANDIC	HL7RoleCode	urn:oid:2.16.840.1.113883.5.111	handicapped dependent
INJ	HL7RoleCode	urn:oid:2.16.840.1.113883.5.111	injured plaintiff
PSTUD	HL7RoleCode	urn:oid:2.16.840.1.113883.5.111	part-time student
SELF	HL7RoleCode	urn:oid:2.16.840.1.113883.5.111	self
SPON	HL7RoleCode	urn:oid:2.16.840.1.113883.5.111	sponsored dependent
STUD	HL7RoleCode	urn:oid:2.16.840.1.113883.5.111	student

Table 64: Payer

Value Set: Payer urn:oid:2.16.840.1.114222.4.11.3591 (Clinical Focus: Categories of types of health care payor entities as defined by the US Public Health Data Consortium SOP code system),(Data Element Scope: @code in CCDA r2.1 template Planned Coverage [act: identifier urn:oid:2.16.840.1.113883.10.20.22.4.129 (open)] DYNAMIC),(Inclusion Criteria: All codes in the code system),(Exclusion Criteria: none) This value set was imported on 7/25/2019 with a version of 20180718. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.114222.4.11.3591/expansion			
Code	Code System	Code System OID	Print Name
1	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.113883.3.221.5	MEDICARE
11	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.113883.3.221.5	Medicare (Managed Care)
111	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.113883.3.221.5	Medicare HMO
112	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.113883.3.221.5	Medicare PPO
113	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.113883.3.221.5	Medicare POS
119	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.113883.3.221.5	Medicare Managed Care Other
12	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.113883.3.221.5	Medicare (Non-managed Care)
121	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.113883.3.221.5	Medicare FFS
122	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.113883.3.221.5	Medicare Drug Benefit
123	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.113883.3.221.5	Medicare Medical Savings Account (MSA)
...			

Figure 42: Policy Activity (V4) Example

<pre> <act classCode="ACT" moodCode="EVN"> <templateId root="2.16.840.1.113883.10.20.22.4.61" extension="2023-05-01" /> <id root="3e676a50-7aac-11db-9fe1-0800200c9a66" /> <code code="12" displayName="Medicare Secondary Working Aged Beneficiary or Spouse with Employer Group Health Plan" codeSystemName="Insurance Type Code (x12N-1336)" codeSystem="2.16.840.1.113883.6.255.1336"> <translation code="2" displayName="Medicare" codeSystem="2.16.840.1.113883.3.221.5" codeSystemName="Source of Payment Typology (PHDSC)"></translation> </code> <statusCode code="completed" /> <!-- Insurance company information --> <performer typeCode="PRF"> <templateId root="2.16.840.1.113883.10.20.22.4.87" /> <time> <low nullFlavor="UNK" /> <high nullFlavor="UNK" /> </time> </performer> </act> </pre>
--

```

    </time>
    <assignedEntity>
      <id root="2.16.840.1.113883.19" />
      <code code="PAYOR" codeSystem="2.16.840.1.113883.5.110" codeSystemName="HL7
RoleCode" />
      <addr use="WP">
        <streetAddressLine>123 Insurance Road</streetAddressLine>
        <city>Blue Bell</city>
        <state>MA</state>
        <postalCode>02368</postalCode>
        <country>US</country>
        <!-- US is "United States" from ISO 3166-1 Country Codes: 1.0.3166.1 -->
      </addr>
      <telecom value="tel:+(555)555-1515" use="WP" />
      <representedOrganization>
        <name>Good Health Insurance</name>
        <telecom value="tel:+(555)555-1515" use="WP" />
        <addr use="WP">
          <streetAddressLine>123 Insurance Road</streetAddressLine>
          <city>Blue Bell</city>
          <state>MA</state>
          <postalCode>02368</postalCode>
          <country>US</country>
        </addr>
      </representedOrganization>
    </assignedEntity>
  </performer>
  <!-- Guarantor information (the person responsible for the final bill) -->
  <performer typeCode="PRF">
    <templateId root="2.16.840.1.113883.10.20.22.4.88" />
    <time>
      <low nullFlavor="UNK" />
      <high nullFlavor="UNK" />
    </time>
    <assignedEntity>
      <id root="329fcdf0-7ab3-11db-9fe1-0800200c9a66" />
      <code code="GUAR" codeSystem="2.16.840.1.113883.5.111" codeSystemName="HL7
RoleCode" />
      <addr use="HP">
        <streetAddressLine>17 Daws Rd.</streetAddressLine>
        <city>Blue Bell</city>
        <state>MA</state>
        <postalCode>02368</postalCode>
        <country>US</country>
      </addr>
      <telecom value="tel:+(781)555-1212" use="HP" />
      <assignedPerson>
        <name>
          <prefix>Mr.</prefix>
          <given>Adam</given>
          <given>Frankie</given>
          <family>Everyman</family>
        </name>
      </assignedPerson>
    </assignedEntity>
  </performer>
  <!-- Covered party -->

```

```

<participant typeCode="COV">
  <templateId root="2.16.840.1.113883.10.20.22.4.89.2" />
  <time>
    <low nullFlavor="UNK" />
    <high nullFlavor="UNK" />
  </time>
  <participantRole classCode="PAT">
    <!-- Health plan ID for patient. -->
    <id root="1.1.1.1.1.1.1.14" extension="1138345" />
    <code code="SELF" codeSystem="2.16.840.1.113883.5.111" />
    <addr use="HP">
      <streetAddressLine>17 Daws Rd.</streetAddressLine>
      <city>Blue Bell</city>
      <state>MA</state>
      <postalCode>02368</postalCode>
      <country>US</country>
    </addr>
    <playingEntity>
      <name>
        <!-- This playingEntity (representing the covered party), if present,
          SHALL contain name and birthTime. -->
        <prefix>Mr.</prefix>
        <given>Frank</given>
        <given>A.</given>
        <family>Everyman</family>
      </name>
    </playingEntity>
  </participantRole>
</participant>
<!-- Policy holder -->
<participant typeCode="HLD">
  <templateId root="2.16.840.1.113883.10.20.22.4.90.2" />
  <participantRole>
    <id extension="1138345" root="2.16.840.1.113883.19" />
    <addr use="HP">
      <streetAddressLine>17 Daws Rd.</streetAddressLine>
      <city>Blue Bell</city>
      <state>MA</state>
      <postalCode>02368</postalCode>
      <country>US</country>
    </addr>
  </participantRole>
</participant>
<entryRelationship typeCode="REFR">
  <act classCode="ACT" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.1.19" />
    . . .
  </act>
</entryRelationship>
</act>

```

3.17 Problem Observation (V4)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.4:2022-06-01
(open)]

Table 65: Problem Observation (V4) Contexts

Contained By:	Contains:
	Date of Diagnosis Act (optional)

This template reflects a discrete observation about a patient's problem. Because it is a discrete observation, it will have a statusCode of "completed". The effectiveTime, also referred to as the “clinically relevant time” is the time at which the observation holds for the patient. For a provider seeing a patient in the clinic today, observing a history of heart attack that occurred five years ago, the effectiveTime is five years ago.

The effectiveTime of the Problem Observation is the definitive indication of whether or not the underlying condition is resolved. If the problem is known to be resolved, then an effectiveTime/high would be present. If the date of resolution is not known, then effectiveTime/high will be present with a nullFlavor of "UNK".

Table 66: Problem Observation (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.4:2022-06-01)					
@classCode	1..1	SHALL		4515-9041	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		4515-9042	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@negationInd	0..1	MAY		4515-10139	
templateId	1..1	SHALL		4515-14926	
@root	1..1	SHALL		4515-14927	2.16.840.1.113883.10.20.22.4.4
@extension	1..1	SHALL		4515-32508	2022-06-01
id	1..*	SHALL		4515-9043	
code	1..1	SHALL		4515-9045	urn:oid:2.16.840.1.113883.3.88.12.3221.7.2 (Problem Type (SNOMEDCT))
statusCode	1..1	SHALL		4515-9049	
@code	1..1	SHALL		4515-19112	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		4515-9050	
low	1..1	SHALL		4515-15603	
high	0..1	MAY		4515-15604	
value	1..1	SHALL	CD	4515-9058	urn:oid:2.16.840.1.113883.3.88.12.3221.7.4 (Problem)
@code	0..1	MAY		4515-31871	
qualifier	0..*	MAY		4515-31870	
translation	0..*	MAY		4515-16749	
@code	0..1	MAY		4515-16750	urn:oid:2.16.840.1.113883.6.90 (ICD-10-CM)
author	0..*	SHOULD		4515-31147	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..1	MAY		4515-9059	

XPath	Card.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4515-9060	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		4515-9069	true
observation	1..1	SHALL		4515-15590	Age Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.31)
entryRelationship	0..1	MAY		4515-29951	
@typeCode	1..1	SHALL		4515-31531	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-29952	Prognosis Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.113)
entryRelationship	0..*	MAY		4515-31063	
@typeCode	1..1	SHALL		4515-31532	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-31064	Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143)
entryRelationship	0..1	MAY		4515-9063	
@typeCode	1..1	SHALL		4515-9068	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-15591	Problem Status (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.6:2019-06-20)
entryRelationship	0..*	MAY		4515-32965	
@typeCode	1..1	SHALL		4515-32968	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SPRT
act	1..1	SHALL		4515-32966	Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122)
entryRelationship	0..*	MAY		4515-32953	
@typeCode	1..1	SHALL		4515-32955	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SPRT
observation	1..1	SHALL		4515-	Assessment Scale Observation

XPath	Card.	Verb	Data Type	CONF#	Value
				32954	(identifier: urn:oid:2.16.840.1.113883.10.20.22.4.69
entryRelationship	0..*	MAY		4515-33012	
@typeCode	1..1	SHALL		4515-33014	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
act	1..1	SHALL		4515-33013	Date of Diagnosis Act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.502:2022-06-01

1. Conforms to Problem Observation (V3) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.4:2015-08-01).
2. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4515-9041).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4515-9042).

The negationInd is used to indicate the absence of the condition in observation/value. A negationInd of "true" coupled with an observation/value of SNOMED code 64572001 "Disease (disorder)" indicates that the patient has no known conditions.

4. **MAY** contain zero or one [0..1] @negationInd (CONF:4515-10139).
5. **SHALL** contain exactly one [1..1] templateId (CONF:4515-14926) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:4515-14927).
 - b. **SHALL** contain exactly one [1..1] @extension="2022-06-01" (CONF:4515-32508).
6. **SHALL** contain at least one [1..*] id (CONF:4515-9043).
7. **SHALL** contain exactly one [1..1] code, which **SHOULD** be selected from ValueSet [Problem Type \(SNOMEDCT\)](#) urn:oid:2.16.840.1.113883.3.88.12.3221.7.2 **DYNAMIC** (CONF:4515-9045).
 - a. If code is selected from ValueSet Problem Type (SNOMEDCT) urn:oid:2.16.840.1.113883.3.88.12.3221.7.2 **DYNAMIC**, then it **SHALL** have at least one [1..*] translation, which **SHOULD** be selected from ValueSet Problem Type (LOINC) urn:oid:2.16.840.1.113762.1.4.1099.28 **DYNAMIC** (CONF:1198-32950) (CONF:4515-32950).
8. **SHALL** contain exactly one [1..1] statusCode (CONF:4515-9049).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:4515-19112).

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.

9. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:4515-9050).

The effectiveTime/low (a.k.a. "onset date") asserts when the condition became clinically active.

- a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:4515-15603).

The effectiveTime/high (a.k.a. "resolution date") asserts when the condition became clinically resolved.

- b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:4515-15604).
- c. When an observation/value code concept name has a temporal aspect, ensure that observation/effectiveTime/value aligns with the temporal aspect of the code. Most often, a single time is appropriate, rather than low and high values. An example SNOMED CT code is 714093000 | Sexually active in last six months (finding) (CONF:4515-32964).

10. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the code **SHOULD** be selected from ValueSet [Problem](#) urn:oid:2.16.840.1.113883.3.88.12.3221.7.4 **DYNAMIC** (CONF:4515-9058).

A negationInd of "true" coupled with an observation/value/@code of SNOMED code 64572001 "Disease (disorder)" indicates that the patient has no known conditions.

- a. This value **MAY** contain zero or one [0..1] **@code** (CONF:4515-31871).
 - i. When the Problem is Social Determinant of Health Observation, the observation/value **SHOULD** be a SNOMED code selected from ValueSet [Social Determinant of Health Conditions](#) [2.16.840.1.113762.1.4.1196.788](#) **DYNAMIC** (CONF:4515-32951).

The observation/value and all the qualifiers together (often referred to as a post-coordinated expression) make up one concept. Qualifiers constrain, or provide greater specificity to, the meaning of the primary code, and cannot negate it or change its meaning. Qualifiers can only be used according to well-defined rules of post-coordination and only if the underlying code system defines the use of such qualifiers or if there is a third code system that specifies how other code systems may be combined.

For example, in cases where SNOMED CT does not have a precoordinated code that would be appropriate for the problem list, concept post coordination may be used in CDA following the principles outlined in [HL7 Version 3 Implementation Guide: TermInfo - Using SNOMED CT in CDA R2 Models, Release 1

[https://www.hl7.org/documentcenter/public/standards/dstu/V3_IG_SNOMED_R1_DSTU_2015DEC.pdf] using the V3 CD Data type 1 style. This is shown in the Problem Observation Post-coordinated Problem Example. This example represents a family history condition that was also elevated to the problem list to avoid missing pertinent data that may or may not be present in the Family History Section.

- b. This value **MAY** contain zero or more [0..*] **qualifier** (CONF:4515-31870).
- c. This value **MAY** contain zero or more [0..*] **translation** (CONF:4515-16749) such that it
 - i. **MAY** contain zero or one [0..1] **@code** (CodeSystem: ICD-10-CM urn:oid:2.16.840.1.113883.6.90 **STATIC**) (CONF:4515-16750).
 - 1. When the Problem is Social Determinant of Health Observation, the observation/value/translation **SHOULD** be an ICD10 code selected

from ValueSet Social Determinant of Health Conditions
2.16.840.1.113762.1.4.1196.788 DYNAMIC (CONF:4515-32952).

11. **SHOULD** contain zero or more [0..*] Author Participation (identifier:
urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:4515-31147).
12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:4515-9059) such that it
 - a. **SHALL** contain exactly one [1..1] @**typeCode**="SUBJ" Has subject (CodeSystem:
HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**)
(CONF:4515-9060).
 - b. **SHALL** contain exactly one [1..1] @**inversionInd**="true" True (CONF:4515-9069).
 - c. **SHALL** contain exactly one [1..1] Age Observation (identifier:
urn:oid:2.16.840.1.113883.10.20.22.4.31) (CONF:4515-15590).
13. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:4515-29951) such that it
 - a. **SHALL** contain exactly one [1..1] @**typeCode**="REFR" Refers to (CodeSystem:
HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31531).
 - b. **SHALL** contain exactly one [1..1] Prognosis Observation (identifier:
urn:oid:2.16.840.1.113883.10.20.22.4.113) (CONF:4515-29952).
14. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31063) such that it
 - a. **SHALL** contain exactly one [1..1] @**typeCode**="REFR" Refers to (CodeSystem:
HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31532).
 - b. **SHALL** contain exactly one [1..1] Priority Preference (identifier:
urn:oid:2.16.840.1.113883.10.20.22.4.143) (CONF:4515-31064).
15. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:4515-9063) such that it
 - a. **SHALL** contain exactly one [1..1] @**typeCode**="REFR" Refers to (CodeSystem:
HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-9068).
 - b. **SHALL** contain exactly one [1..1] Problem Status (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.22.4.6:2019-06-20) (CONF:4515-15591).

