



**HL7 CDA® R2 Implementation Guide:
Quality Reporting Document Architecture Category I
(QRDA I), Release 1,
STU Release 4, US Realm
Standard for Trial Use**

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Volume 2 — Templates and Supporting Material

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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 222.nucc.org . AMA licensing contact: 312-464-5022 (AMA IP services)

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1 DOCUMENT-LEVEL TEMPLATES

1.1 US Realm Header (V3)

[ClinicalDocument: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.1.1:2015-08-01 (open)]

Table 1: US Realm Header (V3) Contexts

Contained By:	Contains:
	US Realm Address (AD.US.FIELDDED) US Realm Date and Time (DTM.US.FIELDDED) US Realm Person Name (PN.US.FIELDDED)

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 (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
ClinicalDocument (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.1.1:2015-08-01)					
realmCode	1..1	SHALL		1198-16791	US
typeId	1..1	SHALL		1198-5361	
@root	1..1	SHALL		1198-5250	2.16.840.1.113883.1.3
@extension	1..1	SHALL		1198-5251	POCD_HD000040
templateId	1..1	SHALL		1198-5252	
@root	1..1	SHALL		1198-10036	2.16.840.1.113883.10.20.22.1.1
@extension	1..1	SHALL		1198-32503	2015-08-01
id	1..1	SHALL		1198-5363	
code	1..1	SHALL		1198-5253	
title	1..1	SHALL		1198-5254	
effectiveTime	1..1	SHALL		1198-5256	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		1198-5259	urn:oid:2.16.840.1.113883.1.11.16926 (HL7 BasicConfidentialityKind)
languageCode	1..1	SHALL		1198-5372	urn:oid:2.16.840.1.113883.1.11.11526 (Language)
setId	0..1	MAY		1198-5261	
versionNumber	0..1	MAY		1198-5264	
recordTarget	1..*	SHALL		1198-5266	
patientRole	1..1	SHALL		1198-5267	
id	1..*	SHALL		1198-5268	
addr	1..*	SHALL		1198-5271	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2)

telecom	1..*	SHALL		1198-5280	
@use	0..1	SHOULD		1198-5375	urn:oid:2.16.840.1.113883.11.20.9.20 (Telecom Use (US Realm Header))
patient	1..1	SHALL		1198-5283	
name	1..*	SHALL		1198-5284	US Realm Person Name (PN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1)
administrativeGenderCode	1..1	SHALL		1198-6394	urn:oid:2.16.840.1.113883.1.11.1 (Administrative Gender (HL7 V3))
birthTime	1..1	SHALL		1198-5298	
maritalStatusCode	0..1	SHOULD		1198-5303	urn:oid:2.16.840.1.113883.1.11.1.2212 (Marital Status)
religiousAffiliationCode	0..1	MAY		1198-5317	urn:oid:2.16.840.1.113883.1.11.1.9185 (Religious Affiliation)
raceCode	1..1	SHALL		1198-5322	urn:oid:2.16.840.1.113883.3.2074.1.1.3 (Race Category Excluding Nulls)
sdtc:raceCode	0..*	MAY		1198-7263	urn:oid:2.16.840.1.113883.1.11.1.4914 (Race)
ethnicGroupCode	1..1	SHALL		1198-5323	urn:oid:2.16.840.1.114222.4.11.837 (Ethnicity)
sdtc:ethnicGroupCode	0..*	MAY		1198-32901	urn:oid:2.16.840.1.114222.4.11.877 (Detailed Ethnicity)
guardian	0..*	MAY		1198-5325	
code	0..1	SHOULD		1198-5326	urn:oid:2.16.840.1.113883.11.20.12.1 (Personal And Legal Relationship Role Type)
addr	0..*	SHOULD		1198-5359	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2)
telecom	0..*	SHOULD		1198-5382	
@use	0..1	SHOULD		1198-7993	urn:oid:2.16.840.1.113883.11.20.9.20 (Telecom Use (US Realm Header))
guardianPerson	1..1	SHALL		1198-5385	
name	1..*	SHALL		1198-5386	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		1198-	

				5395	
place	1..1	SHALL		1198-5396	
addr	1..1	SHALL		1198-5397	
country	0..1	SHOULD		1198-5404	urn:oid:2.16.840.1.113883.3.88.12.80.63 (Country)
postalCode	0..1	MAY		1198-5403	urn:oid:2.16.840.1.113883.3.88.12.80.2 (PostalCode)
languageCommunication	0..*	SHOULD		1198-5406	
languageCode	1..1	SHALL		1198-5407	urn:oid:2.16.840.1.113883.1.11.11526 (Language)
modeCode	0..1	MAY		1198-5409	urn:oid:2.16.840.1.113883.1.11.12249 (LanguageAbilityMode)
proficiencyLevelCode	0..1	SHOULD		1198-9965	urn:oid:2.16.840.1.113883.1.11.12199 (LanguageAbilityProficiency)
preferenceInd	0..1	SHOULD		1198-5414	
providerOrganization	0..1	MAY		1198-5416	
id	1..*	SHALL		1198-5417	
@root	0..1	SHOULD		1198-16820	2.16.840.1.113883.4.6
name	1..*	SHALL		1198-5419	
telecom	1..*	SHALL		1198-5420	
@use	0..1	SHOULD		1198-7994	urn:oid:2.16.840.1.113883.11.20.9.20 (Telecom Use (US Realm Header))
addr	1..*	SHALL		1198-5422	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2)
author	1..*	SHALL		1198-5444	
time	1..1	SHALL		1198-5445	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		1198-5448	
id	1..*	SHALL		1198-5449	
id	0..1	SHOULD		1198-32882	

@nullFlavor	0..1	MAY		1198-32883	urn:oid:2.16.840.1.113883.5.1008 (HL7NullFlavor) = UNK
@root	1..1	SHALL		1198-32884	2.16.840.1.113883.4.6
@extension	0..1	SHOULD		1198-32885	
code	0..1	SHOULD		1198-16787	
@code	1..1	SHALL		1198-16788	urn:oid:2.16.840.1.114222.4.11.1066 (Healthcare Provider Taxonomy (HIPAA))
addr	1..*	SHALL		1198-5452	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2)
telecom	1..*	SHALL		1198-5428	
@use	0..1	SHOULD		1198-7995	urn:oid:2.16.840.1.113883.11.20.9.20 (Telecom Use (US Realm Header))
assignedPerson	0..1	SHOULD		1198-5430	
name	1..*	SHALL		1198-16789	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		1198-16783	
manufacturerModelName	1..1	SHALL		1198-16784	
softwareName	1..1	SHALL		1198-16785	
dataEnterer	0..1	MAY		1198-5441	
assignedEntity	1..1	SHALL		1198-5442	
id	1..*	SHALL		1198-5443	
@root	0..1	SHOULD		1198-16821	2.16.840.1.113883.4.6
code	0..1	MAY		1198-32173	urn:oid:2.16.840.1.114222.4.11.1066 (Healthcare Provider Taxonomy (HIPAA))
addr	1..*	SHALL		1198-5460	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2)
telecom	1..*	SHALL		1198-5466	

@use	0..1	SHOULD		1198-7996	urn:oid:2.16.840.1.113883.11.20.9.20 (Telecom Use (US Realm Header))
assignedPerson	1..1	SHALL		1198-5469	
name	1..*	SHALL		1198-5470	US Realm Person Name (PN.US.FIELDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1)
informant	0..*	MAY		1198-8001	
assignedEntity	1..1	SHALL		1198-8002	
id	1..*	SHALL		1198-9945	
code	0..1	MAY		1198-32174	urn:oid:2.16.840.1.114222.4.11.1.066 (Healthcare Provider Taxonomy (HIPAA))
addr	1..*	SHALL		1198-8220	US Realm Address (AD.US.FIELDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2)
assignedPerson	1..1	SHALL		1198-8221	
name	1..*	SHALL		1198-8222	US Realm Person Name (PN.US.FIELDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1)
informant	0..*	MAY		1198-31355	
relatedEntity	1..1	SHALL		1198-31356	
custodian	1..1	SHALL		1198-5519	
assignedCustodian	1..1	SHALL		1198-5520	
representedCustodianOrganization	1..1	SHALL		1198-5521	
id	1..*	SHALL		1198-5522	
@root	0..1	SHOULD		1198-16822	2.16.840.1.113883.4.6
name	1..1	SHALL		1198-5524	
telecom	1..1	SHALL		1198-5525	
@use	0..1	SHOULD		1198-7998	urn:oid:2.16.840.1.113883.11.20.9.20 (Telecom Use (US Realm Header))

addr	1..1	SHALL		1198-5559	US Realm Address (AD.US.FIELDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2)
informationRecipient	0..*	MAY		1198-5565	
intendedRecipient	1..1	SHALL		1198-5566	
id	0..*	MAY		1198-32399	
informationRecipient	0..1	MAY		1198-5567	
name	1..*	SHALL		1198-5568	US Realm Person Name (PN.US.FIELDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1)
receivedOrganization	0..1	MAY		1198-5577	
name	1..1	SHALL		1198-5578	
legalAuthenticator	0..1	SHOULD		1198-5579	
time	1..1	SHALL		1198-5580	US Realm Date and Time (DTM.US.FIELDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.4)
signatureCode	1..1	SHALL		1198-5583	
@code	1..1	SHALL		1198-5584	urn:oid:2.16.840.1.113883.5.89 (Participationsignature) = S
sdtc:signatureText	0..1	MAY		1198-30810	
assignedEntity	1..1	SHALL		1198-5585	
id	1..*	SHALL		1198-5586	
@root	0..1	MAY		1198-16823	2.16.840.1.113883.4.6
code	0..1	MAY		1198-17000	urn:oid:2.16.840.1.114222.4.11.1066 (Healthcare Provider Taxonomy (HIPAA))
addr	1..*	SHALL		1198-5589	US Realm Address (AD.US.FIELDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2)
telecom	1..*	SHALL		1198-5595	
@use	0..1	SHOULD		1198-7999	urn:oid:2.16.840.1.113883.11.20.9.20 (Telecom Use (US Realm

					Header))
assignedPerson	1..1	SHALL		1198-5597	
name	1..*	SHALL		1198-5598	US Realm Person Name (PN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1)
authenticator	0..*	MAY		1198-5607	
time	1..1	SHALL		1198-5608	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		1198-5610	
@code	1..1	SHALL		1198-5611	urn:oid:2.16.840.1.113883.5.89 (Participationsignature) = S
sdtc:signatureText	0..1	MAY		1198-30811	
assignedEntity	1..1	SHALL		1198-5612	
id	1..*	SHALL		1198-5613	
@root	0..1	SHOULD		1198-16824	2.16.840.1.113883.4.6
code	0..1	MAY		1198-16825	
@code	0..1	MAY		1198-16826	urn:oid:2.16.840.1.114222.4.11.1066 (Healthcare Provider Taxonomy (HIPAA))
addr	1..*	SHALL		1198-5616	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2)
telecom	1..*	SHALL		1198-5622	
@use	0..1	SHOULD		1198-8000	urn:oid:2.16.840.1.113883.11.20.9.20 (Telecom Use (US Realm Header))
assignedPerson	1..1	SHALL		1198-5624	
name	1..*	SHALL		1198-5625	US Realm Person Name (PN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1)
participant	0..*	MAY		1198-10003	
time	0..1	MAY		1198-10004	

inFulfillmentOf	0..*	MAY		1198-9952	
order	1..1	SHALL		1198-9953	
id	1..*	SHALL		1198-9954	
documentationOf	0..*	MAY		1198-14835	
serviceEvent	1..1	SHALL		1198-14836	
effectiveTime	1..1	SHALL		1198-14837	
low	1..1	SHALL		1198-14838	
performer	0..*	SHOULD		1198-14839	
@typeCode	1..1	SHALL		1198-14840	urn:oid:2.16.840.1.113883.1.11.19601 (x_ServiceEventPerformer)
functionCode	0..1	MAY		1198-16818	
@code	0..1	SHOULD		1198-32889	urn:oid:2.16.840.1.113883.1.11.10267 (ParticipationFunction)
assignedEntity	1..1	SHALL		1198-14841	
id	1..*	SHALL		1198-14846	
@root	0..1	SHOULD		1198-14847	2.16.840.1.113883.4.6
code	0..1	SHOULD		1198-14842	urn:oid:2.16.840.1.114222.4.11.1066 (Healthcare Provider Taxonomy (HIPAA))
authorization	0..*	MAY		1198-16792	
consent	1..1	SHALL		1198-16793	
id	0..*	MAY		1198-16794	
code	0..1	MAY		1198-16795	
statusCode	1..1	SHALL		1198-16797	
@code	1..1	SHALL		1198-16798	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = completed
componentOf	0..1	MAY		1198-9955	
encompassingEncounter	1..1	SHALL		1198-9956	

id	1..*	SHALL		1198-9959	
effectiveTime	1..1	SHALL		1198-9958	

1.1.1 Properties

1.1.1.1 realmCode

1. **SHALL** contain exactly one [1..1] **realmCode**="US" (CONF:1198-16791).
2. **SHALL** contain exactly one [1..1] **typeId** (CONF:1198-5361).
 - a. This typeId **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.1.3" (CONF:1198-5250).
 - b. This typeId **SHALL** contain exactly one [1..1] **@extension**="POCD_HD000040" (CONF:1198-5251).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1198-5252) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.1.1" (CONF:1198-10036).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2015-08-01" (CONF:1198-32503).
4. **SHALL** contain exactly one [1..1] **id** (CONF:1198-5363).
 - a. This id **SHALL** be a globally unique identifier for the document (CONF:1198-9991).
5. **SHALL** contain exactly one [1..1] **code** (CONF:1198-5253).
 - a. This code **SHALL** specify the particular kind of document (e.g., History and Physical, Discharge Summary, Progress Note) (CONF:1198-9992).
6. **SHALL** contain exactly one [1..1] **title** (CONF:1198-5254).
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:1198-5256).
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 **STATIC** (CONF:1198-5259).
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:1198-5372).
10. **MAY** contain zero or one [0..1] **setId** (CONF:1198-5261).
 - a. If setId is present versionNumber **SHALL** be present (CONF:1198-6380).
11. **MAY** contain zero or one [0..1] **versionNumber** (CONF:1198-5264).
 - a. If versionNumber is present setId **SHALL** be present (CONF:1198-6387).

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:1198-5266).
- a. Such recordTargets **SHALL** contain exactly one [1..1] **patientRole** (CONF:1198-5267).
 - i. This patientRole **SHALL** contain at least one [1..*] **id** (CONF:1198-5268).
 - 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:1198-5271).
 - iii. This patientRole **SHALL** contain at least one [1..*] **telecom** (CONF:1198-5280).
 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:1198-5375)).
 - iv. This patientRole **SHALL** contain exactly one [1..1] **patient** (CONF:1198-5283).
 1. This patient **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:1198-5284).
 2. This patient **SHALL** contain exactly one [1..1] **administrativeGenderCode**, which **SHALL** be selected from ValueSet **Administrative Gender (HL7 V3)** (identifier: urn:oid:2.16.840.1.113883.1.11.1 **DYNAMIC** (CONF:1198-6394)).
 3. This patient **SHALL** contain exactly one [1..1] **birthTime** (CONF:1198-5298).
 - a. **SHALL** be precise to year (CONF:1198-5299).
 - b. **SHOULD** be precise to day (CONF:1198-5300).

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

- c. **MAY** be precise to the minute (CONF:1198-32418).
4. This patient **SHOULD** contain zero or one [0..1] **maritalStatusCode**, which **SHALL** be selected from ValueSet **Marital Status** (identifier: urn:oid:2.16.840.1.113883.1.11.12212 **DYNAMIC** (CONF:1198-5303)).
5. This patient **MAY** contain zero or one [0..1] **religiousAffiliationCode**, which **SHALL** be selected from ValueSet **Religious Affiliation** (identifier: urn:oid:2.16.840.1.113883.1.11.19185 **DYNAMIC** (CONF:1198-5317)).
6. This patient **SHALL** contain exactly one [1..1] **raceCode**, which **SHALL** be selected from ValueSet **Race Category Excluding Nulls** (identifier: urn:oid:2.16.840.1.113883.3.2074.1.1.3 **DYNAMIC** (CONF:1198-5322)).
7. This patient **MAY** contain zero or more [0..*] **sdtc:raceCode**, which **SHALL** be selected from ValueSet **Race**

urn:oid:2.16.840.1.113883.1.11.14914 **DYNAMIC** (CONF:1198-7263).

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:1198-31347).
8. 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:1198-5323).
9. 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:1198-32901).
10. This patient **MAY** contain zero or more [0..*] **guardian** (CONF:1198-5325).
 - 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:1198-5326).
 - b. The guardian, if present, **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:1198-5359).
 - c. The guardian, if present, **SHOULD** contain zero or more [0..*] **telecom** (CONF:1198-5382).
 - 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:1198-7993).
 - d. The guardian, if present, **SHALL** contain exactly one [1..1] **guardianPerson** (CONF:1198-5385).
 - i. This guardianPerson **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:1198-5386).
11. This patient **MAY** contain zero or one [0..1] **birthplace** (CONF:1198-5395).

- a. The birthplace, if present, **SHALL** contain exactly one [1..1] **place** (CONF:1198-5396).
 - i. This place **SHALL** contain exactly one [1..1] **addr** (CONF:1198-5397).
 - 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:1198-5404).
 - 2. 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:1198-5403).
 - 3. 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:1198-5402).
Note: A nullFlavor of ' UNK' may be used if the state is unknown.
12. This patient **SHOULD** contain zero or more [0..*] **languageCommunication** (CONF:1198-5406).
- 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:1198-5407).
 - 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:1198-5409).
 - 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:1198-9965).
 - d. The languageCommunication, if present, **SHOULD** contain zero or one [0..1] **preferenceInd** (CONF:1198-5414).
- v. This patientRole **MAY** contain zero or one [0..1] **providerOrganization** (CONF:1198-5416).
- 1. The providerOrganization, if present, **SHALL** contain at least one [1..*] **id** (CONF:1198-5417).
 - a. Such ids **SHOULD** contain zero or one [0..1] **@root="2.16.840.1.113883.4.6"** National Provider Identifier (CONF:1198-16820).
 - 2. The providerOrganization, if present, **SHALL** contain at least one [1..*] **name** (CONF:1198-5419).

3. The providerOrganization, if present, **SHALL** contain at least one [1..*] **telecom** (CONF:1198-5420).
 - 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:1198-7994).
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:1198-5422).

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:1198-5444).
 - 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:1198-5445).
 - b. Such authors **SHALL** contain exactly one [1..1] **assignedAuthor** (CONF:1198-5448).
 - i. This assignedAuthor **SHALL** contain at least one [1..*] **id** (CONF:1198-5449).

If this assignedAuthor is an assignedPerson

- ii. This assignedAuthor **SHOULD** contain zero or one [0..1] **id** (CONF:1198-32882) 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:1198-32883).
2. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.4.6"** National Provider Identifier (CONF:1198-32884).
3. **SHOULD** contain zero or one [0..1] **@extension** (CONF:1198-32885).

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:1198-16787).
 1. The code, if present, **SHALL** contain exactly one [1..1] **@code**, which **SHOULD** be selected from ValueSet [Healthcare Provider Taxonomy \(HIPAA\)](#) urn:oid:2.16.840.1.114222.4.11.1066 **DYNAMIC** (CONF:1198-16788).
- 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:1198-5452).
- v. This assignedAuthor **SHALL** contain at least one [1..*] **telecom** (CONF:1198-5428).

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:1198-7995)).
- vi. This assignedAuthor **SHOULD** contain zero or one [0..1] assignedPerson (CONF:1198-5430).
 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:1198-16789).
- vii. This assignedAuthor **SHOULD** contain zero or one [0..1] assignedAuthoringDevice (CONF:1198-16783).
 1. The assignedAuthoringDevice, if present, **SHALL** contain exactly one [1..1] manufacturerModelName (CONF:1198-16784).
 2. The assignedAuthoringDevice, if present, **SHALL** contain exactly one [1..1] softwareName (CONF:1198-16785).
- viii. There **SHALL** be exactly one assignedAuthor/assignedPerson or exactly one assignedAuthor/assignedAuthoringDevice (CONF:1198-16790).

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:1198-5441).
 - a. The dataEnterer, if present, **SHALL** contain exactly one [1..1] assignedEntity (CONF:1198-5442).
 - i. This assignedEntity **SHALL** contain at least one [1..*] id (CONF:1198-5443).
 1. Such ids **SHOULD** contain zero or one [0..1] @root="2.16.840.1.113883.4.6" National Provider Identifier (CONF:1198-16821).
 - ii. This assignedEntity **MAY** contain zero or one [0..1] code, which **SHOULD** be selected from ValueSet [Healthcare Provider Taxonomy \(HIPAA\)](#) (urn:oid:2.16.840.1.114222.4.11.1066 **DYNAMIC** (CONF:1198-32173)).
 - 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:1198-5460).
 - iv. This assignedEntity **SHALL** contain at least one [1..*] telecom (CONF:1198-5466).
 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:1198-7996)).
 - v. This assignedEntity **SHALL** contain exactly one [1..1] assignedPerson (CONF:1198-5469).

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:1198-5470).

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:1198-8001) such that it
 - a. **SHALL** contain exactly one [1..1] assignedEntity (CONF:1198-8002).
 - i. This assignedEntity **SHALL** contain at least one [1..*] id (CONF:1198-9945).
 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:1198-9946).
 - ii. This assignedEntity **MAY** contain zero or one [0..1] code, which **SHOULD** be selected from ValueSet [Healthcare Provider Taxonomy \(HIPAA\)](#) urn:oid:2.16.840.1.114222.4.11.1066 **DYNAMIC** (CONF:1198-32174).
 - 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:1198-8220).
 - iv. This assignedEntity **SHALL** contain exactly one [1..1] assignedPerson (CONF:1198-8221).
 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:1198-8222).

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:1198-31355) such that it
 - a. **SHALL** contain exactly one [1..1] relatedEntity (CONF:1198-31356).

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:1198-5519).
 - a. This custodian **SHALL** contain exactly one [1..1] **assignedCustodian** (CONF:1198-5520).
 - i. This assignedCustodian **SHALL** contain exactly one [1..1] **representedCustodianOrganization** (CONF:1198-5521).
 1. This representedCustodianOrganization **SHALL** contain at least one [1..*] **id** (CONF:1198-5522).
 - a. Such ids **SHOULD** contain zero or one [0..1] **@root="2.16.840.1.113883.4.6"** National Provider Identifier (CONF:1198-16822).
 2. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **name** (CONF:1198-5524).
 3. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **telecom** (CONF:1198-5525).
 - 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:1198-7998).
 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:1198-5559).

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:1198-5565).
 - a. The informationRecipient, if present, **SHALL** contain exactly one [1..1] **intendedRecipient** (CONF:1198-5566).
 - i. This intendedRecipient **MAY** contain zero or more [0..*] **id** (CONF:1198-32399).
 - ii. This intendedRecipient **MAY** contain zero or one [0..1] **informationRecipient** (CONF:1198-5567).
 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:1198-5568).
 - iii. This intendedRecipient **MAY** contain zero or one [0..1] **receivedOrganization** (CONF:1198-5577).
 1. The receivedOrganization, if present, **SHALL** contain exactly one [1..1] **name** (CONF:1198-5578).

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:1198-5579).

- a. The legalAuthenticator, if present, **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:1198-5580).
- b. The legalAuthenticator, if present, **SHALL** contain exactly one [1..1] **signatureCode** (CONF:1198-5583).
 - i. This signatureCode **SHALL** contain exactly one [1..1] **@code="S"** (CodeSystem: Participationsignature urn:oid:2.16.840.1.113883.5.89 **STATIC**) (CONF:1198-5584).

1.1.1.10 sdtc:signatureText

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 2013.

- c. The legalAuthenticator, if present, **MAY** contain zero or one [0..1] **sdtc:signatureText** (CONF:1198-30810).

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:1198-5585).
 - i. This assignedEntity **SHALL** contain at least one [1..*] **id** (CONF:1198-5586).

1. Such ids **MAY** contain zero or one [0..1] `@root="2.16.840.1.113883.4.6"` National Provider Identifier (CONF:1198-16823).
- ii. This assignedEntity **MAY** contain zero or one [0..1] `code`, which **SHOULD** be selected from ValueSet [Healthcare Provider Taxonomy \(HIPAA\)](#) (urn:oid:2.16.840.1.114222.4.11.1066 **DYNAMIC** (CONF:1198-17000)).
- 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:1198-5589).
- iv. This assignedEntity **SHALL** contain at least one [1..*] `telecom` (CONF:1198-5595).
 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:1198-7999)).
- v. This assignedEntity **SHALL** contain exactly one [1..1] `assignedPerson` (CONF:1198-5597).
 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:1198-5598).

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:1198-5607) 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:1198-5608).
 - b. **SHALL** contain exactly one [1..1] `signatureCode` (CONF:1198-5610).
 - i. This `signatureCode` **SHALL** contain exactly one [1..1] `@code="S"` (CodeSystem: Participationsignature urn:oid:2.16.840.1.113883.5.89 **STATIC**) (CONF:1198-5611).

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:1198-30811).

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:1198-5612).
 - i. This **assignedEntity** **SHALL** contain at least one [1..*] **id** (CONF:1198-5613).
 - 1. Such **ids** **SHOULD** contain zero or one [0..1] **@root="2.16.840.1.113883.4.6" National Provider Identifier** (CONF:1198-16824).
 - ii. This **assignedEntity** **MAY** contain zero or one [0..1] **code** (CONF:1198-16825).
 - 1. The code, if present, **MAY** contain zero or one [0..1] **@code**, which **SHOULD** be selected from ValueSet [Healthcare Provider Taxonomy \(HIPAA\)](#) **urn:oid:2.16.840.1.114222.4.11.1066** **STATIC** (CONF:1198-16826).
 - 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:1198-5616).
 - iv. This **assignedEntity** **SHALL** contain at least one [1..*] **telecom** (CONF:1198-5622).
 - 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:1198-8000).
 - v. This **assignedEntity** **SHALL** contain exactly one [1..1] **assignedPerson** (CONF:1198-5624).
 - 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:1198-5625).

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:1198-10003) such that it
 - a. **MAY** contain zero or one [0..1] **time** (CONF:1198-10004).
 - b. **SHALL** contain **associatedEntity/associatedPerson** **AND/OR** **associatedEntity/scopingOrganization** (CONF:1198-10006).
 - c. When **participant/@typeCode** is **IND**, **associatedEntity/@classCode** **SHOULD** be selected from ValueSet **2.16.840.1.113883.11.20.9.33 INDRoleclassCodes** **STATIC** **2011-09-30** (CONF:1198-10007).

1.1.1.13 inFulfillmentOf

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

22. **MAY** contain zero or more [0..*] **inFulfillmentOf** (CONF:1198-9952).

- a. The **inFulfillmentOf**, if present, **SHALL** contain exactly one [1..1] **order** (CONF:1198-9953).
 - i. This **order** **SHALL** contain at least one [1..*] **id** (CONF:1198-9954).

1.1.1.14 documentationOf

23. **MAY** contain zero or more [0..*] **documentationOf** (CONF:1198-14835).

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:1198-14836).
 - i. This **serviceEvent** **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1198-14837).
 1. This **effectiveTime** **SHALL** contain exactly one [1..1] **low** (CONF:1198-14838).

1.1.1.15 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:1198-14839).
 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:1198-14840).
 2. The **performer**, if present, **MAY** contain zero or one [0..1] **functionCode** (CONF:1198-16818).
 - a. The **functionCode**, if present, **SHOULD** contain zero or one [0..1] **@code**, which **SHOULD** be selected from ValueSet [ParticipationFunction](#)
urn:oid:2.16.840.1.113883.1.11.10267 **STATIC** (CONF:1198-32889).
 3. The **performer**, if present, **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:1198-14841).
 - a. This **assignedEntity** **SHALL** contain at least one [1..*] **id** (CONF:1198-14846).

- i. Such `ids` **SHOULD** contain zero or one [0..1] `@root="2.16.840.1.113883.4.6"` National Provider Identifier (CONF:1198-14847).
- b. This `assignedEntity` **SHOULD** contain zero or one [0..1] `code`, which **SHOULD** be selected from ValueSet [Healthcare Provider Taxonomy \(HIPAA\)](#) `urn:oid:2.16.840.1.114222.4.11.1066` **DYNAMIC** (CONF:1198-14842).

1.1.1.16 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.

24. **MAY** contain zero or more [0..*] `authorization` (CONF:1198-16792) such that it
- a. **SHALL** contain exactly one [1..1] `consent` (CONF:1198-16793).
 - i. This `consent` **MAY** contain zero or more [0..*] `id` (CONF:1198-16794).
 - ii. This `consent` **MAY** contain zero or one [0..1] `code` (CONF:1198-16795).
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:1198-16797).
 - 1. This `statusCode` **SHALL** contain exactly one [1..1] `@code="completed"` `Completed` (CodeSystem: `HL7ActClass` `urn:oid:2.16.840.1.113883.5.6`) (CONF:1198-16798).

1.1.1.17 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.

25. **MAY** contain zero or one [0..1] `componentOf` (CONF:1198-9955).
- a. The `componentOf`, if present, **SHALL** contain exactly one [1..1] `encompassingEncounter` (CONF:1198-9956).
 - i. This `encompassingEncounter` **SHALL** contain at least one [1..*] `id` (CONF:1198-9959).
 - ii. This `encompassingEncounter` **SHALL** contain exactly one [1..1] `effectiveTime` (CONF:1198-9958).

Table 3: Race

Value Set: Race urn:oid:2.16.840.1.113883.1.11.14914 Concepts in the race value set include the 5 minimum categories for race specified by OMB along with a more detailed set of race categories used by the Bureau of Census. Value Set Source: https://vsac.nlm.nih.gov/			
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
1006-6	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Abenaki
1579-2	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Absentee Shawnee
1490-2	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Acoma
2126-1	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Afghanistani
1740-0	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Ahtna
...			

Table 4: HL7 BasicConfidentialityKind

Value Set: HL7 BasicConfidentialityKind urn:oid:2.16.840.1.113883.1.11.16926 A value set of HL7 Code indication the level of confidentiality an act. Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
N	ConfidentialityCode	urn:oid:2.16.840.1.113883.5.25	normal
R	ConfidentialityCode	urn:oid:2.16.840.1.113883.5.25	restricted
V	ConfidentialityCode	urn:oid:2.16.840.1.113883.5.25	very restricted

Table 5: Language

Value Set: Language urn:oid:2.16.840.1.113883.1.11.11526 A value set of codes defined by Internet RFC 4646 (replacing RFC 3066). Please see ISO 639 language code set maintained by Library of Congress for enumeration of language codes. 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 6: Telecom Use (US Realm Header)

Value Set: Telecom Use (US Realm Header) urn:oid:2.16.840.1.113883.11.20.9.20 Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
HP	AddressUse	urn:oid:2.16.840.1.113883.5.1119	Primary home
HV	AddressUse	urn:oid:2.16.840.1.113883.5.1119	Vacation home
WP	AddressUse	urn:oid:2.16.840.1.113883.5.1119	Work place
MC	AddressUse	urn:oid:2.16.840.1.113883.5.1119	Mobile contact

Table 7: Administrative Gender (HL7 V3)

Value Set: Administrative Gender (HL7 V3) urn:oid:2.16.840.1.113883.1.11.1 Administrative Gender based upon HL7 V3 vocabulary. This value set contains only male, female and undifferentiated concepts. Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
F	AdministrativeGender	urn:oid:2.16.840.1.113883.5.1	Female
M	AdministrativeGender	urn:oid:2.16.840.1.113883.5.1	Male
UN	AdministrativeGender	urn:oid:2.16.840.1.113883.5.1	Undifferentiated

Table 8: Marital Status

Value Set: Marital Status urn:oid:2.16.840.1.113883.1.11.12212 Marital Status is the domestic partnership status of a person. Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
A	MaritalStatus	urn:oid:2.16.840.1.113883.5.2	Annulled
D	MaritalStatus	urn:oid:2.16.840.1.113883.5.2	Divorced
T	MaritalStatus	urn:oid:2.16.840.1.113883.5.2	Domestic partner
I	MaritalStatus	urn:oid:2.16.840.1.113883.5.2	Interlocutory
L	MaritalStatus	urn:oid:2.16.840.1.113883.5.2	Legally Separated
M	MaritalStatus	urn:oid:2.16.840.1.113883.5.2	Married
S	MaritalStatus	urn:oid:2.16.840.1.113883.5.2	Never Married
P	MaritalStatus	urn:oid:2.16.840.1.113883.5.2	Polygamous
W	MaritalStatus	urn:oid:2.16.840.1.113883.5.2	Widowed

Table 9: Religious Affiliation

Value Set: Religious Affiliation urn:oid:2.16.840.1.113883.1.11.19185			
A value set of codes that reflect spiritual faith affiliation.			
Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
1001	ReligiousAffiliation	urn:oid:2.16.840.1.113883.5.1076	Adventist
1002	ReligiousAffiliation	urn:oid:2.16.840.1.113883.5.1076	African Religions
1003	ReligiousAffiliation	urn:oid:2.16.840.1.113883.5.1076	Afro-Caribbean Religions
1004	ReligiousAffiliation	urn:oid:2.16.840.1.113883.5.1076	Agnosticism
1005	ReligiousAffiliation	urn:oid:2.16.840.1.113883.5.1076	Anglican
1006	ReligiousAffiliation	urn:oid:2.16.840.1.113883.5.1076	Animism
1007	ReligiousAffiliation	urn:oid:2.16.840.1.113883.5.1076	Atheism
1008	ReligiousAffiliation	urn:oid:2.16.840.1.113883.5.1076	Babi & Baha'I faiths
1009	ReligiousAffiliation	urn:oid:2.16.840.1.113883.5.1076	Baptist
1010	ReligiousAffiliation	urn:oid:2.16.840.1.113883.5.1076	Bon
...			

Table 10: Race Category Excluding Nulls

Value Set: Race Category Excluding Nulls urn:oid:2.16.840.1.113883.3.2074.1.1.3			
Value Set Source: https://vsac.nlm.nih.gov/			
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 11: Ethnicity

Value Set: Ethnicity urn:oid:2.16.840.1.114222.4.11.837			
Code System: Race & Ethnicity - CDC 2.16.840.1.113883.6.238			
Value Set Source: https://vsac.nlm.nih.gov/			
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 12: Personal And Legal Relationship Role Type

Value Set: Personal And Legal Relationship Role Type urn:oid:2.16.840.1.113883.11.20.12.1			
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.			
Value Set Source: https://phinivads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.113883.11.20.12.1			
Code	Code System	Code System OID	Print Name
SELF	RoleCode	urn:oid:2.16.840.1.113883.5.111	self
MTH	RoleCode	urn:oid:2.16.840.1.113883.5.111	mother
FTH	RoleCode	urn:oid:2.16.840.1.113883.5.111	father
DAU	RoleCode	urn:oid:2.16.840.1.113883.5.111	natural daughter
SON	RoleCode	urn:oid:2.16.840.1.113883.5.111	natural son
DAUINLAW	RoleCode	urn:oid:2.16.840.1.113883.5.111	daughter in-law
SONINLAW	RoleCode	urn:oid:2.16.840.1.113883.5.111	son in-law
GUARD	RoleCode	urn:oid:2.16.840.1.113883.5.111	guardian
HPOWATT	RoleCode	urn:oid:2.16.840.1.113883.5.111	healthcare power of attorney
...			

Table 13: 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.			
Value Set Source: http://www.iso.org/iso/country_codes/iso_3166_code_lists.htm			
Code	Code System	Code System OID	Print Name
AW	Country	urn:oid:2.16.840.1.113883.3.88.12.80.63	Aruba
IL	Country	urn:oid:2.16.840.1.113883.3.88.12.80.63	Israel
...			

Table 14: PostalCode

Value Set: PostalCode urn:oid:2.16.840.1.113883.3.88.12.80.2			
A value set of postal (ZIP) Code of an address in the United States			
Value Set Source: http://ushik.ahrq.gov/ViewItemDetails?system=mdr&itemKey=86671000			
Code	Code System	Code System OID	Print Name
19009	USPostalCodes	urn:oid:2.16.840.1.113883.6.231	Bryn Athyn
92869-1736	USPostalCodes	urn:oid:2.16.840.1.113883.6.231	Orange, CA
32830-8413	USPostalCodes	urn:oid:2.16.840.1.113883.6.231	Lake Buena Vista, FL
...			

Table 15: LanguageAbilityMode

Value Set: LanguageAbilityMode urn:oid:2.16.840.1.113883.1.11.12249			
This identifies the language ability of the individual. A value representing the method of expression of the language.			
Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
ESGN	LanguageAbilityMode	urn:oid:2.16.840.1.113883.5.60	Expressed signed
ESP	LanguageAbilityMode	urn:oid:2.16.840.1.113883.5.60	Expressed spoken
EWR	LanguageAbilityMode	urn:oid:2.16.840.1.113883.5.60	Expressed written
RSGN	LanguageAbilityMode	urn:oid:2.16.840.1.113883.5.60	Received signed
RSP	LanguageAbilityMode	urn:oid:2.16.840.1.113883.5.60	Received spoken
RWR	LanguageAbilityMode	urn:oid:2.16.840.1.113883.5.60	Received written

Table 16: LanguageAbilityProficiency

Value Set: LanguageAbilityProficiency urn:oid:2.16.840.1.113883.1.11.12199			
Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
E	LanguageAbilityProficiency	urn:oid:2.16.840.1.113883.5.61	Excellent
F	LanguageAbilityProficiency	urn:oid:2.16.840.1.113883.5.61	Fair
G	LanguageAbilityProficiency	urn:oid:2.16.840.1.113883.5.61	Good
P	LanguageAbilityProficiency	urn:oid:2.16.840.1.113883.5.61	Poor

Table 17: Detailed Ethnicity

Value Set: Detailed Ethnicity urn:oid:2.16.840.1.114222.4.11.877			
List of detailed ethnicity codes reported on a limited basis			
Value Set Source: http://phinvads.cdc.gov/vads/ViewValueSet.action?id=34D34BBC-617F-DD11-B38D-00188B398520#			
Code	Code System	Code System OID	Print Name
2138-6	Race & Ethnicity - CDC	urn:oid:2.16.840.1.11388 3.6.238	Andalusian
2166-7	Race & Ethnicity - CDC	urn:oid:2.16.840.1.11388 3.6.238	Argentinean
2139-4	Race & Ethnicity - CDC	urn:oid:2.16.840.1.11388 3.6.238	Asturian
2142-8	Race & Ethnicity - CDC	urn:oid:2.16.840.1.11388 3.6.238	Balearic Islander
2167-5	Race & Ethnicity - CDC	urn:oid:2.16.840.1.11388 3.6.238	Bolivian
2163-4	Race & Ethnicity - CDC	urn:oid:2.16.840.1.11388 3.6.238	Canal Zone
2145-1	Race & Ethnicity - CDC	urn:oid:2.16.840.1.11388 3.6.238	Canarian
2140-2	Race & Ethnicity - CDC	urn:oid:2.16.840.1.11388 3.6.238	Castillian
2141-0	Race & Ethnicity - CDC	urn:oid:2.16.840.1.11388 3.6.238	Catalonian
2155-0	Race & Ethnicity - CDC	urn:oid:2.16.840.1.11388 3.6.238	Central American
...			

Table 18: Healthcare Provider Taxonomy (HIPAA)

<p>Value Set: Healthcare Provider Taxonomy (HIPAA) urn:oid:2.16.840.1.114222.4.11.1066</p> <p>The Health Care Provider Taxonomy value set is a collection of unique alphanumeric codes, ten characters in length. The code set is structured into three distinct Levels including Provider Type, Classification, and Area of Specialization. The Health Care Provider Taxonomy code set allows a single provider (individual, group, or institution) to identify their specialty category. Providers may have one or more than one value associated to them. When determining what value or values to associate with a provider, the user needs to review the requirements of the trading partner with which the value(s) are being used.</p> <p>Value Set Source: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.1066</p>			
Code	Code System	Code System OID	Print Name
171100000X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.11388 3.6.101	Acupuncturist
363LA2100X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.11388 3.6.101	Nurse Practitioner - Acute Care
364SA2100X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.11388 3.6.101	Clinical Nurse Specialist - Acute Care
101YA0400X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.11388 3.6.101	Counselor - Addiction (Substance Use Disorder)
103TA0400X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.11388 3.6.101	Psychologist - Addiction (Substance Use Disorder)
163WA0400X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.11388 3.6.101	Registered Nurse - Addiction (Substance Use Disorder)
207LA0401X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.11388 3.6.101	Anesthesiology - Addiction Medicine
207QA0401X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.11388 3.6.101	Family Medicine - Addiction Medicine
207RA0401X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.11388 3.6.101	Internal Medicine - Addiction Medicine
2084A0401X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.11388 3.6.101	Psychiatry & Neurology - Addiction Medicine
...			

Table 19: INDRoleclassCodes

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

Table 20: x_ServiceEventPerformer

Value Set: x_ServiceEventPerformer urn:oid:2.16.840.1.113883.1.11.19601			
Value Set Source: http://www.hl7.org/documentcenter/public/standards/vocabulary/vocabulary_tables/in_frastructure/vocabulary/vocabulary.html			
Code	Code System	Code System OID	Print Name
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
PPRF	HL7ParticipationType	urn:oid:2.16.840.1.113883.5.90	primary performer

Table 21: ParticipationFunction

Value Set: ParticipationFunction urn:oid:2.16.840.1.113883.1.11.10267			
This HL7-defined value set can be used to specify the exact function an actor had in a service in all necessary detail.			
Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
SNRS	participationFunction	urn:oid:2.16.840.1.113883.5.88	Scrub nurse
SASST	participationFunction	urn:oid:2.16.840.1.113883.5.88	Second assistant surgeon
_AuthorizedParticipationFunction	participationFunction	urn:oid:2.16.840.1.113883.5.88	AuthorizedParticipationFunction
_AuthorizedReceiverParticipationFunction	participationFunction	urn:oid:2.16.840.1.113883.5.88	AuthorizedReceiverParticipationFunction
AUCG	participationFunction	urn:oid:2.16.840.1.113883.5.88	caregiver information receiver
AULR	participationFunction	urn:oid:2.16.840.1.113883.5.88	legitimate relationship information receiver
AUTM	participationFunction	urn:oid:2.16.840.1.113883.5.88	care team information receiver
AUWA	participationFunction	urn:oid:2.16.840.1.113883.5.88	work area information receiver
_ConsenterParticipationFunction	participationFunction	urn:oid:2.16.840.1.113883.5.88	ConsenterParticipationFunction
GRDCON	participationFunction	urn:oid:2.16.840.1.113883.5.88	legal guardian consent author
...			

Figure 1: US Realm Header (V3) 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="L">
        <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>
      <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

```
<sdtc:signatureText mediaType="text/xml"
representation="B64">omSJUEdmde9j44zmMiromSJUEdmde9j44zmMirdMDSsWdIJdksIJR3373jeu83
6edjzMMIjdMDSsWdIJdksIJR3373jeu83MNYD83jmMdomSJUEdmde9j44zmMir
... MNYD83jmMdomSJUEdmde9j44zmMir6edjzMMIjdMDSsWdIJdksIJR3373jeu83
4zmMir6edjzMMIjdMDSsWdIJdksIJR3373jeu83==</sdtc: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="2.16.840.1.113883.6.96" extension="1298989898" />
    <code code="388975008" displayName="Weight Reduction Consultation"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="CPT4" />
  </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="1.1.1.1.1.1.1.2" />
      <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" />
        <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="1.1.1.1.1.1.1.2" />
          <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>
```

1.1.2 QRDA Category I Framework (V3)

[ClinicalDocument: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.1.1:2016-02-01 (open)]

Table 22: QRDA Category I Framework (V3) Contexts

Contained By:	Contains:
	Measure Section Patient Data Section Reporting Parameters Section

This template describes constraints that apply to the Quality Reporting Document Architecture (QRDA) Document Category I report framework. Document-level templates describe the purpose and rules for constructing a conforming CDA document. Document templates include constraints on the CDA header and identify contained section-level templates.

The document-level template contains the following information:

- Description and explanatory narrative
- Template metadata (e.g., templateId, etc.)
- Header constraints including a reference to the US Realm Clinical Document Header template and additional constraints specific to each document type
- Required section-level templates

Table 23: QRDA Category I Framework (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
ClinicalDocument (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.1.1:2016-02-01)					
templateId	1..1	SHALL		2228-12910	
@root	1..1	SHALL		2228-14613	2.16.840.1.113883.10.20.24.1.1
@extension	1..1	SHALL		2228-27005	2016-02-01
code	1..1	SHALL		2228-12911	
@code	1..1	SHALL		2228-28137	55182-0
@codeSystem	1..1	SHALL		2228-28138	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
title	1..1	SHALL		2228-12912	
recordTarget	1..1	SHALL		2228-12913	
patientRole	1..1	SHALL		2228-28387	
patient	0..1	MAY		2228-28388	
sdtc:ethnicGroupCode	0..*	MAY		2228-28389	urn:oid:2.16.840.1.114222.4.11.877 (Detailed Ethnicity)
custodian	1..1	SHALL		2228-12914	
assignedCustodian	1..1	SHALL		2228-12915	
representedCustodianOrganization	1..1	SHALL		2228-12916	
legalAuthenticator	1..1	SHALL		2228-13817	
component	1..1	SHALL		2228-12918	
structuredBody	1..1	SHALL		2228-12919	
component	1..1	SHALL		2228-12920	
section	1..1	SHALL		2228-17078	Measure Section (identifier: urn:oid:2.16.840.1.113883.10.20.24.2.2)
component	1..1	SHALL		2228-12923	
section	1..1	SHALL		2228-17079	Reporting Parameters Section (identifier:)

					urn:oid:2.16.840.1.113883.10.20.17.2.1
component	1..1	SHALL		2228-12924	
section	1..1	SHALL		2228-17080	Patient Data Section (identifier: urn:oid:2.16.840.1.113883.10.20.17.2.4)

1. Conforms to [US Realm Header \(V3\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.1.1:2015-08-01).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-12910) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.1.1" (CONF:2228-14613).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-02-01" (CONF:2228-27005).
3. **SHALL** contain exactly one [1..1] **code** (CONF:2228-12911).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="55182-0" Quality Measure Report (CONF:2228-28137).
 - 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:2228-28138).
4. **SHALL** contain exactly one [1..1] **title** (CONF:2228-12912).

1.1.2.1 recordTarget

5. **SHALL** contain exactly one [1..1] **recordTarget** (CONF:2228-12913).
 - a. This recordTarget **SHALL** contain exactly one [1..1] **patientRole** (CONF:2228-28387).
 - i. This patientRole **MAY** contain zero or one [0..1] **patient** (CONF:2228-28388).
 1. The patient, if present, **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:2228-28389).

1.1.2.2 custodian

6. **SHALL** contain exactly one [1..1] **custodian** (CONF:2228-12914).
 - a. This custodian **SHALL** contain exactly one [1..1] **assignedCustodian** (CONF:2228-12915).
 - i. This assignedCustodian **SHALL** contain exactly one [1..1] **representedCustodianOrganization** (CONF:2228-12916).
 1. This assignedCustodian **SHALL** represent the organization that owns and reports the data (CONF:2228-12917).

1.1.2.3 legalAuthenticator

7. **SHALL** contain exactly one [1..1] **legalAuthenticator** (CONF:2228-13817).

1.1.2.4 component

8. **SHALL** contain exactly one [1..1] **component** (CONF:2228-12918).
 - a. This component **SHALL** contain exactly one [1..1] **structuredBody** (CONF:2228-12919).
 - i. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:2228-12920) such that it
 1. **SHALL** contain exactly one [1..1] [Measure Section](#) (identifier: urn:oid:2.16.840.1.113883.10.20.24.2.2) (CONF:2228-17078).
 - ii. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:2228-12923) such that it
 1. **SHALL** contain exactly one [1..1] [Reporting Parameters Section](#) (identifier: urn:oid:2.16.840.1.113883.10.20.17.2.1) (CONF:2228-17079).
 - iii. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:2228-12924) such that it
 1. **SHALL** contain exactly one [1..1] [Patient Data Section](#) (identifier: urn:oid:2.16.840.1.113883.10.20.17.2.4) (CONF:2228-17080).

1.1.3 QDM-Based QRDA (V4)

[ClinicalDocument: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.1.2:2016-08-01 (open)]

Table 24: QDM-Based QRDA (V4) Contexts

Contained By:	Contains:
	Measure Section QDM Patient Data Section QDM (V4) Reporting Parameters Section

A QDM-Based QRDA is a QRDA where the patient data entry-level templates are derived from the National Quality Forum (NQF) Quality Data Model (QDM). A QDM-Based QRDA defines explicitly how a Health Quality Measures Format (HQMF) eMeasure is referenced. This template describes an optional documentationOf/serviceEvent where multiple provider and organization ids can be represented

Table 25: QDM-Based QRDA (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
ClinicalDocument (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.1.2:2016-08-01)					
templateId	1..1	SHALL		3265-12972	
@root	1..1	SHALL		3265-26943	2.16.840.1.113883.10.20.24.1.2
@extension	1..1	SHALL		3265-28696	2016-08-01
recordTarget	1..1	SHALL		3265-16598	
patientRole	1..1	SHALL		3265-16856	
id	0..1	SHOULD		3265-16857	
@root	1..1	SHALL		3265-16858	2.16.840.1.113883.4.572
patient	1..1	SHALL		3265-27570	
administrativeGenderCode	1..1	SHALL		3265-27572	
birthTime	1..1	SHALL		3265-27571	
raceCode	1..1	SHALL		3265-27573	
ethnicGroupCode	1..1	SHALL		3265-27574	
custodian	1..1	SHALL		3265-16600	
assignedCustodian	1..1	SHALL		3265-28239	
representedCustodianOrganization	1..1	SHALL		3265-28240	
id	0..1	SHOULD		3265-28241	
@root	1..1	SHALL		3265-28244	2.16.840.1.113883.4.336
@extension	1..1	SHALL		3265-28245	
id	0..1	SHOULD		3265-28242	
@root	1..1	SHALL		3265-28246	2.16.840.1.113883.4.2
@extension	1..1	SHALL		3265-28247	

id	0..1	SHOULD		3265-28243	
@root	1..1	SHALL		3265-28248	1.3.6.1.4.1.33895
@extension	1..1	SHALL		3265-28249	
informationRecipient	0..*	MAY		3265-16703	
intendedRecipient	1..1	SHALL		3265-16704	
id	1..*	SHALL		3265-16705	
documentationOf	0..1	MAY		3265-16579	
serviceEvent	1..1	SHALL		3265-16580	
@classCode	1..1	SHALL		3265-16581	PCPR
performer	1..*	SHALL		3265-16583	
@typeCode	1..1	SHALL		3265-16584	PRF
time	0..1	MAY		3265-16585	
assignedEntity	1..1	SHALL		3265-16586	
id	0..1	SHOULD		3265-16587	
@root	1..1	SHALL		3265-16588	2.16.840.1.113883.4.6
representedOrganization	1..1	SHALL		3265-16591	
id	0..1	SHOULD		3265-16592	
@root	1..1	SHALL		3265-16593	2.16.840.1.113883.4.2
id	0..1	SHOULD		3265-16595	
@root	1..1	SHALL		3265-16596	2.16.840.1.113883.4.336
@extension	1..1	SHALL		3265-16597	
component	1..1	SHALL		3265-12973	
structuredBody	1..1	SHALL		3265-17081	
component	1..1	SHALL		3265-	

				17082	
section	1..1	SHALL		3265-17083	Measure Section QDM (identifier: urn:oid:2.16.840.1.113883.10.20.24.2.3)
component	1..1	SHALL		3265-17090	
section	1..1	SHALL		3265-17092	Reporting Parameters Section (identifier: urn:oid:2.16.840.1.113883.10.20.17.2.1)
component	1..1	SHALL		3265-17091	
section	1..1	SHALL		3265-17093	Patient Data Section QDM (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.2.1:2016-08-01)

1. Conforms to [QRDA Category I Framework \(V3\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.1.1:2016-02-01).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:3265-12972) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.1.2"** (CONF:3265-26943).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-08-01"** (CONF:3265-28696).

1.1.3.1 recordTarget

3. **SHALL** contain exactly one [1..1] **recordTarget** (CONF:3265-16598).
 - a. This recordTarget **SHALL** contain exactly one [1..1] **patientRole** (CONF:3265-16856).
 - i. This patientRole **SHOULD** contain zero or one [0..1] **id** (CONF:3265-16857) such that it
 1. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.4.572"** Medicare HIC number (CONF:3265-16858).
 - ii. This patientRole **SHALL** contain exactly one [1..1] **patient** (CONF:3265-27570).
 1. This patient **SHALL** contain exactly one [1..1] **administrativeGenderCode** (CONF:3265-27572).
Note: QDM Datatype: Patient Characteristic, Sex
 2. This patient **SHALL** contain exactly one [1..1] **birthTime** (CONF:3265-27571).
Note: QDM Datatype: Patient Characteristic, Birth Date
 3. This patient **SHALL** contain exactly one [1..1] **raceCode** (CONF:3265-27573).
Note: QDM Datatype: Patient Characteristic, Race

4. This patient **SHALL** contain exactly one [1..1] **ethnicGroupCode** (CONF:3265-27574).

Note: QDM Datatype: Patient Characteristic, Ethnicity

- b. Coded fields **MAY** contain the @sdtc:valueSet extension to reference the value set from which the supplied code was drawn. (See Appendix for more details on the use of this extension) (CONF:3265-16859).

1.1.3.2 custodian

4. **SHALL** contain exactly one [1..1] **custodian** (CONF:3265-16600).
 - a. This custodian **SHALL** contain exactly one [1..1] **assignedCustodian** (CONF:3265-28239).
 - i. This assignedCustodian **SHALL** contain exactly one [1..1] **representedCustodianOrganization** (CONF:3265-28240).
 1. This representedCustodianOrganization **SHOULD** contain zero or one [0..1] **id** (CONF:3265-28241) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.4.336"** CMS Certification Number (CONF:3265-28244).
 - b. **SHALL** contain exactly one [1..1] **@extension** (CONF:3265-28245).
 2. This representedCustodianOrganization **SHOULD** contain zero or one [0..1] **id** (CONF:3265-28242) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.4.2"** Tax ID Number (CONF:3265-28246).
 - b. **SHALL** contain exactly one [1..1] **@extension** (CONF:3265-28247).
 3. This representedCustodianOrganization **SHOULD** contain zero or one [0..1] **id** (CONF:3265-28243) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="1.3.6.1.4.1.33895"** The Joint Commission's Health Care Organization (HCO) Identification Number (CONF:3265-28248).
 - b. **SHALL** contain exactly one [1..1] **@extension** (CONF:3265-28249).

1.1.3.3 informationRecipient

5. **MAY** contain zero or more [0..*] **informationRecipient** (CONF:3265-16703).
 - a. The informationRecipient, if present, **SHALL** contain exactly one [1..1] **intendedRecipient** (CONF:3265-16704).
 - i. This intendedRecipient **SHALL** contain at least one [1..*] **id** (CONF:3265-16705).

1. IntendedRecipient ID can be used by the receiver to ensure they are processing a file that was intended to be sent to them (CONF:3265-16706).

1.1.3.4 documentationOf

6. **MAY** contain zero or one [0..1] **documentationOf** (CONF:3265-16579) such that it
 - a. **SHALL** contain exactly one [1..1] **serviceEvent** (CONF:3265-16580).
 - i. This serviceEvent **SHALL** contain exactly one [1..1] **@classCode="PCPR"** Care Provision (CONF:3265-16581).
 - ii. This serviceEvent **SHALL** contain at least one [1..*] **performer** (CONF:3265-16583).
 1. Such performers **SHALL** contain exactly one [1..1] **@typeCode="PRF"** Performer (CONF:3265-16584).
 2. Such performers **MAY** contain zero or one [0..1] **time** (CONF:3265-16585).
 3. Such performers **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:3265-16586).

This assignedEntity id/@root coupled with the id/@extension represents the individual provider's National Provider Identification number (NPI).

- a. This assignedEntity **SHOULD** contain zero or one [0..1] **id** (CONF:3265-16587) such that it
 - i. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.4.6"** National Provider ID (CONF:3265-16588).
- b. This assignedEntity **SHALL** contain exactly one [1..1] **representedOrganization** (CONF:3265-16591).

This representedOrganization id/@root coupled with the id/@extension represents the organization's Tax Identification Number (TIN).

- i. This representedOrganization **SHOULD** contain zero or one [0..1] **id** (CONF:3265-16592) such that it
 1. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.4.2"** Tax ID Number (CONF:3265-16593).

This representedOrganization id/@root coupled with the id/@extension represents the organization's Facility CMS Certification Number (CCN).

- ii. This representedOrganization **SHOULD** contain zero or one [0..1] **id** (CONF:3265-16595) such that it
 1. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.4.336"** Facility CMS Certification Number (CONF:3265-16596).
 2. **SHALL** contain exactly one [1..1] **@extension** (CONF:3265-16597).

Figure 17: documentationOf/serviceEvent example with identifiers

```
<documentationOf typeCode="DOC">
  <serviceEvent classCode="PCPR">
    <!-- care provision -->
    <effectiveTime>
      <low value="20100601"/>
      <high value="20100915"/>
    </effectiveTime>
    <!-- You can include multiple performers, each with an NPI, TIN, CCN. -->
    <performer typeCode="PRF">
      <time>
        <low value="20020716"/>
        <high value="20070915"/>
      </time>
      <assignedEntity>
        <!-- This is the provider NPI -->
        <id root="2.16.840.1.113883.4.6" extension="111111111" />
        <representedOrganization>
          <!-- This is the organization TIN -->
          <id root="2.16.840.1.113883.4.2" extension="1234567" />
          <!-- This is the organization CCN -->
          <id root="2.16.840.1.113883.4.336" extension="54321" />
        </representedOrganization>
      </assignedEntity>
    </performer>
  </serviceEvent>
</documentationOf>
```

1.1.3.5 component

7. **SHALL** contain exactly one [1..1] **component** (CONF:3265-12973) such that it
 - a. **SHALL** contain exactly one [1..1] **structuredBody** (CONF:3265-17081).
 - i. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:3265-17082).
 1. This component **SHALL** contain exactly one [1..1] [Measure Section QDM](#) (identifier: urn:oid:2.16.840.1.113883.10.20.24.2.3) (CONF:3265-17083).
 - ii. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:3265-17090).
 1. This component **SHALL** contain exactly one [1..1] [Reporting Parameters Section](#) (identifier: urn:oid:2.16.840.1.113883.10.20.17.2.1) (CONF:3265-17092).
 - iii. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:3265-17091).
 1. This component **SHALL** contain exactly one [1..1] [Patient Data Section QDM \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.2.1:2016-08-01) (CONF:3265-17093).

2 SECTION-LEVEL TEMPLATES

2.1 Measure Section

[section: identifier urn:oid:2.16.840.1.113883.10.20.24.2.2 (open)]

Table 26: Measure Section Contexts

Contained By:	Contains:
QRDA Category I Framework (V3) (required)	Measure Reference

This section contains information about the measure or measures being reported. This section references the measure through reference to an externalDocument. The externalDocument/ids and version numbers are used to reference the measure. The measure section must contain a reference to at least one externalDocument id of all the measures being reported in the QRDA instance.

Table 27: Measure Section Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:oid:2.16.840.1.113883.10.20.24.2.2)					
templateId	1..1	SHALL		67-12801	
@root	1..1	SHALL		67-12802	2.16.840.1.113883.10.20.24.2.2
code	1..1	SHALL		67-12798	
@code	1..1	SHALL		67-19230	55186-1
@codeSystem	1..1	SHALL		67-27012	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
title	1..1	SHALL		67-12799	Measure Section
text	1..1	SHALL		67-12800	
entry	1..*	SHALL		67-13003	
organizer	1..1	SHALL		67-16677	Measure Reference (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.98)

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:67-12801) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.2.2" (CONF:67-12802).
2. **SHALL** contain exactly one [1..1] **code** (CONF:67-12798).

- a. This code **SHALL** contain exactly one [1..1] `@code="55186-1"` Measure Section (CONF:67-19230).
- 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:67-27012).
- 3. **SHALL** contain exactly one [1..1] `title="Measure Section"` (CONF:67-12799).
- 4. **SHALL** contain exactly one [1..1] `text` (CONF:67-12800).
- 5. **SHALL** contain at least one [1..*] `entry` (CONF:67-13003).
 - a. Such entries **SHALL** contain exactly one [1..1] [Measure Reference](#) (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.98) (CONF:67-16677).

2.1.1 Measure Section QDM

[section: identifier urn:oid:2.16.840.1.113883.10.20.24.2.3 (open)]

Table 28: Measure Section QDM Contexts

Contained By:	Contains:
QDM-Based QRDA (V4) (required)	eMeasure Reference QDM

This section contains information about the eMeasure or eMeasures being reported. It must contain entries with the identifiers of all the eMeasures so that corresponding QRDA QDM data element entry templates to be instantiated in the Patient Data Section are identified. Each eMeasure for which QRDA QDM data elements are being sent must reference the eMeasures act/id. Other eMeasure identifiers that could be referenced are the eMeasure Identifier (Measure Authoring Tool), eMeasure Version Number, eMeasure Title and the NQF Number.Number, eMeasure Title and the NQF Number.

Table 29: Measure Section QDM Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:oid:2.16.840.1.113883.10.20.24.2.3)					
templateId	1..1	SHALL		67-12803	
@root	1..1	SHALL		67-12804	2.16.840.1.113883.10.20.24.2.3
entry	1..*	SHALL		67-12978	
organizer	1..1	SHALL		67-13193	eMeasure Reference QDM (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.97)

- 1. Conforms to [Measure Section](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.24.2.2).
- 2. **SHALL** contain exactly one [1..1] `templateId` (CONF:67-12803) such that it

- a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.2.3" (CONF:67-12804).
- 3. **SHALL** contain at least one [1..*] **entry** (CONF:67-12978).
 - a. Such entries **SHALL** contain exactly one [1..1] [eMeasure Reference QDM](#) (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.97) (CONF:67-13193).

Figure 18: Measure Section QDM Example

```

<section>
  <!-- This is the templateId for Measure Section -->
  <templateId root="2.16.840.1.113883.10.20.24.2.2"/>
  <!-- This is the templateId for Measure Section QDM -->
  <templateId root="2.16.840.1.113883.10.20.24.2.3"/>
  <!-- This is the LOINC code for "Measure document". This stays the same for
    all measure section required by QRDA standard -->
  <code code="55186-1" codeSystem="2.16.840.1.113883.6.1"/>
  <title>Measure Section</title>
  <text>...</text>
  <!-- 1..* Organizers, each containing a reference to an eMeasure -->
  <entry>
    <organizer classCode="CLUSTER" moodCode="EVN">
      <!-- This is the templateId for Measure Reference -->
      <templateId root="2.16.840.1.113883.10.20.24.3.98"/>
      <!-- This is the templateId for eMeasure Reference QDM -->
      <templateId root="2.16.840.1.113883.10.20.24.3.97"/>
      ...
    </organizer>
  </entry>
</section>

```

2.2 Patient Data Section

[section: identifier urn:oid:2.16.840.1.113883.10.20.17.2.4 (open)]

Table 30: Patient Data Section Contexts

Contained By:	Contains:
QRDA Category I Framework (V3) (required)	

The Patient Data Section contains clinically significant patient data and should contain patient data elements as defined by particular measure(s). At least one structured entry is required, although the QRDA Framework does not constrain what those entries should be. Data elements in a QRDA framework instance should be communicated with entry-level templates from the Implementation Guide for CDA Release 2.0 Consolidated CDA Templates IG (US Realm) published December 2011 where possible. In many cases these templates will require further constraint to convey the exact data elements required by a measure or set of measures. Data elements should always be sent with a date/time stamp.

For short-term incremental implementation needs, a valid QRDA Framework Patient Data Section could send data elements using clinical statement templates from an earlier version of CCD, C32 or other HL7 implementation guides.