When an Entry Reference template is contained in a Problem Template instance that is a Social Determinant of Health problem, that Entry Reference **MAY** reference an Assessment Scale Observation elsewhere in the document. That Assessment Scale **MAY** contain assessment scale observations that represent LOINC question and answer pairs from SDOH screening instruments.

16. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-32965) such that it
 - a. **SHALL** contain exactly one [1..1] @**typeCode**="SPRT" Has support (CodeSystem:
HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-32968).
 - b. **SHALL** contain exactly one [1..1] Entry Reference (identifier:
urn:oid:2.16.840.1.113883.10.20.22.4.122) (CONF:4515-32966).

When an Assessment Scale Observation is contained in a Problem Template instance that is a Social Determinant of Health problem, that Assessment scale **MAY** contain assessment scale

observations that represent LOINC question and answer pairs from SDOH screening instruments.

17. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-32953) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="SPRT"** Has support (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-32955).
 - b. **SHALL** contain exactly one [1..1] **Assessment Scale Observation** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.69) (CONF:4515-32954).
18. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-33012) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="COMP"** has Component (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-33014).
 - b. **SHALL** contain exactly one [1..1] **Date of Diagnosis Act** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.502:2022-06-01) (CONF:4515-33013).

Figure 43: Problem Observation Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- ** Problem Observation ** -->
  <templateId root="2.16.840.1.113883.10.20.22.4.4" />
  <templateId root="2.16.840.1.113883.10.20.22.4.4" extension="2015-08-01" />
  <templateId root="2.16.840.1.113883.10.20.22.4.4" extension="2022-06-01" />
  <id root="ab1791b0-5c71-11db-b0de-0800200c9a66" />
  <code code="64572001" displayName="Condition"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT">
    <translation code="75323-6" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Condition"/>
  </code>
  <!-- The statusCode reflects the status of the observation itself -->
  <statusCode code="completed" />
  <effectiveTime>
    <!-- The low value reflects the date of onset -->
    <!-- Based on patient symptoms, presumed onset is July 3, 2013 -->
    <low value="20130703" />
    <!-- The high value reflects when the problem was known to be resolved -->
    <!-- Based on signs and symptoms, appears to be resolved on Aug 14, 2013 -->
    <high value="20080814" />
  </effectiveTime>
  <value xsi:type="CD" code="233604007" codeSystem="2.16.840.1.113883.6.96"
displayName="Pneumonia" />
  <author typeCode="AUT">
    <templateId root="2.16.840.1.113883.10.20.22.4.119" />
    <time value="200808141030-0800" />
    <assignedAuthor>
      <id extension="555555555" root="2.16.840.1.113883.4.6" />
      <code code="207QA0505X" displayName="Adult Medicine"
codeSystem="2.16.840.1.113883.6.101" codeSystemName="Healthcare Provider Taxonomy (HIPAA)"
/>
    </assignedAuthor>
  </author>
</observation>
```

Figure 44: Social Determinant of Health Problem Observation Example

```
<!-- SDOH Problem -->
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.4"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.4" extension="2015-08-01"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.4" extension="2022-06-01"/>
  <id extension="68993" root="1.2.840.114350.1.13.6289.1.7.2.768076"/>
  <id root="093A5380-00CE-11E6-B4C5-0050568B000B" extension="1.1"/>
  <code code="55607006" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"
displayName="Problem">
    <originalText>
      <reference value="#ProblemObs_1_PT1"/>
    </originalText>
    <translation code="75326-9" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Problem"/>
  </code>
  <text>
    <reference value="#ProblemObs1"/>
  </text>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="20140909"/>
  </effectiveTime>
  <value xsi:type="CD" code="445281000124101" displayName="Nutrition impaired due to
limited access to healthful foods (finding)" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT">
    <translation code="Z59.48" codeSystem="2.16.840.1.113883.6.90" codeSystemName="ICD-
10-CM" displayName="Other specified lack of adequate food"/>
  </value>
</observation>
```


Figure 45: Problem Observation Post-Coordinated Problem Example

```

<!-- Name/value pair problem example -->
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.4" extension="2022-06-01"/>
  <id root="093A5380-00CE-11E6-B4C5-0050568B000B" extension="1.1"/>
  <code code="55607006" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"
displayName="Problem">
    <originalText>
      <reference value="#ProblemConcern_1_PT1"/>
    </originalText>
    <translation code="75326-9" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Problem"/>
  </code>
  <text>
    <reference value="#ProblemConcern_1"/>
  </text>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="20140909"/>
  </effectiveTime>
  <!-- Example of a problem from problem list, that is not present in SNOMED CT as a
precoordinated concept -->
  <value xsi:type="CD" code="281666001" codeSystem="2.16.840.1.113883.6.96"
displayName="Family history of disorder">
    <qualifier>
      <name code="246090004" displayName="Associated finding"/>
      <value code="254167000" displayName="Bullous ichthyosiform erythroderma"/>
    </qualifier>
  </value>
  <author>
    <time value="20160412161448+0000"/>
    <assignedAuthor>
      <id extension="1" root="1.2.840.114350.1.13.6289.1.7.2.697780"/>
      <addr>
        <streetAddressLine>123 Anywhere
          St.</streetAddressLine>
        <city>Verona</city>
        <state>WI</state>
        <postalCode>53753</postalCode>
      </addr>
      <telecom use="WP" value="tel:555-5555"/>
      <assignedPerson>
        <name>
          <given>Andrew</given>
          <family>Moreland</family>
        </name>
      </assignedPerson>
    </assignedAuthor>
  </author>
</observation>

```

3.18 Procedure Activity Procedure (V3)

```
[procedure: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.14:2022-06-01  
(open) ]
```

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 template 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.

This template can be used with a contained Product Instance template to represent a device in or on a patient. In this case, targetSiteCode is used to record the location of the device in or on the patient's body. Equipment supplied to the patient (e.g., pumps, inhalers, wheelchairs) is represented by the Non-Medicinal Supply Activity (V2) template.

Procedure Activity Procedure V3 Usage Note: Common practice in the industry has shown that Procedure Activity Procedure is the usually implemented CDA template for any type of intervention or procedure regardless of if the "immediate and primary outcome (post-condition) is the alteration of the physical condition of the patient" or not. As a result, it is recommended to use Procedure Activity Procedure when sending procedures also thought of as "interventions" such as "Home Environment Evaluation" or "Assessment of nutritional status".

Table 67: Procedure Activity Procedure (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
procedure (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.14:2022-06-01)					
@classCode	1..1	SHALL		4515-7652	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		4515-7653	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4515-7654	
@root	1..1	SHALL		4515-10521	2.16.840.1.113883.10.20.22.4.14
@extension	1..1	SHALL		4515-32506	2022-06-01
id	1..*	SHALL		4515-7655	
code	1..1	SHALL		4515-7656	
originalText	0..1	SHOULD		4515-19203	
reference	0..1	SHOULD		4515-19204	
@value	0..1	SHOULD		4515-19205	
statusCode	1..1	SHALL		4515-7661	
@code	1..1	SHALL		4515-32366	urn:oid:2.16.840.1.113883.11.20.9.22 (ProcedureAct statusCode)
effectiveTime	0..1	SHOULD		4515-7662	
priorityCode	0..1	MAY		4515-7668	urn:oid:2.16.840.1.113883.1.11.16866 (ActPriority)
methodCode	0..1	MAY		4515-7670	
targetSiteCode	0..*	SHOULD		4515-7683	urn:oid:2.16.840.1.113883.3.88.12.3221.8.9 (Body Site Value Set)
specimen	0..*	MAY		4515-7697	
specimenRole	1..1	SHALL		4515-7704	
id	0..*	SHOULD		4515-7716	
performer	0..*	SHOULD		4515-7718	
assignedEntity	1..1	SHALL		4515-	

XPath	Card.	Verb	Data Type	CONF#	Value
				7720	
id	1..*	SHALL		4515-7722	
addr	1..*	SHALL		4515-7731	
telecom	1..*	SHALL		4515-7732	
representedOrganization	0..1	SHOULD		4515-7733	
id	0..*	SHOULD		4515-7734	
name	0..*	MAY		4515-7735	
telecom	1..*	SHALL		4515-7737	
addr	1..*	SHALL		4515-7736	
author	0..*	SHOULD		4515-32479	Author Participation (identifier: urn:oid:2.16.840.1.113883.10. 20.22.4.119
participant	0..*	MAY		4515-7751	
@typeCode	1..1	SHALL		4515-7752	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DEV
participantRole	1..1	SHALL		4515-15911	Product Instance (identifier: urn:oid:2.16.840.1.113883.10. 20.22.4.37
participant	0..*	MAY		4515-7765	
@typeCode	1..1	SHALL		4515-7766	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = LOC
participantRole	1..1	SHALL		4515-15912	Service Delivery Location (identifier: urn:oid:2.16.840.1.113883.10. 20.22.4.32
entryRelationship	0..*	MAY		4515-7768	
@typeCode	1..1	SHALL		4515-7769	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = COMP
@inversionInd	1..1	SHALL		4515-8009	true
encounter	1..1	SHALL		4515-	

XPath	Card.	Verb	Data Type	CONF#	Value
				7770	
@classCode	1..1	SHALL		4515-7771	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		4515-7772	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
id	1..1	SHALL		4515-7773	
entryRelationship	0..1	MAY		4515-7775	
@typeCode	1..1	SHALL		4515-7776	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		4515-7777	true
act	1..1	SHALL		4515-31395	Instruction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
entryRelationship	0..*	MAY		4515-7779	
@typeCode	1..1	SHALL		4515-7780	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		4515-15914	Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
entryRelationship	0..*	MAY		4515-7886	
@typeCode	1..1	SHALL		4515-7887	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
substanceAdministration	1..1	SHALL		4515-15915	Medication Activity (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09
entryRelationship	0..*	MAY		4515-32473	
@typeCode	1..1	SHALL		4515-32474	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		4515-32475	Reaction Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.9:2014-06-09
entryRelationship	0..*	MAY		4515-32985	
@typeCode	1..1	SHALL		4515-32987	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType)

XPath	Card.	Verb	Data Type	CONF#	Value
					= RSON
observation	1..1	SHALL		4515-32986	Assessment Scale Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.69)
entryRelationship	0..*	MAY		4515-32988	
@typeCode	1..1	SHALL		4515-32990	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
act	1..1	SHALL		4515-32989	Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122)

1. **SHALL** contain exactly one [1..1] **@classCode**="PROC" Procedure (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4515-7652).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4515-7653).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:4515-7654) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.14" (CONF:4515-10521).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2022-06-01" (CONF:4515-32506).
4. **SHALL** contain at least one [1..*] **id** (CONF:4515-7655).
5. **SHALL** contain exactly one [1..1] **code** (CONF:4515-7656).
 - a. This code **SHOULD** contain zero or one [0..1] **originalText** (CONF:4515-19203).
 - i. The originalText, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:4515-19204).
 1. The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:4515-19205).
 - a. This reference/**@value** **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:4515-19206).
 - b. 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 (CodeSystem: 2.16.840.1.113883.6.12) or ICD-10-PCS (CodeSystem: 2.16.840.1.113883.6.4) or HCPCS (Code System: 2.16.840.1.113762.1.4.1247.9) or CDT-2 (Code System: 2.16.840.1.113883.6.13) (CONF:4515-19207).
 - c. If the Intervention Procedure is a Social Determinant of Health Intervention, the procedure code **SHOULD** be selected from ValueSet [Social Determinant of Health Procedures](#)**DYNAMIC** (CONF:4515-32984).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4515-7661).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet [ProcedureAct statusCode](#)

urn:oid:2.16.840.1.113883.11.20.9.22 **STATIC** 2014-04-23 (CONF:4515-32366).

7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:4515-7662).
8. **MAY** contain zero or one [0..1] **priorityCode**, which **SHALL** be selected from ValueSet [ActPriority](#) urn:oid:2.16.840.1.113883.1.11.16866 **DYNAMIC** (CONF:4515-7668).
9. **MAY** contain zero or one [0..1] **methodCode** (CONF:4515-7670).
 - a. MethodCode **SHALL NOT** conflict with the method inherent in Procedure / code (CONF:4515-7890).

In the case of an implanted medical device, targetSiteCode is used to record the location of the device, in or on the patient's body.

10. **SHOULD** contain zero or more [0..*] **targetSiteCode**, which **SHALL** be selected from ValueSet [Body Site Value Set](#) urn:oid:2.16.840.1.113883.3.88.12.3221.8.9 **DYNAMIC** (CONF:4515-7683).
11. **MAY** contain zero or more [0..*] **specimen** (CONF:4515-7697).
 - a. The specimen, if present, **SHALL** contain exactly one [1..1] **specimenRole** (CONF:4515-7704).
 - i. This specimenRole **SHOULD** contain zero or more [0..*] **id** (CONF:4515-7716).
 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:4515-29744).
 - b. This specimen is for representing specimens obtained from a procedure (CONF:4515-16842).
12. **SHOULD** contain zero or more [0..*] **performer** (CONF:4515-7718) such that it
 - a. **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:4515-7720).
 - i. This assignedEntity **SHALL** contain at least one [1..*] **id** (CONF:4515-7722).
 - ii. This assignedEntity **SHALL** contain at least one [1..*] **addr** (CONF:4515-7731).
 - iii. This assignedEntity **SHALL** contain at least one [1..*] **telecom** (CONF:4515-7732).
 - iv. This assignedEntity **SHOULD** contain zero or one [0..1] **representedOrganization** (CONF:4515-7733).
 1. The representedOrganization, if present, **SHOULD** contain zero or more [0..*] **id** (CONF:4515-7734).
 2. The representedOrganization, if present, **MAY** contain zero or more [0..*] **name** (CONF:4515-7735).
 3. The representedOrganization, if present, **SHALL** contain at least one [1..*] **telecom** (CONF:4515-7737).
 4. The representedOrganization, if present, **SHALL** contain at least one [1..*] **addr** (CONF:4515-7736).
13. **SHOULD** contain zero or more [0..*] Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:4515-32479).
14. **MAY** contain zero or more [0..*] **participant** (CONF:4515-7751) such that it

- a. **SHALL** contain exactly one [1..1] @typeCode="DEV" Device (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:4515-7752).
 - b. **SHALL** contain exactly one [1..1] Product Instance (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.37) (CONF:4515-15911).
15. **MAY** contain zero or more [0..*] **participant** (CONF:4515-7765) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90 **STATIC**) (CONF:4515-7766).
 - b. **SHALL** contain exactly one [1..1] Service Delivery Location (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.32) (CONF:4515-15912).
16. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-7768) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="COMP" Has Component (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:4515-7769).
 - b. **SHALL** contain exactly one [1..1] @inversionInd="true" true (CONF:4515-8009).
 - c. **SHALL** contain exactly one [1..1] **encounter** (CONF:4515-7770).
 - i. This encounter **SHALL** contain exactly one [1..1] @classCode="ENC" Encounter (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4515-7771).
 - ii. This encounter **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4515-7772).
 - iii. This encounter **SHALL** contain exactly one [1..1] **id** (CONF:4515-7773).
 - 1. Set the encounter ID to the ID of an encounter in another section to signify they are the same encounter (CONF:4515-16843).
17. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:4515-7775) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="SUBJ" Has Subject (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:4515-7776).
 - b. **SHALL** contain exactly one [1..1] @inversionInd="true" true (CONF:4515-7777).
 - c. **SHALL** contain exactly one [1..1] Instruction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09) (CONF:4515-31395).
18. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-7779) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="RSON" Has Reason (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:4515-7780).
 - b. **SHALL** contain exactly one [1..1] Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09) (CONF:4515-15914).
19. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-7886) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="COMP" Has Component (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:4515-7887).

- b. **SHALL** contain exactly one [1..1] Medication Activity (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09) (CONF:4515-15915).
20. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-32473) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="COMP"** Has Component (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-32474).
 - b. **SHALL** contain exactly one [1..1] Reaction Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.9:2014-06-09) (CONF:4515-32475).

When an Assessment Scale Observation is contained in a Procedure Template instance that is a Social Determinant of Health intervention procedure, that Assessment scale **MAY** contain Assessment Scale observations that represent LOINC question and answer pairs from SDOH screening instruments.

21. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-32985) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** Has reason (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-32987).
 - b. **SHALL** contain exactly one [1..1] Assessment Scale Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.69) (CONF:4515-32986).

When an Entry Reference Template is contained in a Procedure Template instance that is a Social Determinant of Health procedure, that Entry Reference **MAY** refer to Assessment Scale Observation in the same document that represent LOINC question and answer pairs from SDOH screening instruments.

22. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-32988) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** Has reason (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-32990).
 - b. **SHALL** contain exactly one [1..1] Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122) (CONF:4515-32989).

Table 68: ProcedureAct statusCode

Value Set: ProcedureAct statusCode urn:oid:2.16.840.1.113883.11.20.9.22 (Clinical Focus: Status of a procedure activity),(Data Element Scope:),(Inclusion Criteria:),(Exclusion Criteria:)			
This value set was imported on 4/24/2019 with a version of 20190103.			
Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.9.22/expansion			
Code	Code System	Code System OID	Print Name
aborted	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	aborted
active	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	active
cancelled	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	cancelled
completed	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	completed

Table 69: ActPriority

Value Set: ActPriority urn:oid:2.16.840.1.113883.1.11.16866 (Clinical Focus: The urgency under which the Act happened, can happen, is happening, is intended to happen, or is requested/demanded to happen.), (Data Element Scope:), (Inclusion Criteria: All members of system 2.16.840.1.113883.5.7), (Exclusion Criteria:) This value set was imported on 6/24/2019 with a version of 20190425. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.16866/expansion			
Code	Code System	Code System OID	Print Name
A	HL7ActPriority	urn:oid:2.16.840.1.113883.5.7	ASAP
CR	HL7ActPriority	urn:oid:2.16.840.1.113883.5.7	callback results
CS	HL7ActPriority	urn:oid:2.16.840.1.113883.5.7	callback for scheduling
CSP	HL7ActPriority	urn:oid:2.16.840.1.113883.5.7	callback placer for scheduling
CSR	HL7ActPriority	urn:oid:2.16.840.1.113883.5.7	contact recipient for scheduling
EL	HL7ActPriority	urn:oid:2.16.840.1.113883.5.7	elective
EM	HL7ActPriority	urn:oid:2.16.840.1.113883.5.7	emergency
P	HL7ActPriority	urn:oid:2.16.840.1.113883.5.7	preop
PRN	HL7ActPriority	urn:oid:2.16.840.1.113883.5.7	as needed
R	HL7ActPriority	urn:oid:2.16.840.1.113883.5.7	routine
...			

Figure 46: Procedure Activity Procedure Example