Table 31: Patient Data Section Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:oid:2.16.840.1.113883.10.20.17.2.4)					
templateId	1..1	SHALL		67-12794	
@root	1..1	SHALL		67-12795	2.16.840.1.113883.10.20.17.2.4
code	1..1	SHALL		67-3865	
@code	1..1	SHALL		67-26548	55188-7
@codeSystem	1..1	SHALL		67-27013	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
title	1..1	SHALL		67-3866	Patient Data
text	1..1	SHALL		67-3867	
entry	1..*	SHALL		67-14567	

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:67-12794) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.17.2.4" (CONF:67-12795).
2. **SHALL** contain exactly one [1..1] **code** (CONF:67-3865).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="55188-7" (CONF:67-26548).
 - 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:67-27013).
3. **SHALL** contain exactly one [1..1] **title**="Patient Data" (CONF:67-3866).
4. **SHALL** contain exactly one [1..1] **text** (CONF:67-3867).
5. **SHALL** contain at least one [1..*] **entry** (CONF:67-14567).

2.2.1 Patient Data Section QDM (V4)

[section: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.2.1:2016-08-01
(open)]

Table 32: Patient Data Section QDM (V4) Contexts

Contained By:	Contains:
QDM-Based QRDA (V4) (required)	Assessment Performed Assessment Recommended Care Goal (V3) Communication from Patient to Provider (V3) Communication from Provider to Patient (V3) Communication from Provider to Provider (V3) Device Adverse Event (V3) Device Allergy (V3) Device Applied (V3) Device Intolerance (V3) Device Order Act Device Recommended Act Diagnosis Concern Act (V2) Diagnostic Study Adverse Event (V3) Diagnostic Study Intolerance (V3) Diagnostic Study Order (V3) Diagnostic Study Performed (V3) Diagnostic Study Recommended (V3) Discharge Medication (V3) Encounter Active (V3) Encounter Order Act Encounter Performed Act Encounter Recommended Act Family History Organizer QDM (V3) Immunization Administered Immunization Order Intervention Adverse Event (V3) Intervention Intolerance (V3) Intervention Order (V3) Intervention Performed (V3) Intervention Recommended (V3) Laboratory Test Adverse Event (V3) Laboratory Test Intolerance (V3) Laboratory Test Order (V3) Laboratory Test Performed (V3) Laboratory Test Recommended (V3) Medication Active (V3) Medication Administered (V3) Medication Adverse Effect (V3) Medication Allergy (V3) Medication Dispensed Act

Contained By:	Contains:
	Medication Intolerance (V3) Medication Order (V3) Patient Care Experience (V3) Patient Characteristic Clinical Trial Participant (V3) Patient Characteristic Expired (V3) Patient Characteristic Observation Assertion (V3) Patient Characteristic Payer Physical Exam Order (V3) Physical Exam Performed (V3) Physical Exam Recommended (V3) Procedure Adverse Event (V3) Procedure Intolerance (V3) Procedure Order (V3) Procedure Performed (V3) Procedure Recommended (V3) Provider Care Experience (V3) Substance Recommended (V3) Symptom Concern Act (V2) Transfer From Act Transfer To Act

The Patient Data Section QDM (V4) contains entries that conform to the QDM approach to QRDA. In contrast to a QRDA Framework Patient Data Section that requires but does not specify the structured entries, the Patient Data Section QDM contained entry templates have specific requirements to align the quality measure data element type with its corresponding NQF QDM HQMF pattern, its referenced value set and potential QDM attributes. Contained entries must reference the corresponding eMeasure value set via the sdct:valueSet attribute. All entries must also have time element. See Quality Data Model-Based QRDA in Volume 1 of this IG.

For time elements, a Coordinated Universal Time (UTC time) offset should not be used anywhere in a QRDA Category I file or, if a UTC time offset is needed anywhere, then it must be specified everywhere a time field is provided. Example time elements are:

- effectiveTime/@value
- effectiveTime/low/@value
- effectiveTime/high/@value
- time/@value
- birthTime/@value
- time/low/@value
- time/high/@value

Table 33: Patient Data Section QDM (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.2.1:2016-08-01)					
templateId	1..1	SHALL		3265-12796	
@root	1..1	SHALL		3265-12797	2.16.840.1.113883.10.20.24.2.1
@extension	1..1	SHALL		3265-28405	2016-08-01
entry	0..*	MAY		3265-12871	
@typeCode	1..1	SHALL		3265-16601	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		3265-27378	Communication from Patient to Provider (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.2:2016-02-01)
entry	0..*	MAY		3265-28684	
@typeCode	1..1	SHALL		3265-28685	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-28686	Assessment Performed (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.144)
entry	0..*	MAY		3265-28687	
@typeCode	1..1	SHALL		3265-28688	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-28689	Assessment Recommended (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.145)
entry	0..*	MAY		3265-12875	
@typeCode	1..1	SHALL		3265-16602	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-13135	Device Adverse Event (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.5:2016-02-01)
entry	0..*	MAY		3265-12902	
@typeCode	1..1	SHALL		3265-	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) =

				16603	DRIV
observation	1..1	SHALL		3265-13136	Device Intolerance (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.8:2016-02-01)
entry	0..*	MAY		3265-12904	
@typeCode	1..1	SHALL		3265-16604	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		3265-28460	Device Order Act (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.130)
entry	0..*	MAY		3265-12906	
@typeCode	1..1	SHALL		3265-16605	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		3265-28461	Device Recommended Act (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.131)
entry	0..*	MAY		3265-12908	
@typeCode	1..1	SHALL		3265-16606	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		3265-28549	Diagnosis Concern Act (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.137:2016-08-01)
entry	0..*	MAY		3265-13017	
@typeCode	1..1	SHALL		3265-16609	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-13142	Diagnostic Study Adverse Event (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.15:2016-02-01)
entry	0..*	MAY		3265-13019	
@typeCode	1..1	SHALL		3265-16610	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-13143	Diagnostic Study Intolerance (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.16:2016-02-01)
entry	0..*	MAY		3265-13021	

@typeCode	1..1	SHALL		3265-16611	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
encounter	1..1	SHALL		3265-27007	Encounter Active (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.21:2016-02-01)
entry	0..*	MAY		3265-13034	
@typeCode	1..1	SHALL		3265-16612	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		3265-28494	Encounter Order Act (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.132)
entry	0..*	MAY		3265-13146	
@typeCode	1..1	SHALL		3265-16613	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		3265-28495	Encounter Recommended Act (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.134)
entry	0..*	MAY		3265-13154	
@typeCode	1..1	SHALL		3265-16617	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-27076	Laboratory Test Order (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.37:2016-02-01)
entry	0..*	MAY		3265-13156	
@typeCode	1..1	SHALL		3265-16618	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-27156	Laboratory Test Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.38:2016-02-01)
entry	0..*	MAY		3265-13162	
@typeCode	1..1	SHALL		3265-16620	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
procedure	1..1	SHALL		3265-27084	Procedure Order (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.63:2016-02-01)
entry	0..*	MAY		3265-	

				13164	
@typeCode	1..1	SHALL		3265-16621	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
procedure	1..1	SHALL		3265-27130	Procedure Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.64:2016-02-01
entry	0..*	MAY		3265-13166	
@typeCode	1..1	SHALL		3265-16622	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
procedure	1..1	SHALL		3265-27087	Procedure Recommended (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.65:2016-02-01
entry	0..*	MAY		3265-13170	
@typeCode	1..1	SHALL		3265-16624	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-27295	Provider Care Experience (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.67:2016-02-01
entry	0..*	MAY		3265-13172	
@typeCode	1..1	SHALL		3265-16625	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		3265-28550	Symptom Concern Act (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.138:2016-08-01
entry	0..*	MAY		3265-13245	
@typeCode	1..1	SHALL		3265-16628	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-27296	Patient Care Experience (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.48:2016-02-01
entry	0..*	MAY		3265-13249	
@typeCode	1..1	SHALL		3265-16630	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-	Physical Exam Performed (V3)

				27136	(identifier: urn:hl7ii:2.16.840.1.113883.10.2 0.24.3.59:2016-02-01)
entry	0..*	MAY		3265-13262	
@typeCode	1..1	SHALL		3265-16631	urn:oid:2.16.840.1.113883.5.100 2 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		3265-27379	Communication from Provider to Patient (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.2 0.24.3.3:2016-02-01)
entry	0..*	MAY		3265-13264	
@typeCode	1..1	SHALL		3265-16632	urn:oid:2.16.840.1.113883.5.100 2 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		3265-27380	Communication from Provider to Provider (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.2 0.24.3.4:2016-02-01)
entry	0..*	MAY		3265-13266	
@typeCode	1..1	SHALL		3265-16633	urn:oid:2.16.840.1.113883.5.100 2 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-13267	Device Allergy (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.2 0.24.3.6:2016-02-01)
entry	0..*	MAY		3265-13268	
@typeCode	1..1	SHALL		3265-16634	urn:oid:2.16.840.1.113883.5.100 2 (HL7ActRelationshipType) = DRIV
procedure	1..1	SHALL		3265-27133	Device Applied (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.2 0.24.3.7:2016-02-01)
entry	0..*	MAY		3265-13272	
@typeCode	1..1	SHALL		3265-16636	urn:oid:2.16.840.1.113883.5.100 2 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-13273	Laboratory Test Recommended (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.2 0.24.3.39:2016-02-01)
entry	0..*	MAY		3265-13294	
@typeCode	1..1	SHALL		3265-16638	urn:oid:2.16.840.1.113883.5.100 2 (HL7ActRelationshipType) =

					DRIV
observation	1..1	SHALL		3265-13295	Physical Exam Recommended (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.60:2016-02-01)
entry	0..*	MAY		3265-13903	
@typeCode	1..1	SHALL		3265-16642	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
substanceAdministration	1..1	SHALL		3265-27090	Medication Order (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.47:2016-02-01)
entry	0..*	MAY		3265-13910	
@typeCode	1..1	SHALL		3265-16643	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
substanceAdministration	1..1	SHALL		3265-27040	Medication Active (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.41:2016-02-01)
entry	0..*	MAY		3265-13912	
@typeCode	1..1	SHALL		3265-16644	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		3265-28570	Medication Dispensed Act (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.139)
entry	0..*	MAY		3265-13916	
@typeCode	1..1	SHALL		3265-16645	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		3265-27042	Intervention Recommended (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.33:2016-02-01)
entry	0..*	MAY		3265-13918	
@typeCode	1..1	SHALL		3265-28434	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		3265-27145	Intervention Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.32:2016-02-01)
entry	0..*	MAY		3265-13920	

@typeCode	1..1	SHALL		3265-16646	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		3265-27043	Intervention Order (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.31:2016-02-01)
entry	0..*	MAY		3265-13922	
@typeCode	1..1	SHALL		3265-16647	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-27044	Intervention Intolerance (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.30:2016-02-01)
entry	0..*	MAY		3265-13941	
@typeCode	1..1	SHALL		3265-16649	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		3265-28496	Encounter Performed Act (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.133)
entry	0..*	MAY		3265-13947	
@typeCode	1..1	SHALL		3265-16653	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-13948	Diagnostic Study Recommended (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.19:2016-02-01)
entry	0..*	MAY		3265-13949	
@typeCode	1..1	SHALL		3265-16654	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-27142	Diagnostic Study Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.18:2016-02-01)
entry	0..*	MAY		3265-13951	
@typeCode	1..1	SHALL		3265-16655	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-13952	Diagnostic Study Order (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.17:2016-02-01)

					0.24.3.17:2016-02-01
entry	0..*	MAY		3265-13955	
@typeCode	1..1	SHALL		3265-16657	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-27046	Procedure Adverse Event (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.2 0.24.3.61:2016-02-01)
entry	0..*	MAY		3265-13959	
@typeCode	1..1	SHALL		3265-16659	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-27047	Procedure Intolerance (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.2 0.24.3.62:2016-02-01)
entry	0..*	MAY		3265-14247	
@typeCode	1..1	SHALL		3265-16660	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-27048	Patient Characteristic Clinical Trial Participant (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.2 0.24.3.51:2016-02-01)
entry	0..*	MAY		3265-14274	
@typeCode	1..1	SHALL		3265-16661	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-27049	Medication Intolerance (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.2 0.24.3.46:2016-02-01)
entry	0..*	MAY		3265-14278	
@typeCode	1..1	SHALL		3265-16662	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-27050	Laboratory Test Intolerance (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.2 0.24.3.36:2016-02-01)
entry	0..*	MAY		3265-14280	
@typeCode	1..1	SHALL		3265-16663	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) =

					DRIV
observation	1..1	SHALL		3265-27051	Laboratory Test Adverse Event (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.35:2016-02-01)
entry	0..*	MAY		3265-14428	
@typeCode	1..1	SHALL		3265-16665	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
substanceAdministration	1..1	SHALL		3265-27153	Substance Recommended (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.75:2016-02-01)
entry	0..*	MAY		3265-14430	
@typeCode	1..1	SHALL		3265-16666	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-14431	Patient Characteristic Payer (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.55)
entry	0..*	MAY		3265-14471	
@typeCode	1..1	SHALL		3265-16667	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-27052	Patient Characteristic Expired (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.54:2016-02-01)
entry	0..*	MAY		3265-14538	
@typeCode	1..1	SHALL		3265-16668	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-27053	Medication Allergy (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.44:2016-02-01)
entry	0..*	MAY		3265-14540	
@typeCode	1..1	SHALL		3265-16669	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-27063	Medication Adverse Effect (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.43:2016-02-01)
entry	0..*	MAY		3265-	

				14565	
@typeCode	1..1	SHALL		3265-16670	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
organizer	1..1	SHALL		3265-27055	Family History Organizer QDM (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.12:2016-02-01)
entry	0..*	MAY		3265-16548	
@typeCode	1..1	SHALL		3265-16674	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-16549	Patient Characteristic Observation Assertion (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.103:2016-02-01)
entry	0..*	MAY		3265-28214	
@typeCode	1..1	SHALL		3265-28215	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-28216	Provider Care Experience (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.67:2016-02-01)
entry	0..*	MAY		3265-16556	
@typeCode	1..1	SHALL		3265-16675	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		3265-27062	Discharge Medication (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.105:2016-02-01)
entry	0..*	MAY		3265-16574	
@typeCode	1..1	SHALL		3265-16676	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-27068	Care Goal (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.1:2016-02-01)
entry	0..*	MAY		3265-16707	
@typeCode	1..1	SHALL		3265-16708	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		3265-	Medication Administered (V3)

				27057	(identifier: urn:hl7ii:2.16.840.1.113883.10.2 0.24.3.42:2016-02-01)
entry	0..*	MAY		3265-13924	
@typeCode	1..1	SHALL		3265-16648	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-27061	Intervention Adverse Event (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.2 0.24.3.29:2016-02-01)
entry	0..*	MAY		3265-27079	
@typeCode	1..1	SHALL		3265-27080	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		3265-27081	Physical Exam Order (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.2 0.24.3.58:2016-02-01)
entry	0..*	MAY		3265-27805	
@typeCode	1..1	SHALL		3265-27832	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		3265-28466	Transfer From Act (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.141)
entry	0..*	MAY		3265-27831	
@typeCode	1..1	SHALL		3265-27833	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		3265-28465	Transfer To Act (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.142)
entry	0..*	MAY		3265-28594	
@typeCode	1..1	SHALL		3265-28595	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		3265-28596	Immunization Administered (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.140)
entry	0..*	MAY		3265-28648	
@typeCode	1..1	SHALL		3265-28649	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) =

					DRIV
substanceAdministration	1..1	SHALL		3265-28650	Immunization Order (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.143)

1. Conforms to [Patient Data Section](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.17.2.4).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:3265-12796) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.2.1" (CONF:3265-12797).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-08-01" (CONF:3265-28405).
3. **MAY** contain zero or more [0..*] **entry** (CONF:3265-12871) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16601).
 - b. **SHALL** contain exactly one [1..1] [Communication from Patient to Provider \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.2:2016-02-01) (CONF:3265-27378).
4. **MAY** contain zero or more [0..*] **entry** (CONF:3265-28684) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-28685).
 - b. **SHALL** contain exactly one [1..1] [Assessment Performed](#) (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.144) (CONF:3265-28686).
5. **MAY** contain zero or more [0..*] **entry** (CONF:3265-28687) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-28688).
 - b. **SHALL** contain exactly one [1..1] [Assessment Recommended](#) (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.145) (CONF:3265-28689).
6. **MAY** contain zero or more [0..*] **entry** (CONF:3265-12875) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16602).
 - b. **SHALL** contain exactly one [1..1] [Device Adverse Event \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.5:2016-02-01) (CONF:3265-13135).
7. **MAY** contain zero or more [0..*] **entry** (CONF:3265-12902) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16603).
 - b. **SHALL** contain exactly one [1..1] [Device Intolerance \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.8:2016-02-01) (CONF:3265-13136).
8. **MAY** contain zero or more [0..*] **entry** (CONF:3265-12904) such that it

- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16604).
 - b. **SHALL** contain exactly one [1..1] [Device Order Act](#) (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.130) (CONF:3265-28460).
9. **MAY** contain zero or more [0..*] **entry** (CONF:3265-12906) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16605).
 - b. **SHALL** contain exactly one [1..1] [Device Recommended Act](#) (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.131) (CONF:3265-28461).
10. **MAY** contain zero or more [0..*] **entry** (CONF:3265-12908) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16606).
 - b. **SHALL** contain exactly one [1..1] [Diagnosis Concern Act \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.137:2016-08-01) (CONF:3265-28549).
11. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13017) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16609).
 - b. **SHALL** contain exactly one [1..1] [Diagnostic Study Adverse Event \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.15:2016-02-01) (CONF:3265-13142).
12. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13019) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16610).
 - b. **SHALL** contain exactly one [1..1] [Diagnostic Study Intolerance \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.16:2016-02-01) (CONF:3265-13143).
13. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13021) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16611).
 - b. **SHALL** contain exactly one [1..1] [Encounter Active \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.21:2016-02-01) (CONF:3265-27007).
14. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13034) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16612).
 - b. **SHALL** contain exactly one [1..1] [Encounter Order Act](#) (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.132) (CONF:3265-28494).

15. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13146) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16613).
 - b. **SHALL** contain exactly one [1..1] Encounter Recommended Act (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.134) (CONF:3265-28495).
16. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13154) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16617).
 - b. **SHALL** contain exactly one [1..1] Laboratory Test Order (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.37:2016-02-01) (CONF:3265-27076).
17. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13156) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16618).
 - b. **SHALL** contain exactly one [1..1] Laboratory Test Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.38:2016-02-01) (CONF:3265-27156).
18. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13162) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16620).
 - b. **SHALL** contain exactly one [1..1] Procedure Order (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.63:2016-02-01) (CONF:3265-27084).
19. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13164) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16621).
 - b. **SHALL** contain exactly one [1..1] Procedure Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.64:2016-02-01) (CONF:3265-27130).
20. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13166) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16622).
 - b. **SHALL** contain exactly one [1..1] Procedure Recommended (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.65:2016-02-01) (CONF:3265-27087).
21. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13170) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16624).

- b. **SHALL** contain exactly one [1..1] [Provider Care Experience \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.67:2016-02-01) (CONF:3265-27295).
22. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13172) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16625).
 - b. **SHALL** contain exactly one [1..1] [Symptom Concern Act \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.138:2016-08-01) (CONF:3265-28550).
23. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13245) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16628).
 - b. **SHALL** contain exactly one [1..1] [Patient Care Experience \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.48:2016-02-01) (CONF:3265-27296).
24. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13249) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16630).
 - b. **SHALL** contain exactly one [1..1] [Physical Exam Performed \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.59:2016-02-01) (CONF:3265-27136).
25. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13262) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16631).
 - b. **SHALL** contain exactly one [1..1] [Communication from Provider to Patient \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.3:2016-02-01) (CONF:3265-27379).
26. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13264) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16632).
 - b. **SHALL** contain exactly one [1..1] [Communication from Provider to Provider \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.4:2016-02-01) (CONF:3265-27380).
27. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13266) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16633).
 - b. **SHALL** contain exactly one [1..1] [Device Allergy \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.6:2016-02-01) (CONF:3265-13267).

28. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13268) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16634).
 - b. **SHALL** contain exactly one [1..1] **Device Applied (V3)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.7:2016-02-01) (CONF:3265-27133).
29. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13272) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16636).
 - b. **SHALL** contain exactly one [1..1] **Laboratory Test Recommended (V3)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.39:2016-02-01) (CONF:3265-13273).
30. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13294) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16638).
 - b. **SHALL** contain exactly one [1..1] **Physical Exam Recommended (V3)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.60:2016-02-01) (CONF:3265-13295).
31. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13903) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16642).
 - b. **SHALL** contain exactly one [1..1] **Medication Order (V3)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.47:2016-02-01) (CONF:3265-27090).
32. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13910) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16643).
 - b. **SHALL** contain exactly one [1..1] **Medication Active (V3)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.41:2016-02-01) (CONF:3265-27040).
33. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13912) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16644).
 - b. **SHALL** contain exactly one [1..1] **Medication Dispensed Act** (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.139) (CONF:3265-28570).
34. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13916) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16645).

- b. **SHALL** contain exactly one [1..1] [Intervention Recommended \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.33:2016-02-01) (CONF:3265-27042).
- 35. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13918) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-28434).
 - b. **SHALL** contain exactly one [1..1] [Intervention Performed \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.32:2016-02-01) (CONF:3265-27145).
- 36. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13920) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16646).
 - b. **SHALL** contain exactly one [1..1] [Intervention Order \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.31:2016-02-01) (CONF:3265-27043).
- 37. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13922) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16647).
 - b. **SHALL** contain exactly one [1..1] [Intervention Intolerance \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.30:2016-02-01) (CONF:3265-27044).
- 38. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13941) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16649).
 - b. **SHALL** contain exactly one [1..1] [Encounter Performed Act](#) (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.133) (CONF:3265-28496).
- 39. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13947) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16653).
 - b. **SHALL** contain exactly one [1..1] [Diagnostic Study Recommended \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.19:2016-02-01) (CONF:3265-13948).
- 40. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13949) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16654).
 - b. **SHALL** contain exactly one [1..1] [Diagnostic Study Performed \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.18:2016-02-01) (CONF:3265-27142).
- 41. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13951) such that it

- a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16655).
 - b. **SHALL** contain exactly one [1..1] [Diagnostic Study Order \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.17:2016-02-01) (CONF:3265-13952).
42. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13955) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16657).
 - b. **SHALL** contain exactly one [1..1] [Procedure Adverse Event \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.61:2016-02-01) (CONF:3265-27046).
43. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13959) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16659).
 - b. **SHALL** contain exactly one [1..1] [Procedure Intolerance \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.62:2016-02-01) (CONF:3265-27047).
44. **MAY** contain zero or more [0..*] **entry** (CONF:3265-14247) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16660).
 - b. **SHALL** contain exactly one [1..1] [Patient Characteristic Clinical Trial Participant \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.51:2016-02-01) (CONF:3265-27048).
45. **MAY** contain zero or more [0..*] **entry** (CONF:3265-14274) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16661).
 - b. **SHALL** contain exactly one [1..1] [Medication Intolerance \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.46:2016-02-01) (CONF:3265-27049).
46. **MAY** contain zero or more [0..*] **entry** (CONF:3265-14278) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16662).
 - b. **SHALL** contain exactly one [1..1] [Laboratory Test Intolerance \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.36:2016-02-01) (CONF:3265-27050).
47. **MAY** contain zero or more [0..*] **entry** (CONF:3265-14280) such that it

- a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16663).
 - b. **SHALL** contain exactly one [1..1] [Laboratory Test Adverse Event \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.35:2016-02-01) (CONF:3265-27051).
48. **MAY** contain zero or more [0..*] **entry** (CONF:3265-14428) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16665).
 - b. **SHALL** contain exactly one [1..1] [Substance Recommended \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.75:2016-02-01) (CONF:3265-27153).
49. **MAY** contain zero or more [0..*] **entry** (CONF:3265-14430) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16666).
 - b. **SHALL** contain exactly one [1..1] [Patient Characteristic Payer](#) (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.55) (CONF:3265-14431).
50. **MAY** contain zero or more [0..*] **entry** (CONF:3265-14471) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16667).
 - b. **SHALL** contain exactly one [1..1] [Patient Characteristic Expired \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.54:2016-02-01) (CONF:3265-27052).
51. **MAY** contain zero or more [0..*] **entry** (CONF:3265-14538) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16668).
 - b. **SHALL** contain exactly one [1..1] [Medication Allergy \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.44:2016-02-01) (CONF:3265-27053).
52. **MAY** contain zero or more [0..*] **entry** (CONF:3265-14540) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16669).
 - b. **SHALL** contain exactly one [1..1] [Medication Adverse Effect \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.43:2016-02-01) (CONF:3265-27063).
53. **MAY** contain zero or more [0..*] **entry** (CONF:3265-14565) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16670).

- b. **SHALL** contain exactly one [1..1] [Family History Organizer QDM \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.12:2016-02-01) (CONF:3265-27055).
54. **MAY** contain zero or more [0..*] **entry** (CONF:3265-16548) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" Is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16674).
 - b. **SHALL** contain exactly one [1..1] [Patient Characteristic Observation Assertion \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.103:2016-02-01) (CONF:3265-16549).
55. **MAY** contain zero or more [0..*] **entry** (CONF:3265-28214) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" Is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-28215).
 - b. **SHALL** contain exactly one [1..1] [Provider Care Experience \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.67:2016-02-01) (CONF:3265-28216).
56. **MAY** contain zero or more [0..*] **entry** (CONF:3265-16556) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16675).
 - b. **SHALL** contain exactly one [1..1] [Discharge Medication \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.105:2016-02-01) (CONF:3265-27062).
57. **MAY** contain zero or more [0..*] **entry** (CONF:3265-16574) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16676).
 - b. **SHALL** contain exactly one [1..1] [Care Goal \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.1:2016-02-01) (CONF:3265-27068).
58. **MAY** contain zero or more [0..*] **entry** (CONF:3265-16707) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16708).
 - b. **SHALL** contain exactly one [1..1] [Medication Administered \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.42:2016-02-01) (CONF:3265-27057).
59. **MAY** contain zero or more [0..*] **entry** (CONF:3265-13924) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-16648).

- b. **SHALL** contain exactly one [1..1] [Intervention Adverse Event \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.29:2016-02-01) (CONF:3265-27061).
60. **MAY** contain zero or more [0..*] **entry** (CONF:3265-27079) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-27080).
 - b. **SHALL** contain exactly one [1..1] [Physical Exam Order \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.58:2016-02-01) (CONF:3265-27081).
61. **MAY** contain zero or more [0..*] **entry** (CONF:3265-27805) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** Is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-27832).
 - b. **SHALL** contain exactly one [1..1] [Transfer From Act](#) (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.141) (CONF:3265-28466).
62. **MAY** contain zero or more [0..*] **entry** (CONF:3265-27831) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** Is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-27833).
 - b. **SHALL** contain exactly one [1..1] [Transfer To Act](#) (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.142) (CONF:3265-28465).
63. **MAY** contain zero or more [0..*] **entry** (CONF:3265-28594) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** Is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-28595).
 - b. **SHALL** contain exactly one [1..1] [Immunization Administered](#) (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.140) (CONF:3265-28596).
64. **MAY** contain zero or more [0..*] **entry** (CONF:3265-28648) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-28649).
 - b. **SHALL** contain exactly one [1..1] [Immunization Order](#) (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.143) (CONF:3265-28650).

2.3 Reporting Parameters Section

[section: identifier urn:oid:2.16.840.1.113883.10.20.17.2.1 (open)]

Table 34: Reporting Parameters Section Contexts

Contained By:	Contains:
QRDA Category I Framework (V3) (required) QDM-Based QRDA (V4) (required)	Reporting Parameters Act

The Reporting Parameters Section provides information about the reporting time interval, and may contain other information that provides context for the data being reported. The receiving organization may tell the reporting institution what information is needed in this section. The reporting parameter time interval refers to the data being sent in the document and may differ from the quality measure's measurement period or valid dates for the data set.

Table 35: Reporting Parameters Section Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:oid:2.16.840.1.113883.10.20.17.2.1)					
templateId	1..1	SHALL		23-14611	
@root	1..1	SHALL		23-14612	2.16.840.1.113883.10.20.17.2.1
code	1..1	SHALL		23-18191	
@code	1..1	SHALL		23-19229	55187-9
@codeSystem	1..1	SHALL		23-26552	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
title	1..1	SHALL		23-4142	Reporting Parameters
text	1..1	SHALL		23-4143	
entry	1..1	SHALL		23-3277	
@typeCode	1..1	SHALL		23-3278	urn:oid:2.16.840.1.113883.5.100 2 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		23-17496	Reporting Parameters Act (identifier: urn:oid:2.16.840.1.113883.10.20.17.3.8)

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:23-14611) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.17.2.1" (CONF:23-14612).
2. **SHALL** contain exactly one [1..1] **code** (CONF:23-18191).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="55187-9" Reporting Parameters (CONF:23-19229).
 - 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:23-26552).
3. **SHALL** contain exactly one [1..1] **title**="Reporting Parameters" (CONF:23-4142).
4. **SHALL** contain exactly one [1..1] **text** (CONF:23-4143).
5. **SHALL** contain exactly one [1..1] **entry** (CONF:23-3277) such that it

- a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" Is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:23-3278).
- b. **SHALL** contain exactly one [1..1] Reporting Parameters Act (identifier: urn:oid:2.16.840.1.113883.10.20.17.3.8) (CONF:23-17496).

3 ENTRY-LEVEL TEMPLATES

3.1 Act Intolerance or Adverse Event Observation (V3)

[observation: identifier urn:h17ii:2.16.840.1.113883.10.20.24.3.104:2016-02-01 (open)]

Table 36: Act Intolerance or Adverse Event Observation (V3) Contexts

Contained By:	Contains:
	Reaction (V2)

This clinical statement represents that an adverse event or some other type of intolerance to an act (e.g., a procedure) exists or does not exist. The cause of the adverse event is represented via an entryRelationship of type “CAUS” (has cause).

Table 37: Act Intolerance or Adverse Event Observation (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.104:2016-02-01)					
@classCode	1..1	SHALL		2228-16379	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-16380	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..0	SHALL NOT		2228-28039	
templateId	1..1	SHALL		2228-16381	
@root	1..1	SHALL		2228-16382	2.16.840.1.113883.10.20.24.3.104
@extension	1..1	SHALL		2228-27010	2016-02-01
id	1..*	SHALL		2228-16384	
code	1..1	SHALL		2228-16385	
@code	1..1	SHALL		2228-16386	ASSERTION
@codeSystem	1..1	SHALL		2228-27575	urn:oid:2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		2228-16387	
@code	1..1	SHALL		2228-16388	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		2228-16389	
low	1..1	SHALL		2228-16390	
high	0..1	SHOULD		2228-16391	
value	1..1	SHALL	CD	2228-16406	
@code	1..1	SHALL		2228-16407	urn:oid:2.16.840.1.113883.3.88.12.3221.6.2 (Allergy and Intolerance Type)
entryRelationship	1..1	SHALL		2228-16392	
@typeCode	1..1	SHALL		2228-16393	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = CAUS
@inversionInd	1..1	SHALL		2228-16394	true

entryRelationship	0..1	SHOULD		2228-16396	
@typeCode	1..1	SHALL		2228-16397	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = MFST
@inversionInd	1..1	SHALL		2228-16398	true
observation	1..1	SHALL		2228-16399	Reaction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.85:2014-12-01)

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-16379).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-16380).
3. **SHALL NOT** contain [0..0] **@negationInd** (CONF:2228-28039).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-16381) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.104"** (CONF:2228-16382).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-27010).
5. **SHALL** contain at least one [1..*] **id** (CONF:2228-16384).
6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-16385).
 - a. This code **SHALL** contain exactly one [1..1] **@code="ASSERTION"** Assertion (CONF:2228-16386).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem="2.16.840.1.113883.5.4"** (CodeSystem: ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:2228-27575).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:2228-16387).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:2228-16388).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:2228-16389).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:2228-16390).
Note: QDM Attribute: Start Datetime
 - b. This effectiveTime **SHOULD** contain zero or one [0..1] **high** (CONF:2228-16391).
Note: QDM Attribute: Stop Datetime
9. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:2228-16406).
 - a. This value **SHALL** contain exactly one [1..1] **@code**, which **MAY** be selected from ValueSet [Allergy and Intolerance Type](#) urn:oid:2.16.840.1.113883.3.88.12.3221.6.2 **DYNAMIC** (CONF:2228-16407).
10. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:2228-16392) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="CAUS"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-16393).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** (CONF:2228-16394).

11. **SHOULD** contain zero or one [0..1] **entryRelationship** (CONF:2228-16396) such that it
 Note: QDM Attribute: Reaction

- a. **SHALL** contain exactly one [1..1] **@typeCode="MFST"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-16397).
- b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** (CONF:2228-16398).
- c. **SHALL** contain exactly one [1..1] **Reaction (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.85:2014-12-01) (CONF:2228-16399).

Table 38: Allergy and Intolerance Type

Value Set: Allergy and Intolerance Type urn:oid:2.16.840.1.113883.3.88.12.3221.6.2 This value set includes concepts that represent a type of adverse sensitivity, allergy or intolerance. Value Set Source: https://vsac.nlm.nih.gov			
Code	Code System	Code System OID	Print Name
419199007	SNOMED CT	urn:oid:2.16.840.1.113883.3.6.96	Allergy to substance (disorder)
416098002	SNOMED CT	urn:oid:2.16.840.1.113883.3.6.96	Drug allergy (disorder)
59037007	SNOMED CT	urn:oid:2.16.840.1.113883.3.6.96	Drug intolerance (disorder)
414285001	SNOMED CT	urn:oid:2.16.840.1.113883.3.6.96	Food allergy (disorder)
235719002	SNOMED CT	urn:oid:2.16.840.1.113883.3.6.96	Food intolerance (disorder)
420134006	SNOMED CT	urn:oid:2.16.840.1.113883.3.6.96	Propensity to adverse reactions (disorder)
419511003	SNOMED CT	urn:oid:2.16.840.1.113883.3.6.96	Propensity to adverse reactions to drug (disorder)
418471000	SNOMED CT	urn:oid:2.16.840.1.113883.3.6.96	Propensity to adverse reactions to food (disorder)
418038007	SNOMED CT	urn:oid:2.16.840.1.113883.3.6.96	Propensity to adverse reactions to substance (disorder)
232347008	SNOMED CT	urn:oid:2.16.840.1.113883.3.6.96	Dander (animal) allergy
...			

3.1.1 Diagnostic Study Adverse Event (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.15:2016-02-01
(open)]

Table 39: Diagnostic Study Adverse Event (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Diagnostic Study Performed (V3) Radiation Dosage and Duration (V2)

This template represents the QDM datatype: Diagnostic Study, Adverse Event.

This datatype represents an adverse event caused by a diagnostic study. An adverse event is an unexpected or dangerous reaction to a device, diagnostic study, intervention, laboratory test, procedure, or substance. Serious adverse events are those that are fatal, life-threatening, permanently or significantly disabling, require or prolonging hospitalization, require intervention to prevent permanent impairment or damage, or that require specific treatment, care plan, or encounter. A diagnostic study is any kind of medical test performed such as a specific test or series of steps to aid in diagnosing or detecting disease (e.g., to establish a diagnosis, measure the progress or recovery from disease, to confirm that a person is free from disease).

Table 40: Diagnostic Study Adverse Event (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.15:2016-02-01)					
@classCode	1..1	SHALL		2228-11767	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-11768	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		2228-11769	
@root	1..1	SHALL		2228-11770	2.16.840.1.113883.10.20.24.3.15
@extension	1..1	SHALL		2228-27012	2016-02-01
value	1..1	SHALL	CD	2228-16408	
@code	1..1	SHALL		2228-26938	281647001
@codeSystem	1..1	SHALL		2228-26939	2.16.840.1.113883.6.96
entryRelationship	1..1	SHALL		2228-11779	
@typeCode	1..1	SHALL		2228-11780	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = CAUS
@inversionInd	1..1	SHALL		2228-11781	true
observation	1..1	SHALL		2228-27149	Diagnostic Study Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.18:2016-02-01)
entryRelationship	0..1	MAY		2228-27413	
@typeCode	1..1	SHALL		2228-27414	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		2228-27415	Radiation Dosage and Duration (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01)

1. Conforms to [Act Intolerance or Adverse Event Observation \(V3\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.104:2016-02-01).
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-11767).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-11768).

4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-11769) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.15" (CONF:2228-11770).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-02-01" (CONF:2228-27012).
5. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:2228-16408).
 - a. This value **SHALL** contain exactly one [1..1] **@code**="281647001" Adverse reaction (CONF:2228-26938).
 - b. This value **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.96" (CONF:2228-26939).
6. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:2228-11779) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="CAUS" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-11780).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd**="true" (CONF:2228-11781).
 - c. **SHALL** contain exactly one [1..1] Diagnostic Study Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.18:2016-02-01) (CONF:2228-27149).
7. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-27413) such that it
 Note: QDM Attribute: Radiation Dosage, Radiation Duration
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-27414).
 - b. **SHALL** contain exactly one [1..1] Radiation Dosage and Duration (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01) (CONF:2228-27415).

Figure 19: Diagnostic Study Adverse (V3) Event

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Confirms to Act Intolerance or Adverse Event Observation (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.104"
  extension="2016-02-01" />
  <!-- Diagnostic Study Adverse Event (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.15"
  extension="2016-02-01" />
  <id root="9e5cd480-ba4e-4562-9c6f-cfed0df5d6d4" />
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"
  codeSystemName="ActCode" displayName="Assertion" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start Datetime -->
    <low value="201502021030" />
    <!-- QDM Attribute: Stop Datetime -->
    <high value="201503021030" />
  </effectiveTime>
  <value xsi:type="CD" code="281647001"
  codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"
  displayName="Adverse reaction" />
  <!-- QDM Datatype: Diagnostic Study, Performed -->
  <entryRelationship typeCode="CAUS" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Confirms to C-CDA R2.1 Procedure Activity Observation (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.13"
      extension="2014-06-09" />
      <!-- Diagnostic Study Performed (V3) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.18"
      extension="2016-02-01" />
      ...
    </observation>
  </entryRelationship>
  <!-- QDM Attribute: Reaction -->
  <entryRelationship typeCode="MFST" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Confirms to C-CDA R2.1 Reaction Observation (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.9"
      extension="2014-06-09" />
      <!-- Reaction (V2) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.85"
      extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
  <entryRelationship typeCode="REFR">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Radiation Dosage and Duration (V2) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.91"
      extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</observation>
```

3.1.2 Diagnostic Study Intolerance (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.16:2016-02-01
(open)]

Table 41: Diagnostic Study Intolerance (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Diagnostic Study Performed (V3) Radiation Dosage and Duration (V2)

This template represents the QDM datatype: Diagnostic Study, Intolerance.

This datatype represents an intolerance to a diagnostic study perceived and reported by the patient.

Table 42: Diagnostic Study Intolerance (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.16:2016-02-01)					
@classCode	1..1	SHALL		2228-11733	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-11734	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		2228-11735	
@root	1..1	SHALL		2228-11736	2.16.840.1.113883.10.20.24.3.16
@extension	1..1	SHALL		2228-27015	2016-02-01
id	1..1	SHALL		2228-11737	
value	1..1	SHALL	CD	2228-14572	
@code	1..1	SHALL		2228-16411	102460003
@codeSystem	1..1	SHALL		2228-28406	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT)
entryRelationship	1..1	SHALL		2228-11745	
@typeCode	1..1	SHALL		2228-11746	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CAUS
@inversionInd	1..1	SHALL		2228-11747	true
observation	1..1	SHALL		2228-27150	Diagnostic Study Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.18:2016-02-01)
entryRelationship	0..1	MAY		2228-27410	
@typeCode	1..1	SHALL		2228-27411	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		2228-27412	Radiation Dosage and Duration (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01)

1. Conforms to [Act Intolerance or Adverse Event Observation \(V3\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.104:2016-02-01).
2. **SHALL** contain exactly one [1..1] **@classCode="OBS"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-11733).

3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-11734).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-11735) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.16"** (CONF:2228-11736).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-27015).
5. **SHALL** contain exactly one [1..1] **id** (CONF:2228-11737).
6. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:2228-14572).
 - a. This value **SHALL** contain exactly one [1..1] **@code="102460003"** Decreased tolerance (CONF:2228-16411).
 - b. This value **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:2228-28406).
7. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:2228-11745) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="CAUS"** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:2228-11746).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** (CONF:2228-11747).
 - c. **SHALL** contain exactly one [1..1] **Diagnostic Study Performed (V3)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.18:2016-02-01) (CONF:2228-27150).
8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-27410) such that it
 Note: QDM Attribute: Radiation Dosage, Radiation Duration
 - a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-27411).
 - b. **SHALL** contain exactly one [1..1] **Radiation Dosage and Duration (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01) (CONF:2228-27412).

Figure 20: Diagnostic Study Intolerance (V3) Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Conforms to Act Intolerance or Adverse Event Observation (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.104" extension="2016-02-01" />
  <!-- Diagnostic Study Intolerance (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.16" extension="2016-02-01" />
  <id root="9e5cd480-ba4e-4562-9c6f-cfed0df5d6d4" />
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"
  codeSystemName="ActCode" displayName="Assertion" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start Datetime -->
    <low value="201502021030" />
    <!-- QDM Attribute: Stop Datetime -->
    <high value="201503021030" />
  </effectiveTime>
  <value xsi:type="CD" code="102460003"
  codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"
  displayName="Decreased tolerance" />
  <!-- QDM Datatype: Diagnostic Study, Performed -->
  <entryRelationship typeCode="CAUS" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Conforms to C-CDA R2.1 Procedure Activity Observation (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.13"
      extension="2014-06-09" />
      <!-- Diagnostic Study Performed (V3) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.18" extension="2016-02-01" />
      ...
    </observation>
  </entryRelationship>
  <!-- QDM Attribute: Reaction -->
  <entryRelationship typeCode="MFST" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Conforms to C-CDA R2.1 Reaction Observation (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.9" extension="2014-06-09" />
      <!-- Reaction (V2) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.85"
      extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
  <entryRelationship typeCode="REFR">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Radiation Dosage and Duration (V2) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.91"
      extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</observation>
```

3.1.3 Intervention Adverse Event (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.29:2016-02-01 (open)]

Table 43: Intervention Adverse Event (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Intervention Performed (V3)

This template represents the QDM datatype: Intervention, Adverse Event.

An Intervention Adverse Event is an unexpected or dangerous reaction to an intervention. Serious adverse events are those that are fatal, life-threatening, permanently or significantly disabling, require or prolonging hospitalization, require intervention to prevent permanent impairment or damage, or that require specific treatment, care plan, or encounter.

Table 44: Intervention Adverse Event (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.29:2016-02-01)					
@classCode	1..1	SHALL		2228-13538	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-13539	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		2228-13540	
@root	1..1	SHALL		2228-13541	2.16.840.1.113883.10.20.24.3.29
@extension	1..1	SHALL		2228-27016	2016-02-01
id	1..1	SHALL		2228-13542	
value	1..1	SHALL	CD	2228-16412	
@code	1..1	SHALL		2228-16413	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 281647001
entryRelationship	1..1	SHALL		2228-13549	
@typeCode	1..1	SHALL		2228-13550	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = CAUS
@inversionInd	1..1	SHALL		2228-13551	true
act	1..1	SHALL		2228-27151	Intervention Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.32:2016-02-01)

1. Conforms to [Act Intolerance or Adverse Event Observation \(V3\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.104:2016-02-01).
2. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-13538).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-13539).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-13540) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.29"** (CONF:2228-13541).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-27016).
5. **SHALL** contain exactly one [1..1] **id** (CONF:2228-13542).
6. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:2228-16412).
 - a. This value **SHALL** contain exactly one [1..1] **@code="281647001"** Adverse reaction (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:2228-16413).
7. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:2228-13549) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="CAUS"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-13550).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** (CONF:2228-13551).
 - c. **SHALL** contain exactly one [1..1] [Intervention Performed \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.32:2016-02-01) (CONF:2228-27151).

Figure 21: Intervention Adverse Event (V3) Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Confirms to Act Intolerance or Adverse Event Observation (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.104"
    extension="2016-02-01" />
  <!-- Intervention Adverse Event (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.29"
    extension="2016-02-01" />
  <id root="1d4c99ac-133d-4db9-a512-d57142246e2c" />
  <code code="ASSERTION"
    codeSystem="2.16.840.1.113883.5.4"
    codeSystemName="ActionCode"
    displayName="Assertion" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start Datetime -->
    <low value="201502021030" />
    <!-- QDM Attribute: Stop Datetime -->
    <high value="201503021030" />
  </effectiveTime>
  <value xsi:type="CD" code="281647001"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="Adverse reaction" />
  <!-- QDM Datatype: Intervention, Performed -->
  <entryRelationship typeCode="CAUS" inversionInd="true">
    <act classCode="ACT" moodCode="EVN">
      <!-- Confirms to C-CDA R2 Procedure Activity Act (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.12"
        extension="2014-06-09" />
      <!-- Intervention Performed (V3) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.32"
        extension="2016-02-01" />
      ...
    </act>
  </entryRelationship>
  <!-- QDM Attribute: Reaction -->
  <entryRelationship typeCode="MFST" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Confirms to C-CDA R2.1 Reaction Observation (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.9"
        extension="2014-06-09" />
      <!-- Reaction (V2) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.85"
        extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</observation>
```

3.1.4 Intervention Intolerance (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.30:2016-02-01 (open)]

Table 45: Intervention Intolerance (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Intervention Performed (V3)

This template represents the QDM datatype: Intervention, Intolerance.

An intervention intolerance is an intolerance to an intervention generally perceived and reported by the patient. This can be used to document why recommended interventions were not completed. For example, a patient may claim the pain from a physical therapy procedure was too great.

Table 46: Intervention Intolerance (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.30:2016-02-01)					
@classCode	1..1	SHALL		2228-13657	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-13658	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		2228-13659	
@root	1..1	SHALL		2228-13660	2.16.840.1.113883.10.20.24.3.30
@extension	1..1	SHALL		2228-27017	2016-02-01
id	1..1	SHALL		2228-13661	
value	1..1	SHALL	CD	2228-16414	
@code	1..1	SHALL		2228-16415	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 102460003
entryRelationship	1..1	SHALL		2228-13679	
@typeCode	1..1	SHALL		2228-13680	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CAUS
@inversionInd	1..1	SHALL		2228-13681	true
act	1..1	SHALL		2228-13683	Intervention Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.32:2016-02-01)

1. Conforms to [Act Intolerance or Adverse Event Observation \(V3\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.104:2016-02-01).
2. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-13657).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-13658).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-13659) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.30"** (CONF:2228-13660).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-27017).
5. **SHALL** contain exactly one [1..1] **id** (CONF:2228-13661).
6. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:2228-16414).
 - a. This value **SHALL** contain exactly one [1..1] **@code="102460003"** Decreased tolerance (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:2228-16415).
7. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:2228-13679) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="CAUS"** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:2228-13680).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** (CONF:2228-13681).
 - c. **SHALL** contain exactly one [1..1] [Intervention Performed \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.32:2016-02-01) (CONF:2228-13683).

Figure 22: Intervention Intolerance (V3) Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Confirms to Act Intolerance or Adverse Event Observation (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.104" extension="2016-02-01" />
  <!-- Intervention Intolerance (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.30" extension="2016-02-01" />
  <id root="246cd69f-be23-4566-945a-5c65a13294de" />
  <code code="ASSERTION"
    codeSystem="2.16.840.1.113883.5.4"
    codeSystemName="ActCode"
    displayName="Assertion" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start Datetime -->
    <low value="201502021030" />
    <!-- QDM Attribute: Stop Datetime -->
    <high value="201503021030" />
  </effectiveTime>
  <value xsi:type="CD"
    code="102460003"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="Decrease tolerance" />
  <!-- QDM Datatype: Intervention, Performed -->
  <entryRelationship typeCode="CAUS" inversionInd="true">
    <act classCode="ACT" moodCode="EVN">
      <!-- Confirms to C-CDA R2.1 Procedure Activity Act (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.12"
        extension="2014-06-09" />
      <!-- Intervention Performed (V3) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.32"
        extension="2016-02-01"
      />
    </act>
  </entryRelationship>
  <!-- QDM Attribute: Reaction -->
  <entryRelationship typeCode="MFST" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Confirms to C-CDA R2.1 Reaction Observation (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.9"
        extension="2014-06-09" />
      <!-- Reaction (V2) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.85"
        extension="2014-12-01" />
    </observation>
  </entryRelationship>
</observation>
```


3.1.5 Laboratory Test Adverse Event (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.35:2016-02-01 (open)]

Table 47: Laboratory Test Adverse Event (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Laboratory Test Performed (V3)

This template represents the QDM datatype: Laboratory Test, Adverse Event.

This template represents a laboratory test adverse event. A laboratory test adverse event is an unexpected or dangerous reaction to a laboratory test. Serious adverse events are those that are fatal, life-threatening, permanently or significantly disabling, require or prolong hospitalization, require intervention to prevent permanent impairment or damage, or that require specific treatment, care plan, or encounter.

Table 48: Laboratory Test Adverse Event (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.35:2016-02-01)					
@classCode	1..1	SHALL		2228-14060	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-14061	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		2228-14062	
@root	1..1	SHALL		2228-14063	2.16.840.1.113883.10.20.24.3.35
@extension	1..1	SHALL		2228-27018	2016-02-01
value	1..1	SHALL	CD	2228-16416	
@code	1..1	SHALL		2228-16417	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 281647001
entryRelationship	1..1	SHALL		2228-14072	
@typeCode	1..1	SHALL		2228-14073	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = CAUS
@inversionInd	1..1	SHALL		2228-14074	true
observation	1..1	SHALL		2228-27154	Laboratory Test Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.38:2016-02-01)

1. Conforms to [Act Intolerance or Adverse Event Observation \(V3\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.104:2016-02-01).
2. **SHALL** contain exactly one [1..1] **@classCode="OBS"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-14060).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-14061).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-14062) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.35"** (CONF:2228-14063).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-27018).
5. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:2228-16416).
 - a. This value **SHALL** contain exactly one [1..1] **@code="281647001"** Adverse reaction (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:2228-16417).
6. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:2228-14072) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="CAUS"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-14073).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** (CONF:2228-14074).
 - c. **SHALL** contain exactly one [1..1] [Laboratory Test Performed \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.38:2016-02-01) (CONF:2228-27154).

Figure 23: Laboratory Test Adverse Event (V3) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Conforms to Act Intolerance or Adverse Event Observation (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.104" extension="2016-02-01" />
  <!-- Laboratory Test Adverse Event (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.35" extension="2016-02-01" />
  <id root="1fad091f-7b4e-4661-b61c-53f9a82515b6" />
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start Datetime -->
    <low value="20150329090000+0500" />
    <!-- QDM Attribute: Stop Datetime -->
    <high value="20150329103000+0500" />
  </effectiveTime>
  <value xsi:type="CD" code="281647001" displayName="Adverse reaction"
    codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT" />
  <entryRelationship typeCode="CAUS" inversionInd="true">
    <!-- Laboratory Test Performed -->
    <observation classCode="OBS" moodCode="EVN">
      <!-- Conforms to C-CDA R2.1 Result Observation (V3) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.2" extension="2015-08-01" />
      <!-- Laboratory Test Performed (V3) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.38" extension="2016-02-01"/>
      <id root="1fad091f-7b4e-4661-b61c-53f9a82515b6" />
      <!-- Laboratory Test -->
      ...
    </entryRelationship>
  </observation>
  </entryRelationship>
  <!-- QDM Attribute: Reaction -->
  <entryRelationship typeCode="MFST" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Conforms to C-CDA R2.1 Reaction Observation (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.9" extension="2014-06-09" />
      <!-- Reaction -->
      <templateId root="2.16.840.1.113883.10.20.24.3.85" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</observation>

```

3.1.6 Laboratory Test Intolerance (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.36:2016-02-01 (open)]

Table 49: Laboratory Test Intolerance (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Laboratory Test Performed (V3)

This template represents the QDM datatype: Laboratory Test, Intolerance.

Laboratory test intolerance is a reaction in specific patients representing a low threshold to the normal reported or expected reactions of the study. Intolerance is generally based on patient report and perception of his or her ability to tolerate a properly executed laboratory study.

Table 50: Laboratory Test Intolerance (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.36:2016-02-01)					
@classCode	1..1	SHALL		2228-13961	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-13962	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		2228-13963	
@root	1..1	SHALL		2228-13964	2.16.840.1.113883.10.20.24.3.36
@extension	1..1	SHALL		2228-27019	2016-02-01
value	1..1	SHALL	CD	2228-14573	
@code	1..1	SHALL		2228-16418	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 102460003
entryRelationship	1..1	SHALL		2228-13973	
@typeCode	1..1	SHALL		2228-13974	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CAUS
@inversionInd	1..1	SHALL		2228-13975	true
observation	1..1	SHALL		2228-27155	Laboratory Test Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.38:2016-02-01)

1. Conforms to [Act Intolerance or Adverse Event Observation \(V3\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.104:2016-02-01).
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-13961).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-13962).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-13963) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.36" (CONF:2228-13964).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-02-01" (CONF:2228-27019).
5. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:2228-14573).

- a. This value **SHALL** contain exactly one [1..1] @code="102460003" Decreased tolerance (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:2228-16418).
6. **SHALL** contain exactly one [1..1] entryRelationship (CONF:2228-13973) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="CAUS" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:2228-13974).
 - b. **SHALL** contain exactly one [1..1] @inversionInd="true" (CONF:2228-13975).
 - c. **SHALL** contain exactly one [1..1] Laboratory Test Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.38:2016-02-01) (CONF:2228-27155).

Figure 24: Laboratory Test Intolerance (V3) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Conforms to Act Intolerance or Adverse Event Observation (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.104" extension="2016-02-01" />
  <!-- Laboratory Test Intolerance (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.36" extension="2016-02-01" />
  <id root="1fad091f-7b4e-4661-b61c-53f9a82515b6" />
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start Datetime -->
    <low value="20150329090000+0500" />
    <!-- QDM Attribute: Stop Datetime -->
    <high value="20150329103000+0500" />
  </effectiveTime>
  <value xsi:type="CD" code="102460003" displayName="Decreased tolerance"
  codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT" />
  <entryRelationship typeCode="CAUS" inversionInd="true">
    <!-- Laboratory Test Performed -->
    <observation classCode="OBS" moodCode="EVN">
      <!-- Conforms to C-CDA R2.1 Result Observation (V3) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.2" extension="2015-08-01" />
      <!-- Laboratory Test Performed (V3) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.38" extension="2016-02-01" />
      ...
    </observation>
  </entryRelationship>
  <!-- QDM Attribute: Reaction -->
  <entryRelationship typeCode="MFST" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Conforms to C-CDA R2.1 Reaction Observation (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.9" extension="2014-06-09" />
      <!-- Reaction -->
      <templateId root="2.16.840.1.113883.10.20.24.3.85" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</observation>

```

3.1.7 Procedure Adverse Event (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.61:2016-02-01 (open)]

Table 51: Procedure Adverse Event (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Procedure Performed (V3)

This template represents the QDM datatype: Procedure, Adverse Event.

An adverse event is an unexpected or dangerous reaction to a procedure. Serious adverse events are those that are fatal, life-threatening, permanently or significantly disabling, require or prolonging hospitalization, require intervention to prevent permanent impairment or damage, or that require specific treatment, care plan, or encounter.

Table 52: Procedure Adverse Event (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.61:2016-02-01)					
@classCode	1..1	SHALL		2228-11373	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-11374	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		2228-11375	
@root	1..1	SHALL		2228-11376	2.16.840.1.113883.10.20.24.3.61
@extension	1..1	SHALL		2228-27009	2016-02-01
id	1..1	SHALL		2228-11377	
value	1..1	SHALL	CD	2228-16419	
@code	1..1	SHALL		2228-16420	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 281647001
entryRelationship	1..1	SHALL		2228-11385	
@typeCode	1..1	SHALL		2228-11386	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = CAUS
@inversionInd	1..1	SHALL		2228-11387	true
procedure	1..1	SHALL		2228-27147	Procedure Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.64:2016-02-01)

1. Conforms to [Act Intolerance or Adverse Event Observation \(V3\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.104:2016-02-01).
2. **SHALL** contain exactly one [1..1] **@classCode="OBS"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-11373).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-11374).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-11375) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.61"** (CONF:2228-11376).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-27009).
5. **SHALL** contain exactly one [1..1] **id** (CONF:2228-11377).
6. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:2228-16419).
 - a. This value **SHALL** contain exactly one [1..1] **@code="281647001"** Adverse reaction (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:2228-16420).
7. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:2228-11385) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="CAUS"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-11386).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** (CONF:2228-11387).
 - c. **SHALL** contain exactly one [1..1] [Procedure Performed \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.64:2016-02-01) (CONF:2228-27147).

Figure 25: Procedure Adverse Event (V3) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Confirms to Act Intolerance or Adverse Event Observation (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.104" extension="2016-02-01" />
  <!-- Procedure Adverse Event (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.61" extension="2016-02-01" />
  <id root="db734647-fc99-424c-a864-7e3cda82e703" />
  <code code="ASSERTION"
  codeSystem="2.16.840.1.113883.5.4"
  codeSystemName="ActCode"
  displayName="Assertion" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM QDM Attribute: Start Datetime -->
    <low value="201502021030" />
    <!-- QDM Attribute: Stop Datetime -->
    <high value="201503021030" />
  </effectiveTime>
  <value xsi:type="CD"
  code="281647001"
  codeSystem="2.16.840.1.113883.6.96"
  codeSystemName="SNOMED CT"
  displayName="Adverse reaction" />
  <!-- QDM Data Element: Procedure, Performed -->
  <entryRelationship typeCode="CAUS" inversionInd="true">
    <procedure classCode="PROC" moodCode="EVN">
      <!-- Confirms to C-CDA R2.1 Procedure Activity Procedure (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.14" extension="2014-06-09" />
      <!-- Procedure Performed (V3) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.64" extension="2016-02-01" />
      ...
    </procedure>
  </entryRelationship>
  <!-- QDM Attribute: Reaction -->
  <entryRelationship typeCode="MFST" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Reaction (V2) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.85" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</observation>

```

3.1.8 Procedure Intolerance (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.62:2016-02-01 (open)]

Table 53: Procedure Intolerance (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Procedure Performed (V3)

This template represents the QDM datatype: Procedure, Intolerance.

Procedure Intolerance describes an intolerance to a procedure generally perceived and reported by the patient. For example, a patient may report that a certain physical therapy procedure causes too much pain to continue complying with the regimen.

Table 54: Procedure Intolerance (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.62:2016-02-01)					
@classCode	1..1	SHALL		2228-11433	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-11434	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		2228-11435	
@root	1..1	SHALL		2228-11436	2.16.840.1.113883.10.20.24.3.62
@extension	1..1	SHALL		2228-27020	2016-02-01
id	1..1	SHALL		2228-11437	
priorityCode	0..1	MAY		2228-27336	
value	1..1	SHALL	CD	2228-14574	
@code	1..1	SHALL		2228-16421	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 102460003
entryRelationship	1..1	SHALL		2228-11601	
@typeCode	1..1	SHALL		2228-11602	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CAUS
@inversionInd	1..1	SHALL		2228-11603	true
procedure	1..1	SHALL		2228-27148	Procedure Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.64:2016-02-01)

1. Conforms to [Act Intolerance or Adverse Event Observation \(V3\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.104:2016-02-01).
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-11433).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-11434).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-11435) such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.62" (CONF:2228-11436).
- b. **SHALL** contain exactly one [1..1] **@extension**="2016-02-01" (CONF:2228-27020).
- 5. **SHALL** contain exactly one [1..1] **id** (CONF:2228-11437).
- 6. **MAY** contain zero or one [0..1] **priorityCode** (CONF:2228-27336).
Note: QDM Attribute: Ordinality
- 7. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:2228-14574).
 - a. This value **SHALL** contain exactly one [1..1] **@code**="102460003" Decreased tolerance (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:2228-16421).
- 8. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:2228-11601) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="CAUS" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:2228-11602).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd**="true" (CONF:2228-11603).
 - c. **SHALL** contain exactly one [1..1] Procedure Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.64:2016-02-01) (CONF:2228-27148).

Figure 26: Procedure Intolerance (V3) Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Conforms to Act Intolerance or Adverse Event Observation (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.104" extension="2016-02-01" />
  <!-- Procedure Intolerance (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.62" extension="2016-02-01" />
  <id root="4bd5ad0d-954d-47d9-8cd4-0844ce9f437b" />
  <code code="ASSERTION"
    codeSystem="2.16.840.1.113883.5.4"
    codeSystemName="ActCode"
    displayName="Assertion" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start Datetime -->
    <low value="201502021030" />
    <!-- QDM Attribute: Stop Datetime -->
    <high value="201503021030" />
  </effectiveTime>
  <!-- QDM Attribute: Ordinality -->
  <priorityCode code="63161005"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="Principal"
    sdtc:valueSet="{ $QDMElementValueSetOID }" />
  <value xsi:type="CD"
    code="102460003"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="Decreased tolerance" />
  <!-- QDM Data Element: Procedure, Performed -->
  <entryRelationship typeCode="CAUS" inversionInd="true">
    <procedure classCode="PROC" moodCode="EVN">
      <!-- Conforms to C-CDA R2.1 Procedure Activity Procedure (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.14" extension="2014-06-09" />
      <!-- Procedure Performed (V3) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.64" extension="2016-02-01" />
      ...
    </procedure>
  </entryRelationship>
  <!-- QDM Attribute: Reaction -->
  <entryRelationship typeCode="MFST" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Conforms to C-CDA R2.1 Reaction Observation (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.9" extension="2014-06-09" />
      <!-- Reaction (V2) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.85" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</observation>
```

3.2 Age Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.22.4.31 (open)]

Table 55: Age Observation Contexts

Contained By:	Contains:
Family History Observation (V3) (optional) Problem Observation (V3) (optional)	

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

Table 56: Age Observation Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.31)					
@classCode	1..1	SHALL		81-7613	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		81-7614	urn:oid:2.16.840.1.113883.5.100 1 (ActMood) = EVN
templateId	1..1	SHALL		81-7899	
@root	1..1	SHALL		81-10487	2.16.840.1.113883.10.20.22.4.31
code	1..1	SHALL		81-7615	
@code	1..1	SHALL		81-16776	445518008
@codeSystem	1..1	SHALL		81-26499	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
statusCode	1..1	SHALL		81-15965	
@code	1..1	SHALL		81-15966	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	PQ	81-7617	
@unit	1..1	SHALL	CS	81-7618	urn:oid:2.16.840.1.113883.11.20.9.21 (AgePQ_UCUM)

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:81-7613).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:81-7614).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:81-7899) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.31"** (CONF:81-10487).
4. **SHALL** contain exactly one [1..1] **code** (CONF:81-7615).
 - a. This code **SHALL** contain exactly one [1..1] **@code="445518008"** Age At Onset (CONF:81-16776).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem="2.16.840.1.113883.6.96"** (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:81-26499).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:81-15965).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:81-15966).
6. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="PQ"** (CONF:81-7617).
 - a. This value **SHALL** contain exactly one [1..1] **@unit**, which **SHALL** be selected from ValueSet [AgePQ UCUM](http://unitsofmeasure.org/ucum) urn:oid:2.16.840.1.113883.11.20.9.21 **DYNAMIC** (CONF:81-7618).

Table 57: AgePQ_UCUM

Value Set: AgePQ_UCUM urn:oid:2.16.840.1.113883.11.20.9.21			
A value set of UCUM codes for representing age value units.			
Value Set Source: http://unitsofmeasure.org/ucum.html			
Code	Code System	Code System OID	Print Name
min	UCUM	urn:oid:2.16.840.1.113883.3.6.8	Minute
h	UCUM	urn:oid:2.16.840.1.113883.3.6.8	Hour
d	UCUM	urn:oid:2.16.840.1.113883.3.6.8	Day
wk	UCUM	urn:oid:2.16.840.1.113883.3.6.8	Week
mo	UCUM	urn:oid:2.16.840.1.113883.3.6.8	Month
a	UCUM	urn:oid:2.16.840.1.113883.3.6.8	Year

Figure 27: Age Observation Example

```

<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.31" />
  <!-- Age observation -->
  <code code="445518008"
    codeSystem="2.16.840.1.113883.6.96"
    displayName="Age At Onset" />
  <statusCode code="completed" />
  <value xsi:type="PQ" value="57" unit="a" />
</observation>

```

3.3 Allergy Status Observation (DEPRECATED)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.28:2014-06-09 (open)]

Table 58: Allergy Status Observation (DEPRECATED) Contexts

Contained By:	Contains:
Substance or Device Allergy - Intolerance Observation (V2) (optional)	

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

THIS TEMPLATE HAS BEEN DEPRECATED AND MAY BE DELETED FROM A FUTURE RELEASE OF THIS IMPLEMENTATION GUIDE. USE OF THIS TEMPLATE IS NOT RECOMMENDED.

Reason for deprecation: Per the explanation in Volume 1, Section 3.2 "Determining a Clinical Statement's Status", the status of an allergy is determined based on attributes of the Allergy Problem Act and Allergy - Intolerance Observation.

Table 59: Allergy Status Observation (DEPRECATED) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.28:2014-06-09)					
@classCode	1..1	SHALL		1098-7318	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		1098-7319	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1098-7317	
@root	1..1	SHALL		1098-10490	2.16.840.1.113883.10.20.22.4.28
code	1..1	SHALL		1098-7320	
@code	1..1	SHALL		1098-19131	33999-4
@codeSystem	1..1	SHALL		1098-32155	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		1098-7321	
@code	1..1	SHALL		1098-19087	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CE	1098-7322	urn:oid:2.16.840.1.113883.3.88.12.80.68 (Problem Status)

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-7318).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1098-7319).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-7317) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.28"** (CONF:1098-10490).
4. **SHALL** contain exactly one [1..1] **code** (CONF:1098-7320).
 - a. This code **SHALL** contain exactly one [1..1] **@code="33999-4"** Status (CONF:1098-19131).
 - 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:1098-32155).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-7321).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:1098-19087).
6. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CE"**, where the code **SHALL** be selected from ValueSet [Problem Status](#) urn:oid:2.16.840.1.113883.3.88.12.80.68 **DYNAMIC** (CONF:1098-7322).

Table 60: Problem Status

Value Set: Problem Status urn:oid:2.16.840.1.113883.3.88.12.80.68			
A value set of SNOMED-CT codes reflecting state of existence.			
Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
55561003	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Active
73425007	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Inactive
413322009	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Resolved

3.4 Assessment Performed

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.144:2016-08-01 (open)]

Table 61: Assessment Performed Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Reason (V2) Result (V3)

This template represents the QDM datatype: Assessment, Performed.

Assessment is a resource used to define specific observations that clinicians use to guide treatment of the patient. An assessment can be a single question, or observable entity with an expected response, an organized collection of questions intended to solicit information from patients, providers or other individuals, or a single observable entity that is part of such a collection of questions. The Assessment Performed template represents the completion of an assessment.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 62: Assessment Performed Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.144:2016-08-01)					
@classCode	1..1	SHALL		3265-28670	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3265-28669	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = EVN
@negationInd	0..1	MAY		3265-28671	
templateId	1..1	SHALL		3265-28652	
@root	1..1	SHALL		3265-28660	2.16.840.1.113883.10.20.24.3.1 44
@extension	1..1	SHALL		3265-28701	2016-08-01
code	1..1	SHALL		3265-28656	
@sdtc:valueSet	1..1	SHALL		3265-28667	
statusCode	1..1	SHALL		3265-28653	
@code	1..1	SHALL		3265-28662	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		3265-28654	
low	1..1	SHALL		3265-28663	
high	0..1	MAY		3265-28664	
methodCode	0..1	MAY		3265-28697	
@sdtc:valueSet	1..1	SHALL		3265-28698	
entryRelationship	0..1	MAY		3265-28651	
@typeCode	1..1	SHALL		3265-28659	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		3265-28658	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)
entryRelationship	0..*	MAY		3265-28655	
@typeCode	1..1	SHALL		3265-28665	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = REFR

observation	1..1	SHALL		3265-28666	Result (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.87:2016-02-01)
-------------	------	-------	--	----------------------------	--

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3265-28670).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3265-28669).
3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3265-28671).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3265-28652) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.144"** (CONF:3265-28660).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-08-01"** (CONF:3265-28701).
5. **SHALL** contain exactly one [1..1] **code** (CONF:3265-28656).
 - a. This code **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:3265-28667).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3265-28653).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3265-28662).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:3265-28654).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:3265-28663).
Note: QDM Attribute: Start Datetime
 - b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:3265-28664).
Note: QDM Attribute: Stop Datetime
8. **MAY** contain zero or one [0..1] **methodCode** (CONF:3265-28697).
Note: QDM Attribute: Method
 - a. The methodCode, if present, **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:3265-28698).
9. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3265-28651) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-28659).
 - b. **SHALL** contain exactly one [1..1] [Reason \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:3265-28658).
10. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:3265-28655) such that it
Note: QDM Attribute: Result
 - a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-28665).
 - b. **SHALL** contain exactly one [1..1] [Result \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.87:2016-02-01) (CONF:3265-28666).

Figure 28: Assessment Performed Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Assessment Performed -->
  <templateId root="2.16.840.1.113883.10.20.24.3.144" extension="2016-08-01" />
  <id root="d55c711a-f958-4807-bdb6-45fe5b6195c0" />
  <code code="72195-1" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
  displayName="Physical limitation score [KCCQ]"
  sdtc:valueSet="{ $QDMElementValueSetOID}" />
  <text>Assessment Performed: Physical limitation score [KCCQ]: Unable
  to walk</text>
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start Datetime -->
    <low value="201505061000" />
    <!-- QDM Attribute: Stop Datetime -->
    <high value="201505061015" />
  </effectiveTime>
  <!-- QDM Attribute: Result -->
  <entryRelationship typeCode="REFR">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Conforms to C-CDA R2.1 Result Observation (V3) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.2" extension="2015-08-01" />
      <!-- Result (V3) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.87" extension="2016-02-01" />
      <code code="72195-1" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
      displayName="Physical limitation score [KCCQ]"
      sdtc:valueSet="{ $QDMElementValueSetOID}" />
      <statusCode code="completed" />
      <effectiveTime value="201505061015" />
      <value xsi:type="CD" code="282145008" codeSystem="2.16.840.1.113883.6.96"
      codeSystemName="SNOMED CT" displayName="unable to walk"
      sdtc:valueSet="{ $QDMElementValueSetOID}" />
    </observation>
  </entryRelationship>
</observation>

```

3.5 Communication from Patient to Provider (V3)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.2:2016-02-01 (open)]

Table 63: Communication from Patient to Provider (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	

This template represents the QDM datatype: Communication from Patient to Provider.

Communication from Patient to Provider is communication initiated by the patient and received by the provider. A time/date stamp is required.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 64: Communication from Patient to Provider (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.2:2016-02-01)					
@classCode	1..1	SHALL		2228-11484	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		2228-11485	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..1	MAY		2228-28043	
templateId	1..1	SHALL		2228-11486	
@root	1..1	SHALL		2228-11487	2.16.840.1.113883.10.20.24.3.2
@extension	1..1	SHALL		2228-27275	2016-02-01
id	1..*	SHALL		2228-11619	
code	1..1	SHALL		2228-26946	
@sdtc:valueSet	1..1	SHALL		2228-27578	
statusCode	1..1	SHALL		2228-11620	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		2228-11622	
low	1..1	SHALL		2228-27543	
high	0..1	MAY		2228-27544	
participant	1..1	SHALL		2228-11631	
@typeCode	1..1	SHALL		2228-11632	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = IRCP
participantRole	1..1	SHALL		2228-11633	
@classCode	1..1	SHALL		2228-12098	urn:oid:2.16.840.1.113883.5.110 (RoleClass) = ASSIGNED
code	1..1	SHALL		2228-11651	
@code	1..1	SHALL		2228-27272	158965000
@codeSystem	1..1	SHALL		2228-26945	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
participant	1..1	SHALL		2228-11835	

@typeCode	1..1	SHALL		2228-12099	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
participantRole	1..1	SHALL		2228-11836	
@classCode	1..1	SHALL		2228-12100	urn:oid:2.16.840.1.113883.5.110 (RoleClass) = PAT

1. **SHALL** contain exactly one [1..1] @classCode="ACT" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-11484).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-11485).
3. **MAY** contain zero or one [0..1] @negationInd (CONF:2228-28043).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:2228-11486) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.2" (CONF:2228-11487).
 - b. **SHALL** contain exactly one [1..1] @extension="2016-02-01" (CONF:2228-27275).
5. **SHALL** contain at least one [1..*] id (CONF:2228-11619).
6. **SHALL** contain exactly one [1..1] code (CONF:2228-26946).
 - a. This code **SHALL** contain exactly one [1..1] @sdtc:valueSet (CONF:2228-27578).
7. **SHALL** contain exactly one [1..1] statusCode="completed", which **SHALL** be selected from CodeSystem ActStatus (urn:oid:2.16.840.1.113883.5.14) (CONF:2228-11620).
8. **SHALL** contain exactly one [1..1] effectiveTime (CONF:2228-11622).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] low (CONF:2228-27543).
Note: QDM Attribute: Start Datetime
 - b. This effectiveTime **MAY** contain zero or one [0..1] high (CONF:2228-27544).
Note: QDM Attribute: Stop Datetime
9. **SHALL** contain exactly one [1..1] participant (CONF:2228-11631) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="IRCP" information recipient (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:2228-11632).
 - b. **SHALL** contain exactly one [1..1] participantRole (CONF:2228-11633).
 - i. This participantRole **SHALL** contain exactly one [1..1] @classCode="ASSIGNED" assigned entity (CodeSystem: RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:2228-12098).
 - ii. This participantRole **SHALL** contain exactly one [1..1] code (CONF:2228-11651).
 1. This code **SHALL** contain exactly one [1..1] @code="158965000" Medical practitioner (CONF:2228-27272).
 2. This code **SHALL** contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.96" (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:2228-26945).
10. **SHALL** contain exactly one [1..1] participant (CONF:2228-11835) such that it

- a. **SHALL** contain exactly one [1..1] @typeCode="AUT" author (originator) (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:2228-12099).
- b. **SHALL** contain exactly one [1..1] participantRole (CONF:2228-11836).
 - i. This participantRole **SHALL** contain exactly one [1..1] @classCode="PAT" patient (CodeSystem: RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:2228-12100).

Figure 29: Communication from Patient to Provider (V3) Example

```

<act classCode="ACT" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.24.3.2" extension="2016-02-01" />
  <id root="2d5075da-2ffc-47a9-a350-4a24e6b052d1" />
  <code code="401270003" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"
    displayName="E-mail received from patient (event)"
  >
  sdtc:valueSet="{QDMElementValueSetOID}" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start datetime -->
    <low value="20160101" />
    <!-- QDM Attribute: Stop datetime -->
    <high value="20160101" />
  </effectiveTime>
  <participant typeCode="AUT">
    <participantRole classCode="PAT">
      <code code="116154003" codeSystem="2.16.840.1.113883.6.96"
        codeSystemName="SNOMED CT"
        displayName="Patient" />
    </participantRole>
  </participant>
  <participant typeCode="IRCP">
    <participantRole classCode="ASSIGNED">
      <code code="158965000" codeSystem="2.16.840.1.113883.6.96"
        codeSystemName="SNOMED CT"
        displayName="Medical Practitioner" />
    </participantRole>
  </participant>
</act>

```

3.6 Communication from Provider to Patient (V3)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.3:2016-02-01 (open)]

Table 65: Communication from Provider to Patient (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	

This template represents the QDM datatype: Communication from Provider to Patient.

Communication from Provider to Patient is the provision of any communication to the patient (e.g., results, findings, plans for care, medical advice, instructions, educational resources, appointments, result).

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 66: Communication from Provider to Patient (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.3:2016-02-01)					
@classCode	1..1	SHALL		2228-11840	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		2228-11841	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..1	MAY		2228-28044	
templateId	1..1	SHALL		2228-11842	
@root	1..1	SHALL		2228-11843	2.16.840.1.113883.10.20.24.3.3
@extension	1..1	SHALL		2228-27280	2016-02-01
id	1..*	SHALL		2228-11845	
code	1..1	SHALL		2228-26947	
@sdtc:valueSet	1..1	SHALL		2228-27579	
statusCode	1..1	SHALL		2228-11846	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		2228-11847	
low	1..1	SHALL		2228-27545	
high	0..1	MAY		2228-27546	
participant	1..1	SHALL		2228-11850	
@typeCode	1..1	SHALL		2228-11851	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
participantRole	1..1	SHALL		2228-11852	
@classCode	1..1	SHALL		2228-12101	urn:oid:2.16.840.1.113883.5.110 (RoleClass) = ASSIGNED
code	1..1	SHALL		2228-11853	
@code	1..1	SHALL		2228-26948	158965000
@codeSystem	1..1	SHALL		2228-26949	2.16.840.1.113883.6.96
participant	1..1	SHALL		2228-11856	

@typeCode	1..1	SHALL		2228-11857	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = IRCP
participantRole	1..1	SHALL		2228-11858	
@classCode	1..1	SHALL		2228-12102	urn:oid:2.16.840.1.113883.5.110 (RoleClass) = PAT

1. **SHALL** contain exactly one [1..1] @classCode="ACT" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-11840).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-11841).
3. **MAY** contain zero or one [0..1] @negationInd (CONF:2228-28044).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:2228-11842) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.3" (CONF:2228-11843).
 - b. **SHALL** contain exactly one [1..1] @extension="2016-02-01" (CONF:2228-27280).
5. **SHALL** contain at least one [1..*] id (CONF:2228-11845).
6. **SHALL** contain exactly one [1..1] code (CONF:2228-26947).
 - a. This code **SHALL** contain exactly one [1..1] @sdct:valueSet (CONF:2228-27579).
7. **SHALL** contain exactly one [1..1] statusCode="completed" (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:2228-11846).
8. **SHALL** contain exactly one [1..1] effectiveTime (CONF:2228-11847).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] low (CONF:2228-27545).
Note: QDM Attribute: Start Datetime
 - b. This effectiveTime **MAY** contain zero or one [0..1] high (CONF:2228-27546).
Note: QDM Attribute: Stop Datetime
9. **SHALL** contain exactly one [1..1] participant (CONF:2228-11850) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="AUT" author (originator) (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:2228-11851).
 - b. **SHALL** contain exactly one [1..1] participantRole (CONF:2228-11852).
 - i. This participantRole **SHALL** contain exactly one [1..1] @classCode="ASSIGNED" assigned entity (CodeSystem: RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:2228-12101).
 - ii. This participantRole **SHALL** contain exactly one [1..1] code (CONF:2228-11853).
 1. This code **SHALL** contain exactly one [1..1] @code="158965000" Medical practitioner (CONF:2228-26948).
 2. This code **SHALL** contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.96" (CONF:2228-26949).
10. **SHALL** contain exactly one [1..1] participant (CONF:2228-11856) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="IRCP" information recipient (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:2228-11857).

- b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:2228-11858).
 - i. This **participantRole** **SHALL** contain exactly one [1..1] **@classCode="PAT"** patient (CodeSystem: RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:2228-12102).

Figure 30: Communication from Provider to Patient (V3) Example

```

<act classCode="ACT" moodCode="EVN">
  <!-- Communication from Provider to Patient (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.3" extension="2016-01-01" />
  <id root="e4f3f0f7-cc24-4f2a-8c5f-097dde3d7afa" />
  <code code="428521000124106" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED
CT"
      displayName="Patient informed - arrange follow-up care (situation)"
      sdtc:valueSet="{ $QDMElementValueSetOID}" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start datetime -->
    <low value="20160101" />
    <!-- QDM Attribute: Stop datetime -->
    <high value="20160101" />
  </effectiveTime>
  <participant typeCode="AUT">
    <participantRole classCode="ASSIGNED">
      <code code="158965000" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT"
          displayName="Medical Practitioner" />
    </participantRole>
  </participant>
  <participant typeCode="IRCP">
    <participantRole classCode="PAT" />
  </participant>
</act>

```

3.7 Communication from Provider to Provider (V3)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.4:2016-02-01 (open)]

Table 67: Communication from Provider to Provider (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	

This template represents the QDM datatype: Communication from Provider to Provider.

Communication from Provider to Provider is the provision of any communication from one clinician to another regarding findings, assessments, plans of care, consultative advice, instructions, educational resources, etc.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 68: Communication from Provider to Provider (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.4:2016-02-01)					
@classCode	1..1	SHALL		2228-11816	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		2228-11817	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..1	MAY		2228-28045	
templateId	1..1	SHALL		2228-11818	
@root	1..1	SHALL		2228-11819	2.16.840.1.113883.10.20.24.3.4
@extension	1..1	SHALL		2228-27285	2016-02-01
id	1..*	SHALL		2228-11821	
code	1..1	SHALL		2228-26950	
@sdtc:valueSet	1..1	SHALL		2228-27581	
statusCode	1..1	SHALL		2228-11822	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		2228-11823	
low	1..1	SHALL		2228-27547	
high	0..1	MAY		2228-27548	
participant	1..1	SHALL		2228-11827	
@typeCode	1..1	SHALL		2228-11828	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = IRCP
participantRole	1..1	SHALL		2228-11829	
@classCode	1..1	SHALL		2228-12096	urn:oid:2.16.840.1.113883.5.110 (RoleClass) = ASSIGNED
code	1..1	SHALL		2228-11830	
@code	1..1	SHALL		2228-26951	158965000
@codeSystem	1..1	SHALL		2228-26952	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
participant	1..1	SHALL		2228-11837	

@typeCode	1..1	SHALL		2228-11838	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
participantRole	1..1	SHALL		2228-11839	
@classCode	1..1	SHALL		2228-12097	urn:oid:2.16.840.1.113883.5.110 (RoleClass) = ASSIGNED
code	1..1	SHALL		2228-12103	
@code	1..1	SHALL		2228-26953	158965000
@codeSystem	1..1	SHALL		2228-26954	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96

1. **SHALL** contain exactly one [1..1] @classCode="ACT" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-11816).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-11817).
3. **MAY** contain zero or one [0..1] @negationInd (CONF:2228-28045).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:2228-11818) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.4" (CONF:2228-11819).
 - b. **SHALL** contain exactly one [1..1] @extension="2016-02-01" (CONF:2228-27285).
5. **SHALL** contain at least one [1..*] id (CONF:2228-11821).
6. **SHALL** contain exactly one [1..1] code (CONF:2228-26950).
 - a. This code **SHALL** contain exactly one [1..1] @sdtc:valueSet (CONF:2228-27581).
7. **SHALL** contain exactly one [1..1] statusCode="completed" (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:2228-11822).
8. **SHALL** contain exactly one [1..1] effectiveTime (CONF:2228-11823).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] low (CONF:2228-27547).
Note: QDM Attribute: Start Datetime
 - b. This effectiveTime **MAY** contain zero or one [0..1] high (CONF:2228-27548).
Note: QDM Attribute: Stop Datetime
9. **SHALL** contain exactly one [1..1] participant (CONF:2228-11827) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="IRCP" information recipient (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:2228-11828).
 - b. **SHALL** contain exactly one [1..1] participantRole (CONF:2228-11829).
 - i. This participantRole **SHALL** contain exactly one [1..1] @classCode="ASSIGNED" assigned entity (CodeSystem: RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:2228-12096).
 - ii. This participantRole **SHALL** contain exactly one [1..1] code (CONF:2228-11830).

1. This code **SHALL** contain exactly one [1..1] @code="158965000" Medical practitioner (CONF:2228-26951).
 2. This code **SHALL** contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.96" (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:2228-26952).
10. **SHALL** contain exactly one [1..1] participant (CONF:2228-11837) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="AUT" author (originator) (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:2228-11838).
 - b. **SHALL** contain exactly one [1..1] participantRole (CONF:2228-11839).
 - i. This participantRole **SHALL** contain exactly one [1..1] @classCode="ASSIGNED" assigned entity (CodeSystem: RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:2228-12097).
 - ii. This participantRole **SHALL** contain exactly one [1..1] code (CONF:2228-12103).
 1. This code **SHALL** contain exactly one [1..1] @code="158965000" Medical practitioner (CONF:2228-26953).
 2. This code **SHALL** contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.96" (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:2228-26954).

Figure 31: Communication from Provider to Provider (V3) Example

```

<act classCode="ACT" moodCode="EVN">
  <!-- Communication from Provider to Provider (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.4" extension="2016-02-01" />
  <id root="2d5075da-2ffc-47a9-a350-4a24e6b052d1" />
  <code code="371530004" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"
    displayName="Clinical consultation report (record artifact)"
    sdtc:valueSet="{ $QDMElementValueSetOID }"/>
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start datetime -->
    <low value="20160101" />
    <!-- QDM Attribute: Stop datetime -->
    <high value="20160101" />
  </effectiveTime>
  <participant typeCode="AUT">
    <participantRole classCode="ASSIGNED">
      <code code="158965000" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT"
      displayName="Medical Practitioner" />
    </participantRole>
  </participant>
  <participant typeCode="IRCP">
    <participantRole classCode="ASSIGNED">
      <code code="158965000" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT"
      displayName="Medical Practitioner" />
    </participantRole>
  </participant>
</act>

```

3.8 Criticality Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.22.4.145 (open)]

Table 69: Criticality Observation Contexts

Contained By:	Contains:
Allergy - Intolerance Observation (V2) (optional)	

This observation represents the gravity of the potential risk for future life-threatening adverse reactions when exposed to a substance known to cause an adverse reaction in that individual. When the worst case result is assessed to have a life-threatening or organ system threatening potential, it is considered to be of high criticality.

Table 70: Criticality Observation Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.145)					
@classCode	1..1	SHALL		81-32921	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		81-32922	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		81-32918	
@root	1..1	SHALL		81-32923	2.16.840.1.113883.10.20.22.4.145
code	1..1	SHALL		81-32919	
@code	1..1	SHALL		81-32925	82606-5
@codeSystem	1..1	SHALL		81-32926	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		81-32920	
@code	1..1	SHALL		81-32927	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
value	1..1	SHALL	CD	81-32928	urn:oid:2.16.840.1.113883.1.11.20549 (Criticality Observation)

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:81-32921).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:81-32922).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:81-32918) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.145" (CONF:81-32923).

4. **SHALL** contain exactly one [1..1] **code** (CONF:81-32919).
 - a. This code **SHALL** contain exactly one [1..1] **@code="82606-5" Criticality** (CONF:81-32925).
 - 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:81-32926)**.
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:81-32920).
 - 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:81-32927)**.
6. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"**, where the code **SHALL** be selected from ValueSet [Criticality Observation](#) urn:oid:2.16.840.1.113883.1.11.20549 **STATIC** 2015-08-01 (CONF:81-32928).

Table 71: Criticality Observation

Value Set: Criticality Observation urn:oid:2.16.840.1.113883.1.11.20549 A clinical judgment as to the worst case result of a future exposure (including substance administration).			
Code	Code System	Code System OID	Print Name
CRITL	HL7ObservationValue	urn:oid:2.16.840.1.113883.5.1063	Low criticality
CRITH	HL7ObservationValue	urn:oid:2.16.840.1.113883.5.1063	High criticality
CRITU	HL7ObservationValue	urn:oid:2.16.840.1.113883.5.1063	Unable to assess criticality

Figure 32: Criticality Observation Example

```

<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.145"/>
  <code code="82606-5" codeSystem="2.16.840.1.113883.6.1"
    displayName="Criticality" />
  <text>
    <reference value="#criticality"/>
  </text>
  <statusCode code="completed"/>
  <value xsi:type="CD" code="High" displayName="High Criticality - NEED PROPER
    CODE" codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"/>
</observation>

```

3.9 Deceased Observation (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.79:2015-08-01
(open)]

Table 72: Deceased Observation (V3) Contexts

Contained By:	Contains:
	Problem Observation (V3)

This template represents the observation that a patient has died. It also represents the cause of death, indicated by an entryRelationship type of 'CAUS'. This template allows for more specific representation of data than is available with the use of dischargeDispositionCode.

Table 73: Deceased Observation (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.79:2015-08-01)					
@classCode	1..1	SHALL		1198-14851	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		1198-14852	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1198-14871	
@root	1..1	SHALL		1198-14872	2.16.840.1.113883.10.20.22.4.79
@extension	1..1	SHALL		1198-32541	2015-08-01
id	1..*	SHALL		1198-14873	
code	1..1	SHALL		1198-14853	
@code	1..1	SHALL		1198-19135	ASSERTION
@codeSystem	1..1	SHALL		1198-32158	urn:oid:2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		1198-14854	
@code	1..1	SHALL		1198-19095	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		1198-14855	
low	1..1	SHALL		1198-14874	
value	1..1	SHALL	CD	1198-14857	
@code	1..1	SHALL		1198-15142	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 419099009
entryRelationship	0..1	SHOULD		1198-14868	
@typeCode	1..1	SHALL		1198-14875	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = CAUS
@inversionInd	1..1	SHALL		1198-32900	true
observation	1..1	SHALL		1198-14870	Problem Observation (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.4:2015-08-01)

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1198-14851).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1198-14852).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1198-14871) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.79"** (CONF:1198-14872).
 - b. **SHALL** contain exactly one [1..1] **@extension="2015-08-01"** (CONF:1198-32541).
4. **SHALL** contain at least one [1..*] **id** (CONF:1198-14873).
5. **SHALL** contain exactly one [1..1] **code** (CONF:1198-14853).
 - a. This code **SHALL** contain exactly one [1..1] **@code="ASSERTION"** Assertion (CONF:1198-19135).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem="2.16.840.1.113883.5.4"** (CodeSystem: ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:1198-32158).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1198-14854).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:1198-19095).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1198-14855).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:1198-14874).
8. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:1198-14857).
 - a. This value **SHALL** contain exactly one [1..1] **@code="419099009"** Dead (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96 **STATIC**) (CONF:1198-15142).
9. **SHOULD** contain zero or one [0..1] **entryRelationship** (CONF:1198-14868) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="CAUS"** Is etiology for (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1198-14875).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** True (CONF:1198-32900).
 - c. **SHALL** contain exactly one [1..1] **Problem Observation (V3)** (identifier: urn:h17ii:2.16.840.1.113883.10.20.22.4.4:2015-08-01) (CONF:1198-14870).

Figure 33: Deceased Observation (V3) Example

```

<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.79" extension="2015-08-01" />
  <id root="6898fae0-5c8a-11db-b0de-0800200c9a77" />
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" />
  <statusCode code="completed" />
  <effectiveTime>
    <low value="20100303" />
  </effectiveTime>
  <value xsi:type="CD" code="419099009" codeSystem="2.16.840.1.113883.6.96"
  displayName="Dead" />
  <entry typeCode="DRIV">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.4" extension="2015-08-01" />
      ...
    </observation>
  </entry>
</observation>

```

3.9.1 Patient Characteristic Expired (V3)

[observation: identifier urn:h17ii:2.16.840.1.113883.10.20.24.3.54:2016-02-01 (open)]

Table 74: Patient Characteristic Expired (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	

This template represents the QDM datatype: Patient Characteristic, Expired.

This datatype indicates that a patient has expired. A date/time stamp is required.

Table 75: Patient Characteristic Expired (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.54:2016-02-01)					
@classCode	1..1	SHALL		2228-28087	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-28088	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..0	SHALL NOT		2228-28089	
templateId	1..1	SHALL		2228-12540	
@root	1..1	SHALL		2228-12541	2.16.840.1.113883.10.20.24.3.54
@extension	1..1	SHALL		2228-27014	2016-02-01

1. Conforms to [Deceased Observation \(V3\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.79:2015-08-01).
2. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28087).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-28088).
4. **SHALL NOT** contain [0..0] @negationInd (CONF:2228-28089).
5. **SHALL** contain exactly one [1..1] templateId (CONF:2228-12540) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.54" (CONF:2228-12541).
 - b. **SHALL** contain exactly one [1..1] @extension="2016-02-01" (CONF:2228-27014).

Figure 34: Patient Characteristic Expired (V3) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- C-CDA R2.1 Deceased Observation (V3) templateId -->
  <templateId root="2.16.840.1.113883.10.20.22.4.79" extension="2015-08-01" />
  <!-- Patient Characteristic Expired (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.54" extension="2016-02-01" />
  <id root="f3d6fd73-b2c0-4274-bfd2-a485957734db" />
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"
  codeSystemName="HL7ActCode" />
  <statusCode code="completed" />
  <!-- QDM Attributes: Date and Time -->
  <effectiveTime>
    <low value="201501011030" />
  </effectiveTime>
  <value xsi:type="CD" code="419099009" codeSystem="2.16.840.1.113883.6.96"
  codeSystemName="SNOMED CT" displayName="Dead" />
  <!-- QDM Attribute: Cause -->
  <entryRelationship typeCode="CAUS" negationInd="false">
    <observation classCode="OBS" moodCode="EVN">
      <!-- C-CDA R2.1 Problem Observation (V3) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.4" extension="2015-08-01" />
      <id root="d11275e7-67ae-11db-bd13-0800200c9a66" />
      <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"
      codeSystemName="HL7ActCode" />
      <statusCode code="completed" />
      <effectiveTime>
        <low value="20151215" />
      </effectiveTime>
      <value xsi:type="CD" code="56717001" codeSystem="2.16.840.1.113883.6.96"
      codeSystemName="SNOMED CT" displayName="Tuberculosis" />
    </observation>
  </entryRelationship>
</observation>

```

3.10 Device Order Act

[act: identifier urn:oid:2.16.840.1.113883.10.20.24.3.130 (open)]

Table 76: Device Order Act Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Device Order (V3)

This template along with the Device Order (V3) template represents the QDM Datatype: Device, Order.

Adding this act wrapper to the Device Order template allows device order to be negated.

Table 77: Device Order Act Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.130)					
@classCode	1..1	SHALL		2228-28444	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		2228-28445	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = RQO
@negationInd	0..1	MAY		2228-28446	
templateId	1..*	SHALL		2228-28441	
@root	1..1	SHALL		2228-28447	2.16.840.1.113883.10.20.24.3.130
code	1..1	SHALL		2228-28442	
@code	1..1	SHALL		2228-28448	SPLY
@codeSystem	1..1	SHALL		2228-28449	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass)
entryRelationship	1..1	SHALL		2228-28443	
@typeCode	1..1	SHALL		2228-28450	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
supply	1..1	SHALL		2228-28451	Device Order (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.9:2016-02-01)

1. **SHALL** contain exactly one [1..1] **@classCode="ACT"** Act (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28444).
2. **SHALL** contain exactly one [1..1] **@moodCode="RQO"** Request (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-28445).
3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28446).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain at least one [1..*] **templateId** (CONF:2228-28441) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.130"** (CONF:2228-28447).
5. **SHALL** contain exactly one [1..1] **code** (CONF:2228-28442).
 - a. This code **SHALL** contain exactly one [1..1] **@code="SPLY"** Supply (CONF:2228-28448).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28449).
6. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:2228-28443) 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) (CONF:2228-28450).
- b. **SHALL** contain exactly one [1..1] Device Order (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.9:2016-02-01) (CONF:2228-28451).

Figure 35: Device Order Act Example

```
<act classCode="ACT" moodCode="RQO">
  <templateId root="2.16.840.1.113883.10.20.24.3.130"/>
  <id root="ec8a6ff8-ed4b-4f7e-82c3-e98e58b45de7"/>
  <code code="SPLY" codeSystem="2.16.840.1.113883.5.6" displayName="Supply"
codeSystemName="ActClass"/>
  <entryRelationship typeCode="SUBJ">
    <supply classCode="SPLY" moodCode="RQO">
      <!-- Conforms to C-CDA R2.1 Planned Supply (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.43" extension="2014-06-09"/>
      <!-- Device Order (V3) TemplateId -->
      <templateId root="2.16.840.1.113883.10.20.24.3.9" extension="2016-02-01"/>
      <id root="6a8d037d-f144-4071-9d1f-8a92a11dedc6"/>
      <statusCode code="active"/>
      <effectiveTime xsi:type="IVL_TS">
        <low value="20151014"/>
        <high value="20151014"/>
      </effectiveTime>
      <author>
        <!-- C-CDA R2 Author Participation -->
        <templateId root="2.16.840.1.113883.10.20.22.4.119"/>
        <time value="201510101030"/>
        <assignedAuthor>
          <id root="2.16.840.1.113883.4.6" extension="111111111"/>
        </assignedAuthor>
      </author>
      <participant typeCode="DEV">
        <participantRole classCode="MANU">
          <playingDevice classCode="DEV">
            <!-- Device -->
            <code code="401608003" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED-CT"
displayName="Suprapubic catheter (physical object)"
sdtc:valueSet="{ $QDMElementValueSetOID }"/>
          </playingDevice>
        </participantRole>
      </participant>
      <!-- QDM Attribute: Reason -->
      <entryRelationship typeCode="RSON">
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-12-
01"/>
          <id root="aa348c15-ce6b-4988-b33b-7ae730c710e2"/>
          <code code="77301-0" codeSystem="2.16.840.1.113883.6.1"
displayName="Reason care action performed or not"
codeSystemName="LOINC"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="20150105"/>
          </effectiveTime>
          <value xsi:type="CD" code="125629006"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT" displayName="Injury of
colon" sdtc:valueSet="{ $QDMElementValueSetOID }"/>
        </observation>
      </entryRelationship>
    </supply>
  </entryRelationship>
</act>
```



```
</entryRelationship>
</act>
```

3.11 Device Recommended Act

```
[act: identifier urn:oid:2.16.840.1.113883.10.20.24.3.131 (open)]
```

Table 78: Device Recommended Act Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Device Recommended (V3)

This template along with the Device Recommended (V3) template represent the QDM Datatype: Device, Recommended.

Adding an act wrapper to the Device Recommended template allows the device recommended to be negated.

Table 79: Device Recommended Act Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.131)					
@classCode	1..1	SHALL		2228-28454	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		2228-28455	urn:oid:2.16.840.1.113883.5.100 1 (ActMood) = INT
@negationInd	0..1	MAY		2228-28657	
templateId	1..1	SHALL		2228-28452	
@root	1..1	SHALL		2228-28456	2.16.840.1.113883.10.20.24.3.13 1
id	1..*	SHALL		2228-28457	
entryRelationship	1..1	SHALL		2228-28453	
@typeCode	1..1	SHALL		2228-28458	urn:oid:2.16.840.1.113883.5.100 2 (HL7ActRelationshipType) = SUBJ
supply	1..1	SHALL		2228-28459	Device Recommended (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.10:2016-02-01)

1. **SHALL** contain exactly one [1..1] @classCode="ACT" Act (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28454).

2. **SHALL** contain exactly one [1..1] **@moodCode="INT"** Intent (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-28455).
3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28657).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-28452) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.131"** (CONF:2228-28456).
5. **SHALL** contain at least one [1..*] **id** (CONF:2228-28457).
6. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:2228-28453) 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) (CONF:2228-28458).
 - b. **SHALL** contain exactly one [1..1] **Device Recommended (V3)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.10:2016-02-01) (CONF:2228-28459).

Figure 36: Device Recommended Act Example

```
<act classCode="ACT" moodCode="INT">
  <!-- Device Recommended Act -->
  <templateId root="2.16.840.1.113883.10.20.24.3.131"/>
  <id root="ec8a6ff8-ed4b-4f7e-82c3-e98e58b45de7"/>
  <code code="SPLY" codeSystem="2.16.840.1.113883.5.6" displayName="Supply"
codeSystemName="ActClass"/>
  <entryRelationship typeCode="SUBJ">
    <supply classCode="SPLY" moodCode="INT">
      <!-- C-CDA R2.1 : Planned Supply (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.43" extension="2014-06-09"/>
      <!-- Device Recommended (V3) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.10" extension="2016-02-01"/>
      <id root="6a8d037d-f144-4071-9d1f-8a92a11dedc6"/>
      <statusCode code="active"/>
      <effectiveTime xsi:type="IVL_TS">
        <low value="20151014"/>
        <high value="20151014"/>
      </effectiveTime>
      <author>
        <!-- C-CDA R2.1 Author Participation -->
        <templateId root="2.16.840.1.113883.10.20.22.4.119"/>
        <time value="201510101030"/>
        <assignedAuthor>
          <id root="2.16.840.1.113883.4.6" extension="111111111"/>
        </assignedAuthor>
      </author>
      <participant typeCode="DEV">
        <participantRole classCode="MANU">
          <playingDevice classCode="DEV">
            <!-- Device -->
            <code code="401608003" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED-CT" displayName="Suprapubic catheter (physical
object) "
            sdtc:valueSet="{ $QDMElementValueSetOID }"/>
          </playingDevice>
        </participantRole>
      </participant>
      <!-- QDM Attribute: Reason -->
      <entryRelationship typeCode="RSON">
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-12-
01"/>
          <id root="aa348c15-ce6b-4988-b33b-7ae730c710e2"/>
          <code code="77301-0" codeSystem="2.16.840.1.113883.6.1"
displayName="Reason care action performed or not"
codeSystemName="LOINC"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="20150105"/>
          </effectiveTime>
          <value xsi:type="CD" code="125629006"
codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Injury of colon"
sdtc:valueSet="{ $QDMElementValueSetOID }"/>
        </observation>
      </entryRelationship>
    </supply>
  </entryRelationship>
</act>
```

```

        </entryRelationship>
    </supply>
</entryRelationship>
</act>

```

3.12 Discharge Medication (V3)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.105:2016-02-01 (open)]

Table 80: Discharge Medication (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Medication Activity (V2)

This template represents the QDM datatype: Medication, Discharge.

This template represents medications should be taken by or given to the patient after being discharged from an inpatient encounter.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 81: Discharge Medication (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.105:2016-02-01)					
@classCode	1..1	SHALL		2228-16550	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		2228-16551	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = RQO
@negationInd	0..1	MAY		2228-28065	
templateId	1..1	SHALL		2228-26956	
@root	1..1	SHALL		2228-26957	2.16.840.1.113883.10.20.24.3.105
@extension	1..1	SHALL		2228-27037	2016-02-01
id	1..*	SHALL		2228-26955	
code	1..1	SHALL		2228-16552	
@code	1..1	SHALL		2228-28140	75311-1
@codeSystem	1..1	SHALL		2228-28141	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
entryRelationship	1..1	SHALL		2228-16553	
@typeCode	1..1	SHALL		2228-16554	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
substanceAdministration	1..1	SHALL		2228-16555	Medication Activity (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09)

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-16550).
2. **SHALL** contain exactly one [1..1] **@moodCode**="RQO" Request (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-16551).
3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28065).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-26956) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.105" (CONF:2228-26957).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-02-01" (CONF:2228-27037).
5. **SHALL** contain at least one [1..*] **id** (CONF:2228-26955).
6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-16552).

- a. This code **SHALL** contain exactly one [1..1] @code="75311-1" Discharge medications (CONF:2228-28140).
 - 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:2228-28141).
7. **SHALL** contain exactly one [1..1] entryRelationship (CONF:2228-16553) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="SUBJ" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-16554).
 - 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:2228-16555).

Figure 37: Discharge Medication (V3) Example

```
<act classCode="ACT" moodCode="RQO">
  <!-- Discharge Medication (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.105" extension="2016-02-01" />
  <id root="60f33340-591f-4459-9fa2-1c93e014a6e2" />
  <code code="75311-1" displayName="Discharge medications"
    codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" />
  <entryRelationship typeCode="SUBJ">
    <substanceAdministration classCode="SBADM" moodCode="EVN">
      <!-- Medication Activity (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.16" extension="2014-06-09" />
      <id root="c0ea7bf3-50e7-4e7a-83a3-e5a9ccbb8541" />
      <statusCode code="active" />
      <effectiveTime xsi:type="IVL_TS">
        <!-- QDM Attribute: Start datetime -->
        <low value="20150301" />
        <!-- QDM Attribute: Stop datetime -->
        <high value="20150901" />
      </effectiveTime>
      <!-- QDM Attribute: Frequency -->
      <effectiveTime xsi:type="PIVL_TS" institutionSpecified="true" operator="A">
        <period value="6" unit="h" />
      </effectiveTime>
      <!-- QDM Attribute: Route -->
      <routeCode code="C38288" codeSystem="2.16.840.1.113883.3.26.1.1"
        codeSystemName="NCI Thesaurus" displayName="ORAL"
        sdtc:valueSet="{ $QDMElementValueSetOID }" />
      <!-- QDM Attribute: Dose -->
      <doseQuantity value="1" />
      <consumable>
        <manufacturedProduct classCode="MANU">
          <!-- Conforms to C-CDA R2 Medication Information (V2) -->
          <templateId root="2.16.840.1.113883.10.20.22.4.23"
            extension="2014-06-09" />
          <id root="37bfe02a-3e97-4bd6-9197-bbd0ed0de79e" />
          <manufacturedMaterial>
            <code code="105152" codeSystem="2.16.840.1.113883.6.88"
              codeSystemName="RxNorm"
              displayName="Amoxicillin 60 MG/ML Oral Suspension"
              sdtc:valueSet="{ $QDMElementValueSetOID }" />
          </manufacturedMaterial>
        </manufacturedProduct>
      </consumable>
    </substanceAdministration>
  </entryRelationship>
</act>
```

3.13 Drug Monitoring Act

[act: identifier urn:oid:2.16.840.1.113883.10.20.22.4.123 (open)]

Table 82: Drug Monitoring Act Contexts

Contained By:	Contains:
Medication Activity (V2) (optional)	US Realm Patient Name (PTN.US.FIELDDED)

This template represents the act of monitoring the patient's medication and includes a participation to record the person responsible for monitoring the medication. The prescriber of the medication is not necessarily the same person or persons monitoring the drug. The effectiveTime indicates the time when the activity is intended to take place.

For example, a cardiologist may prescribe a patient Warfarin. The patient's primary care provider may monitor the patient's INR and adjust the dosing of the Warfarin based on these laboratory results. Here the person designated to monitor the drug is the primary care provider.

Table 83: Drug Monitoring Act Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.123)					
@classCode	1..1	SHALL		1098-30823	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		1098-28656	INT
templateId	1..1	SHALL		1098-28657	
@root	1..1	SHALL		1098-28658	2.16.840.1.113883.10.20.22.4.123
id	1..*	SHALL		1098-31920	
code	1..1	SHALL		1098-28660	
@code	1..1	SHALL		1098-30818	395170001
@codeSystem	1..1	SHALL		1098-30819	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
statusCode	1..1	SHALL		1098-31921	
@code	1..1	SHALL		1098-32358	urn:oid:2.16.840.1.113883.1.11.159331 (ActStatus)
effectiveTime	1..1	SHALL		1098-31922	
participant	1..*	SHALL		1098-28661	
@typeCode	1..1	SHALL		1098-28663	RESP
participantRole	1..1	SHALL		1098-28662	
@classCode	1..1	SHALL		1098-28664	ASSIGNED
id	1..*	SHALL		1098-28665	
playingEntity	1..1	SHALL		1098-28667	
@classCode	1..1	SHALL		1098-28668	PSN
name	1..1	SHALL		1098-28669	US Realm Patient Name (PTN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1)

1. **SHALL** contain exactly one [1..1] **@classCode="ACT"** act (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:1098-30823).
2. **SHALL** contain exactly one [1..1] **@moodCode="INT"** (CONF:1098-28656).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-28657) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.123"** (CONF:1098-28658).
4. **SHALL** contain at least one [1..*] **id** (CONF:1098-31920).
5. **SHALL** contain exactly one [1..1] **code** (CONF:1098-28660).
 - a. This code **SHALL** contain exactly one [1..1] **@code="395170001"** medication monitoring (regime/therapy) (CONF:1098-30818).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem="2.16.840.1.113883.6.96"** (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:1098-30819).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-31921).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet [ActStatus](#) urn:oid:2.16.840.1.113883.1.11.159331 **DYNAMIC** (CONF:1098-32358).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1098-31922).
8. **SHALL** contain at least one [1..*] **participant** (CONF:1098-28661) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RESP"** (CONF:1098-28663).
 - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:1098-28662).
 - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode="ASSIGNED"** (CONF:1098-28664).
 - ii. This participantRole **SHALL** contain at least one [1..*] **id** (CONF:1098-28665).
 - iii. This participantRole **SHALL** contain exactly one [1..1] **playingEntity** (CONF:1098-28667).
 1. This playingEntity **SHALL** contain exactly one [1..1] **@classCode="PSN"** (CONF:1098-28668).
 2. This playingEntity **SHALL** contain exactly one [1..1] **US Realm Patient Name (PTN.US.FIELDDED)** (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1) (CONF:1098-28669).

Table 84: ActStatus

Value Set: ActStatus urn:oid:2.16.840.1.113883.1.11.159331 Contains the names (codes) for each of the states in the state-machine of the RIM Act class. Value Set Source: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.113883.1.11.15933			
Code	Code System	Code System OID	Print Name
normal	ActStatus	urn:oid:2.16.840.1.113883.5.14	normal
aborted	ActStatus	urn:oid:2.16.840.1.113883.5.14	aborted
active	ActStatus	urn:oid:2.16.840.1.113883.5.14	active
cancelled	ActStatus	urn:oid:2.16.840.1.113883.5.14	cancelled
completed	ActStatus	urn:oid:2.16.840.1.113883.5.14	completed
held	ActStatus	urn:oid:2.16.840.1.113883.5.14	held
new	ActStatus	urn:oid:2.16.840.1.113883.5.14	new
suspended	ActStatus	urn:oid:2.16.840.1.113883.5.14	suspended
nullified	ActStatus	urn:oid:2.16.840.1.113883.5.14	nullified
obsolete	ActStatus	urn:oid:2.16.840.1.113883.5.14	obsolete

Figure 38: Drug Monitoring Act Example

```

<entryRelationship typeCode="COMP">
  <!-- **DRUG MONITORING ACT **-->
  <act classCode="ACT" moodCode="INT">
    <templateId root="2.16.840.1.113883.10.20.22.4.123" />
    <id root="2a620155-9d11-439e-92b3-5d9815ff4ee8" />
    <code code="395170001" displayName="medication monitoring (regime/therapy"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED-CT" />
    <statusCode code="completed" />
    <effectiveTime xsi:type="IVL_TS">
      <low value="20130615" />
      <high value="20130715" />
    </effectiveTime>
    <participant typeCode="RESP">
      <participantRole classCode="ASSIGNED">
        <id root="2a620155-9d11-439e-92b3-5d9815ff4ee5" />
        <playingEntity classCode="PSN">
          <name>
            <given>Listener</given>
            <family>Larry</family>
            <prefix>DR</prefix>
          </name>
        </playingEntity>
      </participantRole>
    </participant>
  </act>
</entryRelationship>

```

3.14 Drug Vehicle

[participantRole: identifier urn:oid:2.16.840.1.113883.10.20.22.4.24 (open)]

Table 85: Drug Vehicle Contexts

Contained By:	Contains:
Medication Activity (V2) (optional)	
Immunization Activity (V2) (optional)	

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

Table 86: Drug Vehicle Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
participantRole (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.24)					
@classCode	1..1	SHALL		81-7490	urn:oid:2.16.840.1.113883.5.110 (RoleClass) = MANU
templateId	1..1	SHALL		81-7495	
@root	1..1	SHALL		81-10493	2.16.840.1.113883.10.20.22.4.24
code	1..1	SHALL		81-19137	
@code	1..1	SHALL		81-19138	412307009
@codeSystem	1..1	SHALL		81-26502	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
playingEntity	1..1	SHALL		81-7492	
code	1..1	SHALL		81-7493	
name	0..1	MAY		81-7494	

1. **SHALL** contain exactly one [1..1] **@classCode**="MANU" (CodeSystem: RoleClass urn:oid:2.16.840.1.113883.5.110 **STATIC**) (CONF:81-7490).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:81-7495) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.24" (CONF:81-10493).
3. **SHALL** contain exactly one [1..1] **code** (CONF:81-19137).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="412307009" Drug Vehicle (CONF:81-19138).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.96" (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:81-26502).
4. **SHALL** contain exactly one [1..1] **playingEntity** (CONF:81-7492).

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

- a. This playingEntity **SHALL** contain exactly one [1..1] **code** (CONF:81-7493).
- b. This playingEntity **MAY** contain zero or one [0..1] **name** (CONF:81-7494).
 - i. This playingEntity/name **MAY** be used for the vehicle name in text, such as Normal Saline (CONF:81-10087).

Figure 39: Drug Vehicle Example

```
<participantRole classCode="MANU">
  <templateId root="2.16.840.1.113883.10.20.22.4.24"/>
  <code code="412307009" displayName="drug vehicle"
codeSystem="2.16.840.1.113883.6.96"/>
  <playingEntity classCode="MMAT">
    <code code="324049" displayName="Aerosol"
codeSystem="2.16.840.1.113883.6.88"
codeSystemName="RxNorm"/>
    <name>Aerosol</name>
  </playingEntity>
</participantRole>
```

3.15 Encounter Activity (V3)

[encounter: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.49:2015-08-01
(open)]

Table 87: Encounter Activity (V3) Contexts

Contained By:	Contains:
	Encounter Diagnosis (V3) Indication (V2) Service Delivery Location

This clinical statement describes an interaction between a patient and clinician. Interactions may include in-person encounters, telephone conversations, and email exchanges.

Table 88: Encounter Activity (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
encounter (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.49:2015-08-01)					
@classCode	1..1	SHALL		1198-8710	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		1198-8711	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1198-8712	
@root	1..1	SHALL		1198-26353	2.16.840.1.113883.10.20.22.4.49
@extension	1..1	SHALL		1198-32546	2015-08-01
id	1..*	SHALL		1198-8713	
code	1..1	SHALL		1198-8714	urn:oid:2.16.840.1.113883.3.88.12.80.32 (EncounterTypeCode)
originalText	0..1	SHOULD		1198-8719	
reference	0..1	SHOULD		1198-15970	
@value	0..1	SHOULD		1198-15971	
translation	0..1	MAY		1198-32323	
effectiveTime	1..1	SHALL		1198-8715	
sdtc:dischargeDispositionCode	0..1	MAY		1198-32176	
performer	0..*	MAY		1198-8725	
assignedEntity	1..1	SHALL		1198-8726	
code	0..1	MAY		1198-8727	urn:oid:2.16.840.1.114222.4.11.1066 (Healthcare Provider Taxonomy (HIPAA))
participant	0..*	SHOULD		1198-8738	
@typeCode	1..1	SHALL		1198-8740	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = LOC
participantRole	1..1	SHALL		1198-14903	Service Delivery Location (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.32)
entryRelationship	0..*	MAY		1198-	

				8722	
@typeCode	1..1	SHALL		1198-8723	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		1198-14899	Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09)
entryRelationship	0..*	MAY		1198-15492	
act	1..1	SHALL		1198-15973	Encounter Diagnosis (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.80:2015-08-01)

1. **SHALL** contain exactly one [1..1] **@classCode="ENC"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1198-8710).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1198-8711).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1198-8712) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.49"** (CONF:1198-26353).
 - b. **SHALL** contain exactly one [1..1] **@extension="2015-08-01"** (CONF:1198-32546).
4. **SHALL** contain at least one [1..*] **id** (CONF:1198-8713).
5. **SHALL** contain exactly one [1..1] **code**, which **SHOULD** be selected from ValueSet [EncounterTypeCode](#) urn:oid:2.16.840.1.113883.3.88.12.80.32 **DYNAMIC** (CONF:1198-8714).
 - a. This code **SHOULD** contain zero or one [0..1] **originalText** (CONF:1198-8719).
 - i. The originalText, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:1198-15970).
 1. The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:1198-15971).
 - 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:1198-15972).

The translation may exist to map the code of EncounterTypeCode (2.16.840.1.113883.3.88.12.80.32) value set to the code of Encounter Planned (2.16.840.1.113883.11.20.9.52) value set.

- b. This code **MAY** contain zero or one [0..1] **translation** (CONF:1198-32323).
6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1198-8715).
7. **MAY** contain zero or one [0..1] **sdct:dischargeDispositionCode** (CONF:1198-32176).
 Note: The prefix sdct: SHALL be bound to the namespace "urn:hl7-org:sdct". The use of the namespace provides a necessary extension to CDA R2 for the use of the dischargeDispositionCode element

- a. This `sdtc:dischargeDispositionCode` **SHOULD** contain exactly [1..1] `@code`, which **SHOULD** be selected from ValueSet 2.16.840.1.113883.3.88.12.80.33 NUBC UB-04 FL17-Patient Status (code system 2.16.840.1.113883.6.301.5) **DYNAMIC** or, if access to NUBC is unavailable, from CodeSystem 2.16.840.1.113883.12.112 HL7 Discharge Disposition (CONF:1198-32177).
 - b. This `sdtc:dischargeDispositionCode` **SHOULD** contain exactly [1..1] `@codeSystem`, which **SHOULD** be either CodeSystem: NUBC 2.16.840.1.113883.6.301.5 **OR** CodeSystem: HL7 Discharge Disposition 2.16.840.1.113883.12.112 (CONF:1198-32377).
8. **MAY** contain zero or more [0..*] `performer` (CONF:1198-8725).
- a. The performer, if present, **SHALL** contain exactly one [1..1] `assignedEntity` (CONF:1198-8726).
 - i. This `assignedEntity` **MAY** contain zero or one [0..1] `code`, which **SHOULD** be selected from ValueSet [Healthcare Provider Taxonomy \(HIPAA\)](#) `urn:oid:2.16.840.1.114222.4.11.1066` **DYNAMIC** (CONF:1198-8727).
9. **SHOULD** contain zero or more [0..*] `participant` (CONF:1198-8738) such that it
- a. **SHALL** contain exactly one [1..1] `@typeCode="LOC"` Location (CodeSystem: HL7ActRelationshipType `urn:oid:2.16.840.1.113883.5.1002` **STATIC**) (CONF:1198-8740).
 - b. **SHALL** contain exactly one [1..1] [Service Delivery Location](#) (identifier: `urn:oid:2.16.840.1.113883.10.20.22.4.32`) (CONF:1198-14903).
10. **MAY** contain zero or more [0..*] `entryRelationship` (CONF:1198-8722) 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:1198-8723).
 - 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:1198-14899).
11. **MAY** contain zero or more [0..*] `entryRelationship` (CONF:1198-15492) such that it
- a. **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:1198-15973).

Table 89: EncounterTypeCode

Value Set: EncounterTypeCode urn:oid:2.16.840.1.113883.3.88.12.80.32			
This value set includes only the codes of the Current Procedure and Terminology designated for Evaluation and Management (99200 – 99607) (subscription to AMA Required)			
Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
99201	CPT4	urn:oid:2.16.840.1.113883.6.12	Office or other outpatient visit (problem focused)
99202	CPT4	urn:oid:2.16.840.1.113883.6.12	Office or other outpatient visit (expanded problem (expanded))
99203	CPT4	urn:oid:2.16.840.1.113883.6.12	Office or other outpatient visit (detailed)
99204	CPT4	urn:oid:2.16.840.1.113883.6.12	Office or other outpatient visit (comprehensive, (comprehensive - moderate))
99205	CPT4	urn:oid:2.16.840.1.113883.6.12	Office or other outpatient visit (comprehensive, comprehensive-high)
19681004	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Nursing evaluation of patient and report (procedure)
207195004	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	History and physical examination with evaluation and management of nursing facility patient (procedure)
209099002	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	History and physical examination with management of domiciliary or rest home patient (procedure)
210098006	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Domiciliary or rest home patient evaluation and management (procedure)
225929007	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Joint home visit (procedure)
...			

Figure 40: Encounter Activity (V3) Example

```

<encounter classCode="ENC" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.49" extension="2015-08-01" />
  <id root="2a620155-9d11-439e-92b3-5d9815ff4de8" />
  <code code="99213" displayName="Office outpatient visit 15 minutes"
codeSystemName="CPT-4" codeSystem="2.16.840.1.113883.6.12">
    <originalText>
      <reference value="#Encounter1" />
    </originalText>
    <translation code="AMB" codeSystem="2.16.840.1.113883.5.4" displayName="Ambulatory"
codeSystemName="HL7 ActEncounterCode" />
  </code>
  <effectiveTime value="201209271300+0500" />
  <performer>
    <assignedEntity>
      . . .
    </assignedEntity>
  </performer>
  <participant typeCode="LOC">
    <participantRole classCode="SDLOC">
      <templateId root="2.16.840.1.113883.10.20.22.4.32" />
      . . .
    </participantRole>
  </participant>
  <entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.19" extension="2014-06-09" />
      . . .
    </observation>
  </entryRelationship>
</encounter>

```

3.15.1 Encounter Active (V3)

[encounter: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.21:2016-02-01 (open)]

Table 90: Encounter Active (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Facility Location Reason (V2)

This template represents the QDM datatype: Encounter, Active.

Encounter Active describes an active interaction between the patient and clinicians. Interactions include in-person encounters, telephone conversations, and email exchanges. The statusCode is constrained to “active”.

QDM Attribute: Length of Stay is the difference of the admission datetime and the discharge datetime for the encounter. The Length of Stay attribute should not be used for outpatient encounters.

Table 91: Encounter Active (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
encounter (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.21:2016-02-01)					
@classCode	1..1	SHALL		2228-27530	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		2228-27531	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		2228-11888	
@root	1..1	SHALL		2228-11889	2.16.840.1.113883.10.20.24.3.21
@extension	1..1	SHALL		2228-26551	2016-02-01
code	1..1	SHALL		2228-27621	
@sdtc:valueSet	1..1	SHALL		2228-27622	
statusCode	1..1	SHALL		2228-11895	
@code	1..1	SHALL		2228-11896	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = active
effectiveTime	1..1	SHALL		2228-11898	
low	1..1	SHALL		2228-26549	
high	0..1	MAY		2228-26550	
participant	0..1	MAY		2228-13388	Facility Location (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.100)
entryRelationship	0..1	MAY		2228-11907	
@typeCode	1..1	SHALL		2228-11908	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		2228-27157	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)

1. Conforms to [Encounter Activity \(V3\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.49:2015-08-01).

2. **SHALL** contain exactly one [1..1] **@classCode="ENC"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27530).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-27531).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-11888) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.21"** (CONF:2228-11889).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-26551).
5. **SHALL** contain exactly one [1..1] **code** (CONF:2228-27621).
 - a. This code **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:2228-27622).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:2228-11895).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="active"** (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:2228-11896).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:2228-11898).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:2228-26549).
Note: QDM Attribute: Admission Datetime
 - b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:2228-26550).
Note: QDM Attribute: Discharge Datetime
8. **MAY** contain zero or one [0..1] **Facility Location** (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.100) (CONF:2228-13388).
Note: QDM Attribute: Facility Location
9. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-11907) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-11908).
 - b. **SHALL** contain exactly one [1..1] **Reason (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-27157).

Figure 41: Encounter Active (V3) Example

```
<encounter classCode="ENC" moodCode="EVN">
  <!-- C-CDA R2.1 Encounter Activity (V3) template -->
  <templateId root="2.16.840.1.113883.10.20.22.4.49" extension="2015-08-01" />
  <!-- Encounter Active (V3) template -->
  <templateId root="2.16.840.1.113883.10.20.24.3.21" extension="2016-02-01" />
  <id root="2a620155-9d11-439e-92b3-5d9815ff4de8" />
  <code code="4525004" displayName="Emergency Department Visit"
  codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"
  sdtc:valueSet="{ $QDMElementValueSetOID}" />
  <text>Encounter, Performed: Emergency Department Visit</text>
  <statusCode code="active" />
  <!-- QDM Attribute: Length of Stay (high - low) -->
  <effectiveTime>
    <!-- QDM Attribute: Admission Datetime -->
    <low value="20150329090000+0500" />
    <!-- QDM Attribute: Discharge Datetime -->
    <high value="20150330090000+0500" />
  </effectiveTime>
  <!-- QDM Attribute: Facility Location -->
  <participant typeCode="LOC">
    <!-- Facility Location template -->
    <templateId root="2.16.840.1.113883.10.20.24.3.100" />
    <time>
      <!-- QDM Attribute: Facility Location Arrival Datetime -->
      <low value="20150203" />
      <!-- QDM Attribute: Facility Location Departure Datetime -->
      <high value="20150206" />
    </time>
    <participantRole classCode="SDLOC">
      <code code="309905000" codeSystem="2.16.840.1.113883.6.96"
      codeSystemName="SNOMED CT" displayName="Adult Intensive Care Unit"
      sdtc:valueSet="{ $QDMElementValueSetOID}" />
      <addr>
        <streetAddressLine>17 Daws Rd.</streetAddressLine>
        <city>Blue Bell</city>
        <state>MA</state>
        <postalCode>02368</postalCode>
        <country>US</country>
      </addr>
      <telecom use="WP" value="tel:(555)555-1003" />
      <playingEntity classCode="PLC">
        <name>Good Health Clinic</name>
      </playingEntity>
    </participantRole>
  </participant>
  <!-- QDM Attribute: Reason -->
  <entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</encounter>
```

3.15.2 Encounter Performed (V3)

[encounter: identifier urn:h17ii:2.16.840.1.113883.10.20.24.3.23:2016-02-01
(open)]

Table 92: Encounter Performed (V3) Contexts

Contained By:	Contains:
Encounter Performed Act (required)	Facility Location Reason (V2)

This template, along with the Encounter Performed Act template, represents the QDM datatype: Encounter, Performed. This template must be contained in an Encounter Performed Act template.

The Encounter, Performed describes the interactions between the patient and clinicians that have been completed. Interactions include in-person encounters, telephone conversations, and email exchanges. The actStatus is constrained to “completed” and both a low and high effectiveTime are required.

Encounter id is represented using the encounter/id element, the encounter/id/@root (or combined with @extension, if @extension is present) uniquely identifies an encounter.

Each episode of care shall have one unique inpatient encounter id and if there are other types of encounters present (ICU, ED) during the same episode of care, they shall have their own unique encounter ids. If there are data for multiple episode of cares within the same QRDA category I file, then each episode of care shall have their own unique inpatient encounter id. Should there be another reference to the unique encounter id of an encounter instance in a QRDA category I file, then users should reference the previously noted encounter id of that encounter instance.

Table 93: Encounter Performed (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
encounter (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.23:2016-02-01)					
@classCode	1..1	SHALL		2228-27532	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		2228-27533	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		2228-11861	
@root	1..1	SHALL		2228-11862	2.16.840.1.113883.10.20.24.3.23
@extension	1..1	SHALL		2228-26552	2016-02-01
id	1..*	SHALL		2228-28670	
@root	1..1	SHALL		2228-28671	
@extension	0..1	MAY		2228-28672	
code	1..1	SHALL		2228-27624	
@sdtc:valueSet	1..1	SHALL		2228-27625	
statusCode	1..1	SHALL		2228-11874	
@code	1..1	SHALL		2228-11875	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		2228-11876	
low	1..1	SHALL		2228-11877	
high	1..1	SHALL		2228-11878	
participant	0..*	MAY		2228-13025	Facility Location (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.100)
entryRelationship	0..1	MAY		2228-11871	
@typeCode	1..1	SHALL		2228-11872	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		2228-27158	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)
entryRelationship	0..1	MAY		2228-28597	

@typeCode	1..1	SHALL		2228-28600	REFR
observation	1..1	SHALL		2228-28598	
@classCode	1..1	SHALL		2228-28601	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-28602	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
code	1..1	SHALL		2228-28599	
@code	1..1	SHALL		2228-28603	8319008
@codeSystem	1..1	SHALL		2228-28604	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
value	1..1	SHALL	CD	2228-28605	
@sdtc:valueSet	1..1	SHALL		2228-28606	

1. Conforms to [Encounter Activity \(V3\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.49:2015-08-01).
2. **SHALL** contain exactly one [1..1] **@classCode**="ENC" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27532).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-27533).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-11861) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.23" (CONF:2228-11862).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-02-01" (CONF:2228-26552).
5. **SHALL** contain at least one [1..*] **id** (CONF:2228-28670).
 - a. Such ids **SHALL** contain exactly one [1..1] **@root** (CONF:2228-28671).
 - b. Such ids **MAY** contain zero or one [0..1] **@extension** (CONF:2228-28672).
6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-27624).
 - a. This code **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-27625).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:2228-11874).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:2228-11875).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:2228-11876).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:2228-11877).
Note: QDM Attribute: Admission Datetime
 - b. This effectiveTime **SHALL** contain exactly one [1..1] **high** (CONF:2228-11878).
Note: QDM Attribute: Discharge Datetime

9. **MAY** contain zero or more [0..*] Facility Location (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.100) (CONF:2228-13025).
Note: QDM Attribute: Facility Location
10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-11871) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-11872).
 - b. **SHALL** contain exactly one [1..1] Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-27158).
11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-28597) such that it
Note: QDM Attribute: Principal Diagnosis
 - a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** refers to (CONF:2228-28600).
 - b. **SHALL** contain exactly one [1..1] **observation** (CONF:2228-28598).
 - i. This observation **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28601).
 - ii. This observation **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-28602).
 - iii. This observation **SHALL** contain exactly one [1..1] **code** (CONF:2228-28599).
 1. This code **SHALL** contain exactly one [1..1] **@code="8319008"** Principal Diagnosis (CONF:2228-28603).
 2. This code **SHALL** contain exactly one [1..1] **@codeSystem="2.16.840.1.113883.6.96"** (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:2228-28604).
 - iv. This observation **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:2228-28605).
 1. This value **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-28606).
12. This template **SHALL** be contained by an Encounter Performed Act (CONF:2228-28659).