```
<procedure classCode="PROC" moodCode="EVN">
  <!-- Procedure Activity Procedure -->
  <templateId root="2.16.840.1.113883.10.20.22.4.14" />
  <templateId root="2.16.840.1.113883.10.20.22.4.14" extension="2014-06-09" />
  <templateId root="2.16.840.1.113883.10.20.22.4.14" extension="2022-06-01" />
  <id root="d5b614bd-01ce-410d-8726-e1fd01dcc72a" />
  <code code="103716009" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"
  displayName="Stent Placement">
    <originalText>
      <reference value="#Procl" />
    </originalText>
  </code>
  <statusCode code="completed" />
  <effectiveTime value="20130512" />
  <targetSiteCode code="28273000" displayName="bile duct"
  codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT" />
  <specimen typeCode="SPC">
    <specimenRole classCode="SPEC">
      <id root="a6d7b927-2b70-43c7-bdf3-0e7c4133062c" />
      <specimenPlayingEntity>
        <code code="57259009" codeSystem="2.16.840.1.113883.6.96"
        displayName="gallbladder bile" />
      </specimenPlayingEntity>
    </specimenRole>
  </specimen>
  <performer>
    ...
  </performer>
</procedure>
```

Figure 47: Procedure Activity Procedure Social Determinant of Health Intervention Example

```
<procedure classCode="PROC" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.14" extension="2014-06-09"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.14" extension="2022-06-01"/>
  <id extension="2448483" root="1.2.840.114350.1.13.5552.1.7.2.798268"/>
  <code code="61310001" codeSystem="2.16.840.1.113883.6.96" displayName="Nutrition
  education" codeSystemName="SNOMED-CT">
    <originalText>
      <reference value="#ProcedureDesc3"/>
    </originalText>
    <translation code="97802" codeSystem="2.16.840.1.113883.6.12" displayName="Medical
    nutrition therapy; initial" codeSystemName="CPT"/>
    <translation code="S9470" codeSystem="2.16.840.1.113883.6.13"
    displayName="Nutritional counseling, diet" codeSystemName="HCPCS"/>
  </code>
  <text>
    <reference value="#Procedure1"/>
  </text>
  <statusCode code="completed"/>
  <effectiveTime value="20160413"/>
</procedure>
```

3.19 Result Observation (V4)

```
[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2023-05-01  
(open) ]
```

This template represents the results of a laboratory, radiology, or other study performed on a patient. The result observation includes a statusCode to allow recording the status of an observation. “Pending” results (e.g., a test has been run but results have not been reported yet) should be represented as “active” ActStatus.

Table 70: Result Observation (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2023-05-01)					
@classCode	1..1	SHALL		4537-7130	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		4537-7131	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4537-7136	
@root	1..1	SHALL		4537-9138	2.16.840.1.113883.10.20.22.4.2
@extension	1..1	SHALL		4537-32575	2023-05-01
id	1..*	SHALL		4537-7137	
code	1..1	SHALL		4537-7133	urn:oid:2.16.840.1.113883.6.1 (LOINC)
statusCode	1..1	SHALL		4537-7134	
@code	1..1	SHALL		4537-14849	urn:oid:2.16.840.1.113883.11.20.9.39 (Result Status)
effectiveTime	1..1	SHALL		4537-7140	
value	1..1	SHALL		4537-7143	
interpretationCode	0..*	SHOULD		4537-7147	urn:oid:2.16.840.1.113883.1.11.78 (Observation Interpretation (HL7))
methodCode	0..1	MAY	SET<CE>	4537-7148	
targetSiteCode	0..1	MAY	SET<CD>	4537-7153	
specimen	0..*	MAY		4537-32611	
specimenRole	1..1	SHALL		4537-32612	
specimenPlayingEntity	1..1	SHALL		4537-32613	
code	1..1	SHALL		4537-32614	urn:oid:2.16.840.1.113762.1.4.1099.54 (Specimen type)
author	0..*	SHOULD		4537-7149	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
referenceRange	0..*	SHOULD		4537-7150	

XPath	Card.	Verb	Data Type	CONF#	Value
observationRange	1..1	SHALL		4537-7151	
code	0..0	SHALL NOT		4537-7152	
value	1..1	SHALL		4537-32175	

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4537-7130).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4537-7131).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:4537-7136) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.2"** (CONF:4537-9138).
 - b. **SHALL** contain exactly one [1..1] **@extension="2023-05-01"** (CONF:4537-32575).
4. **SHALL** contain at least one [1..*] **id** (CONF:4537-7137).
5. **SHALL** contain exactly one [1..1] **code**, which **SHOULD** be selected from CodeSystem LOINC (urn:oid:2.16.840.1.113883.6.1) (CONF:4537-7133).
 - a. This code **SHOULD** be a code from the LOINC that identifies the result observation. If an appropriate LOINC code does not exist, then the local code for this result **SHALL** be sent (CONF:4537-19212).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4537-7134).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet [Result Status](#) urn:oid:2.16.840.1.113883.11.20.9.39 **STATIC** (CONF:4537-14849).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:4537-7140).
Note: Represents the clinically relevant time of the measurement (e.g., the time a blood pressure reading is obtained, the time the blood sample was obtained for a chemistry test).
8. **SHALL** contain exactly one [1..1] **value** (CONF:4537-7143).

NOTE: The base CDA R2.0 standard requires **@unit** to be drawn from UCUM, and best practice is to use case sensitive UCUM units

- a. If Observation/value is a physical quantity (**xsi:type="PQ"**), the unit of measure **SHOULD** be selected from ValueSet **UnitsOfMeasureCaseSensitive** urn:oid:2.16.840.1.113883.1.11.12839 **DYNAMIC** (CONF:4537-31484).
 - b. A coded or physical quantity value **MAY** contain zero or more [0..*] translations, which can be used to represent the original results as output by the lab (CONF:4537-31866).
 - c. If Observation/value is a CD (**xsi:type="CD"**) the value **SHOULD** be SNOMED-CT (CONF:4537-32610).
9. **SHOULD** contain zero or more [0..*] **interpretationCode**, which **SHALL** be selected from ValueSet [Observation Interpretation \(HL7\)](#) urn:oid:2.16.840.1.113883.1.11.78 **DYNAMIC** (CONF:4537-7147).

10. **MAY** contain zero or one [0..1] **methodCode** (CONF:4537-7148).

11. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:4537-7153).

Laboratory observations are expected to include the specimen participant. The specimen included at specimenPlayingEntity/code must be consistent with the observation/code.

12. **MAY** contain zero or more [0..*] **specimen** (CONF:4537-32611).

a. The specimen, if present, **SHALL** contain exactly one [1..1] **specimenRole** (CONF:4537-32612).

i. This specimenRole **SHALL** contain exactly one [1..1] **specimenPlayingEntity** (CONF:4537-32613).

1. This specimenPlayingEntity **SHALL** contain exactly one [1..1] **code**, which **SHOULD** be selected from ValueSet [Specimen type](#) urn:oid:2.16.840.1.113762.1.4.1099.54 **DYNAMIC** (CONF:4537-32614).

13. **SHOULD** contain zero or more [0..*] Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:4537-7149).

14. **SHOULD** contain zero or more [0..*] **referenceRange** (CONF:4537-7150).

a. The referenceRange, if present, **SHALL** contain exactly one [1..1] **observationRange** (CONF:4537-7151).

i. This observationRange **SHALL NOT** contain [0..0] **code** (CONF:4537-7152).

ii. This observationRange **SHALL** contain exactly one [1..1] **value** (CONF:4537-32175).

Table 71: Result Status

Value Set: Result Status urn:oid:2.16.840.1.113883.11.20.9.39 (Clinical Focus: The processing status of a laboratory test or panel),(Data Element Scope:),(Inclusion Criteria:),(Exclusion Criteria:) This value set was imported on 4/24/2019 with a version of 20190103. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.9.39/expansion			
Code	Code System	Code System OID	Print Name
aborted	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	aborted
active	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	active
cancelled	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	cancelled
completed	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	completed
held	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	held
suspended	HL7ActStatus	urn:oid:2.16.840.1.113883.5.14	suspended

Table 72: UnitsOfMeasureCaseSensitive

Value Set: UnitsOfMeasureCaseSensitive urn:oid:2.16.840.1.113883.1.11.12839 (Clinical Focus: Common UCUM units. This value set is based on the Common UCUM set.),(Data Element Scope: unit of measure),(Inclusion Criteria: all valid UCUM units case sensitive),(Exclusion Criteria:) This value set was imported on 6/29/2019 with a version of 20180509. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.12839/expansion			
Code	Code System	Code System OID	Print Name
%	UCUM	urn:oid:1.3.6.1.4.1.12009.10.3.1	percent
%{Hb}	UCUM	urn:oid:1.3.6.1.4.1.12009.10.3.1	percent hemoglobin
%{RBCs}	UCUM	urn:oid:1.3.6.1.4.1.12009.10.3.1	percent of red blood cells
%{WBCs}	UCUM	urn:oid:1.3.6.1.4.1.12009.10.3.1	percent of white blood cells
%{abnormal}	UCUM	urn:oid:1.3.6.1.4.1.12009.10.3.1	percent abnormal
%{activity}	UCUM	urn:oid:1.3.6.1.4.1.12009.10.3.1	percent activity
%{aggregation}	UCUM	urn:oid:1.3.6.1.4.1.12009.10.3.1	percent aggregation
%{at_60_min}	UCUM	urn:oid:1.3.6.1.4.1.12009.10.3.1	percent at 60 minute
%{bacteria}	UCUM	urn:oid:1.3.6.1.4.1.12009.10.3.1	percent of bacteria
%{basal_activity}	UCUM	urn:oid:1.3.6.1.4.1.12009.10.3.1	percent basal activity
...			

Table 73: Observation Interpretation (HL7)

Value Set: Observation Interpretation (HL7) urn:oid:2.16.840.1.113883.1.11.78 (Clinical Focus: Codes specifying a rough qualitative interpretation of the observation, such as "normal", "abnormal", "below normal", "change up", "resistant", "susceptible", etc.), (Data Element Scope:), (Inclusion Criteria: all reportable codes in the code system ObservationInterpretation), (Exclusion Criteria: Collector codes in the code system) This value set was imported on 4/24/2019 with a version of 20190104. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.78/expansion			
Code	Code System	Code System OID	Print Name
<	ObservationInterpretation	urn:oid:2.16.840.1.113883.5.83	Off scale low
>	ObservationInterpretation	urn:oid:2.16.840.1.113883.5.83	Off scale high
A	ObservationInterpretation	urn:oid:2.16.840.1.113883.5.83	Abnormal
AA	ObservationInterpretation	urn:oid:2.16.840.1.113883.5.83	Critical abnormal
AC	ObservationInterpretation	urn:oid:2.16.840.1.113883.5.83	Anti-complementary substances present
B	ObservationInterpretation	urn:oid:2.16.840.1.113883.5.83	Better
CAR	ObservationInterpretation	urn:oid:2.16.840.1.113883.5.83	Carrier
Carrier	ObservationInterpretation	urn:oid:2.16.840.1.113883.5.83	Carrier
D	ObservationInterpretation	urn:oid:2.16.840.1.113883.5.83	Significant change down
DET	ObservationInterpretation	urn:oid:2.16.840.1.113883.5.83	Detected
...			

Table 74: Specimen type

Value Set: Specimen type urn:oid:2.16.840.1.113762.1.4.1099.54 (Clinical Focus: This set of values includes all potentially relevant specimen types for a human result observation.),(Data Element Scope: The intent of this set of values is to represent clinically relevant specimens that may be used for laboratory or other pathology studies.),(Inclusion Criteria: Any specimen that could be relevant in a human clinical use case),(Exclusion Criteria: Excludes a decapitated animal head specimen) This value set was imported on 11/7/2022 with a version of Latest. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.1099.54/expansion			
Code	Code System	Code System OID	Print Name
110893002	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Cutaneous cytologic material (specimen)
110894008	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Mammary cytologic material (specimen)
110896005	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Subcutaneous cytologic material (specimen)
110897001	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Bone marrow cytological material (specimen)
110898006	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Lymph node cytologic material (specimen)
110899003	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Breast nipple cytologic material (specimen)
110900008	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Skeletal muscle cytologic material (specimen)
110901007	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Bone cytologic material (specimen)
110902000	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Upper respiratory tract cytologic material (specimen)
110903005	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Nasal cytologic material (specimen)
...			

Figure 48: Result Observation (V4) Example

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.2" extension="2023-05-01" />
  <id root="7c0704bb-9c40-41b5-9c7d-26b2d59e234f" />
  <code code="20570-8" displayName="Hematocrit" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" />
  <statusCode code="completed" />
  <effectiveTime value="200803190830-0800" />
  <value xsi:type="PQ" value="35.3" unit="%" />
  <interpretationCode code="L" codeSystem="2.16.840.1.113883.5.83" />
  <author>
    <time value="200803190830-0800" />
    <assignedAuthor>
      <id extension="333444444" root="1.1.1.1.1.1.4" />
      <addr>
        <streetAddressLine>1017 Health Drive</streetAddressLine>
        <city>Portland</city>
        <state>OR</state>
        <postalCode>99123</postalCode>
        <country>US</country>
      </addr>
      <telecom use="WP" value="tel:+1(555)555-1017" />
      <assignedPerson>
        <name>
          <given>William</given>
          <given qualifier="CL">Bill</given>
          <family>Beaker</family>
        </name>
      </assignedPerson>
      <representedOrganization>
        <name>Good Health Laboratory</name>
      </representedOrganization>
    </assignedAuthor>
  </author>
  <referenceRange>
    <observationRange>
      <text>Low</text>
      <value xsi:type="IVL_PQ">
        <low value="34.9" unit="%" />
        <high value="44.5" unit="%" />
      </value>
      <interpretationCode code="L" codeSystem="2.16.840.1.113883.5.83"/>
    </observationRange>
  </referenceRange>
</observation>
```