Figure 42: Encounter Performed (V3) Example

```

<!-- Must be contained in the Encounter Performed Act template to represent the Encounter,
Performed QDM data type -->
<encounter classCode="ENC" moodCode="EVN">
  <!-- Conforms to C-CDA R2.1 Encounter Activity (V3) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.49" extension="2015-08-01"/>
  <!-- Encounter Performed (V3) templateId-->
  <templateId root="2.16.840.1.113883.10.20.24.3.23" extension="2016-02-01"/>
  <!-- the encounter/id/@root (or combined with @extension, if @extension is present)
uniquely identifies an encounter -->
  <id root="12345678-9d11-439e-92b3-5d9815ff4de1"/>
  <code code="4525004" displayName="Emergency Department visit"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"
sdtc:valueSet="{QDMElementValueSetOID}"/>
  <text>Encounter, Performed: Emergency Department Visit</text>
  <statusCode code="completed"/>
  <effectiveTime>
    <!-- QDM Attribute: admission datetime -->
    <low value="20150301090000+0500"/>
    <!-- QDM Attribute: discharge datetime -->
    <high value="20150303103000+0500"/>
  </effectiveTime>
  <!-- QDM Attribute: Principal Dianosis -->
  <entryRelationship typeCode="REFR">
    <observation classCode="OBS" moodCode="EVN">
      <id root="92587992-6147-467e-8ce7-b080ef569df4"/>
      <code code="8319008" codeSystem="2.16.840.1.113883.6.96"
displayName="Principal Diagnosis" codeSystemName="SNOMED CT"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="20150105"/>
      </effectiveTime>
      <value xsi:type="CD" code="8319008" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Acute atrial infarction (disorder)"
sdtc:valueSet="{QDMElementValueSetOID}"/>
    </observation>
  </entryRelationship>
</encounter>

```

3.16 Encounter Diagnosis (V3)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.80:2015-08-01 (open)]

Table 94: Encounter Diagnosis (V3) Contexts

Contained By:	Contains:
Encounter Activity (V3) (optional)	Problem Observation (V3)

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

Table 95: Encounter Diagnosis (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.80:2015-08-01)					
@classCode	1..1	SHALL		1198-14889	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		1198-14890	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1198-14895	
@root	1..1	SHALL		1198-14896	2.16.840.1.113883.10.20.22.4.80
@extension	1..1	SHALL		1198-32542	2015-08-01
code	1..1	SHALL		1198-19182	
@code	1..1	SHALL		1198-19183	29308-4
@codeSystem	1..1	SHALL		1198-32160	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
entryRelationship	1..*	SHALL		1198-14892	
@typeCode	1..1	SHALL		1198-14893	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
observation	1..1	SHALL		1198-14898	Problem Observation (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.4:2015-08-01)

1. **SHALL** contain exactly one [1..1] **@classCode="ACT"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1198-14889).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1198-14890).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1198-14895) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.80"** (CONF:1198-14896).
 - b. **SHALL** contain exactly one [1..1] **@extension="2015-08-01"** (CONF:1198-32542).
4. **SHALL** contain exactly one [1..1] **code** (CONF:1198-19182).
 - a. This code **SHALL** contain exactly one [1..1] **@code="29308-4"** Diagnosis (CONF:1198-19183).
 - 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:1198-32160).
5. **SHALL** contain at least one [1..*] **entryRelationship** (CONF:1198-14892) such that it

- a. **SHALL** contain exactly one [1..1] @typeCode="SUBJ" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1198-14893).
- 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:1198-14898).

Figure 43: Encounter Diagnosis (V3) Example

```

<act classCode="ACT" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.80" extension="2015-08-01" />
  <code code="29308-4" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
  displayName=" DIAGNOSIS" />
  <statusCode code="active" />
  <effectiveTime>
    <low value="20903003" />
  </effectiveTime>
  <entryRelationship typeCode="SUBJ">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.4" extension="2015-08-01" />
      <!-- Problem Observation -->
      ...
    </observation>
  </entryRelationship>
</act>

```

3.17 Encounter Order Act

[act: identifier urn:oid:2.16.840.1.113883.10.20.24.3.132 (open)]

Table 96: Encounter Order Act Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Encounter Order (V3)

This template, along with its contained Encounter Order (V3) template, represents the QDM datatype: Encounter, Order.

The Encounter Order template itself does not support the negationInd attribute. Adding an act wrapper to the Encounter Order template allows Encounter Order to be negated.

Table 97: Encounter Order Act Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.132)					
@classCode	1..1	SHALL		2228-28469	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		2228-28470	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = RQO
@negationInd	0..1	MAY		2228-28483	
templateId	1..1	SHALL		2228-28467	
@root	1..1	SHALL		2228-28471	2.16.840.1.113883.10.20.24.3.132
id	1..*	SHALL		2228-28472	
entryRelationship	1..1	SHALL		2228-28468	
@typeCode	1..1	SHALL		2228-28473	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
encounter	1..1	SHALL		2228-28474	Encounter Order (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.22:2016-02-01)

1. **SHALL** contain exactly one [1..1] **@classCode="ACT"** Act (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28469).
2. **SHALL** contain exactly one [1..1] **@moodCode="RQO"** Request (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-28470).
3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28483).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-28467) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.132"** (CONF:2228-28471).
5. **SHALL** contain at least one [1..*] **id** (CONF:2228-28472).
6. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:2228-28468) 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) (CONF:2228-28473).
 - b. **SHALL** contain exactly one [1..1] [Encounter Order \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.22:2016-02-01) (CONF:2228-28474).

Figure 44: Encounter Order Act Example

```
<act classCode="ACT" moodCode="RQO">
  <templateId root="2.16.840.1.113883.10.20.24.3.132"/>
  <id root="ec8a6ff8-ed4b-4f7e-82c3-e98e58b45de7"/>
  <code code="ENC" codeSystem="2.16.840.1.113883.5.6" displayName="Encounter"
codeSystemName="ActClass"/>
  <entryRelationship typeCode="SUBJ">
    <encounter classCode="ENC" moodCode="RQO">
      <!-- Conforms to C-CDA R2.1 Planned Encounter (V2) template -->
      <templateId root="2.16.840.1.113883.10.20.22.4.40" extension="2014-06-09"/>
      <!-- Encounter Order (V3) template -->
      <templateId root="2.16.840.1.113883.10.20.24.3.22" extension="2016-02-01"/>
      <id root="2a620155-9d11-439e-92b3-5d9815ff4de8"/>
      <code code="185349003" displayName="encounter for check-up (procedure)"
codeSystemName="SNOMED CT" codeSystem="2.16.840.1.113883.6.96"
sdtc:valueSet="{ $QDMElementValueSetOID }"/>
      <text>Encounter for check-up (procedure)</text>
      <statusCode code="active"/>
      <effectiveTime>
        <!-- Admission datetime (or encounter start)-->
        <low value="20150329090000+0500"/>
        <!-- Discharge datetime (or encounter end)-->
        <high value="20150329103000+0500"/>
      </effectiveTime>
      <author>
        <!-- C-CDA R2 Author Participation -->
        <templateId root="2.16.840.1.113883.10.20.22.4.119"/>
        <time value="201504081130"/>
        <assignedAuthor>
          <id root="2.16.840.1.113883.4.6" extension="111111111"/>
        </assignedAuthor>
      </author>
      <participant typeCode="LOC">
        <participantRole classCode="SDLOC">
          <code code="31628002" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Hospital-
based outpatient family medicine clinic (environment)"
sdtc:valueSet="{ $QDMElementValueSetOID }"/>
          <addr>
            <streetAddressLine>17 Daws Rd.</streetAddressLine>
            <city>Blue Bell</city>
            <state>MA</state>
            <postalCode>02368</postalCode>
            <country>US</country>
          </addr>
          <telecom use="WP" value="tel:(555)555-1003"/>
          <playingEntity classCode="PLC">
            <name>Good Health Clinic</name>
          </playingEntity>
        </participantRole>
      </participant>
      <!-- QDM Attribute: Reason -->
      <entryRelationship typeCode="RSON">
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-12-
01"/>

```

```

<id root="aa348c15-ce6b-4988-b33b-7ae730c710e2"/>
<code code="77301-0" codeSystem="2.16.840.1.113883.6.1"
displayName="Reason care action performed or not"
codeSystemName="LOINC"/>
<statusCode code="completed"/>
<effectiveTime>
<low value="20150105"/>
</effectiveTime>
<value xsi:type="CD" code="125629006"
codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Injury of colon"
sdtc:valueSet="2.16.840.1.113883.3.464.1003.113.12.1036"/>
</observation>
</entryRelationship>
</encounter>
</entryRelationship>
</act>

```

3.18 Encounter Performed Act

[act: identifier urn:oid:2.16.840.1.113883.10.20.24.3.133 (open)]

Table 98: Encounter Performed Act Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Encounter Performed (V3)

This template, along with its contained Encounter Performed (V3) template, represents the QDM datatype: Encounter, Performed.

The Encounter Performed template itself does not support the negationInd attribute. Adding an act wrapper to the Encounter Performed template allows Encounter Performed to be negated.

Table 99: Encounter Performed Act Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.133)					
@classCode	1..1	SHALL		2228-28477	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		2228-28478	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..1	MAY		2228-28484	
templateId	1..1	SHALL		2228-28475	
@root	1..1	SHALL		2228-28479	2.16.840.1.113883.10.20.24.3.133
id	1..*	SHALL		2228-28480	
entryRelationship	1..1	SHALL		2228-28476	
@typeCode	1..1	SHALL		2228-28481	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
encounter	1..1	SHALL		2228-28482	Encounter Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.23:2016-02-01)

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" Act (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28477).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-28478).
3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28484).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-28475) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.133" (CONF:2228-28479).
5. **SHALL** contain at least one [1..*] **id** (CONF:2228-28480).
6. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:2228-28476) 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) (CONF:2228-28481).
 - b. **SHALL** contain exactly one [1..1] [Encounter Performed \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.23:2016-02-01) (CONF:2228-28482).

Figure 45: Encounter Performed Act Example

```

<act classCode="ACT" moodCode="EVN">
  <!--Encounter performed Act -->
  <templateId root="2.16.840.1.113883.10.20.24.3.133"/>
  <id root="ec8a6ff8-ed4b-4f7e-82c3-e98e58b45de7"/>
  <code code="ENC" codeSystem="2.16.840.1.113883.5.6" displayName="Encounter"
codeSystemName="ActClass"/>
  <entryRelationship typeCode="SUBJ">
    <encounter classCode="ENC" moodCode="EVN">
      <!-- Conforms to C-CDA R2.1 Encounter Activity (V3) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.49" extension="2015-08-01"/>
      <!-- Encounter Performed (V3) templateId-->
      <templateId root="2.16.840.1.113883.10.20.24.3.23" extension="2016-02-01"/>
      <id root="12345678-9d11-439e-92b3-5d9815ff4de1"/>
      <code code="4525004" displayName="Emergency Department visit"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"
sdtc:valueSet="{QDMElementValueSetOID}">
        <text>Encounter, Performed: Emergency Department Visit</text>
        <statusCode code="completed"/>
        <effectiveTime>
          <!-- QDM Attribute: admission datetime -->
          <low value="20150301090000+0500"/>
          <!-- QDM Attribute: discharge datetime -->
          <high value="20150303103000+0500"/>
        </effectiveTime>
      </encounter>
    </entryRelationship>
  </act>

```

3.19 Encounter Recommended Act

[act: identifier urn:oid:2.16.840.1.113883.10.20.24.3.134 (open)]

Table 100: Encounter Recommended Act Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Encounter Recommended (V3)

This template, along with its contained Encounter Recommended (V3) template, represents the QDM datatype: Encounter, Recommended.

The Encounter Recommended template itself does not support the negationInd attribute. Adding an act wrapper to the Encounter Recommended template allows Encounter Recommended to be negated.

Table 101: Encounter Recommended Act Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.134)					
@classCode	1..1	SHALL		2228-28487	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		2228-28488	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = INT
@negationInd	0..1	MAY		2228-28489	
templateId	1..1	SHALL		2228-28485	
@root	1..1	SHALL		2228-28490	2.16.840.1.113883.10.20.24.3.134
id	1..*	SHALL		2228-28491	
entryRelationship	1..1	SHALL		2228-28486	
@typeCode	1..1	SHALL		2228-28492	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
encounter	1..1	SHALL		2228-28493	Encounter Recommended (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.24:2016-02-01)

1. **SHALL** contain exactly one [1..1] **@classCode="ACT"** Act (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28487).
2. **SHALL** contain exactly one [1..1] **@moodCode="INT"** Intent (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-28488).
3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28489).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-28485) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.134"** (CONF:2228-28490).
5. **SHALL** contain at least one [1..*] **id** (CONF:2228-28491).
6. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:2228-28486) 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) (CONF:2228-28492).
 - b. **SHALL** contain exactly one [1..1] [Encounter Recommended \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.24:2016-02-01) (CONF:2228-28493).

Figure 46: Encounter Recommended Act Example

```
<act classCode="ACT" moodCode="INT">
  <!--Encounter Recommended Act -->
  <templateId root="2.16.840.1.113883.10.20.24.3.134"/>
  <id root="ec8a6ff8-ed4b-4f7e-82c3-e98e58b45de7"/>
  <code code="ENC" codeSystem="2.16.840.1.113883.5.6" displayName="Encounter"
codeSystemName="ActClass"/>
  <entryRelationship typeCode="SUBJ">
    <encounter classCode="ENC" moodCode="INT">
      <!-- Conforms to C-CDA R2.1 Planned Encounter (V2) template -->
      <templateId root="2.16.840.1.113883.10.20.22.4.40" extension="2014-06-09"/>
      <!-- Encounter Recommended (V3) template -->
      <templateId root="2.16.840.1.113883.10.20.24.3.24" extension="2016-02-01"/>
      <id root="2a620155-9d11-439e-92b3-5d9815ff4de8"/>
      <code code="185349003" displayName="encounter for check-up (procedure)"
codeSystemName="SNOMED CT" codeSystem="2.16.840.1.113883.6.96"
sdct:valueSet="{ $QDMElementValueSetOID }"/>
      <text>Encounter for check-up (procedure)</text>
      <statusCode code="active"/>
      <effectiveTime>
        <!-- Admission datetime (or encounter start)-->
        <low value="20150329090000+0500"/>
        <!-- Discharge datetime (or encounter end)-->
        <high value="20150329103000+0500"/>
      </effectiveTime>
      <author>
        <!-- C-CDA R2 Author Participation -->
        <templateId root="2.16.840.1.113883.10.20.22.4.119"/>
        <time value="201504081130"/>
        <assignedAuthor>
          <id root="2.16.840.1.113883.4.6" extension="111111111"/>
        </assignedAuthor>
      </author>
      <participant typeCode="LOC">
        <participantRole classCode="SDLOC">
          <code code="31628002" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Hospital-based outpatient family medicine clinic
(environment)" sdct:valueSet="{ $QDMElementValueSetOID }"/>
          <addr>
            <streetAddressLine>17 Daws Rd.</streetAddressLine>
            <city>Blue Bell</city>
            <state>MA</state>
            <postalCode>02368</postalCode>
            <country>US</country>
          </addr>
          <telecom use="WP" value="tel:(555)555-1003"/>
          <playingEntity classCode="PLC">
            <name>Good Health Clinic</name>
          </playingEntity>
        </participantRole>
      </participant>
      <!-- QDM Attribute: Reason -->
      <entryRelationship typeCode="RSON">
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-
12-01"/>

```

```

        <id root="aa348c15-ce6b-4988-b33b-7ae730c710e2"/>
        <code code="77301-0" codeSystem="2.16.840.1.113883.6.1"
displayName="Reason care action performed or not" codeSystemName="LOINC"/>
        <statusCode code="completed"/>
        <effectiveTime>
            <low value="20150105"/>
        </effectiveTime>
        <value xsi:type="CD" code="125629006"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT" displayName="Injury of
colon" sdct:valueSet="{ $QDMElementValueSetOID }"/>
        </observation>
    </entryRelationship>
</encounter>
</entryRelationship>
</act>

```

3.20 Entry Reference

[act: identifier urn:oid:2.16.840.1.113883.10.20.22.4.122 (open)]

Table 102: Entry Reference Contexts

Contained By:	Contains:
Goal Observation (optional)	

This template represents the act of referencing another entry in the same CDA document instance. Its purpose is to remove the need to repeat the complete XML representation of the referred entry when relating one entry to another. This template can be used to reference many types of Act class derivations, such as encounters, observations, procedures etc., as it is often necessary when authoring CDA documents to repeatedly reference other Acts of these types. For example, in a Care Plan it is necessary to repeatedly relate Health Concerns, Goals, Interventions and Outcomes.

The id is required and must be the same id as the entry/id it is referencing. The id cannot be a null value. Act/Code is set to nullFlavor="NP" (Not Present). This means the value is not present in the message (in act/Code).

Table 103: Entry Reference Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122)					
@classCode	1..1	SHALL		1098-31485	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		1098-31486	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1098-31487	
@root	1..1	SHALL		1098-31488	2.16.840.1.113883.10.20.22.4.122
id	1..*	SHALL		1098-31489	
code	1..1	SHALL		1098-31490	
@nullFlavor	1..1	SHALL		1098-31491	urn:oid:2.16.840.1.113883.5.1008 (HL7NullFlavor) = NP
statusCode	1..1	SHALL		1098-31498	
@code	0..1	MAY		1098-31499	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:1098-31485).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:1098-31486).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-31487) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.122" (CONF:1098-31488).

The 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. The ID cannot have Null value (e.g., nullFlavor is not allowed).

4. **SHALL** contain at least one [1..*] **id** (CONF:1098-31489).
5. **SHALL** contain exactly one [1..1] **code** (CONF:1098-31490).
 - a. This code **SHALL** contain exactly one [1..1] **@nullFlavor**="NP" Not Present (CodeSystem: HL7NullFlavor urn:oid:2.16.840.1.113883.5.1008) (CONF:1098-31491).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-31498).
 - a. This statusCode **MAY** contain zero or one [0..1] **@code**="completed" (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:1098-31499).

Figure 47: Entry Reference Example

```
<!--
*****
Health Concern section
*****
-->
<act classCode="ACT" moodCode="EVN">
  <!-- Health Concern Act of a pneumonia diagnosis -->
  <templateId root="2.16.840.1.113883.10.20.22.4.132" />
  <id root="4eab0e52-dd7d-4285-99eb-72d32ddb195c" />
  <code code="75310-3" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
displayName="Health Concern" />
  <statusCode code="active" />
  <effectiveTime value="20130616" />
  <entryRelationship typeCode="REFR">
    <!-- Problem Observation (V2) -->
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.4" extension="2014-06-09" />
      <id root="8dfacd73-1682-4cc4-9351-e54ccea83612" />
      <code code="29308-4"
        codeSystem="2.16.840.1.113883.6.1"
        codeSystemName="LOINC"
        displayName="Diagnosis"/>
      <statusCode code="completed" />
      <effectiveTime>
        <!-- Date of diagnosis -->
        <low value="20130616" />
      </effectiveTime>
      <value xsi:type="CD" code="233604007"
        codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED"
        displayName="Pneumonia" />
      <!-- This Entry Reference refers to a goal, intervention, actual
        outcome, or some other entry present in the Care Plan
        that the Health Concern is related to-->
      <entryRelationship typeCode="REFR">
        <act classCode="ACT" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.122" />
          <!-- This ID equals the ID of the goal of a pulse
            ox greater than 92% -->
          <id root="3700b3b0-fbed-11e2-b778-0800200c9a66" />
          <!-- The code is nulled to "NP" Not Present -->
          <code nullFlavor="NP" />
          <statusCode code="completed" />
        </act>
      </entryRelationship>
    </observation>
  </entryRelationship>
</act>
...
<!--
*****
Expected Outcomes/Goals section
*****
-->
...
<entry>
```

```

<!-- This is an observation about the expected outcome of a pulse ox reading
of 92 or greater. The Id is the same as the ID as the ID of the
pneumonia problem above -->
<observation classCode="OBS" moodCode="GOL">
  <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" />
  <value xsi:type="IVL_PQ">
    <low value="92" unit="%" />
  </value>
  <!-- There could be another Entry Reference here referring to the
related health concern, actual outcome, or intervention -->
  ...
</observation>
</entry>
...

```

Figure 48: Diagnosis Reference Example

```

<!-- Show how an encounter can include a discharge diagnosis which references an
item on the problem list using the Entry Reference template -->
<!-- Problem Section -->
<observation>
  <id root="1234567" />
  <code code="123" codeSystem="1.2.3" displayName="asthma" />
</observation>
<!-- Encounter Section -->
<encounter>
  <entryRelationship typeCode="COMP">
    <act>
      <code code="145" codeSystem="4.5.6" displayName="discharge diagnosis" />
      <templateId root="2.16.840.1.113883.10.20.22.4.33" extension="2014-06-09" />
      <!-- this is for illustrative purposes only. In this particular
case, the template requires a nested Problem
Observation (V2). In the Health Concern template,
we'd need a constraint that says it's allowable to
include the Entry Reference template. -->
      <entryRelationship typeCode="SUBJ">
        <act classCode="ACT" moodCode="XXX">
          <templateId root="2.16.840.1.113883.10.20.22.4.122" />
          <id root="1234567" />
          <code nullFlavor="NP" />
        </act>
      </entryRelationship>
    </act>
  </entryRelationship>
</encounter>

```


3.21 External Document Reference

[externalDocument: identifier
urn:hl7ii:2.16.840.1.113883.10.20.22.4.115:2014-06-09 (open)]

Table 104: External Document Reference Contexts

Contained By:	Contains:
Goal Observation (optional)	

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

Table 105: External Document Reference Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
externalDocument (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.115:2014-06-09)					
@classCode	1..1	SHALL		1098-31931	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = DOCCLIN
@moodCode	1..1	SHALL		1098-31932	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1098-32748	
@root	1..1	SHALL		1098-32750	2.16.840.1.113883.10.20.22.4.115
@extension	1..1	SHALL		1098-32749	2014-06-09
id	1..1	SHALL		1098-32751	
code	1..1	SHALL		1098-31933	
setId	0..1	SHOULD		1098-32752	
versionNumber	0..1	SHOULD		1098-32753	

1. **SHALL** contain exactly one [1..1] **@classCode**="DOCCLIN" Clinical Document (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:1098-31931).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:1098-31932).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-32748) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.115" (CONF:1098-32750).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2014-06-09" (CONF:1098-32749).
4. **SHALL** contain exactly one [1..1] **id** (CONF:1098-32751).

5. **SHALL** contain exactly one [1..1] **code** (CONF:1098-31933).
6. **SHOULD** contain zero or one [0..1] **setId** (CONF:1098-32752).
7. **SHOULD** contain zero or one [0..1] **versionNumber** (CONF:1098-32753).

Figure 49: External Document Reference Example

```

<externalDocument classCode="DOCCLIN" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.115"
    extension="2014-06-09" />
  <id root="6f1bd58b-c58f-40b7-b314-caf1294ed98b" />
  <code codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    code="57133-1"
    displayName="Referral Note" />
  <setId extension="sTT988" root="2.16.840.1.113883.19.5.99999.19" />
  <versionNumber value="1" />
</externalDocument>

```

3.22 Family History Death Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.22.4.47 (open)]

Table 106: Family History Death Observation Contexts

Contained By:	Contains:
Family History Observation [V3] (optional)	

This clinical statement records whether the family member is deceased.

Table 107: Family History Death Observation Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.47)					
@classCode	1..1	SHALL		81-8621	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		81-8622	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		81-8623	
@root	1..1	SHALL		81-10495	2.16.840.1.113883.10.20.22.4.47
code	1..1	SHALL		81-19141	
@code	1..1	SHALL		81-19142	ASSERTION
@codeSystem	1..1	SHALL		81-26504	urn:oid:2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		81-8625	
@code	1..1	SHALL		81-19097	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	81-8626	
@code	1..1	SHALL		81-26470	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 419099009

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:81-8621).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:81-8622).
3. **SHALL** contain exactly one [1..1] templateId (CONF:81-8623) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.47" (CONF:81-10495).
4. **SHALL** contain exactly one [1..1] code (CONF:81-19141).
 - a. This code **SHALL** contain exactly one [1..1] @code="ASSERTION" Assertion (CONF:81-19142).
 - b. This code **SHALL** contain exactly one [1..1] @codeSystem="2.16.840.1.113883.5.4" (CodeSystem: ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:81-26504).
5. **SHALL** contain exactly one [1..1] statusCode (CONF:81-8625).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:81-19097).

- 6. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:81-8626).
 - a. This value **SHALL** contain exactly one [1..1] @code="419099009" Dead (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96 **STATIC**) (CONF:81-26470).

Figure 50: Family History Death Observation Example

```

<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.47"/>
  <id root="6898fae0-5c8a-11db-b0de-0800200c9a66"/>
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>
  <statusCode code="completed"/>
  <value xsi:type="CD"
    code="419099009"
    codeSystem="2.16.840.1.113883.6.96"
    displayName="Dead"/>
</observation>

```

3.23 Family History Observation (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.46:2015-08-01 (open)]

Table 108: Family History Observation (V3) Contexts

Contained By:	Contains:
Family History Organizer (V3) (required)	Age Observation Family History Death Observation

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

Table 109: Family History Observation (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.46:2015-08-01)					
@classCode	1..1	SHALL		1198-8586	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		1198-8587	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1198-8599	
@root	1..1	SHALL		1198-10496	2.16.840.1.113883.10.20.22.4.46
@extension	1..1	SHALL		1198-32605	2015-08-01
id	1..*	SHALL		1198-8592	
code	1..1	SHALL		1198-32427	urn:oid:2.16.840.1.113883.3.88.12.3221.7.2 (Problem Type)
translation	1..*	SHALL		1198-32847	urn:oid:2.16.840.1.113883.3.88.12.3221.7.2 (Problem Type)
statusCode	1..1	SHALL		1198-8590	
@code	1..1	SHALL		1198-19098	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	0..1	SHOULD		1198-8593	
value	1..1	SHALL	CD	1198-8591	urn:oid:2.16.840.1.113883.3.88.12.3221.7.4 (Problem)
entryRelationship	0..1	MAY		1198-8675	
@typeCode	1..1	SHALL		1198-8676	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = SUBJ
@inversionInd	1..1	SHALL		1198-8677	true
observation	1..1	SHALL		1198-15526	Age Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.31)
entryRelationship	0..1	MAY		1198-8678	
@typeCode	1..1	SHALL		1198-8679	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CAUS
observation	1..1	SHALL		1198-15527	Family History Death Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.47)

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1198-8586).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1198-8587).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1198-8599) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.46"** (CONF:1198-10496).
 - b. **SHALL** contain exactly one [1..1] **@extension="2015-08-01"** (CONF:1198-32605).
4. **SHALL** contain at least one [1..*] **id** (CONF:1198-8592).
5. **SHALL** contain exactly one [1..1] **code**, which **SHOULD** be selected from ValueSet [Problem Type](#) urn:oid:2.16.840.1.113883.3.88.12.3221.7.2 **STATIC** 2012-06-01 (CONF:1198-32427).
 - a. This code **SHALL** contain at least one [1..*] **translation**, which **SHOULD** be selected from ValueSet [Problem Type](#) urn:oid:2.16.840.1.113883.3.88.12.3221.7.2 **STATIC** 2014-09-02 (CONF:1198-32847).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1198-8590).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:1198-19098).
7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:1198-8593).
8. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"**, where the code **SHALL** be selected from ValueSet [Problem](#) urn:oid:2.16.840.1.113883.3.88.12.3221.7.4 **DYNAMIC** (CONF:1198-8591).
9. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1198-8675) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="SUBJ"** Subject (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90 **STATIC**) (CONF:1198-8676).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** True (CONF:1198-8677).
 - c. **SHALL** contain exactly one [1..1] [Age Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.31) (CONF:1198-15526).
10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1198-8678) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="CAUS"** Causal or Contributory (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90 **STATIC**) (CONF:1198-8679).
 - b. **SHALL** contain exactly one [1..1] [Family History Death Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.47) (CONF:1198-15527).

Table 110: Problem

<p>Value Set: Problem urn:oid:2.16.840.1.113883.3.88.12.3221.7.4</p> <p>A value set of SNOMED-CT codes limited to terms descending from the Clinical Findings (404684003) or Situation with Explicit Context (243796009) hierarchies.</p> <p>Specific URL Pending</p> <p>Value Set Source: http://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.113883.3.88.12.3221.7.4</p>			
Code	Code System	Code System OID	Print Name
46635009	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	diabetes mellitus type 1
234422006	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	acute intermittent porphyria
31712002	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	primary biliary cirrhosis
302002000	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	difficulty moving
15188001	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	hearing loss
129851009	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	alteration in bowel elimination
247472004	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	hives
39579001	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	anaphylaxis
274945004	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	AA amyloidosis (disorder)
129851009	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	alteration in comfort: pain
...			

Figure 51: Family History Observation (V3) Example

```

<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.46" extension="2015-08-01" />
  <!-- Family History Observation template -->
  <id root="d42ebf70-5c89-11db-b0de-0800200c9a66" />
  <code code="75323-6" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
  displayName="Condition">
  <translation code="64572001" displayName="Condition"
  codeSystem="2.16.840.1.113883.6.96"
  codeSystemName="SNOMED CT"></translation>
  </code>
  <statusCode code="completed" />
  <effectiveTime value="1967" />
  <value xsi:type="CD" code="22298006" codeSystem="2.16.840.1.113883.6.96"
  displayName="Myocardial infarction" />
  <entryRelationship typeCode="CAUS">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.47" />
      ...
    </observation>
  </entryRelationship>
  <entryRelationship typeCode="SUBJ" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.31" />
      ....
    </observation>
  </entryRelationship>
</observation>

```

3.23.1 Family History Observation QDM (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.112:2016-02-01 (open)]

Table 111: Family History Observation QDM (V2) Contexts

Contained By:	Contains:
Family History Organizer QDM (V3) (required)	Author Participation

This template (along with its containing organizer template Family History Organizer QDM (V2)) represents the QDM datatype: Family History.

This datatype represents a problem, condition, or diagnosis experienced by a patient's family member whether existing currently or in the past.

Table 112: Family History Observation QDM (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.112:2016-02-01)					
@classCode	1..1	SHALL		2228-27685	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-27686	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..0	SHALL NOT		2228-28057	
templateId	1..1	SHALL		2228-27675	
@root	1..1	SHALL		2228-27681	2.16.840.1.113883.10.20.24.3.112
@extension	1..1	SHALL		2228-27682	2016-02-01
value	1..1	SHALL	CD	2228-27688	
@sdtc:valueSet	0..1	SHOULD		2228-27694	
translation	0..*	MAY		2228-27691	
@sdtc:valueSet	1..1	SHALL		2228-27695	
author	0..*	MAY		2228-28571	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)

1. Conforms to [Family History Observation \(V3\) template](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.46:2015-08-01).
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27685).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-27686).
4. **SHALL NOT** contain [0..0] **@negationInd** (CONF:2228-28057).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-27675) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.112" (CONF:2228-27681).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-02-01" (CONF:2228-27682).

If the code used for the diagnosis does not exist in the value set Problem (2.16.840.1.113883.3.88.12.3221.7.4) then use value/@nullFlavor="OTH", value/@codeSystem="2.16.840.1.113883.6.96" and use translation for the code. See example below.

6. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:2228-27688).
 - a. This value **SHOULD** contain zero or one [0..1] **@sdtc:valueSet** (CONF:2228-27694).

- b. This value **MAY** contain zero or more [0..*] **translation** (CONF:2228-27691).
 - i. The translation, if present, **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-27695).
- 7. **MAY** contain zero or more [0..*] **Author Participation** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:2228-28571).
Note: QDM Attribute: Recorded Datetime
- 8. This template **SHALL** be contained by a Family History Organizer QDM (V3) (CONF:2228-28661).

Figure 52: Family History Observation QDM (V2) Example

```

<!-- Must be contained in the Family History Organizer QDM template to represent the Family
History QDM data type -->
<observation classCode="OBS" moodCode="EVN">
  <!-- Conforms to C-CDA R2.1 Family History Observation (V3) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.46" extension="2015-08-01"/>
  <!-- Family History QDM (V2) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.112" extension="2016-12-01"/>
  <id root="d42ebf70-5c89-11db-b0de-0800200c9a66"/>
  <code code="75323-6" displayName="Condition" codeSystemName="LOINC"
        codeSystem="2.16.840.1.113883.6.1"/>
  <statusCode code="completed"/>
  <!-- Diagnosis/Condition/Problem -->
  <value xsi:type="CD" code="22298006" codeSystem="2.16.840.1.113883.6.96"
        displayName="Myocardial infarction" sdtc:valueSet="{ $QDMElementValueSetOID}" />
  <author>
    <!-- C-CDA R2.1 Author Participation -->
    <templateId root="2.16.840.1.113883.10.20.22.4.119"/>
    <time value="201510101030"/>
    <assignedAuthor>
      <id root="2.16.840.1.113883.4.6" extension="111111111"/>
    </assignedAuthor>
  </author>
</observation>

```

3.24 Family History Organizer (V3)

[organizer: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.45:2015-08-01 (open)]

Table 113: Family History Organizer (V3) Contexts

Contained By:	Contains:
	Family History Observation (V3)

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

Table 114: Family History Organizer (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
organizer (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.45:2015-08-01)					
@classCode	1..1	SHALL		1198-8600	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER
@moodCode	1..1	SHALL		1198-8601	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1198-8604	
@root	1..1	SHALL		1198-10497	2.16.840.1.113883.10.20.22.4.45
@extension	1..1	SHALL		1198-32606	2015-08-01
id	1..*	SHALL		1198-32485	
statusCode	1..1	SHALL		1198-8602	
@code	1..1	SHALL		1198-19099	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
subject	1..1	SHALL		1198-8609	
relatedSubject	1..1	SHALL		1198-15244	
@classCode	1..1	SHALL		1198-15245	urn:oid:2.16.840.1.113883.5.41 (EntityClass) = PRS
code	1..1	SHALL		1198-15246	
@code	1..1	SHALL		1198-15247	urn:oid:2.16.840.1.113883.1.11.19579 (Family Member Value Set)
subject	0..1	SHOULD		1198-15248	
administrativeGenderCode	1..1	SHALL		1198-15974	
@code	1..1	SHALL		1198-15975	urn:oid:2.16.840.1.113883.1.11.1 (Administrative Gender (HL7 V3))
birthTime	0..1	SHOULD		1198-15976	
component	1..*	SHALL		1198-32428	
observation	1..1	SHALL		1198-32429	Family History Observation (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.46:2015-08-01)

1. **SHALL** contain exactly one [1..1] @classCode="CLUSTER" Cluster (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1198-8600).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1198-8601).
3. **SHALL** contain exactly one [1..1] templateId (CONF:1198-8604) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.45" (CONF:1198-10497).
 - b. **SHALL** contain exactly one [1..1] @extension="2015-08-01" (CONF:1198-32606).
4. **SHALL** contain at least one [1..*] id (CONF:1198-32485).
5. **SHALL** contain exactly one [1..1] statusCode (CONF:1198-8602).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:1198-19099).
6. **SHALL** contain exactly one [1..1] subject (CONF:1198-8609).
 - a. This subject **SHALL** contain exactly one [1..1] relatedSubject (CONF:1198-15244).
 - i. This relatedSubject **SHALL** contain exactly one [1..1] @classCode="PRS" Person (CodeSystem: EntityClass urn:oid:2.16.840.1.113883.5.41 **STATIC**) (CONF:1198-15245).
 - ii. This relatedSubject **SHALL** contain exactly one [1..1] code (CONF:1198-15246).
 1. This code **SHALL** contain exactly one [1..1] @code, which **SHOULD** be selected from ValueSet [Family Member Value Set](#) urn:oid:2.16.840.1.113883.1.11.19579 **DYNAMIC** (CONF:1198-15247).
 - iii. This relatedSubject **SHOULD** contain zero or one [0..1] subject (CONF:1198-15248).
 1. The subject, if present, **SHALL** contain exactly one [1..1] administrativeGenderCode (CONF:1198-15974).
 - a. This administrativeGenderCode **SHALL** contain exactly one [1..1] @code, which **SHALL** be selected from ValueSet [Administrative Gender \(HL7 V3\)](#) urn:oid:2.16.840.1.113883.1.11.1 **DYNAMIC** (CONF:1198-15975).
 2. The subject, if present, **SHOULD** contain zero or one [0..1] birthTime (CONF:1198-15976).
 3. The subject **SHOULD** contain zero or more [0..*] sdtc:id. The prefix sdtc: **SHALL** be bound to the namespace "urn:hl7-org:sdtc". The use of the namespace provides a necessary extension to CDA R2 for the use of the id element (CONF:1198-15249).
 4. The subject **MAY** contain zero or one [0..1] sdtc:deceasedInd. The prefix sdtc: **SHALL** be bound to the namespace "urn:hl7-org:sdtc". The use of the namespace provides a necessary extension to CDA R2 for the use of the deceasedInd element (CONF:1198-15981).
 5. The subject **MAY** contain zero or one [0..1] sdtc:deceasedTime. The prefix sdtc: **SHALL** be bound to the namespace "urn:hl7-org:sdtc".

The use of the namespace provides a necessary extension to CDA R2 for the use of the deceasedTime element (CONF:1198-15982).

6. The age of a relative at the time of a family history observation **SHOULD** be inferred by comparing RelatedSubject/subject/birthTime with Observation/effectiveTime (CONF:1198-15983).
7. **SHALL** contain at least one [1..*] **component** (CONF:1198-32428).
 - a. Such components **SHALL** contain exactly one [1..1] Family History Observation (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.46:2015-08-01) (CONF:1198-32429).

Table 115: Family Member Value Set

Value Set: Family Member Value Set urn:oid:2.16.840.1.113883.1.11.19579			
Family Relationships record the familial relationship of a person to another person. This value set is to be used when it is necessary to record family relationships (e.g., next of kin, or blood relations). This is a subset of the value set used for personal relationships			
Value Set Source: http://www.hl7.org/documentcenter/public/standards/vocabulary/vocabulary_tables/in_frastructure/vocabulary/vocabulary.htm			
Code	Code System	Code System OID	Print Name
ADOPT	RoleCode	urn:oid:2.16.840.1.113883.5.111	adopted child
AUNT	RoleCode	urn:oid:2.16.840.1.113883.5.111	aunt
CHILD	RoleCode	urn:oid:2.16.840.1.113883.5.111	Child
CHLDINLAW	RoleCode	urn:oid:2.16.840.1.113883.5.111	child in-law
COUSN	RoleCode	urn:oid:2.16.840.1.113883.5.111	cousin
DOMPART	RoleCode	urn:oid:2.16.840.1.113883.5.111	domestic partner
FAMMEMB	RoleCode	urn:oid:2.16.840.1.113883.5.111	Family Member
CHLDFOST	RoleCode	urn:oid:2.16.840.1.113883.5.111	foster child
GRNDCHILD	RoleCode	urn:oid:2.16.840.1.113883.5.111	grandchild
GRPRN	RoleCode	urn:oid:2.16.840.1.113883.5.111	Grandparent
...			

Figure 53: Family History Organizer (V3) Example

```

<organizer moodCode="EVN" classCode="CLUSTER">
  <templateId root="2.16.840.1.113883.10.20.22.4.45" extension="2015-08-01" />
  <statusCode code="completed" />
  <subject>
    <relatedSubject classCode="PRS">
      <code code="FTH" displayName="Father" codeSystemName="HL7 FamilyMember"
codeSystem="2.16.840.1.113883.5.111">
        <translation code="9947008" displayName="Natural father"
codeSystemName="SNOMED" codeSystem="2.16.840.1.113883.6.96" />
      </code>
    </subject>
    <sdtc:id root="2.16.840.1.113883.19.5.99999.2" extension="99999999" />
    <id root="2.16.840.1.113883.19.5.99999.2" extension="1234" />
    <administrativeGenderCode code="M" />
    <birthTime value="1910" />
    <!-- Example use of sdtc extensions :-->
    <!-- <sdtc:deceasedInd value="true"/><sdtc:deceasedTime value="1967"/>
    -->
  </subject>
</relatedSubject>
</subject>
<component>
  <observation classCode="OBS" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.46" extension="2015-08-01" />
    . . .
  </observation>
</component>
</organizer>

```

3.24.1 Family History Organizer QDM (V3)

[organizer: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.12:2016-02-01 (open)]

Table 116: Family History Organizer QDM (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Family History Observation QDM (V2)

This template (along with its contained template Family History Observation QDM (V2)) represents the QDM datatype: Family History.

This template is an organizer that contains the Family History Observation (V2) template and represents problems, conditions, and diagnoses experienced by a patient's family members, whether existing currently or in the past. This organizer groups the Family History Observation by family member as expressed in the subject.

Table 117: Family History Organizer QDM (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
organizer (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.12:2016-02-01)					
templateId	1..1	SHALL		2228-14175	
@root	1..1	SHALL		2228-14176	2.16.840.1.113883.10.20.24.3.12
@extension	1..1	SHALL		2228-26553	2016-02-01
component	1..*	SHALL		2228-27715	
observation	1..1	SHALL		2228-27716	Family History Observation QDM (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.112:2016-02-01)

1. Conforms to [Family History Organizer \(V3\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.45:2015-08-01).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-14175) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.12" (CONF:2228-14176).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-02-01" (CONF:2228-26553).
3. **SHALL** contain at least one [1..*] **component** (CONF:2228-27715) such that it
 - a. **SHALL** contain exactly one [1..1] [Family History Observation QDM \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.112:2016-02-01) (CONF:2228-27716).

Figure 54: Family History Organizer QDM (V3)

```

<organizer moodCode="EVN" classCode="CLUSTER">
  <!-- C-CDA R2.1 Family History Organizer (V3) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.45" extension="2015-08-01"/>
  <!-- Family History Organizer QDM (V2) templateId -->
  <templateId root="2.16.840.1.113883.10.20.24.3.112" extension="2016-02-01"/>
  <id root="2cc2566e-4e7f-4820-817e-31912a61ea1a"/>
  <statusCode code="completed"/>
  <!-- Subject of the contained Diagnosis Family History template(s) -->
  <subject>
    <relatedSubject classCode="PRS">
      <code code="FTH" displayName="Father" codeSystemName="HL7RoleCode"
codeSystem="2.16.840.1.113883.5.111"/>
    </relatedSubject>
  </subject>
  <component>
    <!-- Family History -->
    <observation classCode="OBS" moodCode="EVN">
      <!-- Conforms to C-CDA R2.1 Family History Observation (V3) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.46" extension="2015-08-01"/>
      <!-- Family History QDM (V2) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.112" extension="2016-12-01"/>
      <id root="d42ebf70-5c89-11db-b0de-0800200c9a66"/>
      <code code="75323-6" displayName="Condition" codeSystemName="LOINC"
codeSystem="2.16.840.1.113883.6.1"/>
      <statusCode code="completed"/>
      <!-- Diagnosis/Condition/Problem -->
      <value xsi:type="CD" code="22298006" codeSystem="2.16.840.1.113883.6.96"
displayName="Myocardial infarction" sdtc:valueSet="{QDMElementValueSetOID}" />
      <author>
        <!-- C-CDA R2.1 Author Participation -->
        <templateId root="2.16.840.1.113883.10.20.22.4.119"/>
        <time value="201510101030"/>
        <assignedAuthor>
          <id root="2.16.840.1.113883.4.6" extension="111111111"/>
        </assignedAuthor>
      </author>
    </observation>
  </component>
</organizer>

```

3.25 Goal Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.22.4.121 (open)]

Table 118: Goal Observation Contexts

Contained By:	Contains:
	Author Participation Entry Reference External Document Reference Goal Observation Priority Preference

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 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 119: Goal Observation Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.121)					
@classCode	1..1	SHALL		1098-30418	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		1098-30419	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = GOL
templateId	1..1	SHALL		1098-8583	
@root	1..1	SHALL		1098-10512	2.16.840.1.113883.10.20.22.4.121
id	1..*	SHALL		1098-32332	
code	1..1	SHALL		1098-30784	urn:oid:2.16.840.1.113883.6.1 (LOINC)
statusCode	1..1	SHALL		1098-32333	
@code	1..1	SHALL		1098-32334	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = active
effectiveTime	0..1	SHOULD		1098-32335	
value	0..1	MAY		1098-32743	
author	1..*	SHALL		1098-30995	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..*	MAY		1098-30701	
@typeCode	1..1	SHALL		1098-30702	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
act	1..1	SHALL		1098-30703	Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122)
entryRelationship	0..*	MAY		1098-30704	
@typeCode	1..1	SHALL		1098-30705	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
act	1..1	SHALL		1098-32879	Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122)
entryRelationship	0..1	SHOULD		1098-30785	
@typeCode	1..1	SHALL		1098-30786	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR

observation	1..1	SHALL		1098-30787	Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143)
entryRelationship	0..*	MAY		1098-31448	
@typeCode	1..1	SHALL		1098-31449	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		1098-32880	Goal Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.121)
entryRelationship	0..*	MAY		1098-31559	
@typeCode	1..1	SHALL		1098-31560	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
act	1..1	SHALL		1098-31588	Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122)
reference	0..*	MAY		1098-32754	
@typeCode	1..1	SHALL		1098-32755	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
externalDocument	1..1	SHALL		1098-32756	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:1098-30418).
2. **SHALL** contain exactly one [1..1] **@moodCode="GOL"** Goal (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:1098-30419).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-8583) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.121"** (CONF:1098-10512).
4. **SHALL** contain at least one [1..*] **id** (CONF:1098-32332).
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:1098-30784).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-32333).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="active"** (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:1098-32334).
7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:1098-32335).
8. **MAY** contain zero or one [0..1] **value** (CONF:1098-32743).

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.

9. **SHALL** contain at least one [1..*] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1098-30995).

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:1098-30701) such that it
- SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1098-30702).
 - SHALL** contain exactly one [1..1] [Entry Reference](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122) (CONF:1098-30703).

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:1098-30704) such that it
- SHALL** contain exactly one [1..1] **@typeCode="COMP"** Has component (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1098-30705).
 - SHALL** contain exactly one [1..1] [Entry Reference](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122) (CONF:1098-32879).

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:1098-30785) such that it
- SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1098-30786).
 - SHALL** contain exactly one [1..1] [Priority Preference](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143) (CONF:1098-30787).

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:1098-31448) such that it
- SHALL** contain exactly one [1..1] **@typeCode="COMP"** Has component (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1098-31449).
 - SHALL** contain exactly one [1..1] [Goal Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.121) (CONF:1098-32880).

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:1098-31559) 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:1098-31560).
 - b. **SHALL** contain exactly one [1..1] **Entry Reference** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122) (CONF:1098-31588).

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:1098-32754).
 - 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:1098-32755).
 - 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:1098-32756).

Figure 55: Goal Observation Example

```
<observation classCode="OBS" moodCode="GOL">
  <templateId root="2.16.840.1.113883.10.20.22.4.121" />
  <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>

```

3.25.1 Care Goal (V3)

```

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.1:2016-02-01
(open) ]

```

Table 120: Care Goal (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Target Outcome

This template represents the QDM datatype: Care Goal.

A goal is a defined target or measure to be achieved in the process of patient care, that is, an expected outcome. A typical goal is expressed as an observation scheduled for some time in the future with a particular value. A goal can be found in the plan of care (care plan). The plan of care (care plan) is the structure used by all stakeholders, including the patient, to define the management actions for the various conditions, problems, or issues identified for the target of the plan. It is the structure through which the goals and care planning actions and processes can be organized, planned, communicated, and checked for completion. A date/time stamp is required. ModeCode is constrained to “GOL” and actStatus is constrained to “active”.

Table 121: Care Goal (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.1:2016-02-01)					
@classCode	1..1	SHALL		2228-11245	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-11246	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = GOL
@negationInd	0..0	SHALL NOT		2228-28040	
templateId	1..1	SHALL		2228-11247	
@root	1..1	SHALL		2228-11248	2.16.840.1.113883.10.20.24.3.1
@extension	1..1	SHALL		2228-27067	2016-02-01
code	1..1	SHALL		2228-27576	
@sdtc:valueSet	1..1	SHALL		2228-27577	
effectiveTime	1..1	SHALL		2228-11255	
low	1..1	SHALL		2228-27557	
high	0..1	MAY		2228-27558	
entryRelationship	0..1	MAY		2228-11646	
@typeCode	1..1	SHALL		2228-13876	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		2228-11647	
@classCode	1..1	SHALL		2228-11648	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-11649	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
code	1..1	SHALL		2228-28041	
value	1..1	SHALL	CD	2228-11650	
@sdtc:valueSet	1..1	SHALL		2228-28042	
entryRelationship	0..1	MAY		2228-28036	
@typeCode	1..1	SHALL		2228-28037	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) =

					REFR
observation	1..1	SHALL		2228-28038	Target Outcome (identifier: urn:hl7ii:2.16.840.1.113883.10.2.0.24.3.119:2014-12-01)

1. Conforms to [Goal Observation](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.121).
2. **SHALL** contain exactly one [1..1] **@classCode="OBS"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-11245).
3. **SHALL** contain exactly one [1..1] **@moodCode="GOL"** goal (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-11246).
4. **SHALL NOT** contain [0..0] **@negationInd** (CONF:2228-28040).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-11247) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.1"** (CONF:2228-11248).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-27067).
6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-27576).
 - a. This code **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:2228-27577).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:2228-11255).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:2228-27557).
Note: QDM Attribute: Start Datetime
 - b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:2228-27558).
Note: QDM Attribute: Stop Datetime
8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-11646) such that it
Note: QDM Attribute: Related To
 - a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-13876).
 - b. **SHALL** contain exactly one [1..1] **observation** (CONF:2228-11647).
 - i. This observation **SHALL** contain exactly one [1..1] **@classCode="OBS"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-11648).
 - ii. This observation **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-11649).
 - iii. This observation **SHALL** contain exactly one [1..1] **code** (CONF:2228-28041).
 - iv. This observation **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:2228-11650).
 1. This value **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:2228-28042).
9. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-28036) such that it
Note: QDM Attribute: Targeted Outcome
 - a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-28037).

- b. **SHALL** contain exactly one [1..1] Target Outcome (identifier: urn:h17ii:2.16.840.1.113883.10.20.24.3.119:2014-12-01) (CONF:2228-28038).

Figure 56: Care Goal (V3) Example

```
<observation classCode="OBS" moodCode="GOL">
  <!-- Conforms to C-CDA R2.1 Goal Observation -->
  <templateId root="2.16.840.1.113883.10.20.22.4.121" />
  <!-- Care Goal (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.1" extension="2016-02-01" />
  <id root="751aa255-0e10-4364-a56a-a4cf2aed0d01" />
  <code code="59408-5" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
    displayName="Oxygen saturation in Arterial blood by Pulse oximetry"
  sdtc:valueSet="{QDMElementValueSetOID}" />
  <text>Care Goal: Pulse Oximetry greater than 92%</text>
  <statusCode code="active" />
  <effectiveTime>
    <!-- QDM Attribute: Start datetime -->
    <low value="20160101" />
    <!-- QDM Attribute: Stop datetime -->
    <high value="20160102" />
  </effectiveTime>
  <value xsi:type="IVL_PQ">
    <low value="92" unit="%" />
  </value>
  <!-- This author is required by C-CDA R2.1 Goal Observation to specify whether this is
  a patient or a provider goal-->
  <author>
    <!-- C-CDA R2.1 Author Participation -->
    <templateId root="2.16.840.1.113883.10.20.22.4.119" />
    <time value="201601011130"/>
    <assignedAuthor>
      <id root="2.16.840.1.113883.4.6" extension="11111111" />
    </assignedAuthor>
  </author>
  <!-- QDM Attribute: Related to -->
  <entryRelationship typeCode="REFR">
    <observation classCode="OBS" moodCode="EVN">
      <code code="75323-6" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
        displayName="Condition" />
      <value xsi:type="CD" code="304527002" codeSystem="2.16.840.1.113883.6.96"
        displayName="Acute asthma (disorder)" codeSystemName="SNOMED CT"
        sdtc:valueSet="{QDMElementValueSetOID}" />
    </observation>
  </entryRelationship>
  <!-- QDM Attribute: Target Outcome -->
  <entryRelationship typeCode="REFR">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.119" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</observation>
```

3.26 Immunization Activity (V2)

[substanceAdministration: identifier
urn:hl7ii:2.16.840.1.113883.10.20.22.4.52:2014-06-09 (open)]

Table 122: Immunization Activity (V2) Contexts

Contained By:	Contains:
Immunization Administered (required)	Author Participation Drug Vehicle Immunization Medication Information (V2) Immunization Refusal Reason Indication (V2) Instruction (V2) Medication Dispense (V2) Medication Supply Order (V2) Precondition for Substance Administration (V2) Reaction Observation (V2) Substance Administered Act

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

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

- 1) Date of administration
- 2) Vaccine manufacturer
- 3) Vaccine lot number
- 4) Name and title of the person who administered the vaccine and the address of the clinic or facility where the permanent record will reside
- 5) Vaccine information statement (VIS)
 - a. Date printed on the VIS
 - b. Date VIS given to patient or parent/guardian.

This information should be included in an Immunization Activity when available. (Reference: http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/D/vacc_admin.pdf)

Table 123: Immunization Activity (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
substanceAdministration (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.52:2014-06-09)					
@classCode	1..1	SHALL		1098-8826	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SBADM
@moodCode	1..1	SHALL		1098-8827	urn:oid:2.16.840.1.113883.11.20.9.18 (MoodCodeEvnInt)
@negationInd	0..1	MAY		1098-8985	
templateId	1..1	SHALL		1098-8828	
@root	1..1	SHALL		1098-10498	2.16.840.1.113883.10.20.22.4.52
@extension	1..1	SHALL		1098-32528	2014-06-09
id	1..*	SHALL		1098-8829	
code	0..1	MAY		1098-8830	
statusCode	1..1	SHALL		1098-8833	
@code	1..1	SHALL		1098-32359	urn:oid:2.16.840.1.113883.1.11.159331 (ActStatus)
effectiveTime	1..1	SHALL		1098-8834	
repeatNumber	0..1	MAY		1098-8838	
routeCode	0..1	MAY		1098-8839	urn:oid:2.16.840.1.113883.3.88.12.3221.8.7 (Medication Route FDA)
approachSiteCode	0..1	MAY	SET<C D>	1098-8840	urn:oid:2.16.840.1.113883.3.88.12.3221.8.9 (Body Site)
doseQuantity	0..1	SHOULD		1098-8841	
@unit	0..1	SHOULD		1098-8842	urn:oid:2.16.840.1.113883.1.11.12839 (UnitsOfMeasureCaseSensitive)
administrationUnitCode	0..1	MAY		1098-8846	urn:oid:2.16.840.1.113762.1.4.1021.30 (AdministrationUnitDoseForm)
consumable	1..1	SHALL		1098-8847	
manufacturedProduct	1..1	SHALL		1098-15546	Immunization Medication Information (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09)

performer	0..1	SHOULD		1098-8849	
author	0..*	SHOULD		1098-31151	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
participant	0..*	MAY		1098-8850	
@typeCode	1..1	SHALL		1098-8851	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
participantRole	1..1	SHALL		1098-15547	Drug Vehicle (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.24)
entryRelationship	0..*	MAY		1098-8853	
@typeCode	1..1	SHALL		1098-8854	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		1098-15537	Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09)
entryRelationship	0..1	MAY		1098-8856	
@typeCode	1..1	SHALL		1098-8857	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		1098-8858	true
act	1..1	SHALL		1098-31392	Instruction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09)
entryRelationship	0..1	MAY		1098-8860	
@typeCode	1..1	SHALL		1098-8861	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
supply	1..1	SHALL		1098-15539	Medication Supply Order (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09)
entryRelationship	0..1	MAY		1098-8863	
@typeCode	1..1	SHALL		1098-8864	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
supply	1..1	SHALL		1098-15540	Medication Dispense (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09)
entryRelationship	0..1	MAY		1098-	

				8866	
@typeCode	1..1	SHALL		1098-8867	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = CAUS
observation	1..1	SHALL		1098-15541	Reaction Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.9:2014-06-09)
entryRelationship	0..1	MAY		1098-8988	
@typeCode	1..1	SHALL		1098-8989	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		1098-15542	Immunization Refusal Reason (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.53)
entryRelationship	0..*	SHOULD		1098-31510	
@typeCode	1..1	SHALL		1098-31511	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
@inversionInd	1..1	SHALL		1098-31512	true
sequenceNumber	0..1	MAY		1098-31513	
act	1..1	SHALL		1098-31514	Substance Administered Act (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.118)
precondition	0..*	MAY		1098-8869	
@typeCode	1..1	SHALL		1098-8870	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = PRCN
criterion	1..1	SHALL		1098-15548	Precondition for Substance Administration (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09)

1. **SHALL** contain exactly one [1..1] @classCode="SBADM" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-8826).
2. **SHALL** contain exactly one [1..1] @moodCode, which **SHALL** be selected from ValueSet [MoodCodeEvnInt](#) urn:oid:2.16.840.1.113883.11.20.9.18 **STATIC** 2014-09-01 (CONF:1098-8827).
3. **MAY** contain zero or one [0..1] @negationInd (CONF:1098-8985).
Note: Use negationInd="true" to indicate that the immunization was not given.
4. **SHALL** contain exactly one [1..1] templateId (CONF:1098-8828) such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.52" (CONF:1098-10498).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2014-06-09" (CONF:1098-32528).
5. **SHALL** contain at least one [1..*] **id** (CONF:1098-8829).
6. **MAY** contain zero or one [0..1] **code** (CONF:1098-8830).
 Note: SubstanceAdministration.code is an optional field. Per HL7 Pharmacy Committee, "this is intended to further specify the nature of the substance administration act. To date the committee has made no use of this attribute". Because the type of substance administration is generally implicit in the routeCode, in the consumable participant, etc., the field is generally not used and there is no defined value set.
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-8833).
 a. This statusCode **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet [ActStatus](#) urn:oid:2.16.840.1.113883.1.11.159331 **DYNAMIC** (CONF:1098-32359).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1098-8834).
 In "INT" (intent) mood, the repeatNumber defines the number of allowed administrations. For example, a repeatNumber of "3" means that the substance can be administered up to 3 times. In "EVN" (event) mood, the repeatNumber is the number of occurrences. For example, a repeatNumber of "3" in a substance administration event means that the current administration is the 3rd in a series.
9. **MAY** contain zero or one [0..1] **repeatNumber** (CONF:1098-8838).
10. **MAY** contain zero or one [0..1] **routeCode**, which **SHALL** be selected from ValueSet [Medication Route FDA](#) urn:oid:2.16.840.1.113883.3.88.12.3221.8.7 **DYNAMIC** (CONF:1098-8839).
11. **MAY** contain zero or one [0..1] **approachSiteCode**, where the code **SHALL** be selected from ValueSet [Body Site](#) urn:oid:2.16.840.1.113883.3.88.12.3221.8.9 **DYNAMIC** (CONF:1098-8840).
12. **SHOULD** contain zero or one [0..1] **doseQuantity** (CONF:1098-8841).
 a. The doseQuantity, if present, **SHOULD** contain zero or one [0..1] **@unit**, which **SHALL** be selected from ValueSet [UnitsOfMeasureCaseSensitive](#) urn:oid:2.16.840.1.113883.1.11.12839 **DYNAMIC** (CONF:1098-8842).
13. **MAY** contain zero or one [0..1] **administrationUnitCode**, which **SHALL** be selected from ValueSet [AdministrationUnitDoseForm](#) urn:oid:2.16.840.1.113762.1.4.1021.30 **DYNAMIC** (CONF:1098-8846).
14. **SHALL** contain exactly one [1..1] **consumable** (CONF:1098-8847).
 a. This consumable **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:1098-15546).
15. **SHOULD** contain zero or one [0..1] **performer** (CONF:1098-8849).
16. **SHOULD** contain zero or more [0..*] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1098-31151).
17. **MAY** contain zero or more [0..*] **participant** (CONF:1098-8850) such that it

- a. **SHALL** contain exactly one [1..1] @typeCode="CSM" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90 **STATIC**) (CONF:1098-8851).
 - b. **SHALL** contain exactly one [1..1] [Drug Vehicle](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.24) (CONF:1098-15547).
18. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-8853) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="RSON" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1098-8854).
 - 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:1098-15537).
19. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1098-8856) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="SUBJ" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1098-8857).
 - b. **SHALL** contain exactly one [1..1] @inversionInd="true" True (CONF:1098-8858).
 - 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:1098-31392).
20. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1098-8860) 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:1098-8861).
 - 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:1098-15539).
21. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1098-8863) 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:1098-8864).
 - b. **SHALL** contain exactly one [1..1] [Medication Dispense \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09) (CONF:1098-15540).
22. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1098-8866) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="CAUS" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1098-8867).
 - 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:1098-15541).
23. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1098-8988) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="RSON" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1098-8989).

- b. **SHALL** contain exactly one [1..1] Immunization Refusal Reason (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.53) (CONF:1098-15542).

The following entryRelationship is used to indicate a given immunization's order in a series. The nested Substance Administered Act identifies an administration in the series. The entryRelationship/sequenceNumber shows the order of this particular administration in that series.

- 24. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:1098-31510) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="COMP"** Component (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1098-31511).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** (CONF:1098-31512).
 - c. **MAY** contain zero or one [0..1] **sequenceNumber** (CONF:1098-31513).
 - d. **SHALL** contain exactly one [1..1] Substance Administered Act (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.118) (CONF:1098-31514).
- 25. **MAY** contain zero or more [0..*] **precondition** (CONF:1098-8869) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="PRCN"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1098-8870).
 - b. **SHALL** contain exactly one [1..1] Precondition for Substance Administration (V2) (identifier: urn:h17ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09) (CONF:1098-15548).

Table 124: MoodCodeEvnInt

Value Set: MoodCodeEvnInt urn:oid:2.16.840.1.113883.11.20.9.18			
Contains moodCode EVN and INT			
Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
EVN	ActMood	urn:oid:2.16.840.1.113883.5.1001	Event
INT	ActMood	urn:oid:2.16.840.1.113883.5.1001	Intent

Table 125: Medication Route FDA

Value Set: Medication Route FDA urn:oid:2.16.840.1.113883.3.88.12.3221.8.7 Route of Administration value set is based upon FDA Drug Registration and Listing Database (FDA Orange Book) which are used in FDA Structured Product Labeling (SPL). Value Set Source: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.113883.3.88.12.3221.8.7			
Code	Code System	Code System OID	Print Name
C38192	NCI Thesaurus (NCIt)	urn:oid:2.16.840.1.113883.3.3.26.1.1	AURICULAR (OTIC)
C38193	NCI Thesaurus (NCIt)	urn:oid:2.16.840.1.113883.3.3.26.1.1	BUCCAL
C38194	NCI Thesaurus (NCIt)	urn:oid:2.16.840.1.113883.3.3.26.1.1	CONJUNCTIVAL
C38675	NCI Thesaurus (NCIt)	urn:oid:2.16.840.1.113883.3.3.26.1.1	CUTANEOUS
C38197	NCI Thesaurus (NCIt)	urn:oid:2.16.840.1.113883.3.3.26.1.1	DENTAL
C38633	NCI Thesaurus (NCIt)	urn:oid:2.16.840.1.113883.3.3.26.1.1	ELECTRO-OSMOSIS
C38205	NCI Thesaurus (NCIt)	urn:oid:2.16.840.1.113883.3.3.26.1.1	ENDOCERVICAL
C38206	NCI Thesaurus (NCIt)	urn:oid:2.16.840.1.113883.3.3.26.1.1	ENDOSINUSIAL
C38208	NCI Thesaurus (NCIt)	urn:oid:2.16.840.1.113883.3.3.26.1.1	ENDOTRACHEAL
C38209	NCI Thesaurus (NCIt)	urn:oid:2.16.840.1.113883.3.3.26.1.1	ENTERAL
...			

Table 126: Body Site

Value Set: Body Site urn:oid:2.16.840.1.113883.3.88.12.3221.8.9			
Contains values descending from the SNOMED CT® Anatomical Structure (91723000) hierarchy or Acquired body structure (body structure) (280115004) or Anatomical site notations for tumor staging (body structure) (258331007) or Body structure, altered from its original anatomical structure (morphologic abnormality) (118956008) or Physical anatomical entity (body structure) (91722005) This indicates the anatomical site.			
Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
362783006	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	entire medial surface of lower extremity (body structure)
302539009	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	entire hand (body structure)
287679003	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	left hip region structure (body structure)
3341006	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	right lung structure (body structure)
87878005	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	left ventricular structure (body structure)
49848007	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	structure of myocardium of left ventricle (body structure)
38033009	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	amputation stump (body structure)
305005006	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	6/7 interchondral joint (body structure)
28726007	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	corneal structure (body structure)
75324005	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	70 to 79 percent of body surface (body structure)
...			

Table 127: UnitsOfMeasureCaseSensitive

Value Set: UnitsOfMeasureCaseSensitive urn:oid:2.16.840.1.113883.1.11.12839 The UCUM code system provides a set of structural units from which working codes are built. There is an unlimited number of possible valid UCUM codes. Value Set Source: http://unitsofmeasure.org/ucum.html			
Code	Code System	Code System OID	Print Name
min	UCUM	urn:oid:2.16.840.1.113883.6.8	minute
hour	UCUM	urn:oid:2.16.840.1.113883.6.8	hr
%	UCUM	urn:oid:2.16.840.1.113883.6.8	percent
cm	UCUM	urn:oid:2.16.840.1.113883.6.8	centimeter
g	UCUM	urn:oid:2.16.840.1.113883.6.8	gram
g/(12.h)	UCUM	urn:oid:2.16.840.1.113883.6.8	gram per 12 hour
g/L	UCUM	urn:oid:2.16.840.1.113883.6.8	gram per liter
mol	UCUM	urn:oid:2.16.840.1.113883.6.8	mole
[IU]	UCUM	urn:oid:2.16.840.1.113883.6.8	international unit
Hz	UCUM	urn:oid:2.16.840.1.113883.6.8	Hertz
...			

Table 128: AdministrationUnitDoseForm

Value Set: AdministrationUnitDoseForm urn:oid:2.16.840.1.113762.1.4.1021.30			
Codes that are similar to a drug "form" but limited to those used as units when describing drug administration when the drug item is a physical form that is continuous and therefore not administered as an "each" of the physical form, or is not using standard measurement units (inch, ounce, gram, etc.) This set does not include unit concepts that mimic "physical form" concepts that can be counted using "each", such as tablet, bar, lozenge, packet, etc.			
Code	Code System	Code System OID	Print Name
C122629	NCI Thesaurus (NCIt)	urn:oid:2.16.840.1.11388 3.3.26.1.1	Actuation Dosing Unit
C25397	NCI Thesaurus (NCIt)	urn:oid:2.16.840.1.11388 3.3.26.1.1	Application Unit
C102405	NCI Thesaurus (NCIt)	urn:oid:2.16.840.1.11388 3.3.26.1.1	Capful Dosing Unit
C122631	NCI Thesaurus (NCIt)	urn:oid:2.16.840.1.11388 3.3.26.1.1	Dropperful Dosing Unit
C48501	NCI Thesaurus (NCIt)	urn:oid:2.16.840.1.11388 3.3.26.1.1	Inhalation Dosing Unit
C48491	NCI Thesaurus (NCIt)	urn:oid:2.16.840.1.11388 3.3.26.1.1	Metric Drop
C71204	NCI Thesaurus (NCIt)	urn:oid:2.16.840.1.11388 3.3.26.1.1	Nebule Dosing Unit
C65060	NCI Thesaurus (NCIt)	urn:oid:2.16.840.1.11388 3.3.26.1.1	Puff Dosing Unit
C48536	NCI Thesaurus (NCIt)	urn:oid:2.16.840.1.11388 3.3.26.1.1	Scoopful Dosing Unit
C48537	NCI Thesaurus (NCIt)	urn:oid:2.16.840.1.11388 3.3.26.1.1	Spray Dosing Unit
...			

Figure 57: Immunization Activity (V2) Example

```
<substanceAdministration classCode="SBADM" moodCode="EVN">
  <!-- ** Immunization activity ** -->
  <templateId root="2.16.840.1.113883.10.20.22.4.52" extension="2014-06-09" />
  <id root="e6f1ba43-c0ed-4b9b-9f12-f435d8ad8f92" />
  <statusCode code="completed" />
  <effectiveTime value="19981215" />
  <routeCode code="C28161" codeSystem="2.16.840.1.113883.3.26.1.1"
codeSystemName="National Cancer Institute (NCI) Thesaurus" displayName="Intramuscular
injection" />
  <doseQuantity value="50" unit="ug" />
  <consumable>
    <manufacturedProduct classCode="MANU">
      <!-- ** Immunization medication information ** -->
      <templateId root="2.16.840.1.113883.10.20.22.4.54" extension="2014-06-09" />
      <manufacturedMaterial>
        <code code="33" codeSystem="2.16.840.1.113883.12.292"
displayName="Pneumococcal polysaccharide vaccine" codeSystemName="CVX">
          <translation code="854981" displayName="Pneumovax 23 (Pneumococcal vaccine
polyvalent) Injectable Solution" codeSystemName="RxNORM"
codeSystem="2.16.840.1.113883.6.88" />
        </code>
        <lotNumberText>1</lotNumberText>
      </manufacturedMaterial>
      <manufacturerOrganization>
        <name>Health LS - Immuno Inc.</name>
      </manufacturerOrganization>
    </manufacturedProduct>
  </consumable>
  <performer>
    <assignedEntity>
      <id root="2.16.840.1.113883.19.5.9999.456" extension="2981824" />
      <addr>
        <streetAddressLine>1007 Health Drive</streetAddressLine>
        <city>Portland</city>
        <state>OR</state>
        <postalCode>99123</postalCode>
        <country>US</country>
      </addr>
      <telecom use="WP" value="tel: +(555)-555-1030" />
      <assignedPerson>
        <name>
          <given>Harold</given>
          <family>Hippocrates</family>
        </name>
      </assignedPerson>
      <representedOrganization>
        <id root="2.16.840.1.113883.19.5.9999.1394" />
        <name>Good Health Clinic</name>
        <telecom use="WP" value="tel: +(555)-555-1030" />
        <addr>
          <streetAddressLine>1007 Health Drive</streetAddressLine>
          <city>Portland</city>
          <state>OR</state>
          <postalCode>99123</postalCode>
          <country>US</country>
        </addr>
      </representedOrganization>
    </assignedEntity>
  </performer>
</substanceAdministration>
```

```

        </addr>
    </representedOrganization>
</assignedEntity>
</performer>
</substanceAdministration>

```

3.27 Immunization Administered

[act: identifier urn:oid:2.16.840.1.113883.10.20.24.3.140 (open)]

Table 129: Immunization Administered Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Immunization Activity (V2) Reason (V2)

This template represents the QDM datatypes: Immunization, Administered

Immunization represents vaccines administered to patients in healthcare settings but does not include non-vaccine agents.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 130: Immunization Administered Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.140)					
@classCode	1..1	SHALL		2228-28588	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		2228-28589	urn:oid:2.16.840.1.113883.5.100 1 (ActMood) = EVN
@negationInd	0..1	MAY		2228-28593	
templateId	1..1	SHALL		2228-28574	
@root	1..1	SHALL		2228-28581	2.16.840.1.113883.10.20.24.3.140
id	1..*	SHALL		2228-28590	
code	1..1	SHALL		2228-28575	
@code	1..1	SHALL		2228-28583	416118004
@codeSystem	1..1	SHALL		2228-28584	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
statusCode	1..1	SHALL		2228-28576	
@code	1..1	SHALL		2228-28585	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		2228-28578	
low	1..1	SHALL		2228-28591	
high	0..1	MAY		2228-28592	
entryRelationship	1..*	SHALL		2228-28572	
@typeCode	1..1	SHALL		2228-28580	urn:oid:2.16.840.1.113883.5.100 2 (HL7ActRelationshipType) = COMP
substanceAdministration	1..1	SHALL		2228-28573	Immunization Activity (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.52:2014-06-09)
@moodCode	1..1	SHALL		2228-28579	urn:oid:2.16.840.1.113883.5.100 1 (ActMood) = EVN
entryRelationship	0..1	MAY		2228-28577	
@typeCode	1..1	SHALL		2228-	urn:oid:2.16.840.1.113883.5.100

				28586	2 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		2228-28587	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)

1. **SHALL** contain exactly one [1..1] **@classCode="ACT"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28588).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-28589).
3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28593).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-28574) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.140"** (CONF:2228-28581).
5. **SHALL** contain at least one [1..*] **id** (CONF:2228-28590).
6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-28575).
 - a. This code **SHALL** contain exactly one [1..1] **@code="416118004"** administration (CONF:2228-28583).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem="2.16.840.1.113883.6.96"** (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:2228-28584).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:2228-28576).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:2228-28585).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:2228-28578).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:2228-28591).
Note: QDM Attribute: Start Datetime
 - b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:2228-28592).
Note: QDM Attribute: Stop Datetime
9. **SHALL** contain at least one [1..*] **entryRelationship** (CONF:2228-28572) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="COMP"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-28580).
 - b. **SHALL** contain exactly one [1..1] [Immunization Activity \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.52:2014-06-09) (CONF:2228-28573).
 - i. This substanceAdministration **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-28579).
10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-28577) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** Has reason (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-28586).

- b. **SHALL** contain exactly one [1..1] Reason (V2) (identifier:
urn:h17ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-
28587).

Figure 58: Immunization Administered Example

```
<act classCode="ACT" moodCode="EVN">
  <!--Immunization administered -->
  <templateId root="2.16.840.1.113883.10.20.24.3.140"/>
  <id root="9c09831a-9e99-4f9c-96de-9ce334f943d7"/>
  <code code="416118004" displayName="Administration" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED-CT"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <!-- QDM Attribute: Start datetime -->
    <low value="19981215"/>
    <!-- QDM Attribute: Stop datetime -->
    <high value="19981215"/>
  </effectiveTime>
  <entryRelationship typeCode="COMP">
    <substanceAdministration classCode="SBADM" moodCode="EVN">
      <!-- C-CDA R2 Immunization Activity -->
      <templateId root="2.16.840.1.113883.10.20.22.4.52" extension="2014-06-09"/>
      <id root="lea77951-61f4-425f-bb69-dd396d63c44f"/>
      <statusCode code="completed"/>
      <effectiveTime value="19981215" />
      <!-- QDM Attribute: Route -->
      <routeCode code="C38288" codeSystem="2.16.840.1.113883.3.26.1.1"
        codeSystemName="NCI Thesaurus" displayName="ORAL"
sdtc:valueSet="1.2.9999"/>
      <!-- QDM Attribute: Dose -->
      <doseQuantity value="1"/>
      <consumable>
        <manufacturedProduct classCode="MANU">
          <!-- C-CDA R2.1 Immunization Medication Information (V2) -->
          <templateId root="2.16.840.1.113883.10.20.22.4.54" extension="2014-06-
09" />
          <id root="37bfe02a-3e97-4bd6-9197-bbd0ed0de79e"/>
          <manufacturedMaterial>
            <code code="33" codeSystem="2.16.840.1.113883.6.59"
displayName="Pneumococcal polysaccharide vaccine" codeSystemName="CVX">
              <translation code="854981" displayName="Pneumovax 23
(Pneumococcal vaccine polyvalent) Injectable Solution" codeSystemName="RxNORM"
codeSystem="2.16.840.1.113883.6.88"
sdtc:valueSet="2.16.840.1.113883.3.464.1003.196.12.1001"/>
            </code>
            <lotNumberText>1</lotNumberText>
          </manufacturedMaterial>
          <manufacturerOrganization>
            <name>Health LS - Immuno Inc.</name>
          </manufacturerOrganization>
        </manufacturedProduct>
      </consumable>
    </substanceAdministration>
  </entryRelationship>
  <!-- QDM Attribute: Reason -->
  <entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-12-01"/>
      ...
    </observation>
```

```
</entryRelationship>
</act>
```

3.28 Immunization Medication Information (V2)

```
[manufacturedProduct: identifier
urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09 (open)]
```

Table 131: Immunization Medication Information (V2) Contexts

Contained By:	Contains:
Immunization Activity (V2) (required) Planned Supply (V2) (optional) Medication Supply Order (V2) (optional) Medication Dispense (V2) (optional) Planned Immunization Activity (required)	

The Immunization Medication Information represents product information about the immunization substance. The vaccine manufacturer and vaccine lot number are typically recorded in the medical record and should be included if known.

Table 132: Immunization Medication Information (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
manufacturedProduct (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09)					
@classCode	1..1	SHALL		1098-9002	urn:oid:2.16.840.1.113883.5.110 (RoleClass) = MANU
templateId	1..1	SHALL		1098-9004	
@root	1..1	SHALL		1098-10499	2.16.840.1.113883.10.20.22.4.54
@extension	1..1	SHALL		1098-32602	2014-06-09
id	0..*	MAY		1098-9005	
manufacturedMaterial	1..1	SHALL		1098-9006	
code	1..1	SHALL		1098-9007	urn:oid:2.16.840.1.113762.1.4.1010.6 (CVX Vaccines Administered - Vaccine Set)
translation	0..*	MAY		1098-31543	urn:oid:2.16.840.1.113762.1.4.1010.8 (Vaccine Clinical Drug)
translation	0..*	MAY		1098-31881	urn:oid:2.16.840.1.113762.1.4.1010.10 (Specific Vaccine Clinical Drug)
lotNumberText	1..1	SHALL		1098-9014	
manufacturerOrganization	0..1	SHOULD		1098-9012	

1. **SHALL** contain exactly one [1..1] **@classCode**="MANU" (CodeSystem: RoleClass urn:oid:2.16.840.1.113883.5.110 **STATIC**) (CONF:1098-9002).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-9004) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.54" (CONF:1098-10499).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2014-06-09" (CONF:1098-32602).
3. **MAY** contain zero or more [0..*] **id** (CONF:1098-9005).
4. **SHALL** contain exactly one [1..1] **manufacturedMaterial** (CONF:1098-9006).
 - a. This **manufacturedMaterial** **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [CVX Vaccines Administered - Vaccine Set](#) urn:oid:2.16.840.1.113762.1.4.1010.6 **DYNAMIC** (CONF:1098-9007).
 - i. This **code** **MAY** contain zero or more [0..*] **translation**, which **MAY** be selected from ValueSet [Vaccine Clinical Drug](#) urn:oid:2.16.840.1.113762.1.4.1010.8 **DYNAMIC** (CONF:1098-31543).
 - ii. This **code** **MAY** contain zero or more [0..*] **translation**, which **MAY** be selected from ValueSet [Specific Vaccine Clinical Drug](#) urn:oid:2.16.840.1.113762.1.4.1010.10 **DYNAMIC** (CONF:1098-31881).

- b. This manufacturedMaterial **SHALL** contain exactly one [1..1] lotNumberText (CONF:1098-9014).
- 5. **SHOULD** contain zero or one [0..1] manufacturerOrganization (CONF:1098-9012).

Table 133: CVX Vaccines Administered - Vaccine Set

Value Set: CVX Vaccines Administered - Vaccine Set urn:oid:2.16.840.1.113762.1.4.1010.6 CVX vaccine concepts that represent actual vaccines types. This does not include the identifiers for CVX codes that do not represent vaccines. Value set intensionally defined from CVX (OID: 2.16.840.1.113883.12.292) FilterOnProperty(nonvaccine, FALSE). Value Set Source: http://www2a.cdc.gov/vaccines/iis/iisstandards/vaccines.asp?rpt=cvx			
Code	Code System	Code System OID	Print Name
19	CDC Vaccine Code (CVX)	urn:oid:2.16.840.1.113883.12.292	BCG
26	CDC Vaccine Code (CVX)	urn:oid:2.16.840.1.113883.12.292	Cholera
24	CDC Vaccine Code (CVX)	urn:oid:2.16.840.1.113883.12.292	Anthrax
27	CDC Vaccine Code (CVX)	urn:oid:2.16.840.1.113883.12.292	Botulinum antitoxin
...			

Table 134: Vaccine Clinical Drug

Value Set: Vaccine Clinical Drug urn:oid:2.16.840.1.113762.1.4.1010.8
 Administrable vaccine medication formulations represented using either a "generic" or "brand-specific" concept.
 Value set intensionally defined from RXNORM (OID: 2.16.840.1.113883.6.88), comprised of those codes whose ingredients map to NDC codes that the CDC associates with CVX codes.
 Value Set Source: <https://vsac.nlm.nih.gov/>

Code	Code System	Code System OID	Print Name
898572	RxNorm	urn:oid:2.16.840.1.113883.6.88	0.17 ML Rho(D) Immune Globulin 0.3 MG/ML Prefilled Syringe [HyperRHO]
807276	RxNorm	urn:oid:2.16.840.1.113883.6.88	0.5 ML diphtheria toxoid vaccine, inactivated 4 UNT/ML / tetanus toxoid vaccine, inactivated 10 UNT/ML Prefilled Syringe [Decavac]
798482	RxNorm	urn:oid:2.16.840.1.113883.6.88	0.5 ML Hepatitis A Vaccine (Inactivated) Strain HM175 1440 UNT/ML Prefilled Syringe [Havrix]
836636	RxNorm	urn:oid:2.16.840.1.113883.6.88	0.5 ML Hepatitis A Vaccine, Inactivated 50 UNT/ML Prefilled Syringe [Vaqta]
...			

Table 135: Specific Vaccine Clinical Drug

Value Set: Specific Vaccine Clinical Drug urn:oid:2.16.840.1.113762.1.4.1010.10
 This value set contains extensionally identified RxNorm vaccine codes. It should be used to supplement the Vaccine Clinical Drug Value Set (Value Set OID 2.16.840.1.113762.1.4.1010.8). Intensional rules for the latter value set are being refined, but at this time lack complete sensitivity, and as a result can miss including relevant codes. This Specific Vaccine Clinical Drug Value Set is used to manually provide for these other RxNorm codes.
 (At the time of Consolidated CDA R2 publication, the value set has no members)
 Value Set Source: <https://vsac.nlm.nih.gov/>

Code	Code System	Code System OID	Print Name
NA	RxNorm	urn:oid:2.16.840.1.113883.6.88	At the time of Consolidated CDA R2 publication, the value set has no members
...			

Figure 59: Immunization Medication Information (V2) Example

```

<manufacturedProduct classCode="MANU">
  <!-- ** Immunization medication information ** -->
  <templateId root="2.16.840.1.113883.10.20.22.4.54" extension="2014-06-09" />
  <manufacturedMaterial>
    <code code="33" codeSystem="2.16.840.1.113883.12.292" displayName="Pneumococcal
polysaccharide vaccine" codeSystemName="CVX">
      <translation code="854981" displayName="Pneumovax 23 (Pneumococcal vaccine
polyvalent) Injectable Solution" codeSystemName="RxNORM"
codeSystem="2.16.840.1.113883.6.88" />
    </code>
    <lotNumberText>1</lotNumberText>
  </manufacturedMaterial>
  <manufacturerOrganization>
    <name>Health LS - Immuno Inc.</name>
  </manufacturerOrganization>
</manufacturedProduct>

```

3.29 Immunization Refusal Reason

[observation: identifier urn:oid:2.16.840.1.113883.10.20.22.4.53 (open)]

Table 136: Immunization Refusal Reason Contexts

Contained By:	Contains:
Immunization Activity (V2) (optional)	

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

Table 137: Immunization Refusal Reason Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.53)					
@classCode	1..1	SHALL		81-8991	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		81-8992	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		81-8993	
@root	1..1	SHALL		81-10500	2.16.840.1.113883.10.20.22.4.53
id	1..*	SHALL		81-8994	
code	1..1	SHALL		81-8995	urn:oid:2.16.840.1.113883.1.11.19717 (No Immunization Reason Value Set)
statusCode	1..1	SHALL		81-8996	
@code	1..1	SHALL		81-19104	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:81-8991).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:81-8992).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:81-8993) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.53" (CONF:81-10500).
4. **SHALL** contain at least one [1..*] **id** (CONF:81-8994).
5. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [No Immunization Reason Value Set](#) urn:oid:2.16.840.1.113883.1.11.19717 **DYNAMIC** (CONF:81-8995).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:81-8996).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:81-19104).

Table 138: No Immunization Reason Value Set

Value Set: No Immunization Reason Value Set urn:oid:2.16.840.1.113883.1.11.19717			
Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
IMMUNE	ActReason	urn:oid:2.16.840.1.113883.5.8	Immunity
MEDPREC	ActReason	urn:oid:2.16.840.1.113883.5.8	Medical precaution
OSTOCK	ActReason	urn:oid:2.16.840.1.113883.5.8	Out of stock
PATOBJ	ActReason	urn:oid:2.16.840.1.113883.5.8	Patient objection
PHILISOP	ActReason	urn:oid:2.16.840.1.113883.5.8	Philosophical objection
RELIG	ActReason	urn:oid:2.16.840.1.113883.5.8	Religious objection
VACEFF	ActReason	urn:oid:2.16.840.1.113883.5.8	Vaccine efficacy concerns
VACSAF	ActReason	urn:oid:2.16.840.1.113883.5.8	Vaccine safety concerns

Figure 60: Immunization Refusal Reason Example

```
<observation classCode="OBS" moodCode="EVN">
<templateId root="2.16.840.1.113883.10.20.22.4.53"/>
<id root="2a620155-9d11-439e-92b3-5d9815ff4dd8"/>
<code displayName="Patient Objection" code="PATOBJ"
codeSystemName="HL7 ActNoImmunizationReason" codeSystem="2.16.840.1.113883.5.8"/>
<statusCode code="completed"/>
</observation>
```

3.30 Incision Datetime

[procedure: identifier urn:oid:2.16.840.1.113883.10.20.24.3.89 (open)]

Table 139: Incision Datetime Contexts

Contained By:	Contains:
Procedure Performed (V3) (optional)	

This template represents the QDM Attribute Incision Datetime, which indicates the time the incision was made.

Table 140: Incision Datetime Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
procedure (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.89)					
@classCode	1..1	SHALL		67-14559	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		67-11401	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		67-11402	
@root	1..1	SHALL		67-11403	2.16.840.1.113883.10.20.24.3.89
id	1..*	SHALL		67-26984	
code	1..1	SHALL		67-14562	
@code	0..1	MAY		67-14563	34896006
@codeSystem	1..1	SHALL		67-27014	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
effectiveTime	1..1	SHALL		67-14561	

1. **SHALL** contain exactly one [1..1] **@classCode**="PROC" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:67-14559).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:67-11401).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:67-11402) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.89" (CONF:67-11403).
4. **SHALL** contain at least one [1..*] **id** (CONF:67-26984).
5. **SHALL** contain exactly one [1..1] **code** (CONF:67-14562).
 - a. This code **MAY** contain zero or one [0..1] **@code**="34896006" incision (CONF:67-14563).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.96" (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:67-27014).
6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:67-14561).

Figure 61: Incision Datetime Example

```
<procedure classCode="PROC" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.24.3.89" />
  <id root="2d5dc123-13ca-477d-9263-4a9c504186a1" />
  <code code="34896006"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="incision" />
  <effectiveTime value="20120329091500+0500" />
</procedure>
```

3.31 Indication (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
(open)]

Table 141: Indication (V2) Contexts

Contained By:	Contains:
Medication Activity (V2) (optional) Procedure Activity Act (V2) (optional) Procedure Activity Procedure (V2) (optional) Procedure Activity Observation (V2) (optional) Immunization Activity (V2) (optional) Planned Act (V2) (optional) Planned Encounter (V2) (optional) Planned Procedure (V2) (optional) Planned Observation (V2) (optional) Planned Supply (V2) (optional) Planned Medication Activity (V2) (optional) Planned Immunization Activity (optional) Encounter Activity (V3) (optional)	

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 sited (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 142: Indication (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09)					
@classCode	1..1	SHALL		1098-7480	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		1098-7481	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1098-7482	
@root	1..1	SHALL		1098-10502	2.16.840.1.113883.10.20.22.4.19
@extension	1..1	SHALL		1098-32570	2014-06-09
id	1..*	SHALL		1098-7483	
code	1..1	SHALL		1098-31229	urn:oid:2.16.840.1.113883.3.88.12.3221.7.2 (Problem Type)
statusCode	1..1	SHALL		1098-7487	
@code	1..1	SHALL		1098-19105	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	0..1	SHOULD		1098-7488	
value	0..1	MAY	CD	1098-7489	urn:oid:2.16.840.1.113883.3.88.12.3221.7.4 (Problem)

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-7480).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1098-7481).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-7482) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.19"** (CONF:1098-10502).
 - b. **SHALL** contain exactly one [1..1] **@extension="2014-06-09"** (CONF:1098-32570).
4. **SHALL** contain at least one [1..*] **id** (CONF:1098-7483).
 Note: If the id element is used to reference a problem recorded else where 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](#) urn:oid:2.16.840.1.113883.3.88.12.3221.7.2 **STATIC** 2014-09-02 (CONF:1098-31229).

6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-7487).
 - a. This **statusCode** **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:1098-19105).
7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:1098-7488).
8. **MAY** contain zero or one [0..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:1098-7489).

Figure 62: Indication (V2) 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="2014-06-09"
/>
<!-- Note that this id equals the problem observation/id -->
        <id root="db734647-fc99-424c-a864-7e3cda82e703" />
        <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" />
        <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"/> -->

```

3.32 Instruction (V2)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09 (open)]

Table 143: Instruction (V2) Contexts

Contained By:	Contains:
Medication Activity (V2) (optional) Procedure Activity Act (V2) (optional) Procedure Activity Procedure (V2) (optional) Procedure Activity Observation (V2) (optional) Immunization Activity (V2) (optional) Planned Act (V2) (optional) Planned Procedure (V2) (optional) Planned Observation (V2) (optional) Planned Supply (V2) (optional) Planned Medication Activity (V2) (optional) Medication Supply Order (V2) (optional) Planned Immunization Activity (optional)	

The Instruction template can be used in several ways, such as to record patient instructions within a Medication Activity or to record fill instructions within a supply order. The template's moodCode can only be INT. If an instruction was already be given, the Procedure Activity Act template (instead of this template) should be used to represent the already occurred instruction. The act/code defines the type of instruction. Though not defined in this template, a Vaccine Information Statement (VIS) document could be referenced through act/reference/externalDocument, and patient awareness of the instructions can be represented with the generic participant and the participant/awarenessCode.

Table 144: Instruction (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09)					
@classCode	1..1	SHALL		1098-7391	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		1098-7392	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = INT
templateId	1..1	SHALL		1098-7393	
@root	1..1	SHALL		1098-10503	2.16.840.1.113883.10.20.22.4.20
@extension	1..1	SHALL		1098-32598	2014-06-09
code	1..1	SHALL		1098-16884	urn:oid:2.16.840.1.113883.11.20.9.34 (Patient Education)
statusCode	1..1	SHALL		1098-7396	
@code	1..1	SHALL		1098-19106	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed

1. **SHALL** contain exactly one [1..1] **@classCode="ACT"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-7391).
2. **SHALL** contain exactly one [1..1] **@moodCode="INT"** (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1098-7392).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-7393) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.20"** (CONF:1098-10503).
 - b. **SHALL** contain exactly one [1..1] **@extension="2014-06-09"** (CONF:1098-32598).
4. **SHALL** contain exactly one [1..1] **code**, which **SHOULD** be selected from ValueSet [Patient Education](#) urn:oid:2.16.840.1.113883.11.20.9.34 **DYNAMIC** (CONF:1098-16884).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-7396).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:1098-19106).

Table 145: Patient Education

Value Set: Patient Education urn:oid:2.16.840.1.113883.11.20.9.34 Limited to terms descending from the Education (409073007) hierarchy. Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
311401005	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Patient Education
171044003	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Immunization Education
243072006	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Cancer Education
...			

Figure 63: Instruction (V2) Example

```

<act classCode="ACT" moodCode="INT">
<templateId root="2.16.840.1.113883.10.20.22.4.20" extension="2014-06-09" />
<code code="171044003" codeSystem="2.16.840.1.113883.6.96" displayName="immunization
education" />
<text>
  <reference value="#immunSect" />
  Possible flu-like symptoms for three days.
</text>
<statusCode code="completed" />
</act>

```

3.33 Measure Reference

[organizer: identifier urn:oid:2.16.840.1.113883.10.20.24.3.98 (open)]

Table 146: Measure Reference Contexts

Contained By:	Contains:
Measure Section (required)	

This template defines the way that a Measure should be referenced. Measures are referenced through externalAct reference to an externalDocument. The externalDocument/ids and version numbers are used to reference the measure.

Table 147: Measure Reference Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
organizer (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.98)					
@classCode	1..1	SHALL		67-12979	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER
@moodCode	1..1	SHALL		67-12980	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		67-19532	
@root	1..1	SHALL		67-19533	2.16.840.1.113883.10.20.24.3.98
id	1..*	SHALL		67-26992	
statusCode	1..1	SHALL		67-12981	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
reference	1..1	SHALL		67-12982	
@typeCode	1..1	SHALL		67-12983	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
externalDocument	1..1	SHALL		67-12984	
@classCode	1..1	SHALL		67-19534	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = DOC
id	1..*	SHALL		67-12985	
@root	1..1	SHALL		67-12986	
@extension	0..1	MAY		67-27007	
text	0..1	SHOULD		67-12997	

1. **SHALL** contain exactly one [1..1] **@classCode**="CLUSTER" cluster (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:67-12979).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:67-12980).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:67-19532) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.98" (CONF:67-19533).
4. **SHALL** contain at least one [1..*] **id** (CONF:67-26992).
5. **SHALL** contain exactly one [1..1] **statusCode**="completed" completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:67-12981).
6. **SHALL** contain exactly one [1..1] **reference** (CONF:67-12982) 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:67-12983).
- b. **SHALL** contain exactly one [1..1] externalDocument (CONF:67-12984).
 - i. This externalDocument **SHALL** contain exactly one [1..1] @classCode="DOC" Document (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:67-19534).
 - ii. This externalDocument **SHALL** contain at least one [1..*] id (CONF:67-12985) such that it
 - 1. **SHALL** contain exactly one [1..1] @root (CONF:67-12986).
 - 2. **MAY** contain zero or one [0..1] @extension (CONF:67-27007).
 - 3. This ID references an ID of the Quality Measure (CONF:67-27008).
 - iii. This externalDocument **SHOULD** contain zero or one [0..1] text (CONF:67-12997).
 - 1. This text is the title of the eMeasure (CONF:67-12998).

Figure 64: Measure Reference Example

```

<organizer classCode="CLUSTER" moodCode="EVN">
  <!-- Measure reference -->
  <templateId root="2.16.840.1.113883.10.20.24.3.98"/>
  <statusCode code="completed"/>
  <reference typeCode="REFR">
    <externalDocument classCode="DOC" moodCode="EVN">
      <!-- This is the id for a Quality Measure -->
      <id root="8a4d92b2-3512-a402-0135-53d2b0d27708"/>
      <!-- SHOULD This is the title of the eMeasure -->
      <text>Neonatal Admission Temperature</text>
    </externalDocument>
  </reference>
</organizer>

```

3.33.1 eMeasure Reference QDM

[organizer: identifier urn:oid:2.16.840.1.113883.10.20.24.3.97 (open)]

Table 148: eMeasure Reference QDM Contexts

Contained By:	Contains:
Measure Section QDM (required)	

This template defines the way that a QDM eMeasure should be referenced in a QDM-Based QRDA. An eMeasure is referenced through externalAct reference to an externalDocument. The externalDocument/ids and version numbers are used to reference the measure. The eMeasure Reference QDM template must contain a reference to the version specific identifier for each eMeasure: the QualityMeasureDocument/id.

In addition to referencing an eMeasure, this template allows one to assert whether or not the included patient data is believed by the sender to satisfy the various population criteria of the

referenced eMeasure. For each population defined in a referenced eMeasure, the sender can assert “true” (set negationInd="false") or “false” (set negationInd="true"), that the criteria are met by the included data. For outcome measures, the sender can also assert the predicted probability that the patient would meet particular population criteria. For instance, based on an outcome measure’s risk model, one might calculate that the patient has a 27% probability of meeting the numerator criteria.

Table 149: eMeasure Reference QDM Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
organizer (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.97)					
@classCode	1..1	SHALL		67-12805	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER
@moodCode	1..1	SHALL		67-12806	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
statusCode	1..1	SHALL		67-12807	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
reference	1..1	SHALL		67-12808	
@typeCode	1..1	SHALL		67-12809	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
externalDocument	1..1	SHALL		67-12810	
@classCode	1..1	SHALL		67-27017	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = DOC
id	1..1	SHALL		67-12811	
@root	1..1	SHALL		67-12812	2.16.840.1.113883.4.738
@extension	1..1	SHALL		67-12813	
code	0..1	SHOULD		67-12864	
@code	0..1	SHOULD		67-27015	57024-2
@codeSystem	0..1	SHOULD		67-27016	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
text	0..1	SHOULD		67-12865	
setId	0..1	SHOULD		67-12867	
versionNumber	0..1	SHOULD		67-12869	
component	0..*	MAY		67-16678	
observation	1..1	SHALL		67-16679	
@negationInd	1..1	SHALL		67-16680	
code	1..1	SHALL		67-16681	
@code	1..1	SHALL		67-16682	ASSERTION

@codeSystem	1..1	SHALL		67-27010	urn:oid:2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4
value	1..1	SHALL	CD	67-16683	
reference	1..1	SHALL		67-16684	
@typeCode	1..1	SHALL		67-16685	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
externalObservation	1..1	SHALL		67-16686	
@classCode	1..1	SHALL		67-16693	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		67-16694	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
id	1..1	SHALL		67-16687	
referenceRange	0..1	MAY		67-16689	
observationRange	1..1	SHALL		67-16690	
value	1..1	SHALL	REAL	67-16691	

1. Conforms to [Measure Reference](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.98).
2. **SHALL** contain exactly one [1..1] **@classCode**="CLUSTER" cluster (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:67-12805).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:67-12806).
4. **SHALL** contain exactly one [1..1] **statusCode**="completed" completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:67-12807).
5. **SHALL** contain exactly one [1..1] **reference** (CONF:67-12808) 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:67-12809).
 - b. **SHALL** contain exactly one [1..1] **externalDocument** (CONF:67-12810).
 - i. This externalDocument **SHALL** contain exactly one [1..1] **@classCode**="DOC" Document (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:67-27017).
 - ii. This externalDocument **SHALL** contain exactly one [1..1] **id** (CONF:67-12811) such that it
 1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.4.738" (CONF:67-12812).

Note: This OID indicates that the @extension contains the version specific identifier for the eMeasure.

2. **SHALL** contain exactly one [1..1] @extension (CONF:67-12813).
Note: This @extension SHALL equal the version specific identifier for eMeasure (i.e., QualityMeasureDocument/id)
- iii. This externalDocument **SHOULD** contain zero or one [0..1] code (CONF:67-12864).
 1. The code, if present, **SHOULD** contain zero or one [0..1] @code="57024-2" Health Quality Measure Document (CONF:67-27015).
 2. The code, if present, **SHOULD** contain zero or one [0..1] @codeSystem="2.16.840.1.113883.6.1" (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:67-27016).
- iv. This externalDocument **SHOULD** contain zero or one [0..1] text (CONF:67-12865).
 1. This text **SHALL** equal the title of the eMeasure (CONF:67-12866).
- v. This externalDocument **SHOULD** contain zero or one [0..1] setId (CONF:67-12867).
 1. This setId **SHALL** equal the QualityMeasureDocument/setId which is the eMeasure version neutral id (CONF:67-12868).
- vi. This externalDocument **SHOULD** contain zero or one [0..1] versionNumber (CONF:67-12869).

There is a known data type mismatch issue between the CDA R2 and HQMF for the versionNumber attribute. This guide is based on CDA R2, which is derived from the HL7 Reference Information Model (RIM) Version 2.07. In RIM 2.07, the versionNumber attribute is specified as INT data type. HQMF, however, is derived from HL7 RIM, Version 2.44, where versionNumber is specified as ST data type. Since 2015, the MAT tool assigns a string value such as 4.0.000 as the version number for eMeasures that are authored by the MAT. If versionNumber="4.0.000" were sent in a QRDA Category I file, it will fail the CDA_SDTC.xsd schema validation.

To avoid this problem, since versionNumber is an optional data element (CONF:67-12869), this guide recommends eMeasure version number not be submitted in a QRDA Category I report. Version specific identifier for an eMeasure can be used to uniquely identify an eMeasure and it is a required data element for QRDA I.

1. The version number **SHALL** equal the sequential eMeasure Version number (CONF:67-12870).
6. **MAY** contain zero or more [0..*] component (CONF:67-16678).
 - a. The component, if present, **SHALL** contain exactly one [1..1] observation (CONF:67-16679).

Set negationInd="false" to assert true (that the criteria are met by the included data). Set negationInd="true" to assert false (that the criteria are not met by the included data).

- i. This observation **SHALL** contain exactly one [1..1] @negationInd (CONF:67-16680).

- ii. This observation **SHALL** contain exactly one [1..1] **code** (CONF:67-16681).
 - 1. This code **SHALL** contain exactly one [1..1] **@code="ASSERTION"** Assertion (CONF:67-16682).
 - 2. This code **SHALL** contain exactly one [1..1] **@codeSystem="2.16.840.1.113883.5.4"** (CodeSystem: ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:67-27010).
- iii. This observation **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:67-16683).
- iv. This observation **SHALL** contain exactly one [1..1] **reference** (CONF:67-16684).
 - 1. This reference **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:67-16685).
 - 2. This reference **SHALL** contain exactly one [1..1] **externalObservation** (CONF:67-16686).
 - a. This externalObservation **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:67-16693).
 - b. This externalObservation **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:67-16694).
 - c. This externalObservation **SHALL** contain exactly one [1..1] **id** (CONF:67-16687).
 - i. This identifier **SHALL** be equal to a population criterion identifier in the referenced eMeasure. (This is necessary because a referenced eMeasure can have multiple numerator populations) (CONF:67-16688).
- v. This observation **MAY** contain zero or one [0..1] **referenceRange** (CONF:67-16689).
 - 1. The referenceRange, if present, **SHALL** contain exactly one [1..1] **observationRange** (CONF:67-16690).
 - a. This observationRange **SHALL** contain exactly one [1..1] **value** with **@xsi:type="REAL"** (CONF:67-16691).
 - 2. The referenceRange is used to indicate the probability that the patient would meet the corresponding population criteria. It is relevant for outcome measures, where predictive models allow for calculating the probability that a patient would meet the criteria of a given population (CONF:67-16692).

Figure 65: eMeasure Reference QDM Example

```
<!-- 1..* Organizers, each containing a reference to an eMeasure -->
<entry>
  <organizer classCde="CLUSTER" moodCode="EVN">
    <!-- This is the templateId for Measure Reference -->
    <templateId root="2.16.840.1.113883.10.20.24.3.98"/>
    <!-- This is the templateId for eMeasure Reference QDM -->
    <templateId root="2.16.840.1.113883.10.20.24.3.97"/>
    <statusCode code="completed"/>
    <reference typeCode="REFR">
      <externalDocument classCode="DOC" moodCode="EVN">
        <!-- SHALL: This is the version specific identifier for eMeasure:
        QualityMeasureDocument/id - the OID in the @root indicates that
        the @extension (which is a GUID) contains the version specific identifier for
        eMeasure -->
        <id root="2.16.840.1.113883.4.738" extension="8a4d92b2-373f-82e2-0137-
        7b9e21cc5c8f"/>
        <!-- SHOULD: This is the NQF Number, root is an NQF OID and for
        eMeasure Number and extension is the eMeasure's NQF number -->
        <id root="2.16.840.1.113883.3.560.1" extension="0143"/>
        <!-- SHOULD: eMeasure Measure Authoring Tool Identifier (not the real
        root yet-->
        <id root="2.16.840.1.113883.3.560.101.2" extension="93"/>
        <!-- SHOULD This is the title of the eMeasure -->
        <text>Children's Asthma Care (CAC-1) Relievers for Inpatient
        Asthma</text>
        <!-- SHOULD: setId is the eMeasure version neutral id -->
        <setId root="dc78ee5d-1487-4d79-84c3-1dfdaff0781c"/>
      </externalDocument>
    </reference>
    <component>
      <!-- assert whether the patient did/didn't meet the criteria -->
      <!-- Set negationInd="false" to assert true (that the criteria are
      met by the included data).
      Set negationInd="true" to assert false (that the criteria are not
      met by the included data). -->
      <observation classCode="OBS" moodCode="EVN" negationInd="true|false">
        <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>
        <value xsi:type="CD"
        code="DENEXCEP"
        codeSystem="2.16.840.1.113883.5.4"
        codeSystemName="ActCode"
        displayName="Denominator Exception"/>
        <!-- Explicit reference to the eMeasure population (because some
        eMeasures have multiple Numerators, etc -->
        <reference typeCode="REFR">
          <externalObservation classCode="OBS" moodCode="EVN">
            <id root="0C13A447-B884-4C09-8374-09D2E4264034"/>
          </externalObservation>
        </reference>
        <!-- predicted probability that patient would meet the criteria -->
        <referenceRange>
          <observationRange>
            <value xsi:type="REAL" value="0.27"/>
          </observationRange>
        </referenceRange>
      </observation>
    </component>
  </organizer>
</entry>
```

```

    </observation>
  </component>
</organizer>
</entry>

```

3.34 Medication Activity (V2)

```

[substanceAdministration: identifier
urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09 (open)]

```

Table 150: Medication Activity (V2) Contexts

Contained By:	Contains:
Reaction Observation (V2) (optional) Procedure Activity Act (V2) (optional) Procedure Activity Procedure (V2) (optional) Procedure Activity Observation (V2) (optional) Medication Administered (V3) (required) Discharge Medication (V3) (required)	Author Participation Drug Monitoring Act Drug Vehicle Indication (V2) Instruction (V2) Medication Dispense (V2) Medication Free Text Sig Medication Information (V2) Medication Supply Order (V2) Precondition for Substance Administration (V2) Reaction Observation (V2) Substance Administered Act

A Medication Activity describes substance administrations that have actually occurred (e.g., pills ingested or injections given) or are intended to occur (e.g., "take 2 tablets twice a day for the next 10 days"). Medication activities in "INT" mood are reflections of what a clinician intends a patient to be taking. For example, a clinician may intend that a patient to be administered Lisinopril 20 mg PO for blood pressure control. If what was actually administered was Lisinopril 10 mg., then the Medication activities in the "EVN" mood would reflect actual use.

A moodCode of INT is allowed, but it is recommended that the Planned Medication Activity (V2) template be used for moodCodes other than EVN if the document type contains a section that includes Planned Medication Activity (V2) (for example a Care Plan document with Plan of Treatment, Intervention, or Goal sections).

At a minimum, a Medication Activity shall include an effectiveTime indicating the duration of the administration (or single-administration timestamp). Ambulatory medication lists generally provide a summary of use for a given medication over time - a medication activity in event mood with the duration reflecting when the medication started and stopped. Ongoing medications will not have a stop date (or will have a stop date with a suitable NULL value). Ambulatory medication lists will generally also have a frequency (e.g., a medication is being taken twice a day). Inpatient medications generally record each administration as a separate act.

The dose (doseQuantity) represents how many of the consumables are to be administered at each administration event. As a result, the dose is always relative to the consumable and the interval of administration. Thus, a patient consuming a single "metoprolol 25mg tablet" per administration will have a doseQuantity of "1", whereas a patient consuming "metoprolol" will have a dose of "25 mg".

Table 151: Medication Activity (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
substanceAdministration (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09)					
@classCode	1..1	SHALL		1098-7496	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SBADM
@moodCode	1..1	SHALL		1098-7497	urn:oid:2.16.840.1.113883.11.20.9.18 (MoodCodeEvnInt)
templateId	1..1	SHALL		1098-7499	
@root	1..1	SHALL		1098-10504	2.16.840.1.113883.10.20.22.4.16
@extension	1..1	SHALL		1098-32498	2014-06-09
id	1..*	SHALL		1098-7500	
code	0..1	MAY		1098-7506	
statusCode	1..1	SHALL		1098-7507	
@code	1..1	SHALL		1098-32360	urn:oid:2.16.840.1.113883.1.11.159331 (ActStatus)
effectiveTime	1..1	SHALL	IVL_TS	1098-7508	
@value	0..1	SHOULD		1098-32775	
low	0..1	SHOULD		1098-32776	
high	0..1	MAY		1098-32777	
effectiveTime	0..1	SHOULD		1098-7513	
@operator	1..1	SHALL		1098-9106	A
repeatNumber	0..1	MAY		1098-7555	
routeCode	0..1	SHOULD		1098-7514	urn:oid:2.16.840.1.113883.3.88.12.3221.8.7 (Medication Route FDA)
approachSiteCode	0..1	MAY	SET<CD>	1098-7515	urn:oid:2.16.840.1.113883.3.88.12.3221.8.9 (Body Site)
doseQuantity	1..1	SHALL		1098-7516	
@unit	0..1	SHOULD		1098-7526	urn:oid:2.16.840.1.113883.1.11.12839 (UnitsOfMeasureCaseSensitive)
rateQuantity	0..1	MAY		1098-	

				7517	
@unit	1..1	SHALL		1098-7525	urn:oid:2.16.840.1.113883.1.11.12839 (UnitsOfMeasureCaseSensitive)
maxDoseQuantity	0..1	MAY	RTO<P Q, PQ>	1098-7518	
administrationUnitCode	0..1	MAY		1098-7519	urn:oid:2.16.840.1.113762.1.4.1021.30 (AdministrationUnitDoseForm)
consumable	1..1	SHALL		1098-7520	
manufacturedProduct	1..1	SHALL		1098-16085	Medication Information (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09)
performer	0..1	MAY		1098-7522	
author	0..*	SHOULD		1098-31150	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
participant	0..*	MAY		1098-7523	
@typeCode	1..1	SHALL		1098-7524	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
participantRole	1..1	SHALL		1098-16086	Drug Vehicle (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.24)
entryRelationship	0..*	MAY		1098-7536	
@typeCode	1..1	SHALL		1098-7537	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		1098-16087	Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09)
entryRelationship	0..1	MAY		1098-7539	
@typeCode	1..1	SHALL		1098-7540	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		1098-7542	true
act	1..1	SHALL		1098-31387	Instruction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09)
entryRelationship	0..1	MAY		1098-7543	
@typeCode	1..1	SHALL		1098-7547	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) =

					REFR
supply	1..1	SHALL		1098-16089	Medication Supply Order (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09)
entryRelationship	0..*	MAY		1098-7549	
@typeCode	1..1	SHALL		1098-7553	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
supply	1..1	SHALL		1098-16090	Medication Dispense (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09)
entryRelationship	0..*	MAY		1098-7552	
@typeCode	1..1	SHALL		1098-7544	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = CAUS
observation	1..1	SHALL		1098-16091	Reaction Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.9:2014-06-09)
entryRelationship	0..1	MAY		1098-30820	
@typeCode	1..1	SHALL		1098-30821	COMP
act	1..1	SHALL		1098-30822	Drug Monitoring Act (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.123)
entryRelationship	0..*	MAY		1098-31515	
@typeCode	1..1	SHALL		1098-31516	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
@inversionInd	1..1	SHALL		1098-31517	true
sequenceNumber	0..1	MAY		1098-31518	
act	1..1	SHALL		1098-31519	Substance Administered Act (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.118)
entryRelationship	0..*	MAY		1098-32907	
@typeCode	1..1	SHALL		1098-32908	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
substanceAdministration	1..1	SHALL		1098-	Medication Free Text Sig (identifier:

				32909	urn:oid:2.16.840.1.113883.10.20.22.4.147
precondition	0..*	MAY		1098-31520	
@typeCode	1..1	SHALL		1098-31882	PRCN
criterion	1..1	SHALL		1098-31883	Precondition for Substance Administration (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09)

1. **SHALL** contain exactly one [1..1] **@classCode**="SBADM" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-7496).
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet [MoodCodeEvnInt](#) urn:oid:2.16.840.1.113883.11.20.9.18 **STATIC** 2011-04-03 (CONF:1098-7497).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-7499) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.16" (CONF:1098-10504).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2014-06-09" (CONF:1098-32498).
4. **SHALL** contain at least one [1..*] **id** (CONF:1098-7500).
5. **MAY** contain zero or one [0..1] **code** (CONF:1098-7506).
 Note: SubstanceAdministration.code is an optional field. Per HL7 Pharmacy Committee, "this is intended to further specify the nature of the substance administration act. To date the committee has made no use of this attribute". Because the type of substance administration is generally implicit in the routeCode, in the consumable participant, etc., the field is generally not used, and there is no defined value set.
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-7507).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet [ActStatus](#) urn:oid:2.16.840.1.113883.1.11.159331 **DYNAMIC** (CONF:1098-32360).

The substance administration effectiveTime field can repeat, in order to represent varying levels of complex dosing. effectiveTime can be used to represent the duration of administration (e.g., "10 days"), the frequency of administration (e.g., "every 8 hours"), and more. Here, we require that there SHALL be an effectiveTime documentation of the duration (or single-administration timestamp), and that there SHOULD be an effectiveTime documentation of the frequency. Other timing nuances, supported by the base CDA R2 standard, may also be included.

7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1098-7508) such that it
 Note: This effectiveTime represents either the medication duration (i.e., the time the medication was started and stopped) or the single-administration timestamp.
 - a. **SHOULD** contain zero or one [0..1] **@value** (CONF:1098-32775).
 Note: indicates a single-administration timestamp
 - b. **SHOULD** contain zero or one [0..1] **low** (CONF:1098-32776).
 Note: indicates when medication started

- c. **MAY** contain zero or one [0..1] **high** (CONF:1098-32777).
Note: indicates when medication stopped
 - d. This effectiveTime **SHALL** contain either a low or a @value but not both (CONF:1098-32890).
8. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:1098-7513) such that it
Note: This effectiveTime represents the medication frequency (e.g., administration times per day).
- a. **SHALL** contain exactly one [1..1] @operator="A" (CONF:1098-9106).
 - b. **SHALL** contain exactly one [1..1] @xsi:type="PIVL_TS" or "EIVL_TS" (CONF:1098-28499).

In "INT" (intent) mood, the repeatNumber defines the number of allowed administrations. For example, a repeatNumber of "3" means that the substance can be administered up to 3 times. In "EVN" (event) mood, the repeatNumber is the number of occurrences. For example, a repeatNumber of "3" in a substance administration event means that the current administration is the 3rd in a series.

9. **MAY** contain zero or one [0..1] **repeatNumber** (CONF:1098-7555).
10. **SHOULD** contain zero or one [0..1] **routeCode**, which **SHALL** be selected from ValueSet [Medication Route FDA](#) urn:oid:2.16.840.1.113883.3.88.12.3221.8.7 **DYNAMIC** (CONF:1098-7514).
11. **MAY** contain zero or one [0..1] **approachSiteCode**, where the code **SHALL** be selected from ValueSet [Body Site](#) urn:oid:2.16.840.1.113883.3.88.12.3221.8.9 **DYNAMIC** (CONF:1098-7515).
12. **SHALL** contain exactly one [1..1] **doseQuantity** (CONF:1098-7516).
- a. This doseQuantity **SHOULD** contain zero or one [0..1] @unit, which **SHALL** be selected from ValueSet [UnitsOfMeasureCaseSensitive](#) urn:oid:2.16.840.1.113883.1.11.12839 **DYNAMIC** (CONF:1098-7526).
 - b. Pre-coordinated consumable: If the consumable code is a pre-coordinated unit dose (e.g., "metoprolol 25mg tablet") then doseQuantity is a unitless number that indicates the number of products given per administration (e.g., "2", meaning 2 x "metoprolol 25mg tablet" per administration) (CONF:1098-16878).
 - c. Not pre-coordinated consumable: If the consumable code is not pre-coordinated (e.g., is simply "metoprolol"), then doseQuantity must represent a physical quantity with @unit, e.g., "25" and "mg", specifying the amount of product given per administration (CONF:1098-16879).
13. **MAY** contain zero or one [0..1] **rateQuantity** (CONF:1098-7517).
- a. The rateQuantity, if present, **SHALL** contain exactly one [1..1] @unit, which **SHALL** be selected from ValueSet [UnitsOfMeasureCaseSensitive](#) urn:oid:2.16.840.1.113883.1.11.12839 **DYNAMIC** (CONF:1098-7525).
14. **MAY** contain zero or one [0..1] **maxDoseQuantity** (CONF:1098-7518).

administrationUnitCode@code describes the units of medication administration for an item using a code that is pre-coordinated to include a physical unit form (ointment, powder, solution, etc.) which differs from the units used in administering the consumable (capful, spray, drop, etc.). For example when recording medication administrations, "metric drop

(C48491)” would be appropriate to accompany the RxNorm code of 198283 (Timolol 0.25% Ophthalmic Solution) where the number of drops would be specified in doseQuantity@value.

15. **MAY** contain zero or one [0..1] **administrationUnitCode**, which **SHALL** be selected from ValueSet [AdministrationUnitDoseForm](#) urn:oid:2.16.840.1.113762.1.4.1021.30 **DYNAMIC** (CONF:1098-7519).
16. **SHALL** contain exactly one [1..1] **consumable** (CONF:1098-7520).
 - a. This consumable **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:1098-16085).
17. **MAY** contain zero or one [0..1] **performer** (CONF:1098-7522).
18. **SHOULD** contain zero or more [0..*] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1098-31150).
19. **MAY** contain zero or more [0..*] **participant** (CONF:1098-7523) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="CSM"** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90 **STATIC**) (CONF:1098-7524).
 - b. **SHALL** contain exactly one [1..1] [Drug Vehicle](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.24) (CONF:1098-16086).
20. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-7536) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1098-7537).
 - 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:1098-16087).
21. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1098-7539) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="SUBJ"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1098-7540).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** True (CONF:1098-7542).
 - 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:1098-31387).
22. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1098-7543) 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:1098-7547).
 - 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:1098-16089).
23. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-7549) 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:1098-7553).

- b. **SHALL** contain exactly one [1..1] [Medication Dispense \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09) (CONF:1098-16090).
24. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-7552) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="CAUS"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1098-7544).
 - 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:1098-16091).
25. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1098-30820) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="COMP"** Has component (CONF:1098-30821).
 - b. **SHALL** contain exactly one [1..1] [Drug Monitoring Act](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.123) (CONF:1098-30822).

The following entryRelationship is used to indicate a given medication's order in a series. The nested Substance Administered Act identifies an administration in the series. The entryRelationship/sequenceNumber shows the order of this particular administration in that series.

26. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-31515) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="COMP"** Component (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1098-31516).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** (CONF:1098-31517).
 - c. **MAY** contain zero or one [0..1] **sequenceNumber** (CONF:1098-31518).
 - d. **SHALL** contain exactly one [1..1] [Substance Administered Act](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.118) (CONF:1098-31519).
27. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-32907) 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:1098-32908).
 - b. **SHALL** contain exactly one [1..1] [Medication Free Text Sig](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.147) (CONF:1098-32909).
28. **MAY** contain zero or more [0..*] **precondition** (CONF:1098-31520).
- a. The precondition, if present, **SHALL** contain exactly one [1..1] **@typeCode="PRCN"** (CONF:1098-31882).
 - b. The precondition, if present, **SHALL** contain exactly one [1..1] [Precondition for Substance Administration \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09) (CONF:1098-31883).
29. Medication Activity **SHOULD** include doseQuantity **OR** rateQuantity (CONF:1098-30800).

Figure 66: Medication Activity (V2) Example

```
<substanceAdministration classCode="SBADM" moodCode="EVN">
  <!-- ** Medication Activity (V2) ** -->
  <templateId root="2.16.840.1.113883.10.20.22.4.16"
    extension="2014-06-09"/>
  <id root="6c844c75-aa34-411c-b7bd-5e4a9f206e29"/>
  <statusCode code="active"/>
  <effectiveTime xsi:type="IVL_TS">
    <low value="20120318"/>
  </effectiveTime>
  <effectiveTime xsi:type="PIVL_TS" institutionSpecified="true" operator="A">
    <period value="12" unit="h"/>
  </effectiveTime>
  <routeCode code="C38288"
    codeSystem="2.16.840.1.113883.3.26.1.1"
    codeSystemName="NCI Thesaurus"
    displayName="ORAL"/>
  <doseQuantity value="1"/>
  <consumable>
    <manufacturedProduct classCode="MANU">
      <!-- ** Medication information ** -->
      <templateId root="2.16.840.1.113883.10.20.22.4.23"
        extension="2014-06-09"/>
      <id root="2a620155-9d11-439e-92b3-5d9815ff4ee8"/>
      <manufacturedMaterial>
        <code code="197380"
          displayName="Atenolol 25 MG Oral Tablet"
          codeSystem="2.16.840.1.113883.6.88" codeSystemName="RxNorm"/>
      </manufacturedMaterial>
    </manufacturedProduct>
  </consumable>
  <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"/>
      <id root="e63166c7-6482-4a44-83a1-37ccdbde725b"/>
      <code code="75321-0"
        codeSystem="2.16.840.1.113883.6.1"
        codeSystemName="LOINC"
        displayName="Clinical finding"/>
      <statusCode code="completed"/>
      <value xsi:type="CD"
        code="38341003"
        displayName="Hypertension"
        codeSystem="2.16.840.1.113883.6.96"/>
    </observation>
  </entryRelationship>
</substanceAdministration>
```

Figure 67: No Known Medications Example

```

<substanceAdministration classCode="SBADM" moodCode="EVN" negationInd="true">
  <!-- ** Medication activity ** -->
  <templateId root="2.16.840.1.113883.10.20.22.4.16" extension="2014-06-09" />
  <id root="072f00fc-4f9d-4516-8d6f-ed00ed523fe0" />
  <statusCode code="active" />
  <effectiveTime xsi:type="IVL_TS">
    <low value="20110103" />
  </effectiveTime>
  <consumable>
    <manufacturedProduct classCode="MANU">
      <!-- ** Medication information ** -->
      <templateId root="2.16.840.1.113883.10.20.22.4.23" extension="2014-06-09" />
      <manufacturedMaterial>
        <code nullFlavor="OTH" codeSystem="2.16.840.1.113883.6.88">
          <translation code="410942007" displayName="drug or medication"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT" />
        </code>
      </manufacturedMaterial>
    </manufacturedProduct>
  </consumable>
</substanceAdministration>

```

3.34.1 Medication Active (V3)

[substanceAdministration: identifier
urn:hl7ii:2.16.840.1.113883.10.20.24.3.41:2016-02-01 (open)]

Table 152: Medication Active (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	

This template represents the QDM datatype: Medication, Active.

Data elements that meet criteria using this datatype should document that the medication indicated by the QDM category and its corresponding value set is being taken by the patient. Keep in mind that when this datatype is used with timing relationships, the criterion is looking for a medication being taken for the time frame indicated by the timing relationships (which could be in the past).

This datatype represents a period of time when a medication is considered active for an individual. This may be medications that the patient has taken in the past and is no longer taking or medications that the patient is currently taking. For medications that a patient has taken in the past the effectiveTime will represent the period of time over which the patient was actively taking the medication. A time/date stamp is required. For currently active medications the effectiveTime will contain a low value which equates to the time the patient started taking medication and a nullFlavored high value. ActStatus is constrained to “active” and moodCode is constrained to “EVN”.

Quality measures are sometimes interested in the total time a patient has been on a medication over time (for example, how many total years a patient has been on birth control hormones in the past 5 years). This cumulative medication duration would be represented as separate substance administration and the cumulative duration calculated. For example, the sum of the number of medication dispensed days x number of medication refills over a set period of time, excluding any gaps during which a medication was not dispensed. For example, if a medication was prescribed for 30 days with three refills, followed by a gap of three months, then prescribed again for 60 days with two refills, the cumulative medication duration for would be (30 x 3) + (60 x 2) = 210 days over the 10-month period.

Table 153: Medication Active (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
substanceAdministration (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.41:2016-02-01)					
@moodCode	1..1	SHALL		2228-28656	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..0	SHALL NOT		2228-28079	
templateId	1..1	SHALL		2228-28651	
@root	1..1	SHALL		2228-28653	2.16.840.1.113883.10.20.24.3.41
@extension	1..1	SHALL		2228-28654	2016-02-01
statusCode	1..1	SHALL		2228-28652	
@code	1..1	SHALL		2228-28655	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = active
routeCode	0..1	MAY		2228-27641	
@sdtc:valueSet	0..1	SHOULD		2228-27644	
translation	0..*	MAY		2228-27642	
@sdtc:valueSet	1..1	SHALL		2228-27645	

1. Conforms to [Medication Activity \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-28656).
3. **SHALL NOT** contain [0..0] @negationInd (CONF:2228-28079).
4. **SHALL** contain exactly one [1..1] templateId (CONF:2228-28651) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.41" (CONF:2228-28653).
 - b. **SHALL** contain exactly one [1..1] @extension="2016-02-01" (CONF:2228-28654).

5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:2228-28652).
 - a. This **statusCode** **SHALL** contain exactly one [1..1] **@code="active"** (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:2228-28655).

If the code used for QDM Attribute: Route does not exist in the value set Medication Route FDA (2.16.840.1.113883.3.88.12.3221.8.7) then set routeCode/@nullFlavor="OTH", routeCode/@codeSystem="2.16.840.1.113883.3.26.1.1" and use translation for the code.

6. **MAY** contain zero or one [0..1] **routeCode** (CONF:2228-27641).

Note: QDM Attribute: Route

- a. The routeCode, if present, **SHOULD** contain zero or one [0..1] **@sdtc:valueSet** (CONF:2228-27644).
- b. The routeCode, if present, **MAY** contain zero or more [0..*] **translation** (CONF:2228-27642).
 - i. The translation, if present, **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-27645).

Figure 68: Medication Active (V3) Example