3.20 Result Organizer (V4)

```
[organizer: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.1:2023-05-01  
(open) ]
```

This template provides a mechanism for grouping result observations. It contains information applicable to all of the contained result observations. The Result Organizer code categorizes the contained results into one of several commonly accepted values (e.g., "Hematology", "Chemistry", "Nuclear Medicine").

If any Result Observation within the organizer has a statusCode of "active", the Result Organizer must also have a statusCode of "active".

Table 75: Result Organizer (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
organizer (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.1:2023-05-01)					
@classCode	1..1	SHALL		4537-7121	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass)
@moodCode	1..1	SHALL		4537-7122	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4537-7126	
@root	1..1	SHALL		4537-9134	2.16.840.1.113883.10.20.22.4.1
@extension	1..1	SHALL		4537-32588	2023-05-01
id	1..*	SHALL		4537-7127	
code	1..1	SHALL		4537-7128	
statusCode	1..1	SHALL		4537-7123	
@code	1..1	SHALL		4537-14848	urn:oid:2.16.840.1.113883.11.20.9.39 (Result Status)
effectiveTime	0..1	MAY		4537-31865	
low	1..1	SHALL		4537-32488	
high	1..1	SHALL		4537-32489	
specimen	0..*	MAY		4537-32615	
specimenRole	1..1	SHALL		4537-32616	
specimenPlayingEntity	1..1	SHALL		4537-32617	
code	1..1	SHALL		4537-32618	urn:oid:2.16.840.1.113762.1.4.1099.54 (Specimen type)
author	0..*	SHOULD		4537-31149	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
component	1..*	SHALL		4537-7124	
observation	1..1	SHALL		4537-14850	Result Observation (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01)

1. **SHALL** contain exactly one [1..1] **@classCode** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4537-7121).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4537-7122).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:4537-7126) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.1" (CONF:4537-9134).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2023-05-01" (CONF:4537-32588).
4. **SHALL** contain at least one [1..*] **id** (CONF:4537-7127).
5. **SHALL** contain exactly one [1..1] **code** (CONF:4537-7128).
 - a. **SHOULD** be selected from LOINC (codeSystem 2.16.840.1.113883.6.1) **OR** SNOMED CT (codeSystem 2.16.840.1.113883.6.96), and **MAY** be selected from CPT (codeSystem 2.16.840.1.113883.6.12) (CONF:4537-19218).
 - b. Laboratory results **SHOULD** be from LOINC (CodeSystem: 2.16.840.1.113883.6.1) or other constrained terminology named by the US Department of Health and Human Services Office of National Coordinator or other federal agency (CONF:4537-19219).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4537-7123).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet [Result Status](#) urn:oid:2.16.840.1.113883.11.20.9.39 **STATIC** (CONF:4537-14848).
7. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4537-31865).
 Note: The effectiveTime is an interval that spans the effectiveTimes of the contained result observations. Because all contained result observations have a required time stamp, it is not required that this effectiveTime be populated.
 - a. The effectiveTime, if present, **SHALL** contain exactly one [1..1] **low** (CONF:4537-32488).
 - b. The effectiveTime, if present, **SHALL** contain exactly one [1..1] **high** (CONF:4537-32489).

When an organizer is for laboratory, observations are expected to include the specimen participant. The specimen included at specimenPlayingEntity/code must be consistent with the observation/code.

8. **MAY** contain zero or more [0..*] **specimen** (CONF:4537-32615).
 - a. The specimen, if present, **SHALL** contain exactly one [1..1] **specimenRole** (CONF:4537-32616).
 - i. This specimenRole **SHALL** contain exactly one [1..1] **specimenPlayingEntity** (CONF:4537-32617).
 1. This specimenPlayingEntity **SHALL** contain exactly one [1..1] **code**, which **SHOULD** be selected from ValueSet [Specimen type](#) urn:oid:2.16.840.1.113762.1.4.1099.54 **DYNAMIC** (CONF:4537-32618).
9. **SHOULD** contain zero or more [0..*] Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:4537-31149).
10. **SHALL** contain at least one [1..*] **component** (CONF:4537-7124) such that it

- a. **SHALL** contain exactly one [1..1] Result Observation (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01) (CONF:4537-14850).

Figure 49: Result Organizer (V4) Example

```
<organizer classCode="BATTERY" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.1" extension="2023-05-01" />
  <id root="7d5a02b0-67a4-11db-bd13-0800200c9a66" />
  <code code="57021-8" displayName="CBC W Auto Differential panel in Blood"
codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" />
  <statusCode code="completed" />
  <effectiveTime>
    <low value="200803190830-0800" />
    <high value="200803190830-0800" />
  </effectiveTime>
  <author>
    . . .
  </author>
  <component>
    <observation classCode="OBS" moodCode="EVN">
      <!-- ** Result observation ** -->
      <templateId root="2.16.840.1.113883.10.20.22.4.2" extension="2015-08-01" />
      . . .
    </observation>
  </component>
</organizer>
```

3.21 Section Time Range Observation

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.201:2016-06-01 (open)]

This observation represents the date and time range of the information contained in a section. It is an optional entry and may be used in any section.

Table 76: Section Time Range Observation Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.201:2016-06-01)					
@classCode	1..1	SHALL		3250-32960	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3250-32961	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		3250-32951	
@root	1..1	SHALL		3250-32955	2.16.840.1.113883.10.20.22.4.201
@extension	1..1	SHALL		3250-32956	2016-06-01
code	1..1	SHALL		3250-32952	
@code	1..1	SHALL		3250-32957	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 82607-3
@codeSystem	1..1	SHALL		3250-32958	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
text	1..1	SHALL		3250-32962	
reference	1..1	SHALL		3250-32963	
@value	1..1	SHALL		3250-32964	
statusCode	1..1	SHALL		3250-32950	
@code	1..1	SHALL		3250-32954	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
value	1..1	SHALL	IVL_TS	3250-32953	
low	1..1	SHALL		3250-32965	
high	1..1	SHALL		3250-32966	

1. **SHALL** contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:3250-32960).

2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:3250-32961).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:3250-32951) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.201" (CONF:3250-32955).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-06-01" (CONF:3250-32956).
4. **SHALL** contain exactly one [1..1] **code** (CONF:3250-32952).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="82607-3" Section Time Range (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1 **STATIC**) (CONF:3250-32957).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.1" (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1 **STATIC**) (CONF:3250-32958).
5. **SHALL** contain exactly one [1..1] **text** (CONF:3250-32962).
 - a. This text **SHALL** contain exactly one [1..1] **reference** (CONF:3250-32963).
 - i. This reference **SHALL** contain exactly one [1..1] **@value** (CONF:3250-32964).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3250-32950).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:3250-32954).
7. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="IVL_TS" (CONF:3250-32953).
 - a. This value **SHALL** contain exactly one [1..1] **low** (CONF:3250-32965).
 - b. This value **SHALL** contain exactly one [1..1] **high** (CONF:3250-32966).

Figure 50: Section Time Range Example

```
<!-- Section Time Range Observation -->
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.68.99999"/>
  <code code="X-SECTIONTIMERANGE" codeSystem="2.16.840.1.113883.6.1"
    displayName="Section Date and Time Range"/>
  <text>
    <reference value="#TS_Narrative1"/>
  </text>
  <statusCode code="completed"/>
  <value xsi:type="IVL_TS">
    <low value="20120815"/>
    <high value="20150815"/>
  </value>
</observation>
```

3.22 Sex for Clinical Use Observation - US Realm

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.507:2023-05-01 (open)]

This template represents Sex for Clinical Use and is a categorization of sex derived from information such as recent hormone lab tests, genetic testing, menstrual status, obstetric history, etc. Sex for

Clinical Use is a contextual concept. For example, a patient may generally be categorized as male, but for a specific lab test, the resulting lab should use the reference ranges associated with a female reference population. Systems may determine what enclosing contexts are useful, but Patient, Encounter, and in CDA, Social History, are three enclosing contexts that may apply. The bound terms, are terms recommended for collection prior to care provision when (and only when) it is important to know the biology of sex. These terms do not encompass all the nuances of the biology of sex and additional information should be collected whenever pertinent for the specific care provision. The HL7 International Gender Harmony project informed this US Realm template.

Table 77: Sex for Clinical Use Observation - US Realm Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.507:2023-05-01)					
@classCode	1..1	SHALL		4537-18230	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		4537-18231	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4537-18232	
@root	1..1	SHALL		4537-18233	2.16.840.1.113883.10.20.22.4.507
@extension	1..1	SHALL		4537-32949	2023-05-01
code	1..1	SHALL		4537-18234	
@code	1..1	SHALL		4537-18235	99501-9
@codeSystem	1..1	SHALL		4537-21163	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		4537-18124	
@code	1..1	SHALL		4537-18125	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		4537-33026	
low	1..1	SHALL NOT		4537-33027	
width	1..1	SHALL NOT		4537-33028	
high	1..1	SHALL NOT		4537-33029	
center	1..1	SHALL NOT		4537-33030	
value	1..1	SHALL	CD	4537-32947	urn:oid:2.16.840.1.113762.1.4.1099.53 (Sex for Clinical Use)
entryRelationship	0..*	MAY		4537-33052	
@typeCode	1..1	SHALL		4537-33054	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SPRT
act	1..1	SHALL		4537-33055	Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122
reference	0..*	MAY		4537-33053	

XPath	Card.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4537-33056	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SPRT

1. **SHALL** contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4537-18230).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4537-18231).
3. **SHALL** contain exactly one [1..1] templateId (CONF:4537-18232) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.507" (CONF:4537-18233).
 - b. **SHALL** contain exactly one [1..1] @extension="2023-05-01" (CONF:4537-32949).
4. **SHALL** contain exactly one [1..1] code (CONF:4537-18234).
 - a. This code **SHALL** contain exactly one [1..1] @code="99501-9" Sex for clinical use (CONF:4537-18235).
 - b. This code **SHALL** contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.1" (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1 **STATIC**) (CONF:4537-21163).
5. **SHALL** contain exactly one [1..1] statusCode (CONF:4537-18124).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:4537-18125).
6. **SHALL** contain exactly one [1..1] effectiveTime (CONF:4537-33026).

Note: This template represents a "snapshot in time" observation, simply reflecting the patient's sex for clinical use at the time of the observation. As a result, the effectiveTime is constrained to just a time stamp.

- a. This effectiveTime **SHALL NOT** contain exactly one [1..1] low (CONF:4537-33027).
 - b. This effectiveTime **SHALL NOT** contain exactly one [1..1] width (CONF:4537-33028).
 - c. This effectiveTime **SHALL NOT** contain exactly one [1..1] high (CONF:4537-33029).
 - d. This effectiveTime **SHALL NOT** contain exactly one [1..1] center (CONF:4537-33030).
7. **SHALL** contain exactly one [1..1] value with @xsi:type="CD", where the code **SHALL** be selected from ValueSet [Sex for Clinical Use](#) urn:oid:2.16.840.1.113762.1.4.1099.53 **DYNAMIC** (CONF:4537-32947).

This entryRelationship **MAY** contain multiple supporting entries - Observations, Procedures, SubstanceAdministrations, or other entries that support or explain the sex for clinical use observation value.

If 443859009 | Possible clinical finding (situation) | is chosen, there **SHOULD** be an entry or an entryReference providing or pointing to the pertinent clinical information such as chromosomal sex. This pertinent information may instead be referenced using an externalReference.

8. **MAY** contain zero or more [0..*] entryRelationship (CONF:4537-33052) such that it

- a. **SHALL** contain exactly one [1..1] @typeCode="SPRT" has support (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4537-33054).
- b. **SHALL** contain exactly one [1..1] Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122) (CONF:4537-33055).

This reference **MAY** contain multiple externalReferences to Acts, Observations, Procedures or Documents outside of the CDA document instance that support or explain the sex for clinical use observation value.

If 443859009 | Possible clinical finding (situation) | is chosen, there **SHOULD** be an externalReference providing or pointing to the pertinent clinical information such as chromosomal sex. This pertinent information may instead be represented within the document instance using entryRelationships.

9. **MAY** contain zero or more [0..*] reference (CONF:4537-33053) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="SPRT" has support (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4537-33056).

Table 78: Sex for Clinical Use

Value Set: Sex for Clinical Use urn:oid:2.16.840.1.113762.1.4.1099.53 (Clinical Focus: This set of values includes the terms Male, Female, Patient Sex Unknown, for documentation of sex in the context of care provision. In addition, the "Possible Clinical Finding" term is included, to indicate that relevant data may be specified elsewhere.),(Data Element Scope: Terms recommended for collection prior to care provision when it is important to know the biology of sex. These terms do not encompass all the nuances of the biology sex and additional information should be collected whenever needed.),(Inclusion Criteria: Basic sex terms and a term to indicated further information should be gathered.),(Exclusion Criteria: All terms reflecting the nuances of biology of sex are not included, nor should they be precluded in systems or during information exchange if additional information is known or pertinent.)			
This value set was imported on 11/11/2022 with a version of Latest. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.1099.53/expansion			
Code	Code System	Code System OID	Print Name
184115007	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Patient sex unknown (finding)
248152002	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Female (finding)
248153007	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Male (finding)
443859009	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Possible clinical finding (situation)

Figure 51: Sex for Clinical Use Example

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.507" extension="2023-05-01"/>
  <id root="45efb604-7049-4a2e-ad33-d38556c963abc"/>
  <code code="99501-9" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
displayName="Sex for clinical use"/>
  <statusCode code="completed"/>
  <!-- The effectiveTime reflects when the current sex for clinical use instance was
observed. -->
  <effectiveTime value="20230501"/>
  <value xsi:type="CD" code="248152002" displayName="Female"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"/>
</observation>
```

3.23 Sexual Orientation Observation

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.501:2022-06-01 (open)]

This observation represents the sexual orientation of the patient, defined as:

A person's identification of their emotional, romantic, sexual, or affectional attraction to another person.

This template was informed by the HL7 Gender Harmony project.

This observation is not appropriate for recording patient gender (administrativeGender), Gender Identity (Gender Identity Observation), or birth sex (Birth Sex Observation).

Table 79: Sexual Orientation Observation Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.501:2022-06-01)					
@classCode	1..1	SHALL		4515-193	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		4515-194	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4515-185	
@root	1..1	SHALL		4515-188	2.16.840.1.113883.10.20.22.4.501
@extension	1..1	SHALL		4515-189	2022-06-01
code	1..1	SHALL		4515-186	
@code	1..1	SHALL		4515-190	76690-7
@codeSystem	1..1	SHALL		4515-191	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		4515-32881	
@code	1..1	SHALL		4515-32883	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		4515-32882	
low	1..1	SHALL		4515-32884	
high	0..1	MAY		4515-32885	
value	1..1	SHALL	CD	4515-187	urn:oid:2.16.840.1.113762.1.4.1021.33 (Sexual Orientation)
@nullFlavor	0..1	MAY		4515-192	urn:oid:2.16.840.1.113762.1.4.1021.103 (Other or unknown or refused to answer)

1. Conforms to Social History Observation (V3) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.38:2015-08-01).

2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4515-193).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4515-194).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4515-185) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.501" (CONF:4515-188).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2022-06-01" (CONF:4515-189).
5. **SHALL** contain exactly one [1..1] **code** (CONF:4515-186).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="76690-7" Sexual Orientation (CONF:4515-190).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.1" (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1 **STATIC**) (CONF:4515-191).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4515-32881).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4515-32883).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:4515-32882).

The effectiveTime represents the relevant time of the observation. A patient's "sexual orientation" may change and using effectiveTime/low and effectiveTime/high defines the time during which the patient had identified their emotional, romantic, sexual, or affectional attraction to another person.

- a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:4515-32884).
 - b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:4515-32885).
8. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD", where the code **SHALL** be selected from ValueSet [Sexual Orientation](#) urn:oid:2.16.840.1.113762.1.4.1021.33 **DYNAMIC** (CONF:4515-187).

To represent additional orientations, set nullFlavor="OTH". To represent "choose not to disclose", set nullFlavor="ASKU". To represent "Don't know", set nullFlavor="UNK"

- a. This value **MAY** contain zero or one [0..1] **@nullFlavor**, which **SHOULD** be selected from ValueSet [Other or unknown or refused to answer](#) urn:oid:2.16.840.1.113762.1.4.1021.103 **DYNAMIC** (CONF:4515-192).

Table 80: Sexual Orientation

Value Set: Sexual Orientation urn:oid:2.16.840.1.113762.1.4.1021.33 (Clinical Focus: Concepts used to describe how a person characterizes their emotional and sexual attraction to others.),(Data Element Scope: Sexual orientation),(Inclusion Criteria: Concepts that can describe the type of interpersonal relationship the person tends to desire.),(Exclusion Criteria: Concepts that describe gender identity.) This value set was imported on 11/23/2021 with a version of Latest. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.1021.33/expansion			
Code	Code System	Code System OID	Print Name
20430005	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Heterosexual (finding)
38628009	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Homosexual (finding)
42035005	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Bisexual (finding)
765288000	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Sexually attracted to neither male nor female sex (finding)

Table 81: Other or unknown or refused to answer

Value Set: Other or unknown or refused to answer urn:oid:2.16.840.1.113762.1.4.1021.103 (Clinical Focus: Concepts that represent general ideas of a choice other than those provided, or the value is unknown by the data enterer, or the informant refused to answer),(Data Element Scope:),(Inclusion Criteria:),(Exclusion Criteria:) This value set was imported on 11/16/2021 with a version of Latest. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.1021.103/expansion			
Code	Code System	Code System OID	Print Name
ASKU	HL7NullFlavor	urn:oid:2.16.840.1.113883.5.1008	asked but unknown
OTH	HL7NullFlavor	urn:oid:2.16.840.1.113883.5.1008	other
UNK	HL7NullFlavor	urn:oid:2.16.840.1.113883.5.1008	unknown

Figure 52: Sexual Orientation Observation Example

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.501" extension="2022-06-01"/>
  <id root="7919e027-592e-4f22-9344-12460ec8c368" />
  <code code="76690-7" displayName="Sexual Orientation"
codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" />
  <statusCode code="completed" />
  <effectiveTime>
    <low value="201211" />
  </effectiveTime>
  <value xsi:type="CD" code="20430005" displayName="Heterosexual state"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT" />
</observation>
```

3.24 Social History Observation (V4)

```
[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.38:2022-06-01
(open)]
```

This template represents a patient's occupations, lifestyle, and environmental health risk factors. Demographic data (e.g., marital status, race, ethnicity, religious affiliation) are captured in the header. Though tobacco use and exposure may be represented with a Social History Observation, it is recommended to use the Current Smoking Status template or the Tobacco Use template instead, to represent smoking or tobacco habits.

There are supplemental templates and guidance for observations of [occupational data](#), [nutrition](#) and [pregnancy](#) that could be captured in the Social History Observation, and implementers may want to consider using those more specific templates in the Social History section.

Table 82: Social History Observation (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.38:2022-06-01)					
@classCode	1..1	SHALL		4515-8548	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		4515-8549	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4515-8550	
@root	1..1	SHALL		4515-10526	2.16.840.1.113883.10.20.22.4.38
@extension	1..1	SHALL		4515-32495	2022-06-01
id	1..*	SHALL		4515-8551	
code	1..1	SHALL		4515-8558	urn:oid:2.16.840.1.113883.3.88.12.80.60 (Social History Type)
statusCode	1..1	SHALL		4515-8553	
@code	1..1	SHALL		4515-19117	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		4515-31868	
value	0..1	SHOULD		4515-8559	
author	0..*	SHOULD		4515-31869	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..*	MAY		4515-32958	
@typeCode	1..1	SHALL		4515-32960	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SPRT
observation	1..1	SHALL		4515-32959	Assessment Scale Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.69)
entryRelationship	0..*	MAY		4515-32969	
@typeCode	1..1	SHALL		4515-32971	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SPRT
act	1..1	SHALL		4515-32970	Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122)

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4515-8548).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4515-8549).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:4515-8550) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.38" (CONF:4515-10526).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2022-06-01" (CONF:4515-32495).
4. **SHALL** contain at least one [1..*] **id** (CONF:4515-8551).
5. **SHALL** contain exactly one [1..1] **code**, which **SHOULD** be selected from ValueSet [Social History Type](#) urn:oid:2.16.840.1.113883.3.88.12.80.60 **DYNAMIC** (CONF:4515-8558).
 - a. If **@codeSystem** is not LOINC, then this code **SHALL** contain at least one [1..*] translation, which **SHOULD** be selected from CodeSystem LOINC (urn:oid:2.16.840.1.113883.6.1) (CONF:4515-32956).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4515-8553).
 - a. This **statusCode** **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:4515-19117).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:4515-31868).
8. **SHOULD** contain zero or one [0..1] **value** (CONF:4515-8559).

NOTE: The base CDA R2.0 standard requires **@unit** to be drawn from UCUM, and best practice is to use case sensitive UCUM units

- a. If Observation/value is a physical quantity (xsi:type="PQ"), the unit of measure **SHOULD** be selected from ValueSet UnitsOfMeasureCaseSensitive (2.16.840.1.113883.1.11.12839) **DYNAMIC** (CONF:4515-8555).
 - b. If the Social History Observation is a Social Determinant of Health Observation, the observation/value code **SHOULD** be selected from ValueSet [Social Determinant of Health Conditions 2.16.840.1.113762.1.4.1196.788](#) **DYNAMIC** (CONF:4515-32957).
9. **SHOULD** contain zero or more [0..*] Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:4515-31869).

When an Assessment Scale Observation is contained in a Social History Observation instance that is a Social Determinant of Health Social History Observation, that Assessment Scale Observation MAY contain Assessment Scale Supporting Observations that contain LOINC question and answer pairs from SDOH screening instruments.

10. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-32958) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="SPRT" Has support (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-32960).
 - b. **SHALL** contain exactly one [1..1] Assessment Scale Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.69) (CONF:4515-32959).

When an Entry Reference is contained in a Social History Template instance that is a Social Determinant of Health Social History, that Entry Reference **MAY** reference an Assessment Scale Observation elsewhere in the document that represent LOINC question and answer pairs from SDOH screening instruments.

11. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-32969) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="SPRT"** Has support (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-32971).
 - b. **SHALL** contain exactly one [1..1] Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122) (CONF:4515-32970).

Table 83: Social History Type

Value Set: Social History Type urn:oid:2.16.840.1.113883.3.88.12.80.60 (Clinical Focus: Classification of questions bearing on a patient's behavior, achievement, and exogenous health factors),(Data Element Scope:),(Inclusion Criteria:),(Exclusion Criteria:) This value set was imported on 6/9/2021 with a version of Latest. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.3.88.12.80.60/expansion			
Code	Code System	Code System OID	Print Name
102487004	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Environmental risk factor (observable entity)
105421008	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Educational achievement (observable entity)
228272008	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Health-related behavior (observable entity)
229819007	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Tobacco use and exposure (observable entity)
256235009	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Exercise (observable entity)
302160007	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Household, family and support network detail (observable entity)
363908000	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Details of drug misuse behavior (observable entity)
364393001	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Nutritional observable (observable entity)
364703007	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Employment detail (observable entity)
423514004	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Community resource details (observable entity)
...			

Figure 53: Social History Observation Example

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.38"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.38" extension="2015-08-01"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.38" extension="2022-06-01"/>
  <id root="37f76c51-6411-4e1d-8a37-957fd49d2cef"/>
  <code code="160573003" displayName="Alcohol intake" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT">
    <translation code="74013-4" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Alcoholic drinks per day"/>
  </code>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="20120215"/>
  </effectiveTime>
  <value xsi:type="PQ" value="12" unit="/d"/>
</observation>
```

Figure 54: Social Determinant of Health Social History Observation Example

```
<!-- SDOH Social History Observation -->
<entry>
  <observation classCode="OBS" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.38"/>
    <templateId root="2.16.840.1.113883.10.20.22.4.38" extension="2015-08-01"/>
    <templateId root="2.16.840.1.113883.10.20.22.4.38" extension="2022-06-01"/>
    <id extension="64020-Z9311" root="1.2.840.114350.1.13.6289.1.7.1.1040.1"/>
    <code code="160476009" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMEDCT" displayName="Social / personal history observable (observable
entity) ">
      <translation code="8689-2" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="History of Social function"/>
    </code>
    <text>
      <reference value="#SocialHistory_3"/>
    </text>
    <statusCode code="completed"/>
    <effectiveTime value="20160412"/>
    <value xsi:type="CD" code="706875005" displayName="Insufficient food supply
(finding)" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT">
      <originalText>
        <reference value="#SH3_SO"/>
      </originalText>
    </value>
    <author>
      <time value="20160412"/>
      <assignedAuthor>
        <id extension="10.1" root="1.2.840.114350.1.1"/>
      </assignedAuthor>
    </author>
  </observation>
</entry>
```

3.24.1 Basic Industry Observation

```
[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.504:2023-05-01 (open)]
```

This template represents a simple observation about the type of business that compensates for work or assigns work to an unpaid worker or volunteer (e.g., U.S. Army, cement manufacturing, children and youth services). The effectiveTime low and high represent the start and end times of a particular observation about an industry a person works, or has worked in. Multiple occupation industry observation instances in a single document or derived from multiple documents, represent a basic historical industry record.

Implementers should use the Basic Observation template for conveying Industry in support of USCDI v3. Implementers wishing to convey more advanced Industry detail may consider using [HL7 CDA® R2 Implementation Guide: C-CDA R2.1 Supplemental Templates for Occupational Data for Health](#) in addition to this Observation.

Table 84: Basic Industry Observation Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.504:2023-05-01)					
@classCode	1..1	SHALL		4537-33018	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		4537-33019	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4537-33009	
@root	1..1	SHALL		4537-33013	2.16.840.1.113883.10.20.22.4.504
@extension	1..1	SHALL		4537-33014	2023-05-01
code	1..1	SHALL		4537-33010	
@code	1..1	SHALL		4537-33015	86188-0
@codeSystem	1..1	SHALL		4537-33016	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		4537-33011	
@code	1..1	SHALL		4537-33017	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		4537-33012	
low	1..1	SHALL		4537-33020	
high	0..1	MAY		4537-33021	
value	1..1	SHALL		4537-33022	urn:oid:2.16.840.1.114222.4.11.7900 (Industry NAICS Detail (ODH))

1. Conforms to [Social History Observation \(V4\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.38:2022-06-01).
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:4537-33018).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4537-33019).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4537-33009) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.504" (CONF:4537-33013).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2023-05-01" (CONF:4537-33014).
5. **SHALL** contain exactly one [1..1] **code** (CONF:4537-33010).

- a. This code **SHALL** contain exactly one [1..1] @code="86188-0" History of Occupation Industry (CONF:4537-33015).
- b. This code **SHALL** contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.1" (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1 **STATIC**) (CONF:4537-33016).
6. **SHALL** contain exactly one [1..1] statusCode (CONF:4537-33011).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4537-33017).
7. **SHALL** contain exactly one [1..1] effectiveTime (CONF:4537-33012).

The low value reflects the start date of the stated industry the person worked in.

- a. This effectiveTime **SHALL** contain exactly one [1..1] low (CONF:4537-33020).

The high value reflects the end date of the stated industry the person worked in. An absent high value means the stated industry was the industry the person worked in at the time the document was generated.

- b. This effectiveTime **MAY** contain zero or one [0..1] high (CONF:4537-33021).
8. **SHALL** contain exactly one [1..1] value, which **SHALL** be selected from ValueSet [Industry NAICS Detail \(ODH\)](#) urn:oid:2.16.840.1.114222.4.11.7900 **DYNAMIC** (CONF:4537-33022).

Figure 55: Basic Industry Occupation Example

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.504" extension="2023-05-01"/>
  <id root="45efb604-7049-4a2e-ad33-d38556c95432b"/>
  <code code="86188-0" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
  displayName="History of occupation industry"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <!-- SHALL low/value. The low value reflects the start date of the stated industry -->
    <low value="2009"/>
    <!-- MAY high/value. The high value reflects the end date of the stated industry.
    An absent high value means the industry is/was current at the time the document was
    generated -->
    <high value="202206"/>
  </effectiveTime>
  <value xsi:type="CD" code="811111.001118" displayName="Automotive repair and
  replacement shops, general [General Automotive Repair]"
  codeSystem="2.16.840.1.114222.4.5.327" codeSystemName="Occupational Data for Health
  (ODH)"/>
</observation>
```

3.24.2 Basic Occupation Observation

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.503:2023-05-01 (open)]

This template represents a simple observation about the type of work (e.g., infantry, business analyst, social worker) of a person. The effectiveTime low and high represent the start and end times of a particular observation about an occupation. Multiple occupation observation instances in a single document or derived from multiple documents, represent a basic historical occupation record.