```

<substanceAdministration classCode="SBADM" moodCode="EVN">
  <!-- Conforms to C-CDA R2.1 Medication Activity (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.16" extension="2014-06-09" />
  <!-- Medication Active (V3) template -->
  <templateId root="2.16.840.1.113883.10.20.24.3.41" extension="2016-02-01" />
  <id root="c0ea7bf3-50e7-4e7a-83a3-e5a9ccbb8541" />
  <statusCode code="active" />
  <effectiveTime xsi:type="IVL_TS">
    <!-- QDM Attribute: Start datetime -->
    <low value="20150301" />
    <!-- QDM Attribute: Stop datetime -->
    <high value="20150901" />
  </effectiveTime>
  <!-- QDM Attribute: Frequency -->
  <effectiveTime xsi:type="PIVL_TS" institutionSpecified="true" operator="A">
    <period value="6" unit="h" />
  </effectiveTime>
  <!-- QDM Attribute: Route -->
  <routeCode code="C38288"
    codeSystem="2.16.840.1.113883.3.26.1.1"
    codeSystemName="NCI Thesaurus"
    displayName="ORAL"
    sdct:valueSet="{ $QDMElementValueSetOID}" />
  <!-- QDM Attribute: Dose -->
  <doseQuantity value="1" />
  <consumable>
    <manufacturedProduct classCode="MANU">
      <!-- Conforms to C-CDA R2.1 Medication Information (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.23" extension="2014-06-09" />
      <id root="37bfe02a-3e97-4bd6-9197-bbd0ed0de79e" />
      <manufacturedMaterial>
        <code code="105152" codeSystem="2.16.840.1.113883.6.88"
          codeSystemName="RxNorm"
          displayName="Amoxicillin 60 MG/ML Oral Suspension"
          sdct:valueSet="{ $QDMElementValueSetOID}" />
      </manufacturedMaterial>
    </manufacturedProduct>
  </consumable>
</substanceAdministration>

```

3.35 Medication Administered (V3)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.42:2016-02-01 (open)]

Table 154: Medication Administered (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Medication Activity (V2) Reason (V2)

This template represents the QDM datatypes: Medication, Administered and Substance, Administered.

This template represents a record by the care provider that a medication actually was administered. Appropriate time/date stamps for all medication administration are generated. This correlates with medications whose administration time is documented in an inpatient Medication Administration Record (MAR) as contrasted with an historical list of medication. This is represented by wrapping a Medication Activity template in an act with an actCode of "administration" a SNOMED CT procedure code.

Quality measures are sometimes interested in the total time a patient has been on a medication over time (for example, how many total years a patient has been on birth control hormones in the past 5 years). This cumulative medication duration would be represented as separate contained substance administrations and the cumulative duration calculated. For example, the sum of the number of medication dispensed days x number of medication refills over a set period of time, excluding any gaps during which a medication was not dispensed. For example, if a medication was prescribed for 30 days with three refills, followed by a gap of three months, then prescribed again for 60 days with two refills, the cumulative medication duration for would be $(30 \times 3) + (60 \times 2) = 210$ days over the 10-month period.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Note: There are future plans to better align the medication templates and value sets to meet the needs of substances that are not medications. Suggestions include renaming from "medication" to "substance administration" and changing value set bindings to broader grouping value sets that include RxNorm along with substances from other code systems.

Table 155: Medication Administered (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.42:2016-02-01)					
@classCode	1..1	SHALL		2228-12444	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		2228-12445	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..1	MAY		2228-28080	
templateId	1..1	SHALL		2228-12446	
@root	1..1	SHALL		2228-12447	2.16.840.1.113883.10.20.24.3.42
@extension	1..1	SHALL		2228-27023	2016-02-01
id	1..*	SHALL		2228-12448	
code	1..1	SHALL		2228-12449	
@code	1..1	SHALL		2228-12450	416118004
@codeSystem	1..1	SHALL		2228-28129	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
statusCode	1..1	SHALL		2228-12452	
@code	1..1	SHALL		2228-13241	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		2228-26714	
low	1..1	SHALL		2228-28552	
high	0..1	MAY		2228-28553	
entryRelationship	1..*	SHALL		2228-12454	
@typeCode	1..1	SHALL		2228-12455	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
substanceAdministration	1..1	SHALL		2228-12456	Medication Activity (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09)
@moodCode	1..1	SHALL		2228-12457	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
entryRelationship	0..1	MAY		2228-	

				27022	
@typeCode	1..1	SHALL		2228-27024	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		2228-27162	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01

1. **SHALL** contain exactly one [1..1] @classCode="ACT" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-12444).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-12445).
3. **MAY** contain zero or one [0..1] @negationInd (CONF:2228-28080).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:2228-12446) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.42" (CONF:2228-12447).
 - b. **SHALL** contain exactly one [1..1] @extension="2016-02-01" (CONF:2228-27023).
5. **SHALL** contain at least one [1..*] id (CONF:2228-12448).
6. **SHALL** contain exactly one [1..1] code (CONF:2228-12449).
 - a. This code **SHALL** contain exactly one [1..1] @code="416118004" administration (CONF:2228-12450).
 - b. This code **SHALL** contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.96" (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:2228-28129).
7. **SHALL** contain exactly one [1..1] statusCode (CONF:2228-12452).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:2228-13241).

The effectiveTime/low (QDM Attribute: Start Datetime) and effectiveTime/high (QDM Attribute: Stop Datetime) represent the actual medication administered time. For single-administration, the effectiveTime/low should be the same value provided in effectiveTime/@value in the contained Medication Activity template. For medication duration, the effectiveTime/low and effectiveTime/high should be the same value provided in effectiveTime/low and effectiveTime/high in the contained Medication Activity template respectively. The effectiveTime/low is required.

8. **SHALL** contain exactly one [1..1] effectiveTime (CONF:2228-26714).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] low (CONF:2228-28552).
Note: QDM Attribute: Start Datetime
 - b. This effectiveTime **MAY** contain zero or one [0..1] high (CONF:2228-28553).
Note: QDM Attribute: Stop Datetime
9. **SHALL** contain at least one [1..*] entryRelationship (CONF:2228-12454) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="COMP" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-12455).

- 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:2228-12456).
 - i. This substanceAdministration **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-12457).
10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-27022) such that it
 Note: QDM Attribute: Reason
- a. **SHALL** contain exactly one [1..1] @typeCode="RSON" Has reason (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-27024).
 - b. **SHALL** contain exactly one [1..1] Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-27162).

Figure 69: Medication Administered (V3) Example

```
<act classCode="ACT" moodCode="EVN">
  <!-- Medication administered -->
  <templateId root="2.16.840.1.113883.10.20.24.3.42" extension="2016-02-01" />
  <id root="60f33340-591f-4459-9fa2-1c93e014a6e2" />
  <code code="416118004" displayName="Administration"
  codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED-CT" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start datetime -->
    <low value="20150301150000+0500" />
    <!-- QDM Attribute: Stop datetime -->
    <high value="20150301150000+0500" />
  </effectiveTime>
  <entryRelationship typeCode="COMP">
    <substanceAdministration classCode="SBADM" moodCode="EVN">
      <!-- C-CDA R2.1 Medication Activity -->
      <templateId root="2.16.840.1.113883.10.20.22.4.16" extension="2014-06-09" />
      <id root="9069c123-80ad-47c8-a633-9dc02018ae56" />
      <statusCode code="completed" />
      <effectiveTime xsi:type="IVL_TS">
        <low value="20150301150000+0500" />
        <high value="20150301150000+0500" />
      </effectiveTime>
      <!-- QDM Attribute: Frequency -->
      <effectiveTime xsi:type="PIVL_TS" institutionSpecified="true" operator="A">
        <period value="6" unit="h" />
      </effectiveTime>
      <!-- QDM Attribute: Route -->
      <routeCode code="C38288" codeSystem="2.16.840.1.113883.3.26.1.1"
      codeSystemName="NCI Thesaurus" displayName="ORAL"
      sdct:valueSet="{ $QDMElementValueSetOID}" />
      <!-- QDM Attribute: Dose -->
      <doseQuantity value="1" />
      <consumable>
        <manufacturedProduct classCode="MANU">
          <!-- Conforms to C-CDA R2.1 Medication Information (V2) -->
          <templateId root="2.16.840.1.113883.10.20.22.4.23" extension="2014-06-
09" />
          <id root="37bfe02a-3e97-4bd6-9197-bbd0ed0de79e" />
          <manufacturedMaterial>
            <code code="105152" codeSystem="2.16.840.1.113883.6.88"
            codeSystemName="RxNorm" displayName="Amoxicillin 60 MG/ML Oral Suspension"
            sdct:valueSet="{ $QDMElementValueSetOID}" />
          </manufacturedMaterial>
        </manufacturedProduct>
      </consumable>
    </substanceAdministration>
  </entryRelationship>
  <!-- QDM Attribute: Reason -->
  <entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</act>
```

</act>

3.36 Medication Dispense (V2)

[supply: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09
(open)]

Table 156: Medication Dispense (V2) Contexts

Contained By:	Contains:
Medication Activity (V2) (optional) Immunization Activity (V2) (optional)	Immunization Medication Information (V2) Medication Information (V2) Medication Supply Order (V2) US Realm Address (AD.US.FIELDDED)

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

Table 157: Medication Dispense (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
supply (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09)					
@classCode	1..1	SHALL		1098-7451	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SPLY
@moodCode	1..1	SHALL		1098-7452	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1098-7453	
@root	1..1	SHALL		1098-10505	2.16.840.1.113883.10.20.22.4.18
@extension	1..1	SHALL		1098-32580	2014-06-09
id	1..*	SHALL		1098-7454	
statusCode	1..1	SHALL		1098-7455	
@code	1..1	SHALL		1098-32361	urn:oid:2.16.840.1.113883.3.88.12.80.64 (Medication Fill Status)
effectiveTime	0..1	SHOULD		1098-7456	
repeatNumber	0..1	SHOULD		1098-7457	
quantity	0..1	SHOULD		1098-7458	
product	0..1	MAY		1098-7459	
manufacturedProduct	1..1	SHALL		1098-15607	Medication Information (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09)
product	0..1	MAY		1098-9331	
manufacturedProduct	1..1	SHALL		1098-31696	Immunization Medication Information (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09)
performer	0..1	MAY		1098-7461	
assignedEntity	1..1	SHALL		1098-7467	
addr	0..1	SHOULD		1098-7468	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2)
entryRelationship	0..1	MAY		1098-7473	

@typeCode	1..1	SHALL		1098-7474	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
supply	1..1	SHALL		1098-15606	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:1098-7451).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1098-7452).
3. **SHALL** contain exactly one [1..1] templateId (CONF:1098-7453) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.18" (CONF:1098-10505).
 - b. **SHALL** contain exactly one [1..1] @extension="2014-06-09" (CONF:1098-32580).
4. **SHALL** contain at least one [1..*] id (CONF:1098-7454).
5. **SHALL** contain exactly one [1..1] statusCode (CONF:1098-7455).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code, which **SHALL** be selected from ValueSet [Medication Fill Status](#) urn:oid:2.16.840.1.113883.3.88.12.80.64 **STATIC** 2014-04-23 (CONF:1098-32361).
6. **SHOULD** contain zero or one [0..1] effectiveTime (CONF:1098-7456).

In "INT" (intent) mood, the repeatNumber defines the number of allowed administrations. For example, a repeatNumber of "3" means that the substance can be administered up to 3 times. In "EVN" (event) mood, the repeatNumber is the number of occurrences. For example, a repeatNumber of "3" in a substance administration event means that the current administration is the 3rd in a series.

7. **SHOULD** contain zero or one [0..1] repeatNumber (CONF:1098-7457).
8. **SHOULD** contain zero or one [0..1] quantity (CONF:1098-7458).
9. **MAY** contain zero or one [0..1] product (CONF:1098-7459) 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:1098-15607).
10. **MAY** contain zero or one [0..1] product (CONF:1098-9331) 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:1098-31696).
11. **MAY** contain zero or one [0..1] performer (CONF:1098-7461).
 - a. The performer, if present, **SHALL** contain exactly one [1..1] assignedEntity (CONF:1098-7467).
 - 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:1098-7468).

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:1098-10565).
12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1098-7473) 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:1098-7474).
 - 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:1098-15606).
13. A supply act **SHALL** contain one product/Medication Information **OR** one product/Immunization Medication Information template (CONF:1098-9333).

Table 158: Medication Fill Status

Value Set: Medication Fill Status urn:oid:2.16.840.1.113883.3.88.12.80.64			
Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
aborted	ActStatus	urn:oid:2.16.840.1.113883.3.5.14	Aborted
completed	ActStatus	urn:oid:2.16.840.1.113883.3.5.14	Completed

Figure 70: Medication Dispense (V2) Example

```

<supply classCode="SPLY" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.18" extension="2014-06-09" />
  <id root="1.2.3.4.56789.1" extension="cb734647-fc99-424c-a864-7e3cda82e704" />
  <statusCode code="completed" />
  <effectiveTime value="201208151450-0800" />
  <repeatNumber value="1" />
  <quantity value="75" />
  <product>
    <manufacturedProduct classCode="MANU">
      <templateId root="2.16.840.1.113883.10.20.22.4.23" extension="2014-06-09" />
      . . .
    </manufacturedProduct>
  </product>
  <performer>
    <assignedEntity>
      . . .
    </assignedEntity>
  </performer>
</supply>

```

3.36.1 Medication Dispensed (V3)

[supply: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.45:2016-02-01
(open)]

Table 159: Medication Dispensed (V3) Contexts

Contained By:	Contains:
Medication Dispensed Act (required)	

This template represents the QDM datatype: Medication, Dispensed.

This datatype represents that a medication prescription has been filled by a pharmacy and the medication has been provided to the patient or patient proxy. In the ambulatory setting, medications are primarily taken directly by patients and not directly observed. Hence, dispensed is the closest health provider documentation of medication compliance. In settings where patients attest to taking medications in electronic format (perhaps a Personal Health Record), patient attestation of “medication taken” may be available. A time/date stamp is required and actStatus is constrained to “completed”.

Table 160: Medication Dispensed (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
supply (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.45:2016-02-01)					
@classCode	1..1	SHALL		2228-27528	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SPLY
@moodCode	1..1	SHALL		2228-27529	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		2228-13851	
@root	1..1	SHALL		2228-13852	2.16.840.1.113883.10.20.24.3.45
@extension	1..1	SHALL		2228-26555	2016-02-01
statusCode	1..1	SHALL		2228-19440	
@code	1..1	SHALL		2228-19441	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL	IVL_TS	2228-13856	
low	1..1	SHALL		2228-28555	
high	0..1	MAY		2228-28556	
entryRelationship	0..1	MAY		2228-28022	
@typeCode	1..1	SHALL		2228-28023	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
substanceAdministration	1..1	SHALL		2228-28224	
@classCode	1..1	SHALL		2228-28226	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SBADM
@moodCode	1..1	SHALL		2228-28227	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
routeCode	1..1	SHALL		2228-28225	
@sdct:valueSet	1..1	SHALL		2228-28228	
consumable	1..1	SHALL		2228-28229	
manufacturedProduct	1..1	SHALL		2228-28230	
manufacturedMaterial	1..1	SHALL		2228-28231	
@nullFlavor	1..1	SHALL		2228-28232	urn:oid:2.16.840.1.113883.5.1008 (HL7NullFlavor) = NA

1. Conforms to [Medication Dispense \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09).
2. **SHALL** contain exactly one [1..1] **@classCode**="SPLY" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27528).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-27529).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-13851) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.45" (CONF:2228-13852).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-02-01" (CONF:2228-26555).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:2228-19440).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:2228-19441).
6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:2228-13856).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:2228-28555).
Note: QDM Attribute: Start Datetime
 - b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:2228-28556).
Note: QDM Attribute: Stop Datetime
7. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-28022) such that it
Note: QDM Attribute: Route
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-28023).
 - b. **SHALL** contain exactly one [1..1] **substanceAdministration** (CONF:2228-28224).
 - i. This substanceAdministration **SHALL** contain exactly one [1..1] **@classCode**="SBADM" Substance Administration (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28226).
 - ii. This substanceAdministration **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-28227).
 - iii. This substanceAdministration **SHALL** contain exactly one [1..1] **routeCode** (CONF:2228-28225).
 1. This routeCode **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:2228-28228).
 - iv. This substanceAdministration **SHALL** contain exactly one [1..1] **consumable** (CONF:2228-28229).
 1. This consumable **SHALL** contain exactly one [1..1] **manufacturedProduct** (CONF:2228-28230).
 - a. This manufacturedProduct **SHALL** contain exactly one [1..1] **manufacturedMaterial** (CONF:2228-28231).
 - i. This manufacturedMaterial **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CodeSystem: HL7NullFlavor

urn:oid:2.16.840.1.113883.5.1008) (CONF:2228-28232).

8. This template **SHALL** be contained by a Medication Dispensed Act (CONF:2228-28669).

Figure 71: Medication Dispensed (V3) Example

```
<!-- Must be contained in the Medication Dispensed Act template to represent the
Medication, Dispensed QDM data type -->
<supply classCode="SPLY" moodCode="EVN">
  <!-- Conforms to C-CDA R2.1 Medication Dispense (V2) template -->
  <templateId root="2.16.840.1.113883.10.20.22.4.18" extension="2014-06-09"/>
  <!-- Medication Dispensed (V3) template -->
  <templateId root="2.16.840.1.113883.10.20.24.3.45" extension="2016-02-01"/>
  <id root="50ed595a-dfb6-49f0-8b19-1901b5d01c1a"/>
  <statusCode code="completed"/>
  <effectiveTime xsi:type="IVL_TS">
    <!-- QDM Attribute: Start Datetime -->
    <low value="20150301"/>
    <!-- QDM Attribute: Stop Datetime -->
    <high value="20150301"/>
  </effectiveTime>
  <!-- QDM Attribute: Frequency -->
  <effectiveTime xsi:type="PIVL_TS" institutionSpecified="true" operator="A">
    <period value="6" unit="h"/>
  </effectiveTime>
  <!-- QDM Attribute: Refills -->
  <repeatNumber value="4"/>
  <independentInd value="false"/>
  <product>
    <manufacturedProduct classCode="MANU">
      <!-- C-CDA R2 Medication Information (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.23" extension="2014-06-09"/>
      <id root="37bfe02a-3e97-4bd6-9197-bbd0ed0de79e"/>
      <manufacturedMaterial>
        <code code="329498" codeSystem="2.16.840.1.113883.6.88"
          displayName="Albuterol 0.09 MG/ACTUAT inhalant solution"
          codeSystemName="RxNorm" sdtc:valueSet="1.2.9999"/>
      </manufacturedMaterial>
    </manufacturedProduct>
  </product>
  <!-- QDM Attribute: Route -->
  <entryRelationship typeCode="REFR">
    <substanceAdministration classCode="SBADM" moodCode="EVN">
      <routeCode code="C38288" codeSystem="2.16.840.1.113883.3.26.1.1"
        codeSystemName="NCI Thesaurus" displayName="ORAL"
        sdtc:valueSet="1.2.9999"/>
      <consumable>
        <manufacturedProduct>
          <manufacturedMaterial nullFlavor="NA"/>
        </manufacturedProduct>
      </consumable>
    </substanceAdministration>
  </entryRelationship>
</supply>
```

3.37 Medication Dispensed Act

[act: identifier urn:oid:2.16.840.1.113883.10.20.24.3.139 (open)]

Table 161: Medication Dispensed Act Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Medication Dispensed (V3)

Table 162: Medication Dispensed Act Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.139)					
@classCode	1..1	SHALL		2228-28562	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		2228-28563	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..1	MAY		2228-28565	
templateId	1..1	SHALL		2228-28558	
@root	1..1	SHALL		2228-28560	2.16.840.1.113883.10.20.24.3.139
id	1..*	SHALL		2228-28564	
code	1..1	SHALL		2228-28567	
@code	1..1	SHALL		2228-28568	SPLY
@codeSystem	1..1	SHALL		2228-28569	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = 2.16.840.1.113883.5.6
entryRelationship	1..1	SHALL		2228-28557	
@typeCode	1..1	SHALL		2228-28561	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
supply	1..1	SHALL		2228-28566	Medication Dispensed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.45:2016-02-01)

1. **SHALL** contain exactly one [1..1] @classCode="ACT" Act (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28562).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-28563).

3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28565).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-28558) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.139"** (CONF:2228-28560).
5. **SHALL** contain at least one [1..*] **id** (CONF:2228-28564).
6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-28567).
 - a. This code **SHALL** contain exactly one [1..1] **@code="SPLY" supply** (CONF:2228-28568).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem="2.16.840.1.113883.5.6"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28569).
7. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:2228-28557) 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) (CONF:2228-28561).
 - b. **SHALL** contain exactly one [1..1] **Medication Dispensed (V3)** (identifier: urn:h17ii:2.16.840.1.113883.10.20.24.3.45:2016-02-01) (CONF:2228-28566).

Figure 72: Medication Dispensed Act

```
<act classCode="ACT" moodCode="EVN">
  <!-- Medication Dispensed Act -->
  <templateId root="2.16.840.1.113883.10.20.24.3.139"/>
  <id root="ec8a6ff8-ed4b-4f7e-82c3-e98e58b45de7"/>
  <code code="SPLY" codeSystem="2.16.840.1.113883.5.6" displayName="supply"
codeSystemName="ActClass"/>
  <entryRelationship typeCode="SUBJ">
    <supply classCode="SPLY" moodCode="EVN">
      <!-- Conforms to C-CDA R2.1 Medication Dispense (V2) template -->
      <templateId root="2.16.840.1.113883.10.20.22.4.18" extension="2014-06-09"/>
      <!-- Medication Dispensed (V3) template -->
      <templateId root="2.16.840.1.113883.10.20.24.3.45" extension="2016-02-01"/>
      <id root="50ed595a-dfb6-49f0-8b19-1901b5d01c1a"/>
      <statusCode code="completed"/>
      <effectiveTime xsi:type="IVL_TS">
        <!-- QDM Attribute: Start Datetime -->
        <low value="20150301"/>
        <!-- QDM Attribute: Stop Datetime -->
        <high value="20150301"/>
      </effectiveTime>
      <!-- QDM Attribute: Frequency -->
      <effectiveTime xsi:type="PIVL_TS" institutionSpecified="true" operator="A">
        <period value="6" unit="h"/>
      </effectiveTime>
      <!-- QDM Attribute: Refills -->
      <repeatNumber value="4"/>
      <independentInd value="false"/>
      <product>
        <manufacturedProduct classCode="MANU">
          <!-- C-CDA R2 Medication Information (V2) -->
          <templateId root="2.16.840.1.113883.10.20.22.4.23" extension="2014-06-
09"/>
          <id root="37bfe02a-3e97-4bd6-9197-bbd0ed0de79e"/>
          <manufacturedMaterial>
            <code code="329498" codeSystem="2.16.840.1.113883.6.88"
displayName="Albuterol 0.09 MG/ACTUAT inhalant solution"
codeSystemName="RxNorm" sdtc:valueSet="1.2.99999"/>
          </manufacturedMaterial>
        </manufacturedProduct>
      </product>
      <!-- QDM Attribute: Route -->
      <entryRelationship typeCode="REFR">
        <substanceAdministration classCode="SBADM" moodCode="EVN">
          <routeCode code="C38288" codeSystem="2.16.840.1.113883.3.26.1.1"
codeSystemName="NCI Thesaurus" displayName="ORAL"
sdtc:valueSet="1.2.99999"/>
          <consumable>
            <manufacturedProduct>
              <manufacturedMaterial nullFlavor="NA"/>
            </manufacturedProduct>
          </consumable>
        </substanceAdministration>
      </entryRelationship>
    </supply>
  </entryRelationship>
```


</act>

3.38 Medication Free Text Sig

[substanceAdministration: identifier urn:oid:2.16.840.1.113883.10.20.22.4.147
(closed)]

Table 163: Medication Free Text Sig Contexts

Contained By:	Contains:
Medication Activity (V2) (optional)	

The template is available to explicitly identify the free text Sig within each medication.

An example free text sig: Thyroxin 150 ug, take one tab by mouth every morning.

Table 164: Medication Free Text Sig Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
substanceAdministration (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.147)					
@classCode	1..1	SHALL		1198-32770	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SBADM
@moodCode	1..1	SHALL		1198-32771	urn:oid:2.16.840.1.113883.11.20.9.18 (MoodCodeEvnInt)
templateId	1..1	SHALL		1198-32753	
@root	1..1	SHALL		1198-32772	2.16.840.1.113883.10.20.22.4.147
code	1..1	SHALL		1198-32775	urn:oid:2.16.840.1.113883.6.1 (LOINC)
@code	1..1	SHALL		1198-32780	76662-6
@codeSystem	1..1	SHALL		1198-32781	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
text	1..1	SHALL		1198-32754	
reference	1..1	SHALL		1198-32755	
@value	0..1	SHOULD		1198-32756	
consumable	1..1	SHALL		1198-32776	
manufacturedProduct	1..1	SHALL		1198-32777	
manufacturedLabeledDrug	1..1	SHALL		1198-32778	
@nullFlavor	1..1	SHALL		1198-32779	NA

1. **SHALL** contain exactly one [1..1] **@classCode**="SBADM" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1198-32770).
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet [MoodCodeEvnInt](#) urn:oid:2.16.840.1.113883.11.20.9.18 **STATIC** 2011-04-03 (CONF:1198-32771).
Note: moodCode must match the parent substanceAdministration EVN or INT
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1198-32753) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.147" (CONF:1198-32772).
4. **SHALL** contain exactly one [1..1] **code** (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:1198-32775).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="76662-6" Instructions Medication (CONF:1198-32780).

- 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:1198-32781).
5. **SHALL** contain exactly one [1..1] **text** (CONF:1198-32754).

Reference into the section/text to a tag that only contains free text sig.

- a. This text **SHALL** contain exactly one [1..1] **reference** (CONF:1198-32755).
 - i. This reference **SHOULD** contain zero or one [0..1] **@value** (CONF:1198-32756).
 - 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:1198-32774).
6. **SHALL** contain exactly one [1..1] **consumable** (CONF:1198-32776).
- a. This consumable **SHALL** contain exactly one [1..1] **manufacturedProduct** (CONF:1198-32777).
 - i. This manufacturedProduct **SHALL** contain exactly one [1..1] **manufacturedLabeledDrug** (CONF:1198-32778).
 - 1. This manufacturedLabeledDrug **SHALL** contain exactly one [1..1] **@nullFlavor="NA"** Not Applicable (CONF:1198-32779).

Figure 73: Medication Free Text Sig Example

```

<!-- moodCode matches the parent substanceAdministration EVN or INT -->
<substanceAdministration classCode="SBADM" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.147"/>
  <code code="76662-6"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="Medication Instructions"/>
  <text>
    <!-- Reference into the section.text to a tag that ONLY contains free text SIG -->
    <reference value="#AD1"/>
  </text>
  <consumable>
    <manufacturedProduct>
      <manufacturedLabeledDrug nullFlavor="NA"/>
    </manufacturedProduct>
  </consumable>
</substanceAdministration>

```

3.39 Medication Information (V2)

[manufacturedProduct: identifier
urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09 (open)]

Table 165: Medication Information (V2) Contexts

Contained By:	Contains:
Medication Activity (V2) (required) Planned Supply (V2) (optional) Planned Medication Activity (V2) (required) Medication Supply Order (V2) (optional) Medication Dispense (V2) (optional)	

A medication should be recorded as a pre-coordinated ingredient + strength + dose form (e.g., “metoprolol 25mg tablet”, “amoxicillin 400mg/5mL suspension”) where possible. This includes RxNorm codes whose Term Type is SCD (semantic clinical drug), SBD (semantic brand drug), GPCK (generic pack), BPCK (brand pack).

The dose (doseQuantity) represents how many of the consumables are to be administered at each administration event. As a result, the dose is always relative to the consumable. Thus, a patient consuming a single "metoprolol 25mg tablet" per administration will have a doseQuantity of "1", whereas a patient consuming "metoprolol" will have a dose of "25 mg".

Table 166: Medication Information (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
manufacturedProduct (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09)					
@classCode	1..1	SHALL		1098-7408	urn:oid:2.16.840.1.113883.5.110 (RoleClass) = MANU
templateId	1..1	SHALL		1098-7409	
@root	1..1	SHALL		1098-10506	2.16.840.1.113883.10.20.22.4.23
@extension	1..1	SHALL		1098-32579	2014-06-09
id	0..*	MAY		1098-7410	
manufacturedMaterial	1..1	SHALL		1098-7411	
code	1..1	SHALL		1098-7412	urn:oid:2.16.840.1.113762.1.4.10 10.4 (Medication Clinical Drug)
translation	0..*	MAY		1098-31884	urn:oid:2.16.840.1.113762.1.4.10 10.2 (Clinical Substance)
manufacturerOrganization	0..1	MAY		1098-7416	

1. **SHALL** contain exactly one [1..1] **@classCode="MANU"** (CodeSystem: RoleClass urn:oid:2.16.840.1.113883.5.110 **STATIC**) (CONF:1098-7408).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-7409) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.23"** (CONF:1098-10506).
 - b. **SHALL** contain exactly one [1..1] **@extension="2014-06-09"** (CONF:1098-32579).
3. **MAY** contain zero or more [0..*] **id** (CONF:1098-7410).
4. **SHALL** contain exactly one [1..1] **manufacturedMaterial** (CONF:1098-7411).
 Note: A medication should be recorded as a pre-coordinated ingredient + strength + dose form (e.g., "metoprolol 25mg tablet", "amoxicillin 400mg/5mL suspension") where possible. This includes RxNorm codes whose Term Type is SCD (semantic clinical drug), SBD (semantic brand drug), GPCK (generic pack), BPCK (brand pack).
 - a. This **manufacturedMaterial SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [Medication Clinical Drug](#) urn:oid:2.16.840.1.113762.1.4.1010.4 **DYNAMIC** (CONF:1098-7412).
 - i. This **code MAY** contain zero or more [0..*] **translation**, which **MAY** be selected from ValueSet [Clinical Substance](#) urn:oid:2.16.840.1.113762.1.4.1010.2 **DYNAMIC** (CONF:1098-31884).
5. **MAY** contain zero or one [0..1] **manufacturerOrganization** (CONF:1098-7416).

Table 167: Medication Clinical Drug

Value Set: Medication Clinical Drug urn:oid:2.16.840.1.113762.1.4.1010.4			
All prescribable medication formulations represented using either a "generic" or "brand-specific" concept. This includes RxNorm codes whose Term Type is SCD (semantic clinical drug), SBD (semantic brand drug), GPCK (generic pack), BPCK (brand pack), SCDG (semantic clinical drug group), SBDG (semantic brand drug group), SCDF (semantic clinical drug form), or SBDF (semantic brand drug form).			
Value set intensionally defined as a GROUPING made up of: Value Set: Medication Clinical General Drug (2.16.840.1.113883.3.88.12.80.17) (RxNorm Generic Drugs); Value Set: Medication Clinical Brand-specific Drug (2.16.840.1.113762.1.4.1010.5) (RxNorm Branded Drugs).			
Value Set Source: http://phinivads.cdc.gov/vads/ViewValueSet.action?id=239BEF3E-971C-DF11-B334-0015173D1785			
Code	Code System	Code System OID	Print Name
978727	RxNorm	urn:oid:2.16.840.1.113883.6.88	0.2 ML Dalteparin Sodium 12500 UNT/ML Prefilled Syringe [Fragmin]
827318	RxNorm	urn:oid:2.16.840.1.113883.6.88	Acetaminophen 250 MG / Aspirin 250 MG / Caffeine 65 MG Oral Capsule
199274	RxNorm	urn:oid:2.16.840.1.113883.6.88	Aspirin 300 MG Oral Capsule
362867	RxNorm	urn:oid:2.16.840.1.113883.6.88	Cefotetan Injectable Solution [Cefotan]
...			

Table 168: Clinical Substance

<p>Value Set: Clinical Substance urn:oid:2.16.840.1.113762.1.4.1010.2</p> <p>All substances that may need to be represented in the context of health care related activities. This value set is quite broad in coverage and includes concepts that may never be needed in a health care activity event, particularly the included SNOMED CT concepts. The code system-specific value sets in this grouping value set are intended to provide broad coverage of all kinds of agents, but the expectation for use is that the chosen concept identifier for a substance should be appropriately specific and drawn from the appropriate code system as noted: prescribable medications should use RXNORM concepts, more specific drugs and chemicals should be represented using UNII concepts, and any substances not found in either of those two code systems, should use the appropriate SNOMED CT concept. This overarching grouping value set is intended to support identification of prescribable medications, foods, general substances and environmental entities.</p> <p>Value set intensionally defined as a GROUPING made up of: Value Set: Medication Clinical Drug (2.16.840.1.113762.1.4.1010.4) (RxNorm generic and brand codes); Value Set: Unique Ingredient Identifier - Complete Set (2.16.840.1.113883.3.88.12.80.20) (UNII codes); Value Set: Substance Other Than Clinical Drug (2.16.840.1.113762.1.4.1010.9) (SNOMED CT codes).</p> <p>Value Set Source: https://vsac.nlm.nih.gov/</p>			
Code	Code System	Code System OID	Print Name
369436	RxNorm	urn:oid:2.16.840.1.113883.6.88	6-Aminocaproic Acid Oral Tablet [Amicar]
1116447	RxNorm	urn:oid:2.16.840.1.113883.6.88	Acepromazine Oral Tablet
9042592173	Unique Ingredient Identifier (UNII)	urn:oid:2.16.840.1.113883.4.9	ATROMEPIE
7673326042	Unique Ingredient Identifier (UNII)	urn:oid:2.16.840.1.113883.4.9	IRINOTECAN
413480003	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Almond product (substance)
256915001	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Aluminum hydroxide absorbed plasma (substance)
10020007	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Biperiden hydrochloride (substance)
10133003	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Cyclizine lactate (substance)
10174003	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Procabazine hydrochloride (substance)
102259006	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Citrus fruit (substance)
...			

Figure 74: Medication Information (V2) Example

```

<manufacturedProduct classCode="MANU">
  <!-- ** Medication information ** -->
  <templateId root="2.16.840.1.113883.10.20.22.4.23" extension="2014-06-09" />
  <id root="2a620155-9d11-439e-92b3-5d9815ff4ee8" />
  <manufacturedMaterial>
    <code code="573621" displayName="Proventil 0.09 MG/ACTUAT inhalant solution"
codeSystem="2.16.840.1.113883.6.88" codeSystemName="RxNorm" />
  </manufacturedMaterial>
  <manufacturerOrganization>
    <name>Medication Factory Inc.</name>
  </manufacturerOrganization>
</manufacturedProduct>

```

3.40 Medication Supply Order (V2)

[supply: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
(open)]

Table 169: Medication Supply Order (V2) Contexts

Contained By:	Contains:
Medication Activity (V2) (optional)	Immunization Medication Information (V2)
Immunization Activity (V2) (optional)	Instruction (V2)
Medication Dispense (V2) (optional)	Medication Information (V2)

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

Table 170: Medication Supply Order (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
supply (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09)					
@classCode	1..1	SHALL		1098-7427	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SPLY
@moodCode	1..1	SHALL		1098-7428	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = INT
templateId	1..1	SHALL		1098-7429	
@root	1..1	SHALL		1098-10507	2.16.840.1.113883.10.20.22.4.17
@extension	1..1	SHALL		1098-32578	2014-06-09
id	1..*	SHALL		1098-7430	
statusCode	1..1	SHALL		1098-7432	
@code	1..1	SHALL		1098-32362	urn:oid:2.16.840.1.113883.1.11.159331 (ActStatus)
effectiveTime	0..1	SHOULD	IVL_TS	1098-15143	
high	1..1	SHALL		1098-15144	
repeatNumber	0..1	SHOULD		1098-7434	
quantity	0..1	SHOULD		1098-7436	
product	0..1	MAY		1098-7439	
manufacturedProduct	1..1	SHALL		1098-16093	Medication Information (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09)
product	0..1	MAY		1098-9334	
manufacturedProduct	1..1	SHALL		1098-31695	Immunization Medication Information (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09)
author	0..1	MAY		1098-7438	
entryRelationship	0..1	MAY		1098-7442	
@typeCode	1..1	SHALL		1098-7444	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ

@inversionInd	1..1	SHALL		1098-7445	true
act	1..1	SHALL		1098-31391	Instruction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.2.0.22.4.20:2014-06-09)

1. **SHALL** contain exactly one [1..1] **@classCode="SPLY"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-7427).
2. **SHALL** contain exactly one [1..1] **@moodCode="INT"** (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1098-7428).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-7429) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.17"** (CONF:1098-10507).
 - b. **SHALL** contain exactly one [1..1] **@extension="2014-06-09"** (CONF:1098-32578).
4. **SHALL** contain at least one [1..*] **id** (CONF:1098-7430).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-7432).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet [ActStatus](#) urn:oid:2.16.840.1.113883.1.11.159331 **DYNAMIC** (CONF:1098-32362).
6. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:1098-15143) such that it
 - a. **SHALL** contain exactly one [1..1] **high** (CONF:1098-15144).

In "INT" (intent) mood, the repeatNumber defines the number of allowed administrations. For example, a repeatNumber of "3" means that the substance can be administered up to 3 times. In "EVN" (event) mood, the repeatNumber is the number of occurrences. For example, a repeatNumber of "3" in a substance administration event means that the current administration is the 3rd in a series.

7. **SHOULD** contain zero or one [0..1] **repeatNumber** (CONF:1098-7434).
8. **SHOULD** contain zero or one [0..1] **quantity** (CONF:1098-7436).
9. **MAY** contain zero or one [0..1] **product** (CONF:1098-7439) 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:1098-16093).
10. **MAY** contain zero or one [0..1] **product** (CONF:1098-9334) 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:1098-31695).
 - i. A supply act **SHALL** contain one product/Medication Information **OR** one product/Immunization Medication Information template (CONF:1098-16870).
11. **MAY** contain zero or one [0..1] **author** (CONF:1098-7438).
12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1098-7442).
 - a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode="SUBJ"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1098-7444).

- b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] `@inversionInd="true"` True (CONF:1098-7445).
- c. The entryRelationship, if present, **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:1098-31391).

Figure 75: Medication Supply Order (V2) Example

```

<supply classCode="SPLY" moodCode="INT">
  <templateId root="2.16.840.1.113883.10.20.22.4.17" extension="2014-06-09" />
  <id root="aba2fc75-1a43-435f-8309-d24e4be5f1cd" />
  <statusCode code="completed" />
  <effectiveTime xsi:type="IVL_TS">
    <low value="20070103" />
    <high nullFlavor="UNK" />
  </effectiveTime>
  <repeatNumber value="1" />
  <quantity value="75" />
  <product>
    <manufacturedProduct classCode="MANU">
      <templateId root="2.16.840.1.113883.10.20.22.4.23" extension="2014-06-09" />
      . . .
    </manufacturedProduct>
  </product>
  <author>
    . . .
  </author>
  <entryRelationship typeCode="SUBJ" inversionInd="true">
    <act classCode="ACT" moodCode="INT">
      <templateId root="2.16.840.1.113883.10.20.22.4.20" extension="2014-06-09" />
      . . .
    </act>
  </entryRelationship>
</supply>

```

3.41 Patient Care Experience (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.48:2016-02-01 (open)]

Table 171: Patient Care Experience (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	

This template represents the QDM Datatype: Patient Care Experience. Patient Care Experience describes information collected from patients about their perceptions of the care they received.

Table 172: Patient Care Experience (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.48:2016-02-01)					
@classCode	1..1	SHALL		2228-12464	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-12465	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..0	SHALL NOT		2228-28085	
templateId	1..1	SHALL		2228-12466	
@root	1..1	SHALL		2228-12467	2.16.840.1.113883.10.20.24.3.48
@extension	1..1	SHALL		2228-27290	2016-02-01
id	1..*	SHALL		2228-12469	
code	1..1	SHALL		2228-12470	
@code	1..1	SHALL		2228-13037	77218-6
@codeSystem	1..1	SHALL		2228-27555	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		2228-12471	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		2228-12472	
low	1..1	SHALL		2228-27553	
high	0..1	MAY		2228-27554	
value	1..1	SHALL	CD	2228-13038	
@sdct:valueSet	1..1	SHALL		2228-27647	

1. **SHALL** contain exactly one [1..1] @classCode="OBS" observation, which **SHALL** be selected from CodeSystem HL7ActClass (urn:oid:2.16.840.1.113883.5.6) (CONF:2228-12464).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" event, which **SHALL** be selected from CodeSystem ActMood (urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-12465).
3. **SHALL NOT** contain [0..0] @negationInd (CONF:2228-28085).
4. **SHALL** contain exactly one [1..1] templateId (CONF:2228-12466) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.48" (CONF:2228-12467).

- b. **SHALL** contain exactly one [1..1] @extension="2016-02-01" (CONF:2228-27290).
- 5. **SHALL** contain at least one [1..*] id (CONF:2228-12469).
- 6. **SHALL** contain exactly one [1..1] code (CONF:2228-12470).
 - a. This code **SHALL** contain exactly one [1..1] @code="77218-6" Patient satisfaction with healthcare delivery (CONF:2228-13037).
 - 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:2228-27555).
- 7. **SHALL** contain exactly one [1..1] statusCode="completed", which **SHALL** be selected from CodeSystem ActStatus (urn:oid:2.16.840.1.113883.5.14) (CONF:2228-12471).
- 8. **SHALL** contain exactly one [1..1] effectiveTime (CONF:2228-12472).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] low (CONF:2228-27553).
Note: QDM Attribute: Start Datetime
 - b. This effectiveTime **MAY** contain zero or one [0..1] high (CONF:2228-27554).
Note: QDM Attribute: Stop Datetime
- 9. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:2228-13038).
 - a. This value **SHALL** contain exactly one [1..1] @sdtc:valueSet (CONF:2228-27647).

Figure 76: Patient Care Experience (V3) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Patient Care Experience (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.48" extension="2016-02-01" />
  <id root="ee6d068d-f209-4913-b999-9efa74358914" />
  <code code="77218-6"
  codeSystem="2.16.840.1.113883.6.1"
  codeSystemName="LOINC"
  displayName="Patient satisfaction with healthcare delivery" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start Datetime -->
    <low value="20150101" />
    <!-- QDM Attribute: Stop Datetime -->
    <high value="20151231" />
  </effectiveTime>
  <value xsi:type="CD"
  code="185481008"
  displayName="Dissatisfied with doctor (finding)"
  codeSystem="2.16.840.1.113883.6.96"
  codeSystemName="SNOMED CT"
  sdtc:valueSet="{ $QDMElementValueSetOID }"/>
</observation>

```

3.42 Patient Characteristic Clinical Trial Participant (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.51:2016-02-01
(open)]

Table 173: Patient Characteristic Clinical Trial Participant (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Reason (V2)

This template represents the QDM datatype: Patient Characteristic, Clinical Trial Participant.

This datatype indicates that the patient is a clinical trial participant. MoodCode is constrained to “EVN” and statusCode is constrained to “active”.

Table 174: Patient Characteristic Clinical Trial Participant (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.51:2016-02-01)					
@classCode	1..1	SHALL		2228-16711	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-12526	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..0	SHALL NOT		2228-28086	
templateId	1..1	SHALL		2228-12537	
@root	1..1	SHALL		2228-12538	2.16.840.1.113883.10.20.24.3.51
@extension	1..1	SHALL		2228-27026	2016-02-01
id	1..*	SHALL		2228-26996	
code	1..1	SHALL		2228-13041	
@code	1..1	SHALL		2228-28130	ASSERTION
@codeSystem	1..1	SHALL		2228-28131	urn:oid:2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		2228-13042	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = active
effectiveTime	1..1	SHALL		2228-12536	
low	1..1	SHALL		2228-27668	
high	0..1	MAY		2228-27669	
value	1..1	SHALL	CD	2228-16712	
@sdtc:valueSet	1..1	SHALL		2228-27648	
entryRelationship	0..1	MAY		2228-12531	
@typeCode	1..1	SHALL		2228-12532	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		2228-12533	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-16711).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** event, which **SHALL** be selected from CodeSystem ActMood (urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-12526).
3. **SHALL NOT** contain [0..0] **@negationInd** (CONF:2228-28086).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-12537) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.51"** (CONF:2228-12538).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-27026).
5. **SHALL** contain at least one [1..*] **id** (CONF:2228-26996).
6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-13041).
 - a. This code **SHALL** contain exactly one [1..1] **@code="ASSERTION"** Assertion (CONF:2228-28130).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem="2.16.840.1.113883.5.4"** (CodeSystem: ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:2228-28131).
7. **SHALL** contain exactly one [1..1] **statusCode="active"** (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:2228-13042).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:2228-12536).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:2228-27668).
Note: QDM Attribute: Start Datetime
 - b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:2228-27669).
Note: QDM Attribute: Stop Datetime
9. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:2228-16712).
 - a. This value **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-27648).
10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-12531) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** has reason, which **SHALL** be selected from CodeSystem HL7ActRelationshipType (urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-12532).
 - b. **SHALL** contain exactly one [1..1] **Reason (V2)** (identifier: urn:h17ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-12533).

Figure 77: Patient Characteristic Clinical Trial Participant (V3) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Patient Characteristic Clinical Trial Participant (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.51" extension="2016-02-01" />
  <id root="b42132cb-9ea4-4d84-93ce-4b5cd2d2ac3d" />
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" />
  <statusCode code="active" />
  <effectiveTime>
    <!-- QDM Attribute: Start Datetime -->
    <low value="20120303" />
    <!-- QDM Attribute: End Datetime -->
    <high value="20150405" />
  </effectiveTime>
  <value xsi:type="CD" code="428024001" codeSystem="2.16.840.1.113883.6.96"
  codeSystemName="SNOMED CT" displayName="clinical trial participant"
  sdtc:valueSet="{ $QDMElementValueSetOID}" />
  <!-- QDM Attribute: Reason -->
  <entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</observation>

```

3.43 Patient Characteristic Observation Assertion (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.103:2016-02-01 (open)]

Table 175: Patient Characteristic Observation Assertion (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	

This template represents the QDM datatype: Patient Characteristic.

Patient Characteristic represents specific factors about a patient. Included are demographics, behavioral factors, social or cultural factors, available resources, and preferences. Behaviors reference responses or actions that affect (either positively or negatively) health or healthcare. Included in this category are mental health issues, adherence issues unrelated to other factors or resources, coping ability, grief issues, and substance use/abuse. Social/cultural factors are characteristics of an individual related to family/caregiver support, education, and literacy (including health literacy), primary language, cultural beliefs (including health beliefs), persistent life stressors, spiritual and religious beliefs, immigration status, and history of abuse or neglect. Resources are means available to a patient to meet health and healthcare needs, which might include caregiver support, insurance coverage, financial resources, and community resources to which the patient is already connected and from which the patient is receiving benefit. Preferences are choices made by patients and their caregivers relative to

options for care or treatment (including scheduling, care experience, and meeting of personal health goals) and the sharing and disclosure of their health information.

This is a pattern that can be used for any simple assertion observation of a patient characteristic that is not represented by one of the specific Patient Characteristics (Birth Date, Clinical Trial Participant, Ethnicity, Expired, Payer, Race or Sex).

This template is to be used to represent the retired QDM Datatypes, Patient Characteristic, Gestational Age, Patient Characteristic Estimated Date of Conception, Patient Characteristic, ECOG Performance Status Poor and Patient Characteristic, Tobacco User and Non-User.

This template could also be used to represent occupational data for health such as current industry, occupation, and employment status.

Table 176: Patient Characteristic Observation Assertion (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.103:2016-02-01)					
@classCode	1..1	SHALL		2228-16536	OBS
@moodCode	1..1	SHALL		2228-16537	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = EVN
@negationInd	0..0	SHALL NOT		2228-28623	
templateId	1..1	SHALL		2228-26962	
@root	1..1	SHALL		2228-26963	2.16.840.1.113883.10.20.24.3.103
@extension	1..1	SHALL		2228-27781	2016-02-01
id	1..*	SHALL		2228-16538	
code	1..1	SHALL		2228-16544	
@code	1..1	SHALL		2228-16545	ASSERTION
@codeSystem	1..1	SHALL		2228-28135	urn:oid:2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		2228-16539	completed
effectiveTime	1..1	SHALL		2228-16540	
low	1..1	SHALL		2228-27670	
high	0..1	MAY		2228-27671	
value	1..1	SHALL	CD	2228-16541	
@sdtc:valueSet	1..1	SHALL		2228-27672	

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:2228-16536).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-16537).
3. **SHALL NOT** contain [0..0] @negationInd (CONF:2228-28623).
4. **SHALL** contain exactly one [1..1] templateId (CONF:2228-26962) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.103" (CONF:2228-26963).
 - b. **SHALL** contain exactly one [1..1] @extension="2016-02-01" (CONF:2228-27781).

5. **SHALL** contain at least one [1..*] **id** (CONF:2228-16538).
6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-16544).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" (CONF:2228-16545).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.5.4" (CodeSystem: ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:2228-28135).
7. **SHALL** contain exactly one [1..1] **statusCode**="completed" Completed (CONF:2228-16539).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:2228-16540).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:2228-27670).
Note: QDM Attribute: Start Datetime
 - b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:2228-27671).
Note: QDM Attribute: Stop Datetime
9. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:2228-16541).
 - a. This value **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-27672).

Figure 78: Patient Characteristic Observation Assertion (V3) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Patient Characteristic Observation Assertion (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.103" extension="2016-02-01" />
  <id root="94de1700-9629-40b4-b56d-a4eac5f48726" />
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start Datetime -->
    <low value="201506151030" />
    <!-- QDM Attribute: Stop Datetime -->
    <high value="201506161230" />
  </effectiveTime>
  <!-- Patient Characteristic -->
  <value xsi:type="CD" code="422894000" codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="Eastern Cooperative Oncology Group performance status - grade 2 (finding)"
    sdtc:valueSet="{ $QDMElementValueSetOID}" />
</observation>

```

3.44 Patient Characteristic Payer

[observation: identifier urn:oid:2.16.840.1.113883.10.20.24.3.55 (open)]

Table 177: Patient Characteristic Payer Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	

This template represents the QDM Datatype: Patient Characteristic, Payer. This datatype represents the policy or program providing the coverage for the patient.

Table 178: Patient Characteristic Payer Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.55)					
@classCode	1..1	SHALL		67-14213	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		67-14214	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		67-12561	
@root	1..1	SHALL		67-12562	2.16.840.1.113883.10.20.24.3.55
id	1..*	SHALL		67-12564	
code	1..1	SHALL		67-12565	
@code	1..1	SHALL		67-14029	48768-6
@codeSystem	1..1	SHALL		67-27009	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
effectiveTime	1..1	SHALL		67-26933	
low	1..1	SHALL		67-26934	
high	0..1	SHOULD		67-26935	
value	1..1	SHALL	CD	67-16710	urn:oid:2.16.840.1.114222.4.11.3591 (Payer)

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:67-14213).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:67-14214).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:67-12561) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.55"** (CONF:67-12562).
4. **SHALL** contain at least one [1..*] **id** (CONF:67-12564).
5. **SHALL** contain exactly one [1..1] **code** (CONF:67-12565).
 - a. This code **SHALL** contain exactly one [1..1] **@code="48768-6"** Payment source (CONF:67-14029).
 - 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:67-27009).
6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:67-26933).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:67-26934).

- b. This effectiveTime **SHOULD** contain zero or one [0..1] **high** (CONF:67-26935).
7. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the code **SHALL** be selected from ValueSet [Payer](#) urn:oid:2.16.840.1.114222.4.11.3591 **DYNAMIC** (CONF:67-16710).

Table 179: Payer

Value Set: Payer urn:oid:2.16.840.1.114222.4.11.3591			
A value set of Public Health Data Standards Consortium Source of Payment Typology Version 3.0 Codes			
Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
1	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.11388 3.3.221.5	Medicare
2	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.11388 3.3.221.5	Medicaid
311	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.11388 3.3.221.5	Tricare (CHAMPUS)
33	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.11388 3.3.221.5	Indian Health Service or Tribe
62	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.11388 3.3.221.5	BC Indemnity
61	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.11388 3.3.221.5	BC Managed Care
611	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.11388 3.3.221.5	BC Managed Care - HMO
619	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.11388 3.3.221.5	BC Managed Care - Other
613	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.11388 3.3.221.5	BC Managed Care - POS
612	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.11388 3.3.221.5	BC Managed Care - PPO
...			

Figure 79: Patient Characteristic Payer Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Patient Characteristic Payer -->
  <templateId root="2.16.840.1.113883.10.20.24.3.55" />
  <id root="4ddflcc3-e325-472e-ad76-b2c66a5ee164" />
  <code code="48768-6" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
    displayName="Payment source" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start Datetime -->
    <low value="20110303" />
    <!-- QDM Attribute: Stop Datetime -->
    <high value="20160303" />
  </effectiveTime>
  <!-- Payer -->
  <value xsi:type="CD" code="1" codeSystem="2.16.840.1.113883.3.221.5"
    codeSystemName="Source of Payment Typology" displayName="Medicare"
    sdtc:valueSet="{ $QDMElementValueSetOID}" />
</observation>

```

3.45 Planned Act (V2)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.39:2014-06-09 (open)]

Table 180: Planned Act (V2) Contexts

Contained By:	Contains:
	Author Participation Indication (V2) Instruction (V2) Priority Preference

This template represents planned acts that are not classified as an observation or a procedure according to the HL7 RIM. Examples of these acts are a dressing change, the teaching or feeding of a patient or the providing of comfort measures.

The priority of the activity to the patient and provider is communicated through Priority Preference. The effectiveTime indicates the time when the activity is intended to take place.

Table 181: Planned Act (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.39:2014-06-09)					
@classCode	1..1	SHALL		1098-8538	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		1098-8539	urn:oid:2.16.840.1.113883.11.20.9.23 (Planned moodCode (Act/Encounter/Procedure))
templateId	1..1	SHALL		1098-30430	
@root	1..1	SHALL		1098-30431	2.16.840.1.113883.10.20.22.4.39
@extension	1..1	SHALL		1098-32552	2014-06-09
id	1..*	SHALL		1098-8546	
code	1..1	SHALL		1098-31687	
statusCode	1..1	SHALL		1098-30432	
@code	1..1	SHALL		1098-32019	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = active
effectiveTime	0..1	SHOULD		1098-30433	
performer	0..*	MAY		1098-30435	
author	0..1	SHOULD		1098-32020	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..*	MAY		1098-31067	
@typeCode	1..1	SHALL		1098-31068	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		1098-31069	Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143)
entryRelationship	0..*	MAY		1098-32021	
@typeCode	1..1	SHALL		1098-32022	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		1098-32023	Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09)
entryRelationship	0..*	MAY		1098-32024	

@typeCode	1..1	SHALL		1098-32025	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
act	1..1	SHALL		1098-32026	Instruction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09)

1. **SHALL** contain exactly one [1..1] @classCode="ACT" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-8538).
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:1098-8539).
3. **SHALL** contain exactly one [1..1] templateId (CONF:1098-30430) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.39" (CONF:1098-30431).
 - b. **SHALL** contain exactly one [1..1] @extension="2014-06-09" (CONF:1098-32552).
4. **SHALL** contain at least one [1..*] id (CONF:1098-8546).
5. **SHALL** contain exactly one [1..1] code (CONF:1098-31687).
 - a. This code in a Planned Act **SHOULD** be selected from LOINC (CodeSystem: 2.16.840.1.113883.6.1) **OR** SNOMED CT (CodeSystem: 2.16.840.1.113883.6.96) (CONF:1098-32030).
6. **SHALL** contain exactly one [1..1] statusCode (CONF:1098-30432).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="active" Active (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:1098-32019).

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

7. **SHOULD** contain zero or one [0..1] effectiveTime (CONF:1098-30433).

The clinician who is expected to carry out the act could be identified using act/performer.

8. **MAY** contain zero or more [0..*] performer (CONF:1098-30435).

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

9. **SHOULD** contain zero or one [0..1] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1098-32020).

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

10. **MAY** contain zero or more [0..*] entryRelationship (CONF:1098-31067) 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:1098-31068).
 - b. **SHALL** contain exactly one [1..1] [Priority Preference](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143) (CONF:1098-31069).

The following entryRelationship represents the indication for the act.

11. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-32021) 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:1098-32022).
 - 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:1098-32023).

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

12. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-32024) 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) (CONF:1098-32025).
 - b. **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:1098-32026).

Table 182: 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/			
Code	Code System	Code System OID	Print Name
INT	ActMood	urn:oid:2.16.840.1.113883.5.1001	Intent
ARQ	ActMood	urn:oid:2.16.840.1.113883.5.1001	Appointment Request
PRMS	ActMood	urn:oid:2.16.840.1.113883.5.1001	Promise
PRP	ActMood	urn:oid:2.16.840.1.113883.5.1001	Proposal
RQO	ActMood	urn:oid:2.16.840.1.113883.5.1001	Request
APT	ActMood	urn:oid:2.16.840.1.113883.5.1001	Appointment

Figure 80: Planned Act (V2) Example

```

<act classCode="ACT" moodCode="INT">
  <templateId root="2.16.840.1.113883.10.20.22.4.39" extension="2014-06-09" />
  <id root="7658963e-54da-496f-bf18-dea1dddaa3b0" />
  <code code="423171007" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"
  displayName="Elevate head of bed" />
  <statusCode code="active" />
  <effectiveTime value="20130902" />
  <author typeCode="AUT">
    <!-- Author Participation -->
  </author>
  <entryRelationship typeCode="RSON">
    <!-- Patient Priority Preference -->
    ...
  </entryRelationship>
  <entryRelationship typeCode="RSON">
    <!-- Provider Priority Preference -->
    ...
  </entryRelationship>
  <entryRelationship typeCode="RSON">
    <!-- Indication (V2) -->
    ...
  </entryRelationship>
  <entryRelationship typeCode="SUBJ">
    <!-- Instruction (V2) -->
    ...
  </entryRelationship>
  <entryRelationship typeCode="COMP">
    <!-- Planned Coverage -->
    ...
  </entryRelationship>
</act>

```

3.45.1 Intervention Order (V3)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.31:2016-02-01 (open)]

Table 183: Intervention Order (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Author Participation Reason (V2)

This template represents the QDM datatype: Intervention, Order.

An intervention order is a request by a physician or appropriately licensed care provider to an appropriate provider or facility to perform a service and/or other type of action necessary for care. An example of this is an order for smoking cessation counseling or physical therapy.

The moodCode is constrained to “RQO”, an author is required to represent the ordering clinician and an author time/date stamp is required.

QDM attributes: Start Datetime and Stop Datetime are represented by author/time (a single point in time) and correspond to when the order was signed. The time the activity is intended to take place is represented by effectiveTime.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 184: Intervention Order (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.31:2016-02-01)					
@classCode	1..1	SHALL		2228-27353	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		2228-13742	urn:oid:2.16.840.1.113883.5.100 1 (ActMood) = RQO
@negationInd	0..1	MAY		2228-28071	
templateId	1..1	SHALL		2228-13743	
@root	1..1	SHALL		2228-13744	2.16.840.1.113883.10.20.24.3.31
@extension	1..1	SHALL		2228-26556	2016-02-01
code	1..1	SHALL		2228-13746	
@sdtc:valueSet	1..1	SHALL		2228-27632	
author	1..1	SHALL		2228-27343	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..1	MAY		2228-13756	
@typeCode	1..1	SHALL		2228-13757	urn:oid:2.16.840.1.113883.5.100 2 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		2228-27159	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)

1. Conforms to [Planned Act \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.39:2014-06-09).

2. **SHALL** contain exactly one [1..1] **@classCode="ACT"** Act (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27353).
3. **SHALL** contain exactly one [1..1] **@moodCode="RQO"** Request (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-13742).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28071).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-13743) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.31"** (CONF:2228-13744).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-26556).
6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-13746).
 - a. This code **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-27632).

author/time represents the time the order was signed.

7. **SHALL** contain exactly one [1..1] **Author Participation** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:2228-27343).
Note: QDM Attribute: Start Datetime, Stop Datetime
8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-13756) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-13757).
 - b. **SHALL** contain exactly one [1..1] **Reason (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-27159).

Figure 81: Intervention Order (V3) Example

```

<act classCode="ACT" moodCode="RQO">
  <!-- Confirms to C-CDA R2.1 Planned Act (V2) template -->
  <templateId root="2.16.840.1.113883.10.20.22.4.39" extension="2014-06-09" />
  <!-- Intervention Order (V3) template -->
  <templateId root="2.16.840.1.113883.10.20.24.3.31" extension="2016-02-01" />
  <id root="db734647-fc99-424c-a864-7e3cda82e703" />
  <!-- Intervention -->
  <code code="419553002" codeSystem="2.16.840.1.113883.6.96"
  codeSystemName="SNOMED CD" displayName="diet education"
  sdtc:valueSet="{ $QDMElementValueSetOID}" />
  <statusCode code="active" />
  <author>
    <!-- C-CDA R2.1 Author Participation -->
    <templateId root="2.16.840.1.113883.10.20.22.4.119" />
    <time value="201504081130" />
    <assignedAuthor>
      <id root="2.16.840.1.113883.4.6" extension="111111111" />
    </assignedAuthor>
  </author>
  <!-- QDM Attribute: Reason -->
  <entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</act>

```

3.45.2 Intervention Recommended (V3)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.33:2016-02-01 (open)]

Table 185: Intervention Recommended (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Author Participation Reason (V2)

This template represents the QDM datatype: Intervention, Recommended.

An intervention recommendation is a recommendation for an influencing force or act to modify a given state of affairs. An intervention is any action carried out (by a healthcare provider or a consumer) to improve or maintain the health of a subject of care with the expectation of producing an outcome. An example of this is a recommendation for smoking cessation counseling.

The moodCode is constrained to “INT”, an author is required to represent the recommending clinician and an author time/date stamp is required.

QDM attributes: Start Datetime and Stop Datetime are represented by author/time and correspond to when the recommendation was signed, which is a single point in time. The time the activity is recommended to take place is represented by effectiveTime.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 186: Intervention Recommended (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.33:2016-02-01)					
@classCode	1..1	SHALL		2228-27355	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		2228-13763	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = INT
@negationInd	0..1	MAY		2228-28073	
templateId	1..1	SHALL		2228-13764	
@root	1..1	SHALL		2228-13765	2.16.840.1.113883.10.20.24.3.33
@extension	1..1	SHALL		2228-26557	2016-02-01
code	1..1	SHALL		2228-13767	
@sdtc:valueSet	1..1	SHALL		2228-27635	
author	1..1	SHALL		2228-27349	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..1	MAY		2228-13777	
@typeCode	1..1	SHALL		2228-13778	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		2228-27160	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)

1. Conforms to [Planned Act \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.39:2014-06-09).
2. **SHALL** contain exactly one [1..1] @classCode="ACT" Act (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27355).
3. **SHALL** contain exactly one [1..1] @moodCode="INT" Intent (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-13763).

4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28073).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-13764) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.33"** (CONF:2228-13765).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-26557).
6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-13767).
 - a. This code **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-27635).
author/time is a single point in time. It represents the time the recommendation is made.
7. **SHALL** contain exactly one [1..1] **Author Participation** (identifier:
urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:2228-27349).
8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-13777) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** (CodeSystem:
HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-13778).
 - b. **SHALL** contain exactly one [1..1] **Reason (V2)** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-27160).

Figure 82: Intervention Recommended (V3) Example

```

<act classCode="ACT" moodCode="INT">
  <!-- Conforms to C-CDA R2.1 Planned Act (V2) template -->
  <templateId root="2.16.840.1.113883.10.20.22.4.39" extension="2014-06-09" />
  <!-- Intervention Recommended (V3) template -->
  <templateId root="2.16.840.1.113883.10.20.24.3.33" extension="2016-02-01" />
  <id root="db734647-fc99-424c-a864-7e3cda82e703" />
  <!-- Intervention -->
  <code code="419553002" codeSystem="2.16.840.1.113883.6.96"
  codeSystemName="SNOMED CD" displayName="diet education"
  sdtc:valueSet="{ $QDMElementValueSetOID }" />
  <statusCode code="active" />
  <author>
    <!-- C-CDA R2 Author Participation -->
    <templateId root="2.16.840.1.113883.10.20.22.4.119" />
    <time value="201504081130"/>
    <assignedAuthor>
      <id root="2.16.840.1.113883.4.6" extension="111111111" />
    </assignedAuthor>
  </author>
  <!-- QDM Attribute: Reason -->
  <entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</act>

```

3.46 Planned Coverage

[act: identifier urn:oid:2.16.840.1.113883.10.20.22.4.129 (open)]

Table 187: Planned Coverage Contexts

Contained By:	Contains:
Planned Procedure (V2) (optional) Planned Observation (V2) (optional) Planned Supply (V2) (optional)	Author Participation

This template represents the insurance coverage intended to cover an act or procedure.

Table 188: Planned Coverage Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.129)					
@classCode	1..1	SHALL		1098-31945	urn:oid:2.16.840.1.113883.5.4 (ActCode) = ACT
@moodCode	1..1	SHALL		1098-31946	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = INT
templateId	1..1	SHALL		1098-31947	
@root	1..1	SHALL		1098-31948	2.16.840.1.113883.10.20.22.4.129
id	1..*	SHALL		1098-31950	
code	1..1	SHALL		1098-31951	
@code	1..1	SHALL		1098-31952	48768-6
@codeSystem	1..1	SHALL		1098-31953	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		1098-31954	
@code	1..1	SHALL		1098-31955	urn:oid:2.16.840.1.113883.5.4 (ActCode) = active
author	0..*	MAY		1098-32178	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	1..1	SHALL		1098-31967	
@typeCode	1..1	SHALL		1098-31968	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
act	1..1	SHALL		1098-31969	
@classCode	1..1	SHALL		1098-31970	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		1098-31971	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = INT
id	1..*	SHALL		1098-31972	
code	1..1	SHALL		1098-31973	urn:oid:2.16.840.1.114222.4.11.3591 (Payer)
statusCode	1..1	SHALL		1098-31974	
@code	1..1	SHALL		1098-31975	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = active

1. **SHALL** contain exactly one [1..1] **@classCode="ACT"** act (CodeSystem: ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:1098-31945).
2. **SHALL** contain exactly one [1..1] **@moodCode="INT"** Intent (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:1098-31946).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-31947) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.129"** (CONF:1098-31948).
4. **SHALL** contain at least one [1..*] **id** (CONF:1098-31950).
5. **SHALL** contain exactly one [1..1] **code** (CONF:1098-31951).
 - a. This code **SHALL** contain exactly one [1..1] **@code="48768-6"** Payment Sources (CONF:1098-31952).
 - 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:1098-31953).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-31954).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="active"** Active (CodeSystem: ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:1098-31955).
7. **MAY** contain zero or more [0..*] **Author Participation** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1098-32178).
8. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:1098-31967) 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:1098-31968).
 - b. **SHALL** contain exactly one [1..1] **act** (CONF:1098-31969).
 - i. This act **SHALL** contain exactly one [1..1] **@classCode="ACT"** ACT (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:1098-31970).
 - ii. This act **SHALL** contain exactly one [1..1] **@moodCode="INT"** intent (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:1098-31971).

These act/identifiers are unique identifiers for the policy or program providing the coverage.

- iii. This act **SHALL** contain at least one [1..*] **id** (CONF:1098-31972).
- iv. This act **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet **Payer** urn:oid:2.16.840.1.114222.4.11.3591 **DYNAMIC** (CONF:1098-31973).
- v. This act **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-31974).
 1. This statusCode **SHALL** contain exactly one [1..1] **@code="active"** Active (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:1098-31975).

Figure 83: Planned Coverage Example