Implementers should use the Basic Observation template for conveying Occupation in support of USCDI v3. Implementers wishing to convey more advanced Occupation detail may consider using [HL7 CDA® R2 Implementation Guide: C-CDA R2.1 Supplemental Templates for Occupational Data for Health](#) in addition to this Observation.

Table 85: Basic Occupation Observation Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.503:2023-05-01)					
@classCode	1..1	SHALL		4537-33000	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		4537-33001	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4537-32995	
@root	1..1	SHALL		4537-32998	2.16.840.1.113883.10.20.22.4.503
@extension	1..1	SHALL		4537-32999	2023-05-01
code	1..1	SHALL		4537-32996	
@code	1..1	SHALL		4537-33002	11341-5
@codeSystem	1..1	SHALL		4537-33003	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		4537-32997	
@code	1..1	SHALL		4537-33004	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		4537-33005	
low	1..1	SHALL		4537-33007	
high	0..1	MAY		4537-33008	
value	1..1	SHALL		4537-33006	urn:oid:2.16.840.1.114222.4.11.7901 (Occupation ONETSOC Detail (ODH))

1. Conforms to [Social History Observation \(V4\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.38:2022-06-01).
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:4537-33000).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4537-33001).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4537-32995) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.503" (CONF:4537-32998).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2023-05-01" (CONF:4537-32999).
5. **SHALL** contain exactly one [1..1] **code** (CONF:4537-32996).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="11341-5" History of Occupation (CONF:4537-33002).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.1" (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1 **STATIC**) (CONF:4537-33003).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4537-32997).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4537-33004).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:4537-33005).

The low value reflects the start date of the recorded occupation.

- a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:4537-33007).

The high value reflects the end date of the recorded occupation. An absent high value means the occupation was current at the time the document was generated.

- b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:4537-33008).
8. **SHALL** contain exactly one [1..1] **value**, which **SHALL** be selected from ValueSet [Occupation ONETSOC Detail \(ODH\)](#) urn:oid:2.16.840.1.114222.4.11.7901 **DYNAMIC** (CONF:4537-33006).

Figure 56: Basic Occupation Observation Example

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.503"
    extension="2023-05-01"/>
  <id root="45efb604-7049-4a2e-ad33-d38556c95432a"/>
  <code code="11341-5" codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC" displayName="History of occupation"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <!-- SHALL low/value. The low value reflects the start date of the stated
    occupation -->
    <low value="2009"/>
    <!-- MAY high/value. The high value reflects the end date of the stated occupation.
    An absent high value means the occupation is/was current at the time the
    document was generated -->
    <high value="202206"/>
  </effectiveTime>
  <value xsi:type="CD" code="51-9191.00.002682" displayName="Automobile Brake Bonder
  [Adhesive Bonding Machine Operators and Tenders]" codeSystem="2.16.840.1.114222.4.5.327"
  codeSystemName="Occupational Data for Health (ODH)"/>
</observation>
```

3.24.3 Gender Identity Observation (V3)

```
[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.34.3.45:2022-06-01
(open)]
```

This observation represents the gender identity of the patient, defined as:

"One's basic sense of being male, female, or other gender (for example, transgender or gender queer). Gender identity can be congruent or incongruent with one's sex assigned at birth based on the appearance of external genitalia." (Advancing Effective Communication, Cultural Competence, and Patient- and Family-Centered Care for the Lesbian, Gay, Bisexual, and Transgender (LGBT) Community—A Field Guide, The Joint Commission (2011).)

This template follows the guidelines from the HL7 Gender Harmony project. This template is based on C-CDA Social History Observation template.

This observation is not appropriate for recording patient gender (administrativeGender) or birth sex.

Table 86: Gender Identity Observation (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.34.3.45:2022-06-01)					
@classCode	1..1	SHALL		4515-1230	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		4515-1231	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4515-1221	
@root	1..1	SHALL		4515-1225	2.16.840.1.113883.10.20.34.3.45
@extension	1..1	SHALL		4515-1226	2022-06-01
code	1..1	SHALL		4515-1222	
@code	1..1	SHALL		4515-1227	76691-5
@codeSystem	1..1	SHALL		4515-1228	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		4515-33031	
@code	1..1	SHALL		4515-33032	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		4515-33033	
low	1..1	SHALL		4515-33034	
high	0..1	MAY		4515-33035	
value	1..1	SHALL	CD	4515-1223	urn:oid:2.16.840.1.113762.1.4.1021.101 (Gender Identity USCDI core)
@nullFlavor	0..1	MAY		4515-1232	urn:oid:2.16.840.1.113762.1.4.1114.17 (Asked but Unknown and Other)

1. Conforms to [Social History Observation \(V4\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.38:2022-06-01).
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4515-1230).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4515-1231).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4515-1221) such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.34.3.45" (CONF:4515-1225).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2022-06-01" (CONF:4515-1226).
- 5. **SHALL** contain exactly one [1..1] **code** (CONF:4515-1222).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="76691-5" Gender identity (CONF:4515-1227).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.1" (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1 **STATIC**) (CONF:4515-1228).
- 6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4515-33031).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4515-33032).
- 7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:4515-33033).

The effectiveTime represents the relevant time of the observation. A patient's "gender identity" may change and using effectiveTime/low and effectiveTime/high defines the time during which the patient had identified as specified.

- a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:4515-33034).
 - b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:4515-33035).
- 8. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD", where the code **SHALL** be selected from ValueSet Gender Identity USCDI core urn:oid:2.16.840.1.113762.1.4.1021.101 **DYNAMIC** (CONF:4515-1223).

To represent additional Gender Identities, set nullFlavor="OTH". To represent "choose not to disclose", set nullFlavor="ASKU".

- a. This value **MAY** contain zero or one [0..1] **@nullFlavor**, which **SHOULD** be selected from ValueSet Asked but Unknown and Other urn:oid:2.16.840.1.113762.1.4.1114.17 **DYNAMIC** (CONF:4515-1232).

Table 87: Gender Identity USCDI core

<p>Value Set: Gender Identity USCDI core urn:oid:2.16.840.1.113762.1.4.1021.101</p> <p>(Clinical Focus: Concepts that are used to describe a person's socially acknowledged gender that are used, at a minimum, in the USA. This is the gender they identify as. These are not concepts used to describe a person's sexual orientation (who they are attracted to).),(Data Element Scope: gender identity),(Inclusion Criteria: Concepts that can represent a type of gender that as used in the USA. This is not restricted to male and female.),(Exclusion Criteria: Concepts that are improper to use in the USA for gender identity. Concepts used to describe a person's sexual orientation. Concepts that are used to represent when data is absent or not represented in the provided list.)</p> <p>This value set was imported on 6/17/2022 with a version of Latest.</p> <p>Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.1021.101/expansion</p>			
Code	Code System	Code System OID	Print Name
407376001	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Male-to-female transsexual (finding)
407377005	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Female-to-male transsexual (finding)
44613100012 4102	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Identifies as non-conforming gender (finding)
44614100012 4107	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Identifies as female gender (finding)
44615100012 4109	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Identifies as male gender (finding)

Table 88: Asked but Unknown and Other

<p>Value Set: Asked but Unknown and Other urn:oid:2.16.840.1.113762.1.4.1114.17</p> <p>(Clinical Focus: Data absent reasons specific for representing only asked but unknown and other),(Data Element Scope: any data representation that supports inclusion of data absent reasons),(Inclusion Criteria: Asked but no answer known and Other meant to mean data not available for selection),(Exclusion Criteria: all other codes)</p> <p>This value set was imported on 6/17/2022 with a version of Latest.</p> <p>Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.1114.17/expansion</p>			
Code	Code System	Code System OID	Print Name
ASKU	HL7NullFlavor	urn:oid:2.16.840.1.113883.5.1008	asked but unknown
OTH	HL7NullFlavor	urn:oid:2.16.840.1.113883.5.1008	other

Figure 57: Gender Identity Observation Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Gender Identity Observation -->
  <templateId root="2.16.840.1.113883.10.20.34.3.45" extension="2019-04-01" />
  <templateId root="2.16.840.1.113883.10.20.34.3.45" extension="2022-06-01" />
  <id root="5501b49a-32ea-4c78-9c31-3dbe782871b7" />
  <code code="76691-5" displayName="Gender identity" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" />
  <statusCode code="completed" />
  <effectiveTime>
    <low value="20180703" />
  </effectiveTime>
  <value xsi:type="CD" code="446141000124107" displayName="Identifies as female gender
(finding)" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT" />
</observation>
```

3.24.4 Tribal Affiliation

```
[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.506:2023-05-
01 (open)]
```

This template represents the tribe or band that an individual associates with, within the United States. The tribe or band name is drawn from an HL7 code system that aligns with the Indian entities list, a list of tribes or bands recognized by and eligible to receive services from the United States Bureau of Indian Affairs. This template does not represent tribal enrollment.

Please see [Indian Entities Recognized by and Eligible To Receive Services From the United States Bureau of Indian Affairs](#).

Table 89: Tribal Affiliation Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.506:2023-05-01)					
@classCode	1..1	SHALL		4537-2	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		4537-3	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4537-1	
@root	1..1	SHALL		4537-4	2.16.840.1.113883.10.20.22.4.506
@extension	1..1	SHALL		4537-5	2023-05-01
code	1..1	SHALL		4537-6	
@code	1..1	SHALL		4537-7	95370-3
@codeSystem	1..1	SHALL		4537-8	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		4537-9	
@code	1..1	SHALL		4537-10	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		4537-11	
low	1..1	SHALL NOT		4537-33048	
width	1..1	SHALL NOT		4537-33049	
high	1..1	SHALL NOT		4537-33050	
center	1..1	SHALL NOT		4537-33051	
value	1..1	SHALL		4537-12	urn:oid:2.16.840.1.113883.1.111631 (TribalEntityUS)

1. Conforms to [Social History Observation \(V4\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.38:2022-06-01).
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:4537-2).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4537-3).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4537-1) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.506" (CONF:4537-4).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2023-05-01" (CONF:4537-5).
5. **SHALL** contain exactly one [1..1] **code** (CONF:4537-6).

- a. This code **SHALL** contain exactly one [1..1] **@code**="95370-3" Tribal Affiliation (CONF:4537-7).
- b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.1" (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1 **STATIC**) (CONF:4537-8).
- 6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4537-9).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4537-10).

The effectiveTime reflects a point in time observation when the current tribal affiliation status was observed.

- 7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:4537-11).

Note: This template represents a "snapshot in time" observation, simply reflecting the patient's tribal affiliation at the time of the observation. As a result, the effectiveTime is constrained to just a time stamp.

- a. This effectiveTime **SHALL NOT** contain exactly one [1..1] **low** (CONF:4537-33048).
- b. This effectiveTime **SHALL NOT** contain exactly one [1..1] **width** (CONF:4537-33049).
- c. This effectiveTime **SHALL NOT** contain exactly one [1..1] **high** (CONF:4537-33050).
- d. This effectiveTime **SHALL NOT** contain exactly one [1..1] **center** (CONF:4537-33051).
- 8. **SHALL** contain exactly one [1..1] **value**, which **SHALL** be selected from ValueSet [TribalEntityUS](#) urn:oid:2.16.840.1.113883.1.11.11631 (CONF:4537-12).

Table 90: TribalEntityUS

Value Set: TribalEntityUS urn:oid:2.16.840.1.113883.1.11.11631 Indian entities recognized and eligible to receive services from the United States Bureau of Indian Affairs. Value Set Source: http://terminology.hl7.org/ValueSet/v3-TribalEntityUS			
Code	Code System	Code System OID	Print Name
338	TribalEntityUS	urn:oid:2.16.840.1.113883.5.140	Village of Afognak
339	TribalEntityUS	urn:oid:2.16.840.1.113883.5.140	Agdaagux Tribe of King Cove
340	TribalEntityUS	urn:oid:2.16.840.1.113883.5.140	Native Village of Akhiok
341	TribalEntityUS	urn:oid:2.16.840.1.113883.5.140	Akiachak Native Community
342	TribalEntityUS	urn:oid:2.16.840.1.113883.5.140	Akiak Native Community
343	TribalEntityUS	urn:oid:2.16.840.1.113883.5.140	Native Village of Akutan
344	TribalEntityUS	urn:oid:2.16.840.1.113883.5.140	Village of Alakanuk
345	TribalEntityUS	urn:oid:2.16.840.1.113883.5.140	Alatna Village
346	TribalEntityUS	urn:oid:2.16.840.1.113883.5.140	Native Village of Aleknagik
347	TribalEntityUS	urn:oid:2.16.840.1.113883.5.140	Algaaciq Native Village (St. Mary's)
...			

Figure 58: Tribal Affiliation Example

<pre><observation classCode="OBS" moodCode="EVN"> <templateId root="2.16.840.1.113883.10.20.22.4.506" extension="2023-05-01"/> <id root="45efb604-7049-4a2e-ad33-d38556c963abc"/> <code code="95370-3" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Tribal affiliation"/> <statusCode code="completed"/> <!-- The effectiveTime reflects when the current tribal affiliation status was observed. --> <effectiveTime value="20230501"/> <value xsi:type="CD" code="68" displayName="Cow Creek Band of Umpqua Tribe of Indians" codeSystem="2.16.840.1.113883.5.140" codeSystemName="TribalEntityUS"/> </observation></pre>
--

4 UNSPECIFIED

4.1 Provenance - Assembler Participation (V2)

```
[participant: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.5.7:2020-05-19  
(open)]
```

This template represents the organization that supported generation of a CDA document. The Assembler Organization may be different than the Author Organization, and may be different from the Organization that developed the software used to generate the document.

This Participation is only for use in the CDA Header because it applies to the entire content in the document.

This template is consistent with the prior Assembler Document Participant (2.16.840.1.113883.3.5019.1.1) in the 2016 HL7 Data Provenance guide, however, makes no claim about representing the software organization. All constraints for conformance are defined in this template.

Note: The CDA Participant does not support a software device or the organization that created the software. The Assembler role can only be expressed at the level of organization. This is a known issue with the current CDA R2 model.

Note: The Provenance template title includes a version 2 to support moving from the 'Basic Provenance' guide to the this Companion Guide, so the templateId has not changed.

Table 91: Provenance - Assembler Participation (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
participant (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.5.7:2020-05-19)					
@typeCode	1..1	SHALL		4537-55	DEV
templateId	1..1	SHALL		4537-40	
@root	1..1	SHALL		4537-44	2.16.840.1.113883.10.20.22.5.7
@extension	1..1	SHALL		4537-33025	2020-05-19
functionCode	1..1	SHALL		4537-38	
@code	1..1	SHALL		4537-32972	assembler
@codeSystem	1..1	SHALL		4537-41	urn:oid:2.16.840.1.113883.4.642.4.1131 (ProvenanceParticipantType)
time	1..1	SHALL		4537-42	
associatedEntity	1..1	SHALL		4537-39	
@classCode	1..1	SHALL		4537-32973	OWN
scopingOrganization	1..1	SHALL		4537-43	
id	1..*	SHALL		4537-50	
name	1..*	SHALL		4537-51	
telecom	0..*	SHOULD		4537-52	
addr	0..*	SHOULD		4537-47	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2)

1. **SHALL** contain exactly one [1..1] **@typeCode**="DEV" Device (CONF:4537-55).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:4537-40) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.5.7" (CONF:4537-44).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2020-05-19" (CONF:4537-33025).
3. **SHALL** contain exactly one [1..1] **functionCode** (CONF:4537-38).
 - a. This functionCode **SHALL** contain exactly one [1..1] **@code**="assembler" Assembler (CONF:4537-32972).
 - b. This functionCode **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: ProvenanceParticipantType urn:oid:2.16.840.1.113883.4.642.4.1131) (CONF:4537-41).
4. **SHALL** contain exactly one [1..1] **time** (CONF:4537-42).
5. **SHALL** contain exactly one [1..1] **associatedEntity** (CONF:4537-39).
 Note: The template does not require any elements from the associatedEntity since the information is recorded in the scopingOrganization.

- a. This associatedEntity **SHALL** contain exactly one [1..1] @classCode="OWN" Owned Entity (CONF:4537-32973).
- b. This associatedEntity **SHALL** contain exactly one [1..1] scopingOrganization (CONF:4537-43).
 - i. This scopingOrganization **SHALL** contain at least one [1..*] id (CONF:4537-50).
 - ii. This scopingOrganization **SHALL** contain at least one [1..*] name (CONF:4537-51).
 - iii. This scopingOrganization **SHOULD** contain zero or more [0..*] telecom (CONF:4537-52).
 - iv. This scopingOrganization **SHOULD** contain zero or more [0..*] US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2) (CONF:4537-47).

Figure 59: Provenance – Assembler Participation Example

```
<participant typeCode="DEV">
  <templateId root="2.16.840.1.113883.10.20.22.5.7" extension="2020-05-19" />
  <functionCode code="assembler" codeSystem="2.16.840.1.113883.4.642.4.1131"
codeSystemName="ProvenanceParticipantType"/>
  <time value="20191206011130-0400" />
  <associatedEntity classCode="OWN">
    <scopingOrganization>
      <!-- Represents the Assembler Organization -->
      <id root="2.16.840.1.113883.19.5" extension="4"/>
      <name use="L">Good Health HIE</name>
      <telecom value="tel:+1(202)776-7700" use="WP" />
      <addr use="WP">
        <streetAddressLine partType="SAL">555 Badger Way</streetAddressLine>
        <city partType="CTY">Amherst</city>
        <state partType="STA">WI</state>
        <postalCode partType="ZIP">01002</postalCode>
        <country partType="CNT">US</country>
      </addr>
    </scopingOrganization>
  </associatedEntity>
</participant>
```

4.2 Provenance - Author Participation (V2)

[author: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.5.6:2019-10-01
(open)]

This template represents the key information to record Provenance in an Author Participation. This Participation is appropriate at any place CDA allows an author. For example, at the CDA Header, CDA Section, CDA Entry, or within a CDA entry (e.g. Organizer and contained Observation(s)). This template is consistent with the C-CDA Author Participation, however, it doesn't use a formal 'conforms to' relationship. All constraints for conformance are defined in this template which specializes the Author Participation (2.16.840.1.113883.10.20.22.4.119).

This template is used to identify primary authorship for an entry. An entry may have many authors, but recipients need a single authoritative point of contact for resolving issues. This is typically the last provider to make substantive changes to the entry. If two providers are simultaneously involved in that activity, the implementer must choose one, ideally in a repeatable way.

The assignedAuthor/id may be set equal to (a pointer to) an id on a participant elsewhere in the document (header or entries) or a new author participant can be described here.

Note: The Provenance template title includes a version 2 to support moving from the 'Basic Provenance' guide to the this Companion Guide, so the templateId has not changed.

Table 92: Provenance - Author Participation (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.5.6:2019-10-01)					
templateId	1..1	SHALL		4515-32980	
@root	1..1	SHALL		4515-15	2.16.840.1.113883.10.20.22.5.6
@extension	1..1	SHALL		4515-36	2019-10-01
time	1..1	SHALL		4515-32983	
assignedAuthor	1..1	SHALL		4515-32975	
id	1..*	SHALL		4515-2	
id	1..1	SHALL		4515-20	
@nullFlavor	0..1	MAY		4515-21	urn:oid:2.16.840.1.113883.5.1008 (HL7NullFlavor) = UNK
@root	1..1	SHALL		4515-22	2.16.840.1.113883.4.6
@extension	0..1	SHOULD		4515-23	
code	0..1	SHOULD		4515-32979	
assignedPerson	0..1	SHOULD		4515-32976	
name	1..*	SHALL		4515-32977	
family	1..1	SHALL		4515-17	
given	0..*	SHOULD		4515-18	
assignedAuthoringDevice	0..1	MAY		4515-32	
representedOrganization	0..1	MAY		4515-32978	
@nullFlavor	0..1	MAY		4515-35	
id	1..*	SHALL		4515-32981	
id	1..1	SHALL		4515-24	
@nullFlavor	0..1	MAY		4515-25	urn:oid:2.16.840.1.113883.5.1008 (HL7NullFlavor) = UNK
@root	1..1	SHALL		4515-26	2.16.840.1.113883.4.2
@extension	0..1	SHOULD		4515-32982	
id	1..1	SHALL		4515-28	
@nullFlavor	0..1	MAY		4515-29	urn:oid:2.16.840.1.113883.5.1008 (HL7NullFlavor) = UNK
@root	1..1	SHALL		4515-30	2.16.840.1.113883.4.6
@extension	0..1	SHOULD		4515-31	

XPath	Card.	Verb	Data Type	CONF#	Value
name	1..1	SHALL		4515-11	
telecom	0..*	SHOULD		4515-12	

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:4515-32980) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.5.6" (CONF:4515-15).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2019-10-01" (CONF:4515-36).
2. **SHALL** contain exactly one [1..1] **time** (CONF:4515-32983).
3. **SHALL** contain exactly one [1..1] **assignedAuthor** (CONF:4515-32975).
 - a. This assignedAuthor **SHALL** contain at least one [1..*] **id** (CONF:4515-2).
 - i. If the assignedAuthor/id is not referencing a Provenance Author described elsewhere in the document with a representedOrganization populated, this assignedAuthor **SHALL** contain exactly one [1..1] representedOrganization (CONF:4515-64).
 - b. This assignedAuthor **SHALL** contain exactly one [1..1] **id** (CONF:4515-20) such that it

If id with @root="2.16.840.1.113883.4.6" National Provider Identifier is unknown then

- i. **MAY** contain zero or one [0..1] **@nullFlavor**="UNK" Unknown (CodeSystem: HL7NullFlavor urn:oid:2.16.840.1.113883.5.1008) (CONF:4515-21).
- ii. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.4.6" National Provider Identifier (CONF:4515-22).
- iii. **SHOULD** contain zero or one [0..1] **@extension** (CONF:4515-23).

When the author is a person who is not acting in the role of a clinician, this code encodes the personal or legal relationship between author and the patient.

- c. This assignedAuthor **SHOULD** contain zero or one [0..1] **code** (CONF:4515-32979).
 - i. If the content is provider authored, the code **SHOULD** be selected from ValueSet Healthcare Provider Taxonomy urn:oid:2.16.840.1.114222.4.11.1066 DYNAMIC (CONF:4515-56).
 - ii. If the author is a person who is not acting in the role of a clinician, the code **SHOULD** be selected from ValueSet Personal And Legal Relationship Role Type urn:oid:2.16.840.1.113883.11.20.12.1 DYNAMIC (CONF:4515-57).
- d. This assignedAuthor **SHOULD** contain zero or one [0..1] **assignedPerson** (CONF:4515-32976).
 - i. The assignedPerson, if present, **SHALL** contain at least one [1..*] **name** (CONF:4515-32977).
 1. Such names **SHALL** contain exactly one [1..1] **family** (CONF:4515-17).
 2. Such names **SHOULD** contain zero or more [0..*] **given** (CONF:4515-18).
- e. This assignedAuthor **MAY** contain zero or one [0..1] **assignedAuthoringDevice** (CONF:4515-32).

If the assignedAuthor/id is not referencing a Provenance Author described elsewhere in the document with a representedOrganization populated, this assignedAuthor SHALL contain exactly one [1..1] representedOrganization (See - CONF:4440-64).

- f. This assignedAuthor **MAY** contain zero or one [0..1] **representedOrganization** (CONF:4515-32978).

A nullFlavor of "NA" is allowed If the assignedAuthor is not a clinician

- i. The representedOrganization, if present, **MAY** contain zero or one [0..1] **@nullFlavor** (CONF:4515-35).
- ii. The representedOrganization, if present, **SHALL** contain at least one [1..*] **id** (CONF:4515-32981).
- iii. The representedOrganization, if present, **SHALL** contain exactly one [1..1] **id** (CONF:4515-24) such that it

If id with @root="2.16.840.1.113883.4.2" Tax ID Number is unknown then

- 1. **MAY** contain zero or one [0..1] **@nullFlavor="UNK"** Unknown (CodeSystem: HL7NullFlavor urn:oid:2.16.840.1.113883.5.1008) (CONF:4515-25).
- 2. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.4.2"** Tax ID Number (CONF:4515-26).
- 3. **SHOULD** contain zero or one [0..1] **@extension** (CONF:4515-32982).
- iv. The representedOrganization, if present, **SHALL** contain exactly one [1..1] **id** (CONF:4515-28) such that it

If id with @root="2.16.840.1.113883.4.6" National Provider Identifier is unknown then

- 1. **MAY** contain zero or one [0..1] **@nullFlavor="UNK"** Unknown (CodeSystem: HL7NullFlavor urn:oid:2.16.840.1.113883.5.1008) (CONF:4515-29).
- 2. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.4.6"** National Provider Identifier (CONF:4515-30).
- 3. **SHOULD** contain zero or one [0..1] **@extension** (CONF:4515-31).
- v. The representedOrganization, if present, **SHALL** contain exactly one [1..1] **name** (CONF:4515-11).
- vi. The representedOrganization, if present, **SHOULD** contain zero or more [0..*] **telecom** (CONF:4515-12).

Figure 60: Provenance - Author Participation Example

```
<author>
  <!-- Provenance - Author Participation -->
  <templateId root="2.16.840.1.113883.10.20.22.5.6" extension="2019-10-01"/>
  <time value="201308011235-0800"/>
  <assignedAuthor>
    <!-- NPI of Author (example) -->
    <id root="2.16.840.1.113883.4.6" extension="1234567"/>
    <assignedPerson>
      <name>
        <given>Nurse</given>
        <family>Nightingale</family>
        <suffix>RN</suffix>
      </name>
    </assignedPerson>
    <representedOrganization>
      <!-- Tax Identifier of Organization is Unknown -->
      <id root="2.16.840.1.113883.5.1008" nullFlavor="UNK"/>
      <!-- NPI of Organization -->
      <id root="2.16.840.1.113883.4.6" extension="1104145838"/>
      <name>Good Health Hospital</name>
      <telecom value="tel:+1(555)867-5309"/>
    </representedOrganization>
  </assignedAuthor>
</author>
```

4.3 Related Person Relationship and Name Participant

[participant: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.5.8:2023-05-01
(open)]

Table 93: Related Person Relationship and Name Participant Contexts

Contained By:	Contains:
US Realm Header (V4) (optional)	

This template represents a generic participant person that has a relationship to the patient. (e.g., parent, next-of-kin, neighbor). The related person's name is required and it is recommended that the person's contact information is present. The more specific CDA participant of Guardian (recordTarget/patientRole/patient/guardian) can be used to represent a legally responsible guardian of the patient within the header. This template may be used to represent a person with any relationship to the patient within the header, or at the entry level when pertinent to a particular clinical statement.

Table 94: Related Person Relationship and Name Participant Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
participant (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.5.8:2023-05-01)					
@typeCode	1..1	SHALL		4537-32982	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = IND
templateId	1..1	SHALL		4537-32977	
@root	1..1	SHALL		4537-32983	2.16.840.1.113883.10.20.22.5.8
@extension	1..1	SHALL		4537-32984	2023-05-01
associatedEntity	1..1	SHALL		4537-32978	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = PRS
code	1..1	SHALL		4537-32985	urn:oid:2.16.840.1.113883.11.20.12.1 (Personal And Legal Relationship Role Type)
addr	0..*	SHOULD		4537-32979	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2)
telecom	0..*	SHOULD		4537-32986	
associatedPerson	1..1	SHALL		4537-32980	
name	1..*	SHALL		4537-32987	US Realm Person Name (PN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1)

1. **SHALL** contain exactly one [1..1] **@typeCode**="IND" Indirect (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4537-32982).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:4537-32977) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.5.8" (CONF:4537-32983).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2023-05-01" (CONF:4537-32984).
3. **SHALL** contain exactly one [1..1] **associatedEntity**="PRS" Person (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4537-32978).

This associatedEntity/code represents the person's relationship to the patient.