```

<act classCode="ACT" moodCode="INT">
  <templateId root="2.16.840.1.113883.10.20.22.4.129" />
  <id root="03f5e10b-7e79-4610-9626-d2984ff10cc1" />
  <code code="48768-6" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
  displayName="Payment Sources" />
  <statusCode code="active" />
  <entryRelationship typeCode="COMP">
    <act classCode="ACT" moodCode="INT">
      <!-- These act/identifiers are unique identifiers
      for the policy or program providing the coverage. -->
      <id root="4c9a3be1-5f09-46dd-88e7-14c8ec612e4c" />
      <code code="111" displayName="Medicare HMO"
      codeSystemName="Source of Payment Typology (PHDSC)"
      codeSystem="2.16.840.1.113883.3.221.5" />
      <statusCode code="active" />
    </act>
  </entryRelationship>
</act>

```

3.47 Planned Encounter (V2)

[encounter: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.40:2014-06-09 (open)]

Table 189: Planned Encounter (V2) Contexts

Contained By:	Contains:
	Author Participation Indication (V2) Priority Preference Service Delivery Location

This template represents a planned or ordered encounter. The type of encounter (e.g., comprehensive outpatient visit) is represented. Clinicians participating in the encounter and the location of the planned encounter may be captured. The priority that the patient and providers place on the encounter may be represented.

Table 190: Planned Encounter (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
encounter (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.40:2014-06-09)					
@classCode	1..1	SHALL		1098-8564	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		1098-8565	urn:oid:2.16.840.1.113883.11.20.9.23 (Planned moodCode (Act/Encounter/Procedure))
templateId	1..1	SHALL		1098-30437	
@root	1..1	SHALL		1098-30438	2.16.840.1.113883.10.20.22.4.40
@extension	1..1	SHALL		1098-32553	2014-06-09
id	1..*	SHALL		1098-8567	
code	0..1	SHOULD		1098-31032	urn:oid:2.16.840.1.113883.11.20.9.52 (Encounter Planned)
statusCode	1..1	SHALL		1098-30439	
@code	1..1	SHALL		1098-31880	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = active
effectiveTime	0..1	SHOULD		1098-30440	
performer	0..*	MAY		1098-30442	
assignedEntity	1..1	SHALL		1098-31874	
author	0..*	SHOULD		1098-32045	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
participant	0..*	MAY		1098-30443	
@typeCode	1..1	SHALL		1098-31875	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = LOC
participantRole	1..1	SHALL		1098-31876	Service Delivery Location (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.32)
entryRelationship	0..1	MAY		1098-31033	
@typeCode	1..1	SHALL		1098-31034	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		1098-31035	Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.20.

					22.4.143
entryRelationship	0..*	MAY		1098-31877	
@typeCode	1..1	SHALL		1098-31878	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		1098-31879	Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09)

1. **SHALL** contain exactly one [1..1] **@classCode="ENC"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-8564).
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:1098-8565).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-30437) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.40"** (CONF:1098-30438).
 - b. **SHALL** contain exactly one [1..1] **@extension="2014-06-09"** (CONF:1098-32553).
4. **SHALL** contain at least one [1..*] **id** (CONF:1098-8567).

Records the type of encounter ordered or recommended.

5. **SHOULD** contain zero or one [0..1] **code**, which **SHOULD** be selected from ValueSet [Encounter Planned](#) urn:oid:2.16.840.1.113883.11.20.9.52 **DYNAMIC** (CONF:1098-31032).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-30439).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="active"** Active (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:1098-31880).
7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:1098-30440).

Performers represent clinicians who are responsible for assessing and treating the patient.

8. **MAY** contain zero or more [0..*] **performer** (CONF:1098-30442) such that it
 - a. **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:1098-31874).

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

9. **SHOULD** contain zero or more [0..*] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1098-32045).

This location participation captures where the planned or ordered encounter may take place.

10. **MAY** contain zero or more [0..*] **participant** (CONF:1098-30443) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="LOC"** Location (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1098-31875).
 - b. **SHALL** contain exactly one [1..1] [Service Delivery Location](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.32) (CONF:1098-31876).

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

11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1098-31033) 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:1098-31034).
 - b. **SHALL** contain exactly one [1..1] **Priority Preference** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143) (CONF:1098-31035).

The following entryRelationship captures the reason for the planned or ordered encounter

12. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-31877) 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:1098-31878).
 - 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:1098-31879).

Table 191: Encounter Planned

Value Set: Encounter Planned urn:oid:2.16.840.1.113883.11.20.9.52 A value set of SNOMED-CT codes descending from "308335008" patient encounter procedure (procedure). Value Set Source: http://vts1.vetmed.vt.edu/TerminologyMgt/RF2Browser/ISA.cfm?SCT_ConceptID=308335008			
Code	Code System	Code System OID	Print Name
185349003	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	encounter for "check-up" (procedure)
439740005	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	postoperative follow-up visit (procedure)
439708006	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	home visit (procedure)
438515009	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	E-mail encounter from carer (procedure)
14736009	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	patient evaluation and management
4525004	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	emergency department patient visit
12586001	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	physician direction of emergency medical systems
11429006	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	consultation
680007	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	radiation physics consultation
726007	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	pathology consultation, comprehensive, records and specimen with report
...			

Figure 84: Planned Encounter (V2) Example

```

<entry>
  <encounter moodCode="INT" classCode="ENC">
    <templateId root="2.16.840.1.113883.10.20.22.4.40" extension="2014-06-09" />
    <!-- Planned Encounter V2 template -->
    <id root="9a6d1bac-17d3-4195-89a4-1121bc809b4d" />
    <code code="185349003" displayName="encounter for check-up (procedure)"
codeSystemName="SNOMED CT" codeSystem="2.16.840.1.113883.6.96"> </code>
    <statusCode code="active" />
    <effectiveTime value="20130615" />
    <performer>
      <assignedEntity>
        ...
      </assignedEntity>
    </performer>
    <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-->
        ...
      </observation>
    </entryRelationship>
  </encounter>
</entry>

```

3.47.1 Encounter Order (V3)

[encounter: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.22:2016-02-01
(open)]

Table 192: Encounter Order (V3) Contexts

Contained By:	Contains:
Encounter Order Act (required)	Author Participation Reason (V2)

This template, along with Encounter Order Act template, represents the QDM datatype: Encounter, Order. This template must be contained in an Encounter Order Act template.

This datatype describes an order for an encounter. This clinical statement describes the ordered interactions between the patient and clinicians. Interactions include in-person encounters, telephone conversations, and email exchanges.

The moodCode is constrained to “RQO”, an author is required to represent the ordering clinician and an author time/date stamp is required.

QDM attributes: Start Datetime and Stop Datetime are represented by author/time (a single point in time) and correspond to when the order was signed. The time the activity is intended to take place is represented by effectiveTime.

Table 193: Encounter Order (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
encounter (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.22:2016-02-01)					
@classCode	1..1	SHALL		2228-27534	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		2228-11932	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = RQO
templateId	1..1	SHALL		2228-11933	
@root	1..1	SHALL		2228-11934	2.16.840.1.113883.10.20.24.3.22
@extension	1..1	SHALL		2228-27064	2016-02-01
code	1..1	SHALL		2228-11936	
@sdct:valueSet	1..1	SHALL		2228-27623	
author	1..1	SHALL		2228-27341	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..1	MAY		2228-11950	
@typeCode	1..1	SHALL		2228-11951	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		2228-11952	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)

1. Conforms to [Planned Encounter \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.40:2014-06-09).
2. **SHALL** contain exactly one [1..1] @classCode="ENC" Encounter (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27534).
3. **SHALL** contain exactly one [1..1] @moodCode="RQO" Request (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-11932).
4. **SHALL** contain exactly one [1..1] templateId (CONF:2228-11933) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.22" (CONF:2228-11934).
 - b. **SHALL** contain exactly one [1..1] @extension="2016-02-01" (CONF:2228-27064).
5. **SHALL** contain exactly one [1..1] code (CONF:2228-11936).
 - a. This code **SHALL** contain exactly one [1..1] @sdct:valueSet (CONF:2228-27623).

author/time represents the time the order was signed (a single point in time).

6. **SHALL** contain exactly one [1..1] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:2228-27341).
Note: QDM Attribute: Start Datetime, Stop Datetime
7. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-11950) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] @typeCode="RSON" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-11951).
 - b. **SHALL** contain exactly one [1..1] [Reason \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-11952).
8. This template **SHALL** be contained by an Encounter Order Act (CONF:2228-28668).

Figure 85: Encounter Order (V3) Example

```
<!-- Must be contained in the Encounter Order Act template to represent the Encounter,
Order QDM data type -->
<encounter classCode="ENC" moodCode="RQO">
  <!-- Conforms to C-CDA R2.1 Planned Encounter (V2) template -->
  <templateId root="2.16.840.1.113883.10.20.22.4.40" extension="2014-06-09"/>
  <!-- Encounter Order (V3) template -->
  <templateId root="2.16.840.1.113883.10.20.24.3.22" extension="2016-02-01"/>
  <id root="2a620155-9d11-439e-92b3-5d9815ff4de8"/>
  <code code="185349003" displayName="encounter for check-up (procedure)"
codeSystemName="SNOMED CT" codeSystem="2.16.840.1.113883.6.96"
sdtc:valueSet="$QDMElementValueSetOID"/>
  <text>Encounter for check-up (procedure)</text>
  <statusCode code="active"/>
  <effectiveTime>
    <!-- Admission datetime (or encounter start)-->
    <low value="20150329090000+0500"/>
    <!-- Discharge datetime (or encounter end)-->
    <high value="20150329103000+0500"/>
  </effectiveTime>
  <author>
    <!-- C-CDA R2 Author Participation -->
    <templateId root="2.16.840.1.113883.10.20.22.4.119"/>
    <time value="201504081130"/>
    <assignedAuthor>
      <id root="2.16.840.1.113883.4.6" extension="111111111"/>
    </assignedAuthor>
  </author>
  ...
</encounter>
```

3.47.2 Encounter Recommended (V3)

[encounter: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.24:2016-02-01
(open)]

Table 194: Encounter Recommended (V3) Contexts

Contained By:	Contains:
Encounter Recommended Act (required)	Author Participation Reason (V2)

This template, along with the Encounter Recommended Act template, represents the QDM datatype: Encounter, Recommended. This template must be contained in an Encounter Recommended Act template.

The Encounter Recommended template itself does not support the negationInd attribute. Adding an act wrapper to the Encounter Recommended template allows Encounter Recommended to be negated.

This datatype describes a recommendation for an encounter. This clinical statement describes the recommended interaction between the patient and clinicians. Interactions include in-person encounters, telephone conversations, and email exchanges.

The moodCode is constrained to “INT”, an author is required to represent the recommending clinician and an author time/date stamp is required.

QDM attributes: Start Datetime and Stop Datetime are represented by author/time (a single point in time) and correspond to when the recommendation was signed. The time the activity is recommended to take place is represented by effectiveTime.

Table 195: Encounter Recommended (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
encounter (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.24:2016-02-01)					
@classCode	1..1	SHALL		2228-27549	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		2228-11911	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = INT
templateId	1..1	SHALL		2228-11912	
@root	1..1	SHALL		2228-11913	2.16.840.1.113883.10.20.24.3.24
@extension	1..1	SHALL		2228-27066	2016-02-01
code	1..1	SHALL		2228-11915	
@sdct:valueSet	1..1	SHALL		2228-27626	
author	1..1	SHALL		2228-27347	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..1	MAY		2228-11929	
@typeCode	1..1	SHALL		2228-11930	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		2228-27065	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)

1. Conforms to [Planned Encounter \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.40:2014-06-09).
 2. **SHALL** contain exactly one [1..1] **@classCode**="ENC" Encounter (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27549).
 3. **SHALL** contain exactly one [1..1] **@moodCode**="INT" Intent (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-11911).
 4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-11912) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.24" (CONF:2228-11913).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-02-01" (CONF:2228-27066).
 5. **SHALL** contain exactly one [1..1] **code** (CONF:2228-11915).
 - a. This code **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:2228-27626).
- author/time represents the time the recommendation is made.
6. **SHALL** contain exactly one [1..1] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:2228-27347).

7. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-11929) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-11930).
 - b. **SHALL** contain exactly one [1..1] **Reason (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-27065).
8. This template **SHALL** be contained by an Encounter Recommended Act (CONF:2228-28660).

Figure 86: Encounter Recommended (V3) Example

```

<!-- Must be contained in the Encounter Recommended Act to represent Encounter, Recommended
QDM data type -->
<encounter classCode="ENC" moodCode="INT">
  <!-- Conforms to C-CDA R2.1 Planned Encounter (V2) template -->
  <templateId root="2.16.840.1.113883.10.20.22.4.40" extension="2014-06-09"/>
  <!-- Encounter Recommended (V3) template -->
  <templateId root="2.16.840.1.113883.10.20.24.3.24" extension="2016-02-01"/>
  <id root="2a620155-9d11-439e-92b3-5d9815ff4de8"/>
  <code code="185349003" displayName="encounter for check-up (procedure)"
codeSystemName="SNOMED CT" codeSystem="2.16.840.1.113883.6.96"
sdtc:valueSet="{ $QDMElementValueSetOID }"/>
  <text>Encounter for check-up (procedure)</text>
  <statusCode code="active"/>
  <effectiveTime>
    <!-- Admission datetime (or encounter start)-->
    <low value="20150329090000+0500"/>
    <!-- Discharge datetime (or encounter end)-->
    <high value="20150329103000+0500"/>
  </effectiveTime>
  <author>
    <!-- C-CDA R2 Author Participation -->
    <templateId root="2.16.840.1.113883.10.20.22.4.119"/>
    <time value="201504081130"/>
    <assignedAuthor>
      <id root="2.16.840.1.113883.4.6" extension="111111111"/>
    </assignedAuthor>
  </author>
  ...
</encounter>

```

3.48 Planned Immunization Activity

[substanceAdministration: identifier urn:oid:2.16.840.1.113883.10.20.22.4.120 (open)]

Table 196: Planned Immunization Activity Contexts

Contained By:	Contains:
	Author Participation

Contained By:	Contains:
	Immunization Medication Information (V2) Indication (V2) Instruction (V2) Precondition for Substance Administration (V2) Priority Preference

This template represents planned immunizations. Planned Immunization Activity is very similar to Planned Medication Activity with some key differences, for example, the drug code system is constrained to CVX codes.

The priority of the immunization activity to the patient and provider is communicated through Priority Preference. The effectiveTime indicates the time when the immunization activity is intended to take place and authorTime indicates when the documentation of the plan occurred.

Table 197: Planned Immunization Activity Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
substanceAdministration (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.120)					
@classCode	1..1	SHALL		1098-32091	SBADM
@moodCode	1..1	SHALL		1098-32097	urn:oid:2.16.840.1.113883.11.20.9.24 (Planned moodCode (SubstanceAdministration/Supply))
templateId	1..1	SHALL		1098-32098	
@root	1..1	SHALL		1098-32099	2.16.840.1.113883.10.20.22.4.120
id	1..*	SHALL		1098-32100	
statusCode	1..1	SHALL		1098-32101	
@code	1..1	SHALL		1098-32102	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = active
effectiveTime	1..1	SHALL		1098-32103	
repeatNumber	0..1	MAY		1098-32126	
routeCode	0..1	MAY		1098-32127	urn:oid:2.16.840.1.113883.3.88.1.2.3221.8.7 (Medication Route FDA)
approachSiteCode	0..*	MAY		1098-32128	urn:oid:2.16.840.1.113883.3.88.1.2.3221.8.9 (Body Site)
doseQuantity	0..1	MAY		1098-32129	
@unit	0..1	SHOULD		1098-32130	urn:oid:2.16.840.1.113883.1.11.1.2839 (UnitsOfMeasureCaseSensitive)
consumable	1..1	SHALL		1098-32131	
manufacturedProduct	1..1	SHALL		1098-32132	Immunization Medication Information (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09)
performer	0..*	MAY		1098-32104	
author	0..*	MAY		1098-32105	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..*	MAY		1098-32108	
@typeCode	1..1	SHALL		1098-	urn:oid:2.16.840.1.113883.5.100

				32109	2 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		1098-32110	Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143)
entryRelationship	0..*	MAY		1098-32114	
@typeCode	1..1	SHALL		1098-32115	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		1098-32116	Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09)
entryRelationship	0..*	MAY		1098-32117	
@typeCode	1..1	SHALL		1098-32118	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
act	1..1	SHALL		1098-32119	Instruction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09)
precondition	0..*	MAY		1098-32123	
@typeCode	1..1	SHALL		1098-32124	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = PRCN
criterion	1..1	SHALL		1098-32125	Precondition for Substance Administration (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09)

1. **SHALL** contain exactly one [1..1] @classCode="SBADM" (CONF:1098-32091).
2. **SHALL** contain exactly one [1..1] @moodCode, which **SHALL** be selected from ValueSet [Planned moodCode \(SubstanceAdministration/Supply\)](#) urn:oid:2.16.840.1.113883.11.20.9.24 **STATIC** 2014-09-01 (CONF:1098-32097).
3. **SHALL** contain exactly one [1..1] templateId (CONF:1098-32098) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.120" (CONF:1098-32099).
4. **SHALL** contain at least one [1..*] id (CONF:1098-32100).
5. **SHALL** contain exactly one [1..1] statusCode (CONF:1098-32101).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="active" Active (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:1098-32102).

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

6. **SHALL** contain exactly one [1..1] effectiveTime (CONF:1098-32103).

In a Planned Immunization Activity, repeatNumber defines the number of allowed administrations. For example, a repeatNumber of "3" means that the substance can be administered up to 3 times.

7. **MAY** contain zero or one [0..1] **repeatNumber** (CONF:1098-32126).
8. **MAY** contain zero or one [0..1] **routeCode**, which **SHALL** be selected from ValueSet [Medication Route FDA](#) urn:oid:2.16.840.1.113883.3.88.12.3221.8.7 **DYNAMIC** (CONF:1098-32127).
9. **MAY** contain zero or more [0..*] **approachSiteCode**, which **SHALL** be selected from ValueSet [Body Site](#) urn:oid:2.16.840.1.113883.3.88.12.3221.8.9 **DYNAMIC** (CONF:1098-32128).
10. **MAY** contain zero or one [0..1] **doseQuantity** (CONF:1098-32129).
 - a. The doseQuantity, if present, **SHOULD** contain zero or one [0..1] **@unit**, which **SHALL** be selected from ValueSet [UnitsOfMeasureCaseSensitive](#) urn:oid:2.16.840.1.113883.1.11.12839 **DYNAMIC** (CONF:1098-32130).
11. **SHALL** contain exactly one [1..1] **consumable** (CONF:1098-32131).
 - a. This consumable **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:1098-32132).

The clinician who is expected to perform the planned immunization activity could be identified using substanceAdministration/performer.

12. **MAY** contain zero or more [0..*] **performer** (CONF:1098-32104).

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

13. **MAY** contain zero or more [0..*] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1098-32105).

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

14. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-32108) 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:1098-32109).
 - b. **SHALL** contain exactly one [1..1] [Priority Preference](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143) (CONF:1098-32110).

The following entryRelationship represents the indication for the immunization activity.

15. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-32114) 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:1098-32115).
 - 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:1098-32116).

The following entryRelationship captures any instructions associated with the planned immunization activity.

- 16. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-32117) 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) (CONF:1098-32118).
 - b. **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:1098-32119).
- 17. **MAY** contain zero or more [0..*] **precondition** (CONF:1098-32123) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="PRCN"** Precondition (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1098-32124).
 - b. **SHALL** contain exactly one [1..1] **Precondition for Substance Administration (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09) (CONF:1098-32125).

Table 198: Planned moodCode (SubstanceAdministration/Supply)

Value Set: Planned moodCode (SubstanceAdministration/Supply) urn:oid:2.16.840.1.113883.11.20.9.24 This value set is used to restrict the moodCode on a substance administration or a supply to future moods. Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
INT	ActMood	urn:oid:2.16.840.1.113883.5.1001	Intent
PRMS	ActMood	urn:oid:2.16.840.1.113883.5.1001	Promise
PRP	ActMood	urn:oid:2.16.840.1.113883.5.1001	Proposal
RQO	ActMood	urn:oid:2.16.840.1.113883.5.1001	Request

Figure 87: Planned Immunization Activity

```

<substanceAdministration classCode="SBADM" moodCode="INT">
  <!-- Planned Immunization Activity -->
  <templateId root="2.16.840.1.113883.10.20.22.4.120" />
  <id root="81505d5e-2305-42b3-9273-f579d622000d" />
  <statusCode code="active" />
  <effectiveTime xsi:type="IVL_TS" value="20131115" />
  <repeatNumber value="1" />
  <routeCode code="IM" codeSystem="2.16.840.1.113883.5.112"
codeSystemName="RouteOfAdministration" displayName="Intramuscular injection" />
  <consumable>
    <!-- Immunization Medication Information (V2) -->
  </consumable>
  <performer>
    ...
  </performer>
  <author>
    <!-- Author Participation -->
  </author>
  <entryRelationship typeCode="REFR">
    <!-- Patient Priority Preference -->
    ...
  </entryRelationship>
  <entryRelationship typeCode="REFR">
    <!-- Provider Priority Preference -->
    ...
  </entryRelationship>
  <entryRelationship typeCode="RSON">
    <!-- Indication (V2) -->
    ...
  </entryRelationship>
  <entryRelationship typeCode="SUBJ">
    <!-- Instruction (V2) -->
    ...
  </entryRelationship>
  <precondition typeCode="PRCN">
    <!-- Precondition for Substance Administration (V2) -->
    ...
  </precondition>
</substanceAdministration>

```

3.48.1 Immunization Order

[substanceAdministration: identifier urn:oid:2.16.840.1.113883.10.20.24.3.143
(open)]

Table 199: Immunization Order Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Author Participation Reason (V2)

This template represents the QDM datatypes: Immunization, Order.

This datatype represents a request by a clinician or appropriately licensed care provider to a pharmacy to provide immunization to a patient.

The moodCode is constrained to “RQO”, an author is required to represent the ordering clinician and an author time/date stamp is required.

QDM attributes: Start Datetime and Stop Datetime are represented by author/time (a single point in time) and correspond to when the order was signed. QDM Attribute: Signed Datetime is the time the order is signed and is also represented by author/time. The time the activity is intended to take place is represented by effectiveTime.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 200: Immunization Order Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
substanceAdministration (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.143)					
@classCode	1..1	SHALL		2228-28645	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SBADM
@moodCode	1..1	SHALL		2228-28644	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = RQO
@negationInd	0..1	MAY		2228-28647	
templateId	1..1	SHALL		2228-28627	
@root	1..1	SHALL		2228-28634	2.16.840.1.113883.10.20.24.3.143
routeCode	0..1	MAY		2228-28628	
@sdtc:valueSet	0..1	SHOULD		2228-28637	
translation	0..*	MAY		2228-28629	
@sdtc:valueSet	1..1	SHALL		2228-28636	
author	1..1	SHALL		2228-28646	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..1	MAY		2228-28626	
@typeCode	1..1	SHALL		2228-28641	RSON
observation	1..1	SHALL		2228-28633	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)

1. Conforms to [Planned Immunization Activity](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.120).
2. **SHALL** contain exactly one [1..1] **@classCode="SBADM"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28645).
3. **SHALL** contain exactly one [1..1] **@moodCode="RQO"** (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-28644).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28647).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-28627) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.143"** (CONF:2228-28634).

If the code used for QDM Attribute: Route does not exist in the value set Medication Route FDA (2.16.840.1.113883.3.88.12.3221.8.7) then set routeCode/@nullFlavor="OTH", routeCode/@codeSystem="2.16.840.1.113883.3.26.1.1" and use translation for the code.

6. **MAY** contain zero or one [0..1] **routeCode** (CONF:2228-28628).
Note: QDM Attribute: Route
 - a. The routeCode, if present, **SHOULD** contain zero or one [0..1] **@sdtc:valueSet** (CONF:2228-28637).
 - b. The routeCode, if present, **MAY** contain zero or more [0..*] **translation** (CONF:2228-28629).
 - i. The translation, if present, **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-28636).

author/time is when the order was signed (a single point in time).

7. **SHALL** contain exactly one [1..1] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:2228-28646).
Note: QDM Attribute: Signed Datetime, Start Datetime, Stop Datetime
8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-28626) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** Has reason (CONF:2228-28641).
 - b. **SHALL** contain exactly one [1..1] [Reason \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-28633).

Figure 88: Immunization Order Example

```

<substanceAdministration classCode="SBADM" moodCode="RQO">
  <!-- Conforms to C-CDA R2.1 Planned Immunization Activity -->
  <templateId root="2.16.840.1.113883.10.20.22.4.120"/>
  <!-- Immunization Order -->
  <templateId root="2.16.840.1.113883.10.20.24.3.143"/>
  <id root="9a5f4d94-ccad-4d57-80ea-27737545c7bb"/>
  <statusCode code="active"/>
  <!-- Time that the immunization activity should occur. -->
  <effectiveTime xsi:type="IVL_TS" value="20150408"/>
  <!-- QDM Attribute: Route -->
  <routeCode code="IM" codeSystem="2.16.840.1.113883.5.112"
codeSystemName="RouteOfAdministration"          displayName="Intramuscular
injection" sdtc:valueSet="{ $QDMElementValueSetOID }"/>
  <!-- QDM Attribute: Dose -->
  <doseQuantity value="1"/>
  <consumable>
    <manufacturedProduct classCode="MANU">
      <!-- Conforms to C-CDA R2.1 Immunization Medication Information (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.54" extension="2014-06-09"/>
      <id root="37bfe02a-3e97-4bd6-9197-bbd0ed0de79e"/>
      <manufacturedMaterial>
        <code code="33" codeSystem="2.16.840.1.113883.12.292"
displayName="Pneumococcal polysaccharide vaccine"
codeSystemName="CVX" sdtc:valueSet="{ $QDMElementValueSetOID }"/>
        <lotNumberText>1</lotNumberText>
      </manufacturedMaterial>
      <manufacturerOrganization>
        <name>Medication Factory Inc.</name>
      </manufacturerOrganization>
    </manufacturedProduct>
  </consumable>
  <author>
    <!-- C-CDA R2.1 Author Participation -->
    <templateId root="2.16.840.1.113883.10.20.22.4.119"/>
    <time value="201504081130"/>
    <assignedAuthor>
      <id root="2.16.840.1.113883.4.6" extension="111111111"/>
    </assignedAuthor>
  </author>
</substanceAdministration>

```

3.49 Planned Medication Activity (V2)

[substanceAdministration: identifier
urn:hl7ii:2.16.840.1.113883.10.20.22.4.42:2014-06-09 (open)]

Table 201: Planned Medication Activity (V2) Contexts

Contained By:	Contains:
	Author Participation Indication (V2) Instruction (V2)

Contained By:	Contains:
	Medication Information (V2) Precondition for Substance Administration (V2) Priority Preference

This template represents planned medication activities. The priority of the medication activity to the patient and provider is communicated through Priority Preference. The effectiveTime indicates the time when the medication activity is intended to take place. The authorTime indicates when the documentation of the plan occurred.

Table 202: Planned Medication Activity (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
substanceAdministration (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.42:2014-06-09)					
@classCode	1..1	SHALL		1098-8572	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SBADM
@moodCode	1..1	SHALL		1098-8573	urn:oid:2.16.840.1.113883.11.20.9.24 (Planned moodCode (SubstanceAdministration/Supply))
templateId	1..1	SHALL		1098-30465	
@root	1..1	SHALL		1098-30466	2.16.840.1.113883.10.20.22.4.42
@extension	1..1	SHALL		1098-32557	2014-06-09
id	1..*	SHALL		1098-8575	
statusCode	1..1	SHALL		1098-32087	
@code	1..1	SHALL		1098-32088	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = active
effectiveTime	1..1	SHALL		1098-30468	
repeatNumber	0..1	MAY		1098-32066	
routeCode	0..1	MAY		1098-32067	urn:oid:2.16.840.1.113883.3.88.1.2.3221.8.7 (Medication Route FDA)
approachSiteCode	0..*	MAY		1098-32078	urn:oid:2.16.840.1.113883.3.88.1.2.3221.8.9 (Body Site)
doseQuantity	0..1	MAY		1098-32068	
@unit	0..1	SHOULD		1098-32133	urn:oid:2.16.840.1.113883.1.11.1.2839 (UnitsOfMeasureCaseSensitive)
rateQuantity	0..1	MAY		1098-32079	
@unit	0..1	SHOULD		1098-32134	urn:oid:2.16.840.1.113883.1.11.1.2839 (UnitsOfMeasureCaseSensitive)
maxDoseQuantity	0..1	MAY		1098-32080	
administrationUnitCode	0..1	MAY		1098-32081	urn:oid:2.16.840.1.113762.1.4.10.21.30 (AdministrationUnitDoseForm)
consumable	1..1	SHALL		1098-32082	

manufacturedProduct	1..1	SHALL		1098-32083	Medication Information (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09)
performer	0..*	MAY		1098-30470	
author	0..1	SHOULD		1098-32046	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..*	MAY		1098-31104	
@typeCode	1..1	SHALL		1098-31105	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		1098-31106	Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143)
entryRelationship	0..*	MAY		1098-32069	
@typeCode	1..1	SHALL		1098-32070	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		1098-32071	Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09)
entryRelationship	0..*	MAY		1098-32072	
@typeCode	1..1	SHALL		1098-32073	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
act	1..1	SHALL		1098-32074	Instruction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09)
precondition	0..*	MAY		1098-32084	
@typeCode	1..1	SHALL		1098-32085	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = PRCN
criterion	1..1	SHALL		1098-32086	Precondition for Substance Administration (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09)

1. **SHALL** contain exactly one [1..1] @classCode="SBADM" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-8572).
2. **SHALL** contain exactly one [1..1] @moodCode, which **SHALL** be selected from ValueSet [Planned moodCode \(SubstanceAdministration/Supply\)](#) urn:oid:2.16.840.1.113883.11.20.9.24 **STATIC** 2011-09-30 (CONF:1098-8573).
3. **SHALL** contain exactly one [1..1] templateId (CONF:1098-30465) such that it

- a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.22.4.42"` (CONF:1098-30466).
 - b. **SHALL** contain exactly one [1..1] `@extension="2014-06-09"` (CONF:1098-32557).
4. **SHALL** contain at least one [1..*] `id` (CONF:1098-8575).
 5. **SHALL** contain exactly one [1..1] `statusCode` (CONF:1098-32087).
 - a. This `statusCode` **SHALL** contain exactly one [1..1] `@code="active"` Active (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:1098-32088).

The `effectiveTime` in a planned medication activity represents the time that the medication activity should occur.

6. **SHALL** contain exactly one [1..1] `effectiveTime` (CONF:1098-30468).

In a Planned Medication Activity, `repeatNumber` defines the number of allowed administrations. For example, a `repeatNumber` of "3" means that the substance can be administered up to 3 times.

7. **MAY** contain zero or one [0..1] `repeatNumber` (CONF:1098-32066).
8. **MAY** contain zero or one [0..1] `routeCode`, which **SHALL** be selected from ValueSet [Medication Route FDA](#) urn:oid:2.16.840.1.113883.3.88.12.3221.8.7 **DYNAMIC** (CONF:1098-32067).
9. **MAY** contain zero or more [0..*] `approachSiteCode`, which **SHALL** be selected from ValueSet [Body Site](#) urn:oid:2.16.840.1.113883.3.88.12.3221.8.9 **DYNAMIC** (CONF:1098-32078).
10. **MAY** contain zero or one [0..1] `doseQuantity` (CONF:1098-32068).
 - a. The `doseQuantity`, if present, **SHOULD** contain zero or one [0..1] `@unit`, which **SHALL** be selected from ValueSet [UnitsOfMeasureCaseSensitive](#) urn:oid:2.16.840.1.113883.1.11.12839 **DYNAMIC** (CONF:1098-32133).
11. **MAY** contain zero or one [0..1] `rateQuantity` (CONF:1098-32079).
 - a. The `rateQuantity`, if present, **SHOULD** contain zero or one [0..1] `@unit`, which **SHALL** be selected from ValueSet [UnitsOfMeasureCaseSensitive](#) urn:oid:2.16.840.1.113883.1.11.12839 **DYNAMIC** (CONF:1098-32134).
12. **MAY** contain zero or one [0..1] `maxDoseQuantity` (CONF:1098-32080).
13. **MAY** contain zero or one [0..1] `administrationUnitCode`, which **SHALL** be selected from ValueSet [AdministrationUnitDoseForm](#) urn:oid:2.16.840.1.113762.1.4.1021.30 **DYNAMIC** (CONF:1098-32081).
14. **SHALL** contain exactly one [1..1] `consumable` (CONF:1098-32082).
 - a. This `consumable` **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:1098-32083).

The clinician who is expected to perform the medication activity could be identified using `substanceAdministration/performer`.

15. **MAY** contain zero or more [0..*] `performer` (CONF:1098-30470).

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

16. **SHOULD** contain zero or one [0..1] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1098-32046).

The following entryRelationship represents the priority that a patient or a provider places on the planned medication activity.

17. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-31104) 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:1098-31105).
 - b. **SHALL** contain exactly one [1..1] [Priority Preference](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143) (CONF:1098-31106).

The following entryRelationship represents the indication for the planned medication activity.

18. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-32069) 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:1098-32070).
 - b. **SHALL** contain exactly one [1..1] [Indication \(V2\)](#) (identifier: urn:h17ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09) (CONF:1098-32071).

The following entryRelationship captures any instructions associated with the planned medication activity.

19. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-32072) 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) (CONF:1098-32073).
 - b. **SHALL** contain exactly one [1..1] [Instruction \(V2\)](#) (identifier: urn:h17ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09) (CONF:1098-32074).
20. **MAY** contain zero or more [0..*] **precondition** (CONF:1098-32084).
- a. The precondition, if present, **SHALL** contain exactly one [1..1] **@typeCode="PRCN"** Precondition (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1098-32085).
 - b. The precondition, if present, **SHALL** contain exactly one [1..1] [Precondition for Substance Administration \(V2\)](#) (identifier: urn:h17ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09) (CONF:1098-32086).

Figure 89: Planned Medication Activity (V2) Example

```

<substanceAdministration moodCode="INT" classCode="SBADM">
  <templateId root="2.16.840.1.113883.10.20.22.4.42" extension="2014-06-09" />
  <!-- Planned Medication Activity (V2)-->
  <id root="cbbd33f0-6cde-11db-9fe1-0800200c9a66" />
  <text>Heparin 0.25 ml Prefilled Syringe</text>
  <statusCode code="active" />
  <!-- The effectiveTime in a planned medication activity
       represents the time that the medication activity should occur. -->
  <effectiveTime value="20130905" />
  <consumable>
    <manufacturedProduct classCode="MANU">
      <!-- Medication Information (V2) -->
      ...
    </manufacturedProduct>
  </consumable>
  <entryRelationship typeCode="REFR">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Patient Priority Preference-->
      ...
    </observation>
  </entryRelationship>
  <entryRelationship typeCode="REFR">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Provider Priority Preference-->
      ...
    </observation>
  </entryRelationship>
  <entryRelationship typeCode="RSON">
    <!-- Indication (V2) -->
    ...
  </entryRelationship>
  <entryRelationship typeCode="SUBJ">
    <!-- Instruction (V2) -->
    ...
  </entryRelationship>
</substanceAdministration>

```

3.49.1 Medication Order (V3)

[substanceAdministration: identifier
urn:hl7ii:2.16.840.1.113883.10.20.24.3.47:2016-02-01 (open)]

Table 203: Medication Order (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Author Participation Medication Supply Request (V2) Reason (V2)

This template represents the QDM datatypes: Medication, Order and Substance, Order.

This datatype represents a request by a clinician or appropriately licensed care provider to a pharmacy to provide medication to a patient. The request is in the form of prescriptions or other medication orders with detail adequate for correct filling and administration. This template is broader than a pharmacy supply order and may include a supply order.

The moodCode is constrained to "RQO", an author is required to represent the ordering clinician and an author time/date stamp is required.

QDM attributes: Start Datetime and Stop Datetime are represented by author/time (a single point in time) and correspond to when the order was signed. QDM Attribute: Signed Datetime is the time the order is signed and is also represented by author/time. The time the activity is intended to take place is represented by effectiveTime.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Note: There are future plans to better align the medication templates and value sets to meet the needs of substances that are not medications. Suggestions include renaming from "medication" to "substance administration" and changing value set bindings to broader grouping value sets that include RxNorm along with substances from other code systems.

Table 204: Medication Order (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
substanceAdministration (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.47:2016-02-01)					
@classCode	1..1	SHALL		2228-27377	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SBADM
@moodCode	1..1	SHALL		2228-12639	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = RQO
@negationInd	0..1	MAY		2228-28084	
templateId	1..1	SHALL		2228-12585	
@root	1..1	SHALL		2228-12586	2.16.840.1.113883.10.20.24.3.47
@extension	1..1	SHALL		2228-27089	2016-02-01
effectiveTime	1..1	SHALL	IVL_TS	2228-27740	
low	1..1	SHALL		2228-27742	
high	0..1	MAY		2228-27743	
effectiveTime	1..1	SHALL	PIVL_T S	2228-27741	
period	1..1	SHALL		2228-27744	
routeCode	0..1	MAY		2228-27734	
@sdtc:valueSet	0..1	SHOULD		2228-27736	
translation	0..*	MAY		2228-27735	
@sdtc:valueSet	1..1	SHALL		2228-27737	
author	1..1	SHALL		2228-27745	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..1	MAY		2228-28008	
@typeCode	1..1	SHALL		2228-28009	RSON
observation	1..1	SHALL		2228-28010	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)
entryRelationship	0..1	MAY		2228-12624	
@typeCode	1..1	SHALL		2228-	urn:oid:2.16.840.1.113883.5.100

				12626	2 (HL7ActRelationshipType) = COMP
supply	1..1	SHALL		2228-13842	Medication Supply Request (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.99:2015-04-05)

1. Conforms to [Planned Medication Activity \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.42:2014-06-09).
2. **SHALL** contain exactly one [1..1] **@classCode="SBADM"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27377).
3. **SHALL** contain exactly one [1..1] **@moodCode="RQO"** (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-12639).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28084).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-12585) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.47"** (CONF:2228-12586).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-27089).
6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:2228-27740) such that it
 - a. **SHALL** contain exactly one [1..1] **low** (CONF:2228-27742).
 - b. **MAY** contain zero or one [0..1] **high** (CONF:2228-27743).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:2228-27741) such that it
 - a. **SHALL** contain exactly one [1..1] **period** (CONF:2228-27744).

If the code used for QDM Attribute: Route does not exist in the value set Medication Route FDA (2.16.840.1.113883.3.88.12.3221.8.7) then set routeCode/@nullFlavor="OTH", routeCode/@codeSystem="2.16.840.1.113883.3.26.1.1" and use translation for the code.

8. **MAY** contain zero or one [0..1] **routeCode** (CONF:2228-27734).
 - a. The routeCode, if present, **SHOULD** contain zero or one [0..1] **@sdct:valueSet** (CONF:2228-27736).
 - b. The routeCode, if present, **MAY** contain zero or more [0..*] **translation** (CONF:2228-27735).
 - i. The translation, if present, **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:2228-27737).

author/time is when the order was signed (a single point in time).

9. **SHALL** contain exactly one [1..1] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:2228-27745).
Note: QDM Attribute: Signed Datetime, Start Datetime, Stop Datetime
10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-28008) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** Has reason (CONF:2228-28009).

- b. **SHALL** contain exactly one [1..1] Reason (V2) (identifier: urn:h17ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-28010).
11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-12624) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="COMP"** Component of (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-12626).
 - b. **SHALL** contain exactly one [1..1] Medication Supply Request (V2) (identifier: urn:h17ii:2.16.840.1.113883.10.20.24.3.99:2015-04-05) (CONF:2228-13842).

Figure 90: Medication Order (V3) Example

```
<substanceAdministration classCode="SBADM" moodCode="RQO">
  <!-- Conforms to C-CDA R2.1 Planned Medication Activity (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.42" extension="2014-06-09"/>
  <!-- Medication Order (V3) Template -->
  <templateId root="2.16.840.1.113883.10.20.24.3.47" extension="2016-02-01"/>
  <id root="9a5f4d94-ccad-4d57-80ea-27737545c7bb"/>
  <text>Medication active: 0.09 MG/ACTUAT inhalant solution, 2 puffs QID PRN
wheezing</text>
  <statusCode code="active"/>
  <effectiveTime xsi:type="IVL_TS">
    <!-- QDM Attribute: Start Datetime -->
    <low value="20150301"/>
    <!-- QDM Attribute: Stop Datetime -->
    <high value="20150301"/>
  </effectiveTime>
  <!-- QDM Attribute: Frequency -->
  <effectiveTime xsi:type="PIVL_TS" institutionSpecified="true" operator="A">
    <period value="6" unit="h"/>
  </effectiveTime>
  <!-- QDM Attribute: Refill -->
  <repeatNumber value="2"/>
  <!-- QDM Attribute: Route -->
  <routeCode code="C38216" codeSystem="2.16.840.1.113883.3.26.1.1"
codeSystemName="NCI Thesaurus" displayName="RESPIRATORY (INHALATION)"
sdtc:valueSet="{ $QDMElementValueSetOID }"/>
  <!-- QDM Attribute: Dose -->
  <doseQuantity value="1"/>
  <rateQuantity value="90" unit="ml/min"/>
  <maxDoseQuantity nullFlavor="UNK">
    <numerator nullFlavor="UNK"/>
    <denominator nullFlavor="UNK"/>
  </maxDoseQuantity>
  <consumable>
    <manufacturedProduct classCode="MANU">
      <!-- Conforms to C-CDA R2.1 Medication Information (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.23" extension="2014-06-09"/>
      <id root="37bfe02a-3e97-4bd6-9197-bbd0ed0de79e"/>
      <manufacturedMaterial>
        <code code="329498" codeSystem="2.16.840.1.113883.6.88"
codeSystemName="RxNorm" displayName="Albuterol 0.09 MG/ACTUAT inhalant solution"
sdtc:valueSet="{ $QDMElementValueSetOID }"/>
      </manufacturedMaterial>
      <manufacturerOrganization>
        <name>Medication Factory Inc.</name>
      </manufacturerOrganization>
    </manufacturedProduct>
  </consumable>
  <author>
    <!-- C-CDA R2.1 Author Participation -->
    <templateId root="2.16.840.1.113883.10.20.22.4.119"/>
    <time value="201504081130"/>
    <assignedAuthor>
      <id root="2.16.840.1.113883.4.6" extension="11111111"/>
    </assignedAuthor>
  </author>
</substanceAdministration>
```

```

<!-- QDM Attribute: Reason -->
<entryRelationship typeCode="RSON">
  <observation classCode="OBS" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-12-01"/>
    ...
  </observation>
</entryRelationship>
</substanceAdministration>

```

3.49.2 Substance Recommended (V3)

[substanceAdministration: identifier
urn:hl7ii:2.16.840.1.113883.10.20.24.3.75:2016-02-01 (open)]

Table 205: Substance Recommended (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Author Participation Reason (V2)

This template represents the QDM datatype: Substance, Recommended.

This Substance Recommended template represents a material or consumable that is not considered a clinical drug, such as infant formula, breast milk, other enteral feeding, or a non-prescription lotion or ointment.

The moodCode is constrained to “INT”, an author is required to represent the recommending clinician and an author time/date stamp is required.

QDM attributes: Start Datetime and Stop Datetime are represented by author/time (a point in time) and correspond to when the recommendation was signed. The time the activity is recommended to take place is represented by effectiveTime.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 206: Substance Recommended (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
substanceAdministration (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.75:2016-02-01)					
@classCode	1..1	SHALL		2228-27495	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SBADM
@moodCode	1..1	SHALL		2228-13784	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = INT
@negationInd	0..1	MAY		2228-28112	
templateId	1..1	SHALL		2228-13785	
@root	1..1	SHALL		2228-13786	2.16.840.1.113883.10.20.24.3.75
@extension	1..1	SHALL		2228-27152	2016-02-01
consumable	1..1	SHALL		2228-27988	
manufacturedProduct	1..1	SHALL		2228-27989	
manufacturedMaterial	1..1	SHALL		2228-27990	
code	1..1	SHALL		2228-27991	
@sdtc:valueSet	1..1	SHALL		2228-27992	
author	1..1	SHALL		2228-27720	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..1	MAY		2228-13867	
@typeCode	1..1	SHALL		2228-13868	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		2228-13869	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)

1. Conforms to [Planned Medication Activity \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.42:2014-06-09).
2. **SHALL** contain exactly one [1..1] @classCode="SBADM" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27495).
3. **SHALL** contain exactly one [1..1] @moodCode="INT" intent (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-13784).
4. **MAY** contain zero or one [0..1] @negationInd (CONF:2228-28112).
Note: QDM Attribute: Negation Rationale

5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-13785) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.75"** (CONF:2228-13786).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-27152).
6. **SHALL** contain exactly one [1..1] **consumable** (CONF:2228-27988).
 - a. This consumable **SHALL** contain exactly one [1..1] **manufacturedProduct** (CONF:2228-27989).
 - i. This manufacturedProduct **SHALL** contain exactly one [1..1] **manufacturedMaterial** (CONF:2228-27990).
 1. This manufacturedMaterial **SHALL** contain exactly one [1..1] **code** (CONF:2228-27991).
 - a. This code **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:2228-27992).

author/time represents the time the recommendation is made.

7. **SHALL** contain exactly one [1..1] **Author Participation** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:2228-27720).
8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-13867) such that it Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** has reason (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-13868).
 - b. **SHALL** contain exactly one [1..1] **Reason (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-13869).

3.50 Planned Observation (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.44:2014-06-09 (open)]

Table 207: Planned Observation (V2) Contexts

Contained By:	Contains:
	Author Participation Indication (V2) Instruction (V2) Planned Coverage Priority Preference

This template represents planned observations that result in new information about the patient which cannot be classified as a procedure according to the HL7 RIM, i.e., procedures alter the patient's body. Examples of these observations are laboratory tests, diagnostic imaging tests, EEGs, and EKGs.

The importance of the planned observation to the patient and provider is communicated through Priority Preference. The effectiveTime indicates the time when the observation is intended to take place and authorTime indicates when the documentation of the plan occurred.

The Planned Observation template may also indicate the potential insurance coverage for the observation.

Table 208: Planned Observation (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.44:2014-06-09)					
@classCode	1..1	SHALL		1098-8581	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		1098-8582	urn:oid:2.16.840.1.113883.11.20.9.25 (Planned moodCode (Observation))
templateId	1..1	SHALL		1098-30451	
@root	1..1	SHALL		1098-30452	2.16.840.1.113883.10.20.22.4.44
@extension	1..1	SHALL		1098-32555	2014-06-09
id	1..*	SHALL		1098-8584	
code	1..1	SHALL		1098-31030	urn:oid:2.16.840.1.113883.6.1 (LOINC)
statusCode	1..1	SHALL		1098-30453	
@code	1..1	SHALL		1098-32032	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = active
effectiveTime	0..1	SHOULD		1098-30454	
value	0..1	MAY		1098-31031	
methodCode	0..1	MAY		1098-32043	
targetSiteCode	0..*	SHOULD		1098-32044	urn:oid:2.16.840.1.113883.3.88.12.3221.8.9 (Body Site)
performer	0..*	MAY		1098-30456	
author	0..*	SHOULD		1098-32033	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..*	MAY		1098-31073	
@typeCode	1..1	SHALL		1098-31074	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		1098-31075	Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143)
entryRelationship	0..*	MAY		1098-32034	
@typeCode	1..1	SHALL		1098-	urn:oid:2.16.840.1.113883.5.100

				32035	2 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		1098-32036	Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09)
entryRelationship	0..*	MAY		1098-32037	
@typeCode	1..1	SHALL		1098-32038	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
act	1..1	SHALL		1098-32039	Instruction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09)
entryRelationship	0..*	MAY		1098-32040	
@typeCode	1..1	SHALL		1098-32041	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
act	1..1	SHALL		1098-32042	Planned Coverage (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.129)

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-8581).
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet [Planned moodCode \(Observation\)](#) urn:oid:2.16.840.1.113883.11.20.9.25 **STATIC** 2011-09-30 (CONF:1098-8582).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-30451) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.44"** (CONF:1098-30452).
 - b. **SHALL** contain exactly one [1..1] **@extension="2014-06-09"** (CONF:1098-32555).
4. **SHALL** contain at least one [1..*] **id** (CONF:1098-8584).
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:1098-31030).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-30453).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="active"** Active (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:1098-32032).

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

7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:1098-30454).
8. **MAY** contain zero or one [0..1] **value** (CONF:1098-31031).

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

9. **MAY** contain zero or one [0..1] **methodCode** (CONF:1098-32043).

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

10. **SHOULD** contain zero or more [0..*] **targetSiteCode**, which **SHALL** be selected from ValueSet [Body Site](#) urn:oid:2.16.840.1.113883.3.88.12.3221.8.9 **DYNAMIC** (CONF:1098-32044).

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

11. **MAY** contain zero or more [0..*] **performer** (CONF:1098-30456).

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

12. **SHOULD** contain zero or more [0..*] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1098-32033).

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

13. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-31073) 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:1098-31074).
 - b. **SHALL** contain exactly one [1..1] [Priority Preference](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143) (CONF:1098-31075).

The following entryRelationship represents the indication for the observation.

14. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-32034) 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:1098-32035).
 - 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:1098-32036).

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

15. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-32037) 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) (CONF:1098-32038).
 - b. **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:1098-32039).

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

16. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-32040) 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:1098-32041).
- b. **SHALL** contain exactly one [1..1] Planned Coverage (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.129) (CONF:1098-32042).

Table 209: Planned moodCode (Observation)

Value Set: Planned moodCode (Observation) urn:oid:2.16.840.1.113883.11.20.9.25 This value set is used to restrict the moodCode on an Observation to future moods. Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
INT	ActMood	urn:oid:2.16.840.1.113883.5.1001	Intent
PRMS	ActMood	urn:oid:2.16.840.1.113883.5.1001	Promise
PRP	ActMood	urn:oid:2.16.840.1.113883.5.1001	Proposal
RQO	ActMood	urn:oid:2.16.840.1.113883.5.1001	Request

Figure 91: Planned Observation (V2) Example

```

<observation classCode="OBS" moodCode="INT">
  <templateId root="2.16.840.1.113883.10.20.22.4.44"
    extension="2014-06-09" />
  <id root="b52bee94-c34b-4e2c-8c15-5ad9d6def205" />
  <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="20130903" />
  <author typeCode="AUT">
    <!-- Author Participation -->
  </author>
  <entryRelationship typeCode="REFR">
    <!-- Priority Preference -->
    ...
  </entryRelationship>
  <entryRelationship typeCode="RSON">
    <!-- Indication (V2) -->
    ...
  </entryRelationship>
  <entryRelationship typeCode="SUBJ">
    <!-- Instruction (V2) -->
    ...
  </entryRelationship>
  <entryRelationship typeCode="COMP">
    <!-- Planned Coverage -->
    ...
  </entryRelationship>
</observation>

```

3.50.1 Assessment Recommended

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.145:2016-08-01 (open)]

Table 210: Assessment Recommended Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Author Participation Reason (V2)

This template represents the QDM datatype: Assessment, Recommended.

Assessment is a resource used to define specific observations that clinicians use to guide treatment of the patient. An assessment can be a single question, or observable entity with an expected response, an organized collection of questions intended to solicit information from

patients, providers or other individuals, or a single observable entity that is part of such a collection of questions.

The moodCode is constrained to “INT”, an author is required to represent the recommending clinician and an author time/date stamp is required.

QDM attributes: Start Datetime and Stop Datetime are represented by author/time (a single point in time) and correspond to when the recommendation was signed. The time the activity is recommended to take place is represented by effectiveTime.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template.

Table 211: Assessment Recommended Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.145:2016-08-01)					
@classCode	1..1	SHALL		3265-28682	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3265-28681	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = INT
@negationInd	0..1	MAY		3265-28683	
templateId	1..1	SHALL		3265-28673	
@root	1..1	SHALL		3265-28676	2.16.840.1.113883.10.20.24.3.1 45
@extension	1..1	SHALL		3265-28702	2016-08-01
code	1..1	SHALL		3265-28674	
@sdtc:valueSet	1..1	SHALL		3265-28679	
methodCode	0..1	MAY		3265-28699	
@sdtc:valueSet	1..1	SHALL		3265-28700	
author	1..1	SHALL		3265-28680	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..1	MAY		3265-28672	
@typeCode	1..1	SHALL		3265-28678	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		3265-28675	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)

1. Conforms to [Planned Observation \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.44:2014-06-09).
2. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3265-28682).
3. **SHALL** contain exactly one [1..1] **@moodCode="INT"** Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3265-28681).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3265-28683).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:3265-28673) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.145"** (CONF:3265-28676).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-08-01"** (CONF:3265-28702).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3265-28674).
 - a. This code **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:3265-28679).
7. **MAY** contain zero or one [0..1] **methodCode** (CONF:3265-28699).
Note: QDM Attribute: Method
 - a. The methodCode, if present, **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:3265-28700).

author/time represents the time the recommendation is made.

8. **SHALL** contain exactly one [1..1] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:3265-28680).
9. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3265-28672) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-28678).
 - b. **SHALL** contain exactly one [1..1] [Reason \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:3265-28675).

Figure 92: Assessment Recommended Example

```

<observation classCode="OBS" moodCode="INT">
  <!-- Conforms to C-CDA R2.1 Planned Observation (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.44" extension="2014-06-09" />
  <!-- Assessment Recommended -->
  <templateId root="2.16.840.1.113883.10.20.24.3.145" extension="2016-08-01"/>
  <id root="41c3513a-a3eb-468d-b537-9b9bebe11807" />
  <code code="72195-1" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
  displayName="Physical limitation score [KCCQ]"
  sdtc:valueSet="{ $QDMElementValueSetOID}" />
  <text>Functional Status, Order: Physical limitation score [KCCQ]</text>
  <statusCode code="active" />
  <author>
    <!-- C-CDA R2 Author Participation -->
    <templateId root="2.16.840.1.113883.10.20.22.4.119" />
    <time value="201504081130" />
    <assignedAuthor>
      <id root="2.16.840.1.113883.4.6" extension="11111111" />
    </assignedAuthor>
  </author>
  <!-- QDM Attribute: Reason -->
  <entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-12-01" />
      <id root="9ald2c91-afb4-45bf-b270-3ea1b44f499b" />
      ...
    </observation>
  </entryRelationship>
</observation>

```

3.50.2 Diagnostic Study Order (V3)

```
[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.17:2016-02-01
(open) ]
```

Table 212: Diagnostic Study Order (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Author Participation Radiation Dosage and Duration (V2) Reason (V2)

This template represents the QDM datatype: Diagnostic Study, Order.

This datatype represents that a diagnostic study has been ordered. Diagnostic studies are those that are not performed in the clinical laboratory. Such studies include but are not limited to imaging studies, cardiology studies (electrocardiogram, treadmill stress testing), pulmonary function testing, vascular laboratory testing, and others.

The moodCode is constrained to “RQO”, an author is required to represent the ordering clinician and an author time/date stamp is required.

QDM attributes: Start Datetime and Stop Datetime are represented by author/time (a single point in time) and correspond to when the order was signed. The time the activity is intended to take place is represented by effectiveTime.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 213: Diagnostic Study Order (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.17:2016-02-01)					
@classCode	1..1	SHALL		2228-27408	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-13411	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = RQO
@negationInd	0..1	MAY		2228-28062	
templateId	1..1	SHALL		2228-13412	
@root	1..1	SHALL		2228-13413	2.16.840.1.113883.10.20.24.3.17
@extension	1..1	SHALL		2228-27069	2016-02-01
code	1..1	SHALL		2228-27615	
@sdtc:valueSet	1..1	SHALL		2228-27616	
author	1..1	SHALL		2228-27340	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..1	MAY		2228-13427	
@typeCode	1..1	SHALL		2228-13428	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		2228-13429	Radiation Dosage and Duration (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01)
entryRelationship	0..1	MAY		2228-13430	
@typeCode	1..1	SHALL		2228-13431	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		2228-13432	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)

1. Conforms to [Planned Observation \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.44:2014-06-09).
2. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27408).
3. **SHALL** contain exactly one [1..1] @moodCode="RQO" Request (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-13411).

4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28062).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-13412) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.17"** (CONF:2228-13413).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-27069).
6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-27615).
 - a. This code **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-27616).

author/time represents the time the order was signed (a single point in time).

7. **SHALL** contain exactly one [1..1] **Author Participation** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:2228-27340).
Note: QDM Attribute: Start Datetime, Stop Datetime
8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-13427) such that it
Note: QDM Attribute: Radiation Dosage, Radiation Duration
 - a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-13428).
 - b. **SHALL** contain exactly one [1..1] **Radiation Dosage and Duration (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01) (CONF:2228-13429).
9. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-13430) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-13431).
 - b. **SHALL** contain exactly one [1..1] **Reason (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-13432).

Figure 93: Diagnostic Study Order (V3) Example

```
<observation classCode="OBS" moodCode="RQO">
  <!-- Conforms to C-CDA R2.1 Planned Observation (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.44" extension="2014-06-09" />
  <!-- Diagnostic Study Order (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.17" extension="2016-02-01" />
  <id root="1fad091f-7b4e-4661-b61c-53f9a82515b6" />
  <code code="24605-8" codeSystem="2.16.840.1.113883.6.1"
    displayName="Breast Mammogram diagnostic" codeSystemName="LOINC"
    sdct:valueSet="{ $QDMElementValueSetOID}" />
  <text>Diagnostic Study, Order: Breast Mammogram Diagnostic</text>
  <statusCode code="active" />
  <!-- The effectiveTime indicates the time when the Diagnostic Study
        is intended to take place -->
  <effectiveTime>
    <low value="20150329090000+0500" />
    <high value="20150329103000+0500" />
  </effectiveTime>
  <value xsi:type="CD" nullFlavor="NA" />
  <!-- QDM Attribute: Method -->
  <methodCode code="24605-8" codeSystem="2.16.840.1.113883.6.1"
    displayName="Breast Mammogram diagnostic" codeSystemName="LOINC"
    sdct:valueSet="{ $QDMElementValueSetOID}" />
  <!-- author/time indicates the time when the documentation of the order occurred -->
  <author>
    <!-- C-CDA R2 Author Participation -->
    <templateId root="2.16.840.1.113883.10.20.22.4.119" />
    <time value="201204081130" />
    <assignedAuthor>
      <id root="2.16.840.1.113883.4.6" extension="11111111" />
    </assignedAuthor>
  </author>
  <!-- QDM Attribute: Reason -->
  <entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
  <entryRelationship typeCode="REFR">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Radiation Dosage and Duration (V2) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.91" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</observation>
```

3.50.3 Diagnostic Study Recommended (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.19:2016-02-01
(open)]

Table 214: Diagnostic Study Recommended (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Author Participation Radiation Dosage and Duration (V2)

This template represents the QDM datatype: Diagnostic Study, Recommended.

Diagnostic studies are those that are not performed in the clinical laboratory. Such studies include but are not limited to imaging studies, cardiology studies (electrocardiogram, treadmill stress testing), pulmonary function testing, vascular laboratory testing, and others.

The moodCode is constrained to "INT", an author is required to represent the recommending clinician and an author time/date stamp is required.

QDM attributes: Start Datetime and Stop Datetime are represented by author/time (a single point in time) and correspond to when the recommendation was signed. The time the activity is recommended to take place is represented by effectiveTime.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 215: Diagnostic Study Recommended (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.19:2016-02-01)					
@classCode	1..1	SHALL		2228-27406	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-13392	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = INT
@negationInd	0..1	MAY		2228-28064	
templateId	1..1	SHALL		2228-13393	
@root	1..1	SHALL		2228-13394	2.16.840.1.113883.10.20.24.3.19
@extension	1..1	SHALL		2228-27070	2016-02-01
code	1..1	SHALL		2228-27619	
@sdtc:valueSet	1..1	SHALL		2228-27620	
author	1..1	SHALL		2228-13400	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..1	MAY		2228-13408	
@typeCode	1..1	SHALL		2228-13409	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		2228-27320	Radiation Dosage and Duration (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01)

1. Conforms to [Planned Observation \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.44:2014-06-09).
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27406).
3. **SHALL** contain exactly one [1..1] **@moodCode**="INT" Intent (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-13392).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28064).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-13393) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.19" (CONF:2228-13394).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-02-01" (CONF:2228-27070).
6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-27619).

- a. This code **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-27620).
author/time represents the time the recommendation is made.
7. **SHALL** contain exactly one [1..1] **Author Participation** (identifier:
urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:2228-13400).
8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-13408) such that it
Note: QDM Attribute: Radiation Dosage, Radiation Duration
- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** (CodeSystem:
HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-
13409).
- b. **SHALL** contain exactly one [1..1] **Radiation Dosage and Duration (V2)**
(identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01)
(CONF:2228-27320).

Figure 94: Diagnostic Study Recommended (V3) Example