- a. This associatedEntity **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [Personal And Legal Relationship Role Type](#) urn:oid:2.16.840.1.113883.11.20.12.1 **DYNAMIC** (CONF:4537-32985).
- b. This associatedEntity **SHOULD** contain zero or more [0..*] US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2) (CONF:4537-32979).

- c. This associatedEntity **SHOULD** contain zero or more [0..*] **telecom** (CONF:4537-32986).

The associatedPerson represents the name and contact information of the related person

- d. This associatedEntity **SHALL** contain exactly one [1..1] **associatedPerson** (CONF:4537-32980).
- i. This associatedPerson **SHALL** contain at least one [1..*] US Realm Person Name (PN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1) (CONF:4537-32987).

Figure 61: Related Person Relationship and Name Example

```
<participant typeCode="IND">
  <!-- typeCode "IND" represents indirect -->
  <templateId root="2.16.840.1.113883.10.20.22.5.8" extension="2023-05-01"/>
  <!-- SHALL be from INDRoleclassCodes 2.16.840.1.113883.11.20.9.33 -->
  <associatedEntity classCode="PRS">
    <!-- classCode "PRS" represents personal relationship -->
    <!-- Personal And Legal Relationship Role Type Value Set -->
    <code code="MTH" codeSystem="2.16.840.1.113883.5.111"/>
    <!-- OPTIONAL US Realm Address -->
    <addr use="HP">
      <streetAddressLine>2222 Home Street</streetAddressLine>
      <city>Beaverton</city>
      <state>OR</state>
      <postalCode>97867</postalCode>
      <country>US</country>
    </addr>
    <!-- OPTIONAL TELECOM -->
    <telecom value="tel:+1(555)555-2008" use="MC"/>
  </associatedEntity>
  <associatedPerson>
    <!-- REQUIRED US Realm Person Name Format -->
    <name>
      <given>Boris</given>
      <given qualifier="CL">Bo</given>
      <family>Betterhalf</family>
    </name>
  </associatedPerson>
</associatedEntity>
</participant>
```

5 TEMPLATE IDS IN THIS GUIDE

Table 95: Template List

Template Title	Template Type	templateId
US Realm Header (V4)	document	urn:hl7ii:2.16.840.1.113883.10.20.22.1.1:2023-05-01
Care Teams Section (V2)	section	urn:hl7ii:2.16.840.1.113883.10.20.22.2.500:2022-06-01
Notes Section	section	urn:hl7ii:2.16.840.1.113883.10.20.22.2.65:2016-11-01
Assessment Scale Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.69:2022-06-01
Assessment Scale Supporting Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.86:2022-06-01
Basic Industry Observation	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.504:2023-05-01
Basic Occupation Observation	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.503:2023-05-01
Birth Sex Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.200:2023-05-01
Care Team Member Act (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.500.1:2022-06-01
Care Team Member Schedule Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.500.3:2022-06-01
Care Team Organizer (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.500:2022-06-01
Care Team Type Observation	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.500.2:2019-07-01
Date of Diagnosis Act	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.502:2022-06-01
Disability Status Observation	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.505:2023-05-01
Gender Identity Observation (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.34.3.45:2022-06-01
Goal Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.121:2022-06-01
Health Concern Act (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.132:2022-06-01
Indication (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2023-05-01
Medication Dispense (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2023-05-01
Note Activity	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.202:2016-11-01
Planned Procedure (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.

Template Title	Template Type	templateId
		22.4.41:2022-06-01
Policy Activity (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.61:2023-05-01
Problem Observation (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.4:2022-06-01
Procedure Activity Procedure (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.14:2022-06-01
Result Observation (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2023-05-01
Result Organizer (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.1:2023-05-01
Section Time Range Observation	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.201:2016-06-01
Sex for Clinical Use Observation - US Realm	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.507:2023-05-01
Sexual Orientation Observation	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.501:2022-06-01
Social History Observation (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.38:2022-06-01
Tribal Affiliation	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.506:2023-05-01
Provenance - Assembler Participation (V2)	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.22.5.7:2020-05-19
Provenance - Author Participation (V2)	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.22.5.6:2019-10-01
Related Person Relationship and Name Participant	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.22.5.8:2023-05-01

Table 96: Template Containments

Template Title	Template Type	templateId
US Realm Header (V4)	document	urn:hl7ii:2.16.840.1.113883.10.20.22.1.1:2023-05-01
Related Person Relationship and Name Participant	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.22.5.8:2023-05-01
Assessment Scale Supporting Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.86:2022-06-01
Basic Industry Observation	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.504:2023-05-01
Basic Occupation Observation	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.503:2023-05-01
Birth Sex Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.200:2023-05-01
Disability Status Observation	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.505:2023-05-01
Assessment Scale Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.69:2022-06-01
Gender Identity Observation (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.34.3.45:2022-06-01
Goal Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.121:2022-06-01
Health Concern Act (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.132:2022-06-01
Indication (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2023-05-01
Medication Dispense (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2023-05-01
Planned Procedure (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.41:2022-06-01
Policy Activity (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.61:2023-05-01
Problem Observation (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.4:2022-06-01
Date of Diagnosis Act	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.502:2022-06-01
Procedure Activity Procedure (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.14:2022-06-01
Result Observation (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2023-05-01
Result Organizer (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.1:2023-05-01
Section Time Range Observation	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.201:2016-06-01
Sex for Clinical Use Observation - US Realm	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.507:2023-05-01

Template Title	Template Type	templateId
Sexual Orientation Observation	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.501:2022-06-01
Social History Observation (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.38:2022-06-01
Tribal Affiliation	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.506:2023-05-01
Care Teams Section (V2)	section	urn:hl7ii:2.16.840.1.113883.10.20.22.2.500:2022-06-01
Care Team Organizer (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.500:2022-06-01
Note Activity	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.202:2016-11-01
Care Team Type Observation	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.500.2:2019-07-01
Care Team Member Act (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.500.1:2022-06-01
Note Activity	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.202:2016-11-01
Care Team Member Schedule Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.500.3:2022-06-01
Notes Section	section	urn:hl7ii:2.16.840.1.113883.10.20.22.2.65:2016-11-01
Note Activity	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.202:2016-11-01
Provenance - Assembler Participation (V2)	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.22.5.7:2020-05-19
Provenance - Author Participation (V2)	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.22.5.6:2019-10-01

6 VALUE SETS IN THIS GUIDE

Table 97: Value Sets

Name	OID	URL
ActPriority	urn:oid:2.16.840.1.113883.1.11.16866	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.16866/expansion
ActStatus	urn:oid:2.16.840.1.113883.1.11.15933	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.15933/expansion
Administrative Gender (HL7 V3)	urn:oid:2.16.840.1.113883.1.11.1	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.1/expansion
Asked but Unknown and Other	urn:oid:2.16.840.1.113762.1.4.1114.17	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.1114.17/expansion
Body Site Value Set	urn:oid:2.16.840.1.113883.3.88.12.3221.8.9	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.3.88.12.3221.8.9/expansion
Care Team Category	urn:oid:2.16.840.1.113883.4.642.3.155	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.4.642.3.155/expansion
Care Team Member Function	urn:oid:2.16.840.1.113762.1.4.1099.30	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.1099.30/expansion
Country	urn:oid:2.16.840.1.113883.3.88.12.80.63	http://hl7.org/fhir/ValueSet/iso3166-1-2
Coverage Role Type Value Set	urn:oid:2.16.840.1.113883.1.11.18877	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.18877/expansion
CUBS Disability	urn:oid:1.3.6.1.4.1.12009.10.1.3932	https://loinc.org/LL5052-7/
Detailed Ethnicity	urn:oid:2.16.840.1.114222.4.11.877	https://vsac.nlm.nih.gov/valueset/2.16.840.1.114222.4.11.877/expansion
Ethnicity	urn:oid:2.16.840.1.114222.4.11.837	https://vsac.nlm.nih.gov/valueset/2.16.840.1.114222.4.11.837/expansion
Financially Responsible Party Type Value Set	urn:oid:2.16.840.1.113883.1.11.10416	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.10416/expansion
Gender Identity USCDI core	urn:oid:2.16.840.1.113762.1.4.1021.101	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.1021.101/expansion
Health Insurance Type	urn:oid:2.16.840.1.113883.3.88.12.3221.5.2	N/A
Healthcare Provider Taxonomy	urn:oid:2.16.840.1.114222.4.11.10	https://vsac.nlm.nih.gov/valueset

Name	OID	URL
	66	/2.16.840.1.114222.4.11.1066/expansion
HL7 BasicConfidentialityKind	urn:oid:2.16.840.1.113883.1.11.16926	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.16926/expansion
INDRoleclassCodes	urn:oid:2.16.840.1.113883.11.20.9.33	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.9.33/expansion
Industry NAICS Detail (ODH)	urn:oid:2.16.840.1.114222.4.11.7900	https://phinivads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7900
Language	urn:oid:2.16.840.1.113883.1.11.11526	http://www.loc.gov/standards/iso639-2/php/code_list.php
LanguageAbilityMode	urn:oid:2.16.840.1.113883.1.11.12249	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.12249/expansion
LanguageAbilityProficiency	urn:oid:2.16.840.1.113883.1.11.12199	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.12199/expansion
Marital Status	urn:oid:2.16.840.1.113883.1.11.12212	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.12212/expansion
MedicationDispense Status Codes	urn:oid:2.16.840.1.113883.4.642.3.1312	http://hl7.org/fhir/R4/valueset-medicationdispense-status.html
Note Types	urn:oid:2.16.840.1.113883.11.20.9.68	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.9.68/expansion
Observation Interpretation (HL7)	urn:oid:2.16.840.1.113883.1.11.78	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.78/expansion
Occupation ONETSOC Detail (ODH)	urn:oid:2.16.840.1.114222.4.11.7901	https://phinivads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7901
ONC Administrative Sex	urn:oid:2.16.840.1.113762.1.4.1	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.1/expansion
Other or unknown or refused to answer	urn:oid:2.16.840.1.113762.1.4.1021.103	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.1021.103/expansion
Payer	urn:oid:2.16.840.1.114222.4.11.3591	https://vsac.nlm.nih.gov/valueset/2.16.840.1.114222.4.11.3591/expansion
Personal And Legal Relationship Role Type	urn:oid:2.16.840.1.113883.11.20.12.1	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.12.1/expansion
Planned moodCode (Act/Encounter/Procedure)	urn:oid:2.16.840.1.113883.11.20.9.23	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.9.23/expansion

Name	OID	URL
Problem	urn:oid:2.16.840.1.113883.3.88.12.3221.7.4	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.3.88.12.3221.7.4/expansion
Problem Type (SNOMEDCT)	urn:oid:2.16.840.1.113883.3.88.12.3221.7.2	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.3.88.12.3221.7.2/expansion
ProblemAct statusCode	urn:oid:2.16.840.1.113883.11.20.9.19	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.9.19/expansion
ProcedureAct statusCode	urn:oid:2.16.840.1.113883.11.20.9.22	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.9.22/expansion
Race Category Excluding Nulls	urn:oid:2.16.840.1.113883.3.2074.1.1.3	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.3.2074.1.1.3/expansion
Race Value Set	urn:oid:2.16.840.1.113883.1.11.14.914	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.14.914/expansion
Religious Affiliation	urn:oid:2.16.840.1.113883.1.11.19.185	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.19.185/expansion
Result Status	urn:oid:2.16.840.1.113883.11.20.9.39	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.9.39/expansion
Sex for Clinical Use	urn:oid:2.16.840.1.113762.1.4.109.53	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.109.53/expansion
Sexual Orientation	urn:oid:2.16.840.1.113762.1.4.102.1.33	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.102.1.33/expansion
Social History Type	urn:oid:2.16.840.1.113883.3.88.12.80.60	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.3.88.12.80.60/expansion
Specimen type	urn:oid:2.16.840.1.113762.1.4.109.54	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.109.54/expansion
SupportedFileFormats	urn:oid:2.16.840.1.113883.11.20.7.1	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.7.1/expansion
Telecom Use (US Realm Header)	urn:oid:2.16.840.1.113883.11.20.9.20	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.9.20/expansion
TribalEntityUS	urn:oid:2.16.840.1.113883.1.11.11.631	http://terminology.hl7.org/ValueSet/v3-TribalEntityUS
UnitsOfMeasureCaseSensitive	urn:oid:2.16.840.1.113883.1.11.12.839	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.12.839/expansion
x ServiceEventPerformer	urn:oid:2.16.840.1.113883.1.11.19.601	https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.19.601/expansion

Name	OID	URL
		xpansion

7 CODE SYSTEMS IN THIS GUIDE

Table 98: Code Systems

Name	OID
Administrative Gender	urn:oid:2.16.840.1.113883.5.1
Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.113883.6.101
HL7ActClass	urn:oid:2.16.840.1.113883.5.6
HL7ActionCode	urn:oid:2.16.840.1.113883.5.4
HL7ActMood	urn:oid:2.16.840.1.113883.5.1001
HL7ActPriority	urn:oid:2.16.840.1.113883.5.7
HL7ActRelationshipType	urn:oid:2.16.840.1.113883.5.1002
HL7ActStatus	urn:oid:2.16.840.1.113883.5.14
HL7AddressUse	urn:oid:2.16.840.1.113883.5.1119
HL7Confidentiality	urn:oid:2.16.840.1.113883.5.25
HL7EntityClass	urn:oid:2.16.840.1.113883.5.41
HL7LanguageAbilityMode	urn:oid:2.16.840.1.113883.5.60
HL7LanguageAbilityProficiency	urn:oid:2.16.840.1.113883.5.61
HL7MaritalStatus	urn:oid:2.16.840.1.113883.5.2
HL7NullFlavor	urn:oid:2.16.840.1.113883.5.1008
HL7ParticipationFunction	urn:oid:2.16.840.1.113883.5.88
HL7ParticipationSignature	urn:oid:2.16.840.1.113883.5.89
HL7ParticipationType	urn:oid:2.16.840.1.113883.5.90
HL7ReligiousAffiliation	urn:oid:2.16.840.1.113883.5.1076
HL7RoleClass	urn:oid:2.16.840.1.113883.5.110
HL7RoleCode	urn:oid:2.16.840.1.113883.5.111
ICD-10-CM	urn:oid:2.16.840.1.113883.6.90
Insurance Type Code	urn:oid:2.16.840.1.113883.3.88.12.3221.5.2
ISO 3166 Part 1 Country Codes, 2nd Edition, Alpha-2	urn:oid:1.0.3166.1.2.2
Language	urn:oid:2.16.840.1.113883.6.121
LOINC	urn:oid:2.16.840.1.113883.6.1
Media Type	urn:oid:2.16.840.1.113883.5.79
MedicationDispense Status Codes	urn:oid:2.16.840.1.113883.4.642.4.1313
ObservationInterpretation	urn:oid:2.16.840.1.113883.5.83
ProvenanceParticipantType	urn:oid:2.16.840.1.113883.4.642.4.1131
Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238
SNOMED CT	urn:oid:2.16.840.1.113883.6.96
Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.113883.3.221.5
TribalEntityUS	urn:oid:2.16.840.1.113883.5.140

Name	OID
UCUM	urn:oid:1.3.6.1.4.1.12009.10.3.1