```
<observation classCode="OBS" moodCode="INT">
  <!-- Conforms to C-CDA R2.1 Planned Observation (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.44" extension="2014-06-09" />
  <!-- Diagnostic Study Recommended (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.19" extension="2016-02-01" />
  <id root="1fad091f-7b4e-4661-b61c-53f9a82515b6" />
  <code code="24605-8" codeSystem="2.16.840.1.113883.6.1"
    displayName="Breast Mammogram diagnostic" codeSystemName="LOINC"
    sdct:valueSet="{ $QDMElementValueSetOID}" />
  <text>Diagnostic Study, Recommended: Breast Mammogram Diagnostic</text>
  <statusCode code="active" />
  <!-- The effectiveTime indicates the time when the Diagnostic Study is intended to take
place -->
  <effectiveTime>
    <low value="20150329090000+0500" />
    <high value="20150329103000+0500" />
  </effectiveTime>
  <value xsi:type="CD" nullFlavor="NA" />
  <!-- QDM Attribute: Method -->
  <methodCode code="24605-8" codeSystem="2.16.840.1.113883.6.1"
    displayName="Breast Mammogram diagnostic" codeSystemName="LOINC"
    sdct:valueSet="{ $QDMElementValueSetOID}" />
  <!-- author/time indicates the time when the documentation of the order occurred -->
  <author>
    <!-- C-CDA R2.1 Author Participation -->
    <templateId root="2.16.840.1.113883.10.20.22.4.119" />
    <time value="201504081130" />
    <assignedAuthor>
      <id root="2.16.840.1.113883.4.6" extension="11111111" />
    </assignedAuthor>
  </author>
  <!-- QDM Attribute: Reason -->
  <entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
  <entryRelationship typeCode="REFR">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Radiation Dosage and Duration (V2) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.91" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</observation>
```

3.50.4 Laboratory Test Order (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.37:2016-02-01
(open)]

Table 216: Laboratory Test Order (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Author Participation Reason (V2)

This template represents the QDM datatype: Laboratory Test, Order.

This datatype represents an order for a laboratory test. A laboratory test is a medical procedure that involves testing a sample of blood, urine, or other substance from the body. Tests can help determine a diagnosis, plan treatment, check if treatment is working, or monitor the disease over time.

The moodCode is constrained to “RQO”, an author is required to represent the ordering clinician and an author time/date stamp is required.

QDM attributes: Start Datetime and Stop Datetime are represented by author/time (a single point in time) and correspond to when the order was signed. The time the activity is intended to take place is represented by effectiveTime.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 217: Laboratory Test Order (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.37:2016-02-01)					
@classCode	1..1	SHALL		2228-27417	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-11953	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = RQO
@negationInd	0..1	MAY		2228-28076	
templateId	1..1	SHALL		2228-11954	
@root	1..1	SHALL		2228-11955	2.16.840.1.113883.10.20.24.3.37
@extension	1..1	SHALL		2228-27075	2016-02-01
code	1..1	SHALL		2228-11957	
@sdtc:valueSet	1..1	SHALL		2228-27636	
author	1..1	SHALL		2228-27344	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..1	MAY		2228-11969	
@typeCode	1..1	SHALL		2228-11970	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		2228-27074	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)

1. Conforms to [Planned Observation \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.44:2014-06-09).
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27417).
3. **SHALL** contain exactly one [1..1] **@moodCode**="RQO" Request (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-11953).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28076).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-11954) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.37" (CONF:2228-11955).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-02-01" (CONF:2228-27075).
6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-11957).
 - a. This code **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-27636).

author/time represents the time the order was signed (a single point in time).

7. **SHALL** contain exactly one [1..1] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:2228-27344).
Note: QDM Attribute: Start Datetime, Stop Datetime
8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-11969) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-11970).
 - b. **SHALL** contain exactly one [1..1] [Reason \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-27074).

Figure 95: Laboratory Test Order (V3) Example

```
<observation classCode="OBS" moodCode="RQO">
  <!-- Conforms to C-CDA R2.1 Planned Observation (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.44" extension="2014-06-09" />
  <!-- Laboratory Test, Order (V3) template -->
  <templateId root="2.16.840.1.113883.10.20.24.3.37" extension="2016-02-01" />
  <id root="1fad091f-7b4e-4661-b61c-53f9a82515b6" />
  <!-- Laboratory Test -->
  <code code="4544-3" displayName="Hematocrit [Volume Fraction] of Blood by Automated
count"
  codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
  sdtc:valueSet="{QDMElementValueSetOID}" />
  <statusCode code="active" />
  <author>
    <!-- C-CDA R2.1 Author Participation -->
    <templateId root="2.16.840.1.113883.10.20.22.4.119" />
    <time value="201204081130"/>
    <assignedAuthor>
      <id root="2.16.840.1.113883.4.6" extension="111111111" />
    </assignedAuthor>
  </author>
  <!-- QDM Attribute: Reason -->
  <entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</observation>
```


3.50.5 Laboratory Test Recommended (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.39:2016-02-01
(open)]

Table 218: Laboratory Test Recommended (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Author Participation Reason (V2)

This template represents the QDM datatype: Laboratory Test, Recommended.

This datatype represents a recommendation for a laboratory test. A laboratory test is a medical procedure that involves testing a sample of blood, urine, or other substance from the body. Tests can help determine a diagnosis, plan treatment, check if treatment is working, or monitor the disease over time.

The moodCode is constrained to "INT", an author is required to represent the recommending clinician and an author time/date stamp is required.

QDM attributes: Start Datetime and Stop Datetime are represented by author/time and correspond to when the recommendation was signed, it is expected that the two values will be the same. The time the activity is recommended to take place is represented by effectiveTime.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 219: Laboratory Test Recommended (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.39:2016-02-01)					
@classCode	1..1	SHALL		2228-27416	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-11793	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = INT
@negationInd	0..1	MAY		2228-28078	
templateId	1..1	SHALL		2228-11794	
@root	1..1	SHALL		2228-11795	2.16.840.1.113883.10.20.24.3.39
@extension	1..1	SHALL		2228-27077	2016-02-01
code	1..1	SHALL		2228-27639	
@sdct:valueSet	1..1	SHALL		2228-27640	
author	1..1	SHALL		2228-27350	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..1	MAY		2228-11811	
@typeCode	1..1	SHALL		2228-11812	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		2228-11813	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)

1. Conforms to [Planned Observation \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.44:2014-06-09).
2. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27416).
3. **SHALL** contain exactly one [1..1] @moodCode="INT" Intent (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-11793).
4. **MAY** contain zero or one [0..1] @negationInd (CONF:2228-28078).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] templateId (CONF:2228-11794) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.39" (CONF:2228-11795).
 - b. **SHALL** contain exactly one [1..1] @extension="2016-02-01" (CONF:2228-27077).
6. **SHALL** contain exactly one [1..1] code (CONF:2228-27639).
 - a. This code **SHALL** contain exactly one [1..1] @sdct:valueSet (CONF:2228-27640).

author/time is a single point in time, it is the time the recommendation is made.

7. **SHALL** contain exactly one [1..1] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:2228-27350).
8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-11811) such that it Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-11812).
 - b. **SHALL** contain exactly one [1..1] [Reason \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-11813).

Figure 96: Laboratory Test Recommended (V3) Example

```
<observation classCode="OBS" moodCode="INT">
  <!-- Conforms to C-CDA R2.1 Planned Observation (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.44" extension="2014-06-09" />
  <!-- Laboratory Test, Recommended(V3) template -->
  <templateId root="2.16.840.1.113883.10.20.24.3.39" extension="2016-02-01" />
  <id root="1fad091f-7b4e-4661-b61c-53f9a82515b4" />
  <!-- Laboratory Test -->
  <code code="4544-3" displayName="Hematocrit [Volume Fraction] of Blood by Automated
count" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
  sdtc:valueSet="{ $QDMElementValueSetOID }" />
  <statusCode code="active" />
  <author>
    <!-- C-CDA R2.1 Author Participation -->
    <templateId root="2.16.840.1.113883.10.20.22.4.119" />
    <time value="201504081130"/>
    <assignedAuthor>
      <id root="2.16.840.1.113883.4.6" extension="111111111" />
    </assignedAuthor>
  </author>
  <!-- QDM Attribute: Reason -->
  <entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</observation>
```

3.50.6 Physical Exam Order (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.58:2016-02-01 (open)]

Table 220: Physical Exam Order (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Author Participation Reason (V2)

This template represents the QDM datatype: Physical Exam, Order.

This datatype represents a request by a physician or appropriately licensed care provider to order a physical exam for the patient.

The moodCode is constrained to “RQO”, an author is required to represent the ordering clinician and an author time/date stamp is required.

QDM attributes: Start Datetime and Stop Datetime are represented by author/time (a single point in time) and correspond to when the order was signed. The time the activity is intended to take place is represented by effectiveTime.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 221: Physical Exam Order (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.58:2016-02-01)					
@classCode	1..1	SHALL		2228-27550	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-12685	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = RQO
@negationInd	0..1	MAY		2228-28092	
templateId	1..1	SHALL		2228-12686	
@root	1..1	SHALL		2228-12687	2.16.840.1.113883.10.20.24.3.58
@extension	1..1	SHALL		2228-27078	2016-02-01
code	1..1	SHALL		2228-12689	
@code	1..1	SHALL		2228-13242	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 29545-1
value	1..1	SHALL	CD	2228-13254	
@sdtc:valueSet	1..1	SHALL		2228-27650	
author	1..1	SHALL		2228-27345	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..1	MAY		2228-12701	
@typeCode	1..1	SHALL		2228-12702	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		2228-12703	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)

1. Conforms to [Planned Observation \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.44:2014-06-09).
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27550).
3. **SHALL** contain exactly one [1..1] **@moodCode**="RQO" Request (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-12685).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28092).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-12686) such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.58" (CONF:2228-12687).
- b. **SHALL** contain exactly one [1..1] **@extension**="2016-02-01" (CONF:2228-27078).
- 6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-12689).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="29545-1" physical examination (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:2228-13242).
- 7. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:2228-13254).
 - a. This value **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-27650).

author/time represents the time the order was signed (a single point in time).

- 8. **SHALL** contain exactly one [1..1] Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:2228-27345).
Note: QDM Attribute: Start Datetime, Stop Datetime
- 9. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-12701) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="RSON" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-12702).
 - b. **SHALL** contain exactly one [1..1] Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-12703).

Figure 97: Physical Exam Order (V3) Example

```

<observation classCode="OBS" moodCode="RQO">
  <!-- Conforms to C-CDA R2.1 Planned Observation (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.44" extension="2014-06-09" />
  <!-- Physical Exam Order (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.58" extension="2016-02-01" />
  <id root="1fad091f-7b4e-4661-b61c-53f9a82515b6" />
  <code code="29545-1" codeSystem="2.16.840.1.113883.6.1"
  displayName="physical examination" codeSystemName="LOINC" />
  <statusCode code="active" />
  <value xsi:type="CD" code="8350-1" codeSystem="2.16.840.1.113883.6.1"
  displayName="Body weight Measured --with clothes" codeSystemName="LOINC"
  sdtc:valueSet="{&#x24;QDMElementValueSetOID}" />
  <!-- author/time indicates the time when the documentation of the
  order occurred -->
  <author>
    <!-- C-CDA R2.1 Author Participation -->
    <templateId root="2.16.840.1.113883.10.20.22.4.119" />
    <time value="201504081130" />
    <assignedAuthor>
      <id root="2.16.840.1.113883.4.6" extension="111111111" />
    </assignedAuthor>
  </author>
  <!-- QDM Attribute: Reason -->
  <entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</observation>

```

3.50.7 Physical Exam Recommended (V3)

[observation: identifier urn:h17ii:2.16.840.1.113883.10.20.24.3.60:2016-02-01 (open)]

Table 222: Physical Exam Recommended (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Author Participation Reason (V2)

This template represents the QDM datatype: Physical Exam, Recommended.

This datatype represents a recommendation by a physician or appropriately licensed care provider for a physical exam to be performed on the patient.

The moodCode is constrained to “INT”, an author is required to represent the recommending clinician and an author time/date stamp is required.

QDM attributes: Start Datetime and Stop Datetime are represented by author/time (a single point in time) and correspond to when the recommendation was signed. The time the activity is recommended to take place is represented by effectiveTime.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 223: Physical Exam Recommended (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.60:2016-02-01)					
@classCode	1..1	SHALL		2228-27556	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-12665	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = INT
@negationInd	0..1	MAY		2228-28094	
templateId	1..1	SHALL		2228-12666	
@root	1..1	SHALL		2228-12667	2.16.840.1.113883.10.20.24.3.60
@extension	1..1	SHALL		2228-27082	2016-02-01
code	1..1	SHALL		2228-12669	
@code	1..1	SHALL		2228-13274	29545-1
@codeSystem	1..1	SHALL		2228-28132	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
value	1..1	SHALL	CD	2228-13275	
@sdtc:valueSet	1..1	SHALL		2228-27653	
author	1..1	SHALL		2228-27351	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..1	MAY		2228-12679	
@typeCode	1..1	SHALL		2228-12680	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		2228-12681	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)

1. Conforms to [Planned Observation \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.44:2014-06-09).

2. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27556).
3. **SHALL** contain exactly one [1..1] **@moodCode="INT"** Intent (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-12665).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28094).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-12666) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.60"** (CONF:2228-12667).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-27082).
6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-12669).
 - a. This code **SHALL** contain exactly one [1..1] **@code="29545-1"** physical examination (CONF:2228-13274).
 - 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:2228-28132).
7. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:2228-13275).
 - a. This value **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-27653).

author/time represents the time the recommendation is made (a single point in time).

8. **SHALL** contain exactly one [1..1] **Author Participation** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:2228-27351).
Note: QDM Attribute: Start Datetime, Stop Datetime
9. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-12679) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-12680).
 - b. **SHALL** contain exactly one [1..1] **Reason (V2)** (identifier: urn:h17ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-12681).

Figure 98: Physical Exam Recommended (V3) Example

```

<observation classCode="OBS" moodCode="INT">
  <!-- Confirms to C-CDA R2.1 Planned Observation (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.44" extension="2014-06-09" />
  <!-- Physical Exam Recommended (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.60" extension="2016-02-01" />
  <id root="1fad091f-7b4e-4661-b61c-53f9a82515b6" />
  <code code="29545-1" codeSystem="2.16.840.1.113883.6.1"
  displayName="physical examination" codeSystemName="LOINC" />
  <statusCode code="active" />
  <value xsi:type="CD" code="8350-1" codeSystem="2.16.840.1.113883.6.1"
  displayName="Body weight Measured --with clothes" codeSystemName="LOINC"
  sdtc:valueSet="{&#x24;QDMElementValueSetOID}" />
  <!-- author/time indicates the time when the documentation of the recommendation
  occurred -->
  <author>
    <!-- C-CDA R2 Author Participation -->
    <templateId root="2.16.840.1.113883.10.20.22.4.119" />
    <time value="201504081130" />
    <assignedAuthor>
      <id root="2.16.840.1.113883.4.6" extension="111111111" />
    </assignedAuthor>
  </author>
  <!-- QDM Attribute: Reason -->
  <entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</observation>

```

3.51 Planned Procedure (V2)

[procedure: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.41:2014-06-09 (open)]

Table 224: Planned Procedure (V2) Contexts

Contained By:	Contains:
	Author Participation Indication (V2) Instruction (V2) Planned Coverage Priority Preference

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.

Table 225: Planned Procedure (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
procedure (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.41:2014-06-09)					
@classCode	1..1	SHALL		1098-8568	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		1098-8569	urn:oid:2.16.840.1.113883.11.20.9.23 (Planned moodCode (Act/Encounter/Procedure))
templateId	1..1	SHALL		1098-30444	
@root	1..1	SHALL		1098-30445	2.16.840.1.113883.10.20.22.4.41
@extension	1..1	SHALL		1098-32554	2014-06-09
id	1..*	SHALL		1098-8571	
code	1..1	SHALL		1098-31976	
statusCode	1..1	SHALL		1098-30446	
@code	1..1	SHALL		1098-31978	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = active
effectiveTime	0..1	SHOULD		1098-30447	
methodCode	0..*	MAY		1098-31980	
targetSiteCode	0..*	MAY		1098-31981	urn:oid:2.16.840.1.113883.3.88.1.2.3221.8.9 (Body Site)
performer	0..*	MAY		1098-30449	
author	0..1	SHOULD		1098-31979	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..*	MAY		1098-31079	
@typeCode	1..1	SHALL		1098-31080	urn:oid:2.16.840.1.113883.5.100.2 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		1098-31081	Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143)
entryRelationship	0..*	MAY		1098-31982	
@typeCode	1..1	SHALL		1098-31983	urn:oid:2.16.840.1.113883.5.100.2 (HL7ActRelationshipType) = RSON

observation	1..1	SHALL		1098-31984	Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.2.0.22.4.19:2014-06-09)
entryRelationship	0..*	MAY		1098-31985	
@typeCode	1..1	SHALL		1098-31986	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		1098-31987	true
act	1..1	SHALL		1098-31989	Instruction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.2.0.22.4.20:2014-06-09)
entryRelationship	0..*	MAY		1098-31990	
@typeCode	1..1	SHALL		1098-31991	COMP
act	1..1	SHALL		1098-31992	Planned Coverage (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.129)

1. **SHALL** contain exactly one [1..1] @classCode="PROC" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-8568).
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:1098-8569).
3. **SHALL** contain exactly one [1..1] templateId (CONF:1098-30444) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.41" (CONF:1098-30445).
 - b. **SHALL** contain exactly one [1..1] @extension="2014-06-09" (CONF:1098-32554).
4. **SHALL** contain at least one [1..*] id (CONF:1098-8571).
5. **SHALL** contain exactly one [1..1] code (CONF:1098-31976).
 - 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-4 (CodeSystem: 2.16.840.1.113883.6.12) **OR** ICD10 PCS (CodeSystem: 2.16.840.1.113883.6.4) (CONF:1098-31977).
6. **SHALL** contain exactly one [1..1] statusCode (CONF:1098-30446).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="active" Active (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:1098-31978).

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

7. **SHOULD** contain zero or one [0..1] effectiveTime (CONF:1098-30447).

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:1098-31980).

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](#) urn:oid:2.16.840.1.113883.3.88.12.3221.8.9 **DYNAMIC** (CONF:1098-31981).

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

10. **MAY** contain zero or more [0..*] **performer** (CONF:1098-30449).

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:1098-31979).

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:1098-31079) such that it

- SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1098-31080).
- SHALL** contain exactly one [1..1] [Priority Preference](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143) (CONF:1098-31081).

The following entryRelationship represents the indication for the procedure.

13. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-31982) 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:1098-31983).
- 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:1098-31984).

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

14. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-31985) 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:1098-31986).
- SHALL** contain exactly one [1..1] **@inversionInd="true"** True (CONF:1098-31987).
- 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:1098-31989).

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

15. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-31990) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="COMP"** Has component (CONF:1098-31991).
 - b. **SHALL** contain exactly one [1..1] **Planned Coverage** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.129) (CONF:1098-31992).

Figure 99: Planned Procedure (V2) Example

```
<entry>
  <procedure moodCode="RQO" classCode="PROC">
    <templateId root="2.16.840.1.113883.10.20.22.4.41" extension="2014-06-09" />
    <!-- **Planned Procedure (V2) 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>
```


3.51.1 Procedure Order (V3)

[procedure: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.63:2016-02-01
(open)]

Table 226: Procedure Order (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Author Participation Radiation Dosage and Duration (V2) Reason (V2)

This template represents the QDM datatype: Procedure, Order.

Procedure Order describes an order for a procedure. A procedure is a course of action intended to achieve a result in the care of persons with health problems. It is generally invasive and involves physical contact. A procedure may be a surgery or other type of physical manipulation of a person's body in whole or in part for purposes of making observations and diagnoses and/or providing treatment. Note that procedure is distinct from intervention.

The moodCode is constrained to "RQO", an author is required to represent the ordering clinician and an author time/date stamp is required.

QDM attributes: Start Datetime and Stop Datetime are represented by author/time (a single point in time) and correspond to when the order was signed. The time the activity is intended to take place is represented by effectiveTime.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 227: Procedure Order (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
procedure (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.63:2016-02-01)					
@classCode	1..1	SHALL		2228-27323	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		2228-11097	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = RQO
@negationInd	0..1	MAY		2228-28097	
templateId	1..1	SHALL		2228-11098	
@root	1..1	SHALL		2228-11099	2.16.840.1.113883.10.20.24.3.63
@extension	1..1	SHALL		2228-27083	2016-02-01
code	1..1	SHALL		2228-27324	
@sdtc:valueSet	1..1	SHALL		2228-27330	
priorityCode	0..1	MAY		2228-14551	
@sdtc:valueSet	1..1	SHALL		2228-27325	
methodCode	0..1	MAY		2228-11606	
@sdtc:valueSet	1..1	SHALL		2228-27326	
approachSiteCode	0..*	MAY		2228-27327	
@sdtc:valueSet	1..1	SHALL		2228-27331	
targetSiteCode	0..1	MAY		2228-27328	
@sdtc:valueSet	0..1	SHOULD		2228-27332	
translation	0..1	MAY		2228-27732	
@sdtc:valueSet	1..1	SHALL		2228-27733	
author	1..1	SHALL		2228-27346	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..1	MAY		2228-11616	
@typeCode	1..1	SHALL		2228-11617	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) =

					RSON
observation	1..1	SHALL		2228-11618	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)
entryRelationship	0..1	MAY		2228-27329	
@typeCode	1..1	SHALL		2228-27333	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		2228-27334	Radiation Dosage and Duration (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01)

1. Conforms to [Planned Procedure \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.41:2014-06-09).
2. **SHALL** contain exactly one [1..1] **@classCode**="PROC" Procedure (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27323).
3. **SHALL** contain exactly one [1..1] **@moodCode**="RQO" Request (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-11097).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28097).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-11098) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.63" (CONF:2228-11099).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-02-01" (CONF:2228-27083).
6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-27324).
 - a. This code **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:2228-27330).
7. **MAY** contain zero or one [0..1] **priorityCode** (CONF:2228-14551).
Note: QDM Attribute: Ordinality
 - a. The priorityCode, if present, **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:2228-27325).
8. **MAY** contain zero or one [0..1] **methodCode** (CONF:2228-11606).
Note: QDM Attribute: Method
 - a. The methodCode, if present, **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:2228-27326).
9. **MAY** contain zero or more [0..*] **approachSiteCode** (CONF:2228-27327).
Note: QDM Attribute: Anatomical Approach Site
 - a. The approachSiteCode, if present, **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:2228-27331).

If the code used for QDM Attribute: Anatomical Location does not exist in the value set Body Site (2.16.840.1.113883.3.88.12.3221.8.9) then set targetSiteCode/@nullFlavor="OTH", targetSiteCode@codeSystem="2.16.840.1.113883.6.96" and use translation for the code.

10. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:2228-27328).
Note: QDM Attribute: Anatomical Location Site

- a. The targetSiteCode, if present, **SHOULD** contain zero or one [0..1] @sdtc:valueSet (CONF:2228-27332).
- b. The targetSiteCode, if present, **MAY** contain zero or one [0..1] translation (CONF:2228-27732).
 - i. The translation, if present, **SHALL** contain exactly one [1..1] @sdtc:valueSet (CONF:2228-27733).

author/time represents the time the order was signed (a single point in time).

- 11. **SHALL** contain exactly one [1..1] Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:2228-27346).
Note: QDM Attribute: Start Datetime, Stop Datetime
- 12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-11616) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] @typeCode="RSON" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-11617).
 - b. **SHALL** contain exactly one [1..1] Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-11618).
- 13. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-27329) such that it
Note: QDM Attribute: Radiation Duration
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-27333).
 - b. **SHALL** contain exactly one [1..1] Radiation Dosage and Duration (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01) (CONF:2228-27334).

Figure 100: Procedure Order (V3) Example

```
<procedure classCode="PROC" moodCode="RQO">
  <!-- Conforms to C-CDA R2.1 Planned Procedure (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.41" extension="2014-06-09" />
  <!-- Procedure Order (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.63" extension="2016-02-01" />
  <id root="5bc8cc9d-d59a-4dda-99d8-1463b2e71d06" />
  <code code="235326000" displayName="Right hemicolectomy"
  codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"
  sdtc:valueSet="{ $QDMElementValueSetOID}" />
  <statusCode code="active" />
  <!-- QDM Attribute: Ordinality -->
  <priorityCode code="63161005" codeSystem="2.16.840.1.113883.6.96"
  codeSystemName="SNOMED CT" displayName="Principal"
  sdtc:valueSet="{ $QDMElementValueSetOID}" />
  <!-- QDM Attribute: Method -->
  <methodCode code="446223002" codeSystem="2.16.840.1.113883.6.96"
  displayName="Hand assisted laparoscopic right colectomy"
  codeSystemName="SNOMED-CT" sdtc:valueSet="{ $QDMElementValueSetOID}" />
  <!-- QDA Attribute: Anatomical Approach Site -->
  <approachSiteCode code="14742008" codeSystem="2.16.840.1.113883.6.96"
  codeSystemName="SNOMED CT" displayName="large intestinal structure"
  sdtc:valueSet="{ $QDMElementValueSetOID}" />
  <!-- QDM Attribute: Anatomical Location Site -->
  <targetSiteCode code="71854001" codeSystem="2.16.840.1.113883.6.96"
  codeSystemName="SNOMED CT" displayName="colon"
  sdtc:valueSet="{ $QDMElementValueSetOID}" />
  <author>
    <!-- C-CDA R2 Author Participation -->
    <templateId root="2.16.840.1.113883.10.20.22.4.119" />
    <time value="20150329090000+0500" />
    <assignedAuthor>
      <id root="2.16.840.1.113883.4.6" extension="111111111" />
    </assignedAuthor>
  </author>
  <entryRelationship typeCode="REFR">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Radiation Dosage and Duration (V2) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.91" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</procedure>
```

Figure 101: Procedure Order (V3) - targetSiteCode/translation - Example

```

<procedure classCode="PROC" moodCode="RQO">
  <!-- Conforms to C-CDA R2.1 Planned Procedure (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.41" extension="2014-06-09" />
  <!-- Procedure Order (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.63"
    extension="2016-02-01" />
  ...

  <!-- QDM Attribute: Anatomical Location Site -->
  <targetSiteCode nullFlavor="OTH" codeSystem="2.16.840.1.113883.6.96">
    <translation code="I21.01" displayName="Term not in Body Site value set"
      codeSystem="2.16.840.1.113883.6.90" codeSystemName="ICD10CM"
      sdct:valueSet="{ $QDMElementValueSetOID }" />
  </targetSiteCode>
  <author>
    <!-- C-CDA R2.1 Author Participation -->
    <templateId root="2.16.840.1.113883.10.20.22.4.119" />
    <time value="20150329090000+0500" />
    <assignedAuthor>
      <id root="2.16.840.1.113883.4.6" extension="111111111" />
    </assignedAuthor>
  </author>
  ...
</procedure>

```

3.51.2 Procedure Recommended (V3)

[procedure: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.65:2016-02-01 (open)]

Table 228: Procedure Recommended (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Author Participation Reason (V2)

This template represents the QDM datatype: Procedure, Recommended.

Procedure Recommended describes a recommendation for a procedure. A procedure is a course of action intended to achieve a result in the care of persons with health problems. It is generally invasive and involves physical contact. A procedure may be a surgery or other type of physical manipulation of a person’s body in whole or in part for purposes of making observations and diagnoses and/or providing treatment. Note that procedure is distinct from intervention.

The moodCode is constrained to “INT”, an author is required to represent the recommending clinician and an author time/date stamp is required.

QDM attributes: Start Datetime and Stop Datetime are represented by author/time (a single point in time) and correspond to when the recommendation was signed. The time the activity is recommended to take place is represented by effectiveTime.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 229: Procedure Recommended (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
procedure (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.65:2016-02-01)					
@classCode	1..1	SHALL		2228-27337	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		2228-11103	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = INT
@negationInd	0..1	MAY		2228-28099	
templateId	1..1	SHALL		2228-11104	
@root	1..1	SHALL		2228-11105	2.16.840.1.113883.10.20.24.3.65
@extension	1..1	SHALL		2228-27086	2016-02-01
code	1..1	SHALL		2228-11107	
@sdtc:valueSet	1..1	SHALL		2228-27654	
priorityCode	0..1	MAY		2228-14553	
approachSiteCode	0..*	MAY		2228-27338	
targetSiteCode	0..1	MAY		2228-27726	
@sdtc:valueSet	0..1	SHOULD		2228-27728	
translation	0..*	MAY		2228-27727	
@sdtc:valueSet	1..1	SHALL		2228-27729	
author	1..1	SHALL		2228-27352	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..1	MAY		2228-11592	
@typeCode	1..1	SHALL		2228-11593	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		2228-27085	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)

1. Conforms to [Planned Procedure \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.41:2014-06-09).

2. **SHALL** contain exactly one [1..1] **@classCode="PROC"** Procedure (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27337).
3. **SHALL** contain exactly one [1..1] **@moodCode="INT"** Intent (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-11103).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28099).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-11104) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.65"** (CONF:2228-11105).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-27086).
6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-11107).
 - a. This code **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:2228-27654).
7. **MAY** contain zero or one [0..1] **priorityCode** (CONF:2228-14553).
Note: QDM Attribute: Ordinality
8. **MAY** contain zero or more [0..*] **approachSiteCode** (CONF:2228-27338).
Note: QDM Attribute: Anatomical Approach Site

If the code used for QDM Attribute: Anatomical Location does not exist in the value set Body Site (2.16.840.1.113883.3.88.12.3221.8.9) then use targetSiteCode/@nullFlavor="OTH", code@codeSystem="2.16.840.1.113883.6.96" and use translation for the code. (See example below).

9. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:2228-27726).
Note: QDM Attribute: Anatomical Location Site
 - a. The targetSiteCode, if present, **SHOULD** contain zero or one [0..1] **@sdct:valueSet** (CONF:2228-27728).
 - b. The targetSiteCode, if present, **MAY** contain zero or more [0..*] **translation** (CONF:2228-27727).
 - i. The translation, if present, **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:2228-27729).

author/time/low represents the time the recommendation is made and author/time/high represents the time the recommendation placement is completed.

10. **SHALL** contain exactly one [1..1] **Author Participation** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:2228-27352).
11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-11592) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-11593).
 - b. **SHALL** contain exactly one [1..1] **Reason (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-27085).

Figure 102: Procedure Recommended (V3) Example

```
<procedure classCode="PROC" moodCode="INT">
  <!-- Conforms to C-CDA R2.1 Planned Procedure (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.41" extension="2014-06-09" />
  <!-- Procedure Recommended (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.65" extension="2016-02-01" />
  <id root="5a132c58-bd4f-4c46-b082-b7f84909834f" />
  <!-- Procedure -->
  <code code="235326000" displayName="Right hemicolectomy"
    codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"
    sdtc:valueSet="{ $QDMElementValueSetOID}" />
  <text>Procedure, Recommended: Right hemicolectomy </text>
  <statusCode code="active" />
  <!-- QDM Attribute: Ordinality -->
  <!-- The following code may not be correct and may change in the future (if
    the relevant eMeasure is changed -->
  <priorityCode code="63161005" codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT" displayName="Principal"
    sdtc:valueSet="{ $QDMElementValueSetOID}" />
  <!-- QDM Attribute: Method -->
  <methodCode code="446223002" codeSystem="2.16.840.1.113883.6.96"
    displayName="Hand assisted laparoscopic right colectomy"
    codeSystemName="SNOMED-CT" sdtc:valueSet="{ $QDMElementValueSetOID}" />
  <!-- QDA Attribute: Anatomical Approach Site -->
  <approachSiteCode code="14742008" codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT" displayName="large intestinal structure"
    sdtc:valueSet="{ $QDMElementValueSetOID}" />
  <!-- QDM Attribute: Anatomical Location Site -->
  <targetSiteCode code="71854001" codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT" displayName="colon"
    sdtc:valueSet="{ $QDMElementValueSetOID}" />
  <author>
    <!-- C-CDA R2.1 Author Participation -->
    <templateId root="2.16.840.1.113883.10.20.22.4.119" />
    <time value="20150329090000+0500" />
    <assignedAuthor>
      <id root="2.16.840.1.113883.4.6" extension="111111111" />
    </assignedAuthor>
  </author>
  <!-- QDM Attribute: Reason -->
  <entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-12-01" />
    </observation>
  </entryRelationship>
</procedure>
```

3.52 Planned Supply (V2)

[supply: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.43:2014-06-09
(open)]

Table 230: Planned Supply (V2) Contexts

Contained By:	Contains:
	Author Participation Immunization Medication Information (V2) Indication (V2) Instruction (V2) Medication Information (V2) Planned Coverage Priority Preference Product Instance

This template represents both medicinal and non-medicinal supplies ordered, requested, or intended for the patient (e.g., medication prescription, order for wheelchair). The importance of the supply order or request to the patient and provider may be indicated in the Priority Preference.

The effective time indicates the time when the supply is intended to take place and author time indicates when the documentation of the plan occurred. The Planned Supply template may also indicate the potential insurance coverage for the procedure.

Depending on the type of supply, the product or participant will be either a Medication Information product (medication), an Immunization Medication Information product (immunization), or a Product Instance participant (device/equipment).

Table 231: Planned Supply (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
supply (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.43:2014-06-09)					
@classCode	1..1	SHALL		1098-8577	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SPLY
@moodCode	1..1	SHALL		1098-8578	urn:oid:2.16.840.1.113883.11.20.9.24 (Planned moodCode (SubstanceAdministration/Supply))
templateId	1..1	SHALL		1098-30463	
@root	1..1	SHALL		1098-30464	2.16.840.1.113883.10.20.22.4.43
@extension	1..1	SHALL		1098-32556	2014-06-09
id	1..*	SHALL		1098-8580	
statusCode	1..1	SHALL		1098-30458	
@code	1..1	SHALL		1098-32047	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = active
effectiveTime	0..1	SHOULD		1098-30459	
repeatNumber	0..1	MAY		1098-32063	
quantity	0..1	MAY		1098-32064	
product	0..1	MAY		1098-32049	
manufacturedProduct	1..1	SHALL		1098-32050	Medication Information (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09)
product	0..1	MAY		1098-32051	
manufacturedProduct	1..1	SHALL		1098-32052	Immunization Medication Information (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09)
product	0..1	SHOULD		1098-32325	
performer	0..*	MAY		1098-32048	
author	0..1	SHOULD		1098-31129	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
participant	0..1	MAY		1098-	

				32094	
participantRole	1..1	SHALL		1098-32095	Product Instance (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.37)
entryRelationship	0..*	MAY		1098-31110	
@typeCode	1..1	SHALL		1098-31111	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		1098-31112	Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143)
entryRelationship	0..*	MAY		1098-32054	
@typeCode	1..1	SHALL		1098-32055	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		1098-32056	Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09)
entryRelationship	0..*	MAY		1098-32057	
@typeCode	1..1	SHALL		1098-32058	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
act	1..1	SHALL		1098-32059	Instruction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09)
entryRelationship	0..*	MAY		1098-32060	
@typeCode	1..1	SHALL		1098-32061	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
act	1..1	SHALL		1098-32062	Planned Coverage (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.129)

1. **SHALL** contain exactly one [1..1] **@classCode="SPLY"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-8577).
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet [Planned moodCode \(SubstanceAdministration/Supply\)](#) urn:oid:2.16.840.1.113883.11.20.9.24 **STATIC** 2011-09-30 (CONF:1098-8578).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-30463) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.43"** (CONF:1098-30464).
 - b. **SHALL** contain exactly one [1..1] **@extension="2014-06-09"** (CONF:1098-32556).
4. **SHALL** contain at least one [1..*] **id** (CONF:1098-8580).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-30458).

- a. This statusCode **SHALL** contain exactly one [1..1] @code="active" Active (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:1098-32047).

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

6. **SHOULD** contain zero or one [0..1] effectiveTime (CONF:1098-30459).

In a Planned Supply, repeatNumber indicates the number of times the supply event can occur. For example, if a medication is filled at a pharmacy and the prescription may be refilled 3 more times, the supply RepeatNumber equals 4.

7. **MAY** contain zero or one [0..1] repeatNumber (CONF:1098-32063).
8. **MAY** contain zero or one [0..1] quantity (CONF:1098-32064).

This product represents medication that is ordered, requested or intended for the patient.

9. **MAY** contain zero or one [0..1] product (CONF:1098-32049) such that it
 - a. **SHALL** contain exactly one [1..1] Medication Information (V2) (identifier: urn:h17ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09) (CONF:1098-32050).
 - b. If the product is Medication Information (V2) (2.16.840.1.113883.10.20.22.4.23.2) then the product **SHALL NOT** be Immunization Medication Information (2.16.840.1.113883.10.20.22.4.54.2) and the participant **SHALL NOT** be Product Instance (CONF:1098-32092).

This product represents immunization medication that is ordered, requested or intended for the patient.

10. **MAY** contain zero or one [0..1] product (CONF:1098-32051) such that it
 - a. **SHALL** contain exactly one [1..1] Immunization Medication Information (V2) (identifier: urn:h17ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09) (CONF:1098-32052).
 - b. If the product is Medication Information (V2) (2.16.840.1.113883.10.20.22.4.23.2) then the product **SHALL NOT** be Immunization Medication Information (2.16.840.1.113883.10.20.22.4.54.2) and the participant **SHALL NOT** be Product Instance (CONF:1098-32093).

A product is recommended or even required under certain implementations. This IG makes product as recommended (SHOULD).

11. **SHOULD** contain zero or one [0..1] product (CONF:1098-32325).

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

12. **MAY** contain zero or more [0..*] performer (CONF:1098-32048).

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

13. **SHOULD** contain zero or one [0..1] Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1098-31129).

This participant represents a device that is ordered, requested or intended for the patient.

14. **MAY** contain zero or one [0..1] participant (CONF:1098-32094) such that it

- a. **SHALL** contain exactly one [1..1] [Product Instance](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.37) (CONF:1098-32095).
- b. If the participant is Product Instance then the product **SHALL NOT** be Medication Information (V2) (2.16.840.1.113883.10.20.22.4.23.2) and the product **SHALL NOT** be Immunization Medication Information (V2) (2.16.840.1.113883.10.20.22.4.54.2) (CONF:1098-32096).

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

- 15. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-31110) 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:1098-31111).
 - b. **SHALL** contain exactly one [1..1] [Priority Preference](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143) (CONF:1098-31112).

The following entryRelationship represents the indication for the supply.

- 16. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-32054) 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:1098-32055).
 - 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:1098-32056).

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

- 17. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-32057) 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) (CONF:1098-32058).
 - b. **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:1098-32059).

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

- 18. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-32060) 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:1098-32061).
 - b. **SHALL** contain exactly one [1..1] [Planned Coverage](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.129) (CONF:1098-32062).

Figure 103: Planned Supply (V2) Example

```
<supply moodCode="INT" classCode="SPLY">
  <templateId root="2.16.840.1.113883.10.20.22.4.43" extension="2014-06-09" />
  <!-- Planned Supply (V2) -->
  <id root="9a6d1bac-17d3-4195-89c4-1121bc809b5d" />
  <statusCode code="active" />
  <!-- The effectiveTime in a planned supply represents
the time that the supply should occur. -->
  <effectiveTime value="20130615" />
  <repeatNumber value="1" />
  <quantity value="3" />
  <!-- This product represents medication that is ordered,
requested or intended for the patient. -->
  <product>
    <manufacturedProduct classCode="MANU">
      <!-- Medication Information (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.23" extension="2014-06-09" />
      <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">
          <originalText>
            <reference value="#MedSec_1" />
          </originalText>
          <translation code="573621" displayName="Proventil 0.09 MG/ACTUAT
inhalant solution" codeSystem="2.16.840.1.113883.6.88" codeSystemName="RxNorm" />
        </code>
      </manufacturedMaterial>
      <manufacturerOrganization>
        <name>Medication Factory Inc.</name>
      </manufacturerOrganization>
    </manufacturedProduct>
  </product>
  <!-- The clinician who is expected to perform the supply
could be identified using supply/performer. -->
  <performer>
    ...
  </performer>
  <!-- The author in a supply represents the clinician
who is requesting or planning the supply. -->
  <author typeCode="AUT">
    ...
  </author>
  <entryRelationship typeCode="REFR">
    <!-- Patient Priority Preference -->
    ...
  </entryRelationship>
  <entryRelationship typeCode="REFR">
    <!-- Provider Priority Preference -->
    ...
  </entryRelationship>
  <entryRelationship typeCode="RSON">
```



```

    <!-- Indication (V2) -->
    ...

</entryRelationship>
<entryRelationship typeCode="SUBJ">
    <!-- Instruction (V2) -->
    ...

</entryRelationship>
<entryRelationship typeCode="COMP">
    <!-- Planned Coverage -->
    ...

</entryRelationship>
</supply>

```

3.52.1 Device Order (V3)

[supply: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.9:2016-02-01 (open)]

Table 232: Device Order (V3) Contexts

Contained By:	Contains:
Device Order Act (required)	Author Participation Reason (V2)

This template, along with the Device Order Act template, represents the QDM datatype: Device, Order. This template must be contained by a Device Order Act template.

This datatype represents an order for equipment designed to treat, monitor, or diagnose a patient's condition.

The moodCode is constrained to "RQO", an author is required to represent the ordering clinician and an author time/date stamp is required.

QDM attributes: Start Datetime and Stop Datetime are represented by author/time (a single point in time) and correspond to when the order was signed. The time the activity is intended to take place is represented by effectiveTime.

Table 233: Device Order (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
supply (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.9:2016-02-01)					
@classCode	1..1	SHALL		2228-27723	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SPLY
@moodCode	1..1	SHALL		2228-12343	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = RQO
templateId	1..1	SHALL		2228-12344	
@root	1..1	SHALL		2228-12345	2.16.840.1.113883.10.20.24.3.9
@extension	1..1	SHALL		2228-27091	2016-02-01
author	1..1	SHALL		2228-27721	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
participant	1..1	SHALL		2228-12349	
@typeCode	1..1	SHALL		2228-12350	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV
participantRole	1..1	SHALL		2228-12351	
@classCode	1..1	SHALL		2228-12352	urn:oid:2.16.840.1.113883.5.110 (RoleClass) = MANU
playingDevice	1..1	SHALL		2228-12353	
@classCode	1..1	SHALL		2228-12354	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV
code	1..1	SHALL		2228-12355	
@sdtc:valueSet	1..1	SHALL		2228-27586	
entryRelationship	0..1	MAY		2228-12356	
@typeCode	1..1	SHALL		2228-12359	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		2228-12360	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)

1. Conforms to [Planned Supply \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.43:2014-06-09).
2. **SHALL** contain exactly one [1..1] @classCode="SPLY" Supply (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27723).

3. **SHALL** contain exactly one [1..1] **@moodCode="RQO"** Request, which **SHALL** be selected from CodeSystem ActMood (urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-12343).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-12344) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.9"** (CONF:2228-12345).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-27091).

author/time represents the time the order was signed (a single point in time).

5. **SHALL** contain exactly one [1..1] **Author Participation** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:2228-27721).
Note: QDM Attribute: Start Datetime, Stop Datetime
6. **SHALL** contain exactly one [1..1] **participant** (CONF:2228-12349) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="DEV"** device, which **SHALL** be selected from CodeSystem HL7ParticipationType (urn:oid:2.16.840.1.113883.5.90) (CONF:2228-12350).
 - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:2228-12351).
 - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode="MANU"** manufactured product, which **SHALL** be selected from CodeSystem RoleClass (urn:oid:2.16.840.1.113883.5.110) (CONF:2228-12352).
 - ii. This participantRole **SHALL** contain exactly one [1..1] **playingDevice** (CONF:2228-12353).
 1. This playingDevice **SHALL** contain exactly one [1..1] **@classCode="DEV"** device, which **SHALL** be selected from CodeSystem HL7ParticipationType (urn:oid:2.16.840.1.113883.5.90) (CONF:2228-12354).
 2. This playingDevice **SHALL** contain exactly one [1..1] **code** (CONF:2228-12355).
 - a. This code **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-27586).
7. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-12356) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** has reason, which **SHALL** be selected from CodeSystem HL7ActRelationshipType (urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-12359).
 - b. **SHALL** contain exactly one [1..1] **Reason (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-12360).
8. This template **SHALL** be contained by a Device Order Act (CONF:2228-28665).

Figure 104: Device Order (V3) Example

```

<!-- Must be contained in the Device Order Act template to represent the Device, Order QDM
data type -->
<supply classCode="SPLY" moodCode="RQO">
  <!-- Conforms to C-CDA R2.1 Planned Supply (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.43" extension="2014-06-09"/>
  <!-- Device Order (V3) TemplateId -->
  <templateId root="2.16.840.1.113883.10.20.24.3.9" extension="2016-02-01"/>
  <id root="6a8d037d-f144-4071-9d1f-8a92a11dedc6"/>
  <statusCode code="active"/>
  <effectiveTime xsi:type="IVL_TS">
    <low value="20151014"/>
    <high value="20151014"/>
  </effectiveTime>
  <author>
    <!-- C-CDA R2 Author Participation -->
    <templateId root="2.16.840.1.113883.10.20.22.4.119"/>
    <time value="201510101030"/>
    <assignedAuthor>
      <id root="2.16.840.1.113883.4.6" extension="111111111"/>
    </assignedAuthor>
  </author>
  <participant typeCode="DEV">
    <participantRole classCode="MANU">
      <playingDevice classCode="DEV">
        <!-- Device -->
        <code code="401608003" codeSystem="2.16.840.1.113883.6.96"
          codeSystemName="SNOMED-CT"
          displayName="Suprapubic catheter (physical object)"
          sdtc:valueSet="{ $QDMElementValueSetOID}"/>
      </playingDevice>
    </participantRole>
  </participant>
  ...
</supply>

```

3.52.2 Device Recommended (V3)

[supply: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.10:2016-02-01
(open)]

Table 234: Device Recommended (V3) Contexts

Contained By:	Contains:
Device Recommended Act (required)	Author Participation Reason (V2)

This template along with the Device Recommended Act represents the QDM datatype: Device, Recommended. This template must be contained by a Device Recommended Act template.

This datatype represents a recommendation for equipment designed to treat, monitor, or diagnose a patient's condition.

The moodCode is constrained to “INT”, an author is required to represent the recommending clinician and an author time/date stamp is required.

QDM attributes: Start Datetime and Stop Datetime are represented by author/time (a single point in time) and correspond to when the recommendation was signed. The time the activity is recommended to take place is represented by effectiveTime.

Table 235: Device Recommended (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
supply (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.10:2016-02-01)					
@classCode	1..1	SHALL		2228-27722	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SPLY
@moodCode	1..1	SHALL		2228-12368	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = INT
templateId	1..1	SHALL		2228-12369	
@root	1..1	SHALL		2228-12370	2.16.840.1.113883.10.20.24.3.10
@extension	1..1	SHALL		2228-27094	2016-02-01
author	1..1	SHALL		2228-27719	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
participant	1..1	SHALL		2228-12374	
@typeCode	1..1	SHALL		2228-12375	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV
participantRole	1..1	SHALL		2228-12376	
@classCode	1..1	SHALL		2228-12377	urn:oid:2.16.840.1.113883.5.110 (RoleClass) = MANU
playingDevice	1..1	SHALL		2228-12378	
@classCode	1..1	SHALL		2228-12379	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV
code	1..1	SHALL		2228-12380	
@sdtc:valueSet	1..1	SHALL		2228-27587	
entryRelationship	0..1	MAY		2228-12381	
@typeCode	1..1	SHALL		2228-12382	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		2228-27093	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)

1. Conforms to [Planned Supply \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.43:2014-06-09).
2. **SHALL** contain exactly one [1..1] @classCode="SPLY" Supply (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27722).

3. **SHALL** contain exactly one [1..1] **@moodCode="INT"** Intent, which **SHALL** be selected from CodeSystem ActMood (urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-12368).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-12369) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.10"** (CONF:2228-12370).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-27094).

author/time represents the time the recommendation is made.

5. **SHALL** contain exactly one [1..1] **Author Participation** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:2228-27719).
Note: QDM Attribute: Start Datetime, Stop Datetime
6. **SHALL** contain exactly one [1..1] **participant** (CONF:2228-12374) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="DEV"** device, which **SHALL** be selected from CodeSystem HL7ParticipationType (urn:oid:2.16.840.1.113883.5.90) (CONF:2228-12375).
 - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:2228-12376).
 - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode="MANU"** manufactured product, which **SHALL** be selected from CodeSystem RoleClass (urn:oid:2.16.840.1.113883.5.110) (CONF:2228-12377).
 - ii. This participantRole **SHALL** contain exactly one [1..1] **playingDevice** (CONF:2228-12378).
 1. This playingDevice **SHALL** contain exactly one [1..1] **@classCode="DEV"** device, which **SHALL** be selected from CodeSystem HL7ParticipationType (urn:oid:2.16.840.1.113883.5.90) (CONF:2228-12379).
 2. This playingDevice **SHALL** contain exactly one [1..1] **code** (CONF:2228-12380).
 - a. This code **SHALL** contain exactly one [1..1] **@sdtc:setValueSet** (CONF:2228-27587).
7. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-12381) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** has reason, which **SHALL** be selected from CodeSystem HL7ActRelationshipType (urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-12382).
 - b. **SHALL** contain exactly one [1..1] **Reason (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-27093).
8. This template **SHALL** be contained by a Device Recommended Act (CONF:2228-28666).

Figure 105: Device Recommended (V3) Example

```

<!-- Must be contained in the Device Recommended Act template to represent the Device,
Recommended QDM data type -->
<supply classCode="SPLY" moodCode="INT">
  <!-- C-CDA R2.1 : Planned Supply (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.43" extension="2014-06-09"/>
  <!-- Device Recommended (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.10" extension="2016-02-01"/>
  <id root="6a8d037d-f144-4071-9d1f-8a92a11dedc6"/>
  <statusCode code="active"/>
  <effectiveTime xsi:type="IVL_TS">
    <low value="20151014"/>
    <high value="20151014"/>
  </effectiveTime>
  <author>
    <!-- C-CDA R2.1 Author Participation -->
    <templateId root="2.16.840.1.113883.10.20.22.4.119"/>
    <time value="201510101030"/>
    <assignedAuthor>
      <id root="2.16.840.1.113883.4.6" extension="111111111"/>
    </assignedAuthor>
  </author>
  <participant typeCode="DEV">
    <participantRole classCode="MANU">
      <playingDevice classCode="DEV">
        <!-- Device -->
        <code code="401608003" codeSystem="2.16.840.1.113883.6.96"
          codeSystemName="SNOMED-CT" displayName="Suprapubic catheter (physical
object) "
          sdtc:valueSet="{ $QDMElementValueSetOID }"/>
        </playingDevice>
      </participantRole>
    </participant>
    ...
  </supply>

```

3.52.3 Medication Supply Request (V2)

[supply: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.99:2015-04-05
(open)]

Table 236: Medication Supply Request (V2) Contexts

Contained By:	Contains:
Medication Order (V3) (optional)	

This template represents a request to a pharmacy to supply a medication. An effectiveTime is required.

Table 237: Medication Supply Request (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
supply (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.99:2015-04-05)					
@classCode	1..1	SHALL		1140-28373	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SPLY
@moodCode	1..1	SHALL		1140-13820	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = RQO
templateId	1..1	SHALL		1140-13821	
@root	1..1	SHALL		1140-13822	2.16.840.1.113883.10.20.24.3.99
@extension	1..1	SHALL		1140-28374	2014-04-05
effectiveTime	1..1	SHALL	IVL_TS	1140-13829	
independentInd	0..1	MAY		1140-13831	

1. Conforms to [Planned Supply \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.43:2014-06-09).
2. **SHALL** contain exactly one [1..1] **@classCode**="SPLY" Supply (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:1140-28373).
3. **SHALL** contain exactly one [1..1] **@moodCode**="RQO" Request (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:1140-13820).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:1140-13821) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.99" (CONF:1140-13822).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2014-04-05" (CONF:1140-28374).
5. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1140-13829).
6. **MAY** contain zero or one [0..1] **independentInd** (CONF:1140-13831).

Figure 106: Medication Supply Request (V2)

```
<supply classCode="SPLY" moodCode="RQO">
  <!-- Medication Supply Request (V2) template -->
  <templateId root="2.16.840.1.113883.10.20.24.3.99"
    extension="2014-04-05"/>
  <!-- Conforms to C-CDA R2 Planned Supply (V2) template-->
  <templateId root="2.16.840.1.113883.10.20.22.4.43
    extension="2014-06-09" />
  <id root="50ed595a-dfb6-49f0-8b19-1901b5d01c1a"/>
  <statusCode code="active"/>
  <effectiveTime xsi:type="IVL_TS">
    <!-- Attribute: start datetime -->
    <low value="20120329140000+0500"/>
    <!-- Attribute: stop datetime -->
    <high value="20120429140000+0500"/>
  </effectiveTime>
  <!-- Attribute: refills -->
  <repeatNumber value="4"/>
  <!-- Signals that the Supply cannot stand alone,
    without its containing Substance Administration -->
  <independentInd value="false"/>
  <!-- Attribute: number -->
  <quantity value="150"/>
  <product>
    <manufacturedProduct classCode="MANU">
      <!-- Conforms to C-CDA R2 Medication Information (V2) template -->
      <templateId root="2.16.840.1.113883.10.20.22.4.23"
        extension="2014-06-09" />
      <id root="37bfe02a-3e97-4bd6-9197-bbd0ed0de79e" />
      <manufacturedMaterial>
        <code code="329498"
          codeSystem="2.16.840.1.113883.6.88"
          displayName="Albuterol 0.09 MG/ACTUAT inhalant solution"
          sdtc:valueSet="{ $QDMElementValueSetOID }"/>
      </manufacturedMaterial>
      <manufacturerOrganization>
        <name>Medication Factory Inc.</name>
      </manufacturerOrganization>
    </manufacturedProduct>
  </product>
</supply>
```

3.53 Precondition for Substance Administration (V2)

[criterion: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09 (open)]

Table 238: Precondition for Substance Administration (V2) Contexts

Contained By:	Contains:
Medication Activity (V2) (optional) Immunization Activity (V2) (optional) Planned Medication Activity (V2) (optional) Planned Immunization Activity (optional)	

A criterion for administration can be used to record that the medication is to be administered only when the associated criteria are met.

Table 239: Precondition for Substance Administration (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
criterion (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09)					
templateId	1..1	SHALL		1098-7372	
@root	1..1	SHALL		1098-10517	2.16.840.1.113883.10.20.22.4.25
@extension	1..1	SHALL		1098-32603	2014-06-09
code	1..1	SHALL	CD	1098-32396	
@code	1..1	SHALL		1098-32397	ASSERTION
@codeSystem	1..1	SHALL		1098-32398	urn:oid:2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4
value	1..1	SHALL	CD	1098-7369	urn:oid:2.16.840.1.113883.3.88.1 2.3221.7.4 (Problem)

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-7372) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.25" (CONF:1098-10517).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2014-06-09" (CONF:1098-32603).
2. **SHALL** contain exactly one [1..1] **code** with **@xsi:type**="CD" (CONF:1098-32396).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CONF:1098-32397).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.5.4" (CodeSystem: ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:1098-32398).

3. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the code **SHALL** be selected from ValueSet [Problem](#) urn:oid:2.16.840.1.113883.3.88.12.3221.7.4 **DYNAMIC** (CONF:1098-7369).

Figure 107: Precondition for Substance Administration (V2) Example

```
<criteria>
  <templateId root="2.16.840.1.113883.10.20.22.4.25"
    extension="2014-06-09" />
  <code code="ASSERTION"
    codeSystem="2.16.840.1.113883.5.4" />
  <value xsi:type="CD"
    code="56018004"
    codeSystem="2.16.840.1.113883.6.96"
    displayName="Wheezing" />
</criteria>
```

3.54 Priority Preference

[observation: identifier urn:oid:2.16.840.1.113883.10.20.22.4.143 (open)]

Table 240: Priority Preference Contexts

Contained By:	Contains:
Goal Observation (V2) (optional) Planned Act (V2) (optional) Planned Encounter (V2) (optional) Planned Procedure (V2) (optional) Planned Observation (V2) (optional) Planned Supply (V2) (optional) Planned Medication Activity (V2) (optional) Planned Immunization Activity (V2) (optional) Problem Observation (V3) (optional) Problem Concern Act (V3) (optional)	Author Participation

This template represents priority preferences chosen by a patient or a care provider. Priority preferences are choices made by care providers or patients or both relative to options for care or treatment (including scheduling, care experience, and meeting of personal health goals), the sharing and disclosure of health information, and the prioritization of concerns and problems.

Table 241: Priority Preference Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143)					
@classCode	1..1	SHALL		1098-30949	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		1098-30950	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1098-30951	
@root	1..1	SHALL		1098-30952	2.16.840.1.113883.10.20.22.4.143
id	1..*	SHALL		1098-30953	
code	1..1	SHALL		1098-30954	
@code	1..1	SHALL		1098-30955	225773000
@codeSystem	1..1	SHALL		1098-30956	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
effectiveTime	0..1	SHOULD		1098-32327	
value	1..1	SHALL	CD	1098-30957	urn:oid:2.16.840.1.113883.11.20.9.60 (Priority Level)
author	0..*	SHOULD		1098-30958	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:1098-30949).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:1098-30950).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-30951) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.143" (CONF:1098-30952).
4. **SHALL** contain at least one [1..*] **id** (CONF:1098-30953).
5. **SHALL** contain exactly one [1..1] **code** (CONF:1098-30954).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="225773000" Preference (CONF:1098-30955).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.96" (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:1098-30956).
6. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:1098-32327).

7. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the code **SHALL** be selected from ValueSet [Priority Level](#) urn:oid:2.16.840.1.113883.11.20.9.60 **STATIC** 2014-06-11 (CONF:1098-30957).
8. **SHOULD** contain zero or more [0..*] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1098-30958).

Table 242: Priority Level

Value Set: Priority Level urn:oid:2.16.840.1.113883.11.20.9.60			
A value set of SNOMED-CT that contains concepts representing priority.			
Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
394849002	SNOMED CT	urn:oid:2.16.840.1.113883.3.6.96	High priority
394848005	SNOMED CT	urn:oid:2.16.840.1.113883.3.6.96	Normal priority
441808003	SNOMED CT	urn:oid:2.16.840.1.113883.3.6.96	Delayed priority

Figure 108: Priority Preference Example

```

<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.143" />
  <id root="7d66f448-ba82-4291-a9da-9e5db5e58803" />
  <code code="225773000"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="preference" />
  <value xsi:type="CD"
    code="394849002"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED"
    displayName="High priority" />
  <!--
    Author Participation Template
    In this case, the author is the same as a participant already described in the
    header.
    However, the author could be a the record target (patient), a different provider -
    someone else in the header, or a new provider not elsewhere specified.
  -->
  <author>
    <templateId root="2.16.840.1.113883.10.20.22.4.119" />
    <time value="20130801" />
    <assignedAuthor>
      <!-- This id points back to a participant in the header -->
      <id root="20cf14fb-b65c-4c8c-a54d-b0cca834c18c" />
    </assignedAuthor>
  </author>
</observation>

```

3.55 Problem Concern Act (V3)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.3:2015-08-01 (open)]

Table 243: Problem Concern Act (V3) Contexts

Contained By:	Contains:
	Author Participation Priority Preference Problem Observation (V3)

This template reflects an ongoing concern on behalf of the provider that placed the concern on a patient's problem list. So long as the underlying condition is of concern to the provider (i.e., as long as the condition, whether active or resolved, is of ongoing concern and interest to the provider), 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, the clinician may remain concerned about a prior heart attack).

The statusCode of the Problem Concern Act is the definitive indication of the status of the concern, whereas the effectiveTime of the nested Problem Observation is the definitive indication of whether or not the underlying condition is resolved.

The effectiveTime/low of the Problem Concern Act asserts when the concern became active. This equates to the time the concern was authored in the patient's chart. The effectiveTime/high asserts when the concern was completed (e.g., when the clinician deemed there is no longer any need to track the underlying condition).

A Problem Concern Act can contain many Problem Observations (templateId 2.16.840.1.113883.10.20.22.4.4). Each Problem Observation is a discrete observation of a condition, and therefore will have a statusCode of "completed". The many Problem Observations nested under a Problem Concern Act reflect the change in the clinical understanding of a condition over time. For instance, a Concern may initially contain a Problem Observation of "chest pain":

- Problem Concern 1
 - Problem Observation: Chest Pain

Later, a new Problem Observation of "esophagitis" will be added, reflecting a better understanding of the nature of the chest pain. The later problem observation will have a more recent author time stamp.

- Problem Concern 1
 - Problem Observation (author/time Jan 3, 2012): Chest Pain
 - Problem Observation (author/time Jan 6, 2012): Esophagitis

Many systems display the nested Problem Observation with the most recent author time stamp, and provide a mechanism for viewing prior observations.

Table 244: Problem Concern Act (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.3:2015-08-01)					
@classCode	1..1	SHALL		1198-9024	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		1198-9025	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1198-16772	
@root	1..1	SHALL		1198-16773	2.16.840.1.113883.10.20.22.4.3
@extension	1..1	SHALL		1198-32509	2015-08-01
id	1..*	SHALL		1198-9026	
code	1..1	SHALL		1198-9027	
@code	1..1	SHALL		1198-19184	CONC
@codeSystem	1..1	SHALL		1198-32168	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = 2.16.840.1.113883.5.6
statusCode	1..1	SHALL		1198-9029	
@code	1..1	SHALL		1198-31525	urn:oid:2.16.840.1.113883.11.20.9.19 (ProblemAct statusCode)
effectiveTime	1..1	SHALL		1198-9030	
low	1..1	SHALL		1198-9032	
high	0..1	MAY		1198-9033	
author	0..*	SHOULD		1198-31146	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	1..*	SHALL		1198-9034	
@typeCode	1..1	SHALL		1198-9035	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
observation	1..1	SHALL		1198-15980	Problem Observation (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.4:2015-08-01)
entryRelationship	0..*	MAY		1198-31638	

@typeCode	1..1	SHALL		1198-31639	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		1198-31640	Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143)

1. **SHALL** contain exactly one [1..1] @classCode="ACT" Act (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1198-9024).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1198-9025).
3. **SHALL** contain exactly one [1..1] templateId (CONF:1198-16772) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.3" (CONF:1198-16773).
 - b. **SHALL** contain exactly one [1..1] @extension="2015-08-01" (CONF:1198-32509).
4. **SHALL** contain at least one [1..*] id (CONF:1198-9026).
5. **SHALL** contain exactly one [1..1] code (CONF:1198-9027).
 - a. This code **SHALL** contain exactly one [1..1] @code="CONC" Concern (CONF:1198-19184).
 - b. This code **SHALL** contain exactly one [1..1] @codeSystem="2.16.840.1.113883.5.6" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:1198-32168).
6. **SHALL** contain exactly one [1..1] statusCode (CONF:1198-9029).

The statusCode of the Problem Concern Act is the definitive indication of the status of the concern, whereas the effectiveTime of the nested Problem Observation is the definitive indication of whether or not the underlying condition is resolved.

- 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:1198-31525).
7. **SHALL** contain exactly one [1..1] effectiveTime (CONF:1198-9030).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] low (CONF:1198-9032).
Note: The effectiveTime/low asserts when the concern became active. This equates to the time the concern was authored in the patient's chart.
 - b. This effectiveTime **MAY** contain zero or one [0..1] high (CONF:1198-9033).
Note: The effectiveTime/high asserts when the concern was completed (e.g., when the clinician deemed there is no longer any need to track the underlying condition).
8. **SHOULD** contain zero or more [0..*] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1198-31146).
9. **SHALL** contain at least one [1..*] entryRelationship (CONF:1198-9034) 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:1198-9035).
 - b. **SHALL** contain exactly one [1..1] [Problem Observation \(V3\)](#) (identifier: urn:h17ii:2.16.840.1.113883.10.20.22.4.4:2015-08-01) (CONF:1198-15980).

The following entryRelationship represents the importance of the concern to a provider.

10. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1198-31638) 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:1198-31639).
 - b. **SHALL** contain exactly one [1..1] **Priority Preference** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143) (CONF:1198-31640).

Table 245: 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:			
http://www.hl7.org/documentcenter/public/standards/vocabulary/vocabulary_tables/inrastructure/vocabulary/vocabulary.html			
Code	Code System	Code System OID	Print Name
completed	ActStatus	urn:oid:2.16.840.1.113883.5.14	Completed
aborted	ActStatus	urn:oid:2.16.840.1.113883.5.14	Aborted
active	ActStatus	urn:oid:2.16.840.1.113883.5.14	Active
suspended	ActStatus	urn:oid:2.16.840.1.113883.5.14	Suspended

Figure 109: Problem Concern Act (V3) Example

```
<act classCode="ACT" moodCode="EVN">
  <!-- ** Problem Concern Act (V2) ** -->
  <templateId root="2.16.840.1.113883.10.20.22.4.3"
    extension="2015-08-01" />
  <id root="ec8a6ff8-ed4b-4f7e-82c3-e98e58b45de7" />
  <code code="CONC" codeSystem="2.16.840.1.113883.5.6" displayName="Concern" />
  <!-- The statusCode represents the need to continue tracking the problem -->
  <!-- This is of ongoing concern to the provider -->
  <statusCode code="active" />
  <effectiveTime>
    <!-- The low value represents when the problem was first recorded in the patient's
chart -->
    <!-- Concern was documented on July 6, 2013 -->
    <low value="201307061145-0800" />
  </effectiveTime>
  <author typeCode="AUT">
    <templateId root="2.16.840.1.113883.10.20.22.4.119" />
    <!-- Same as Concern effectiveTime/low -->
    <time value="201307061145-0800" />
    <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>
  <entryRelationship typeCode="SUBJ">
    <observation classCode="OBS" moodCode="EVN">
      <!-- ** Problem Observation (V2) ** -->
      <templateId root="2.16.840.1.113883.10.20.22.4.4" extension="2015-08-01" />
      <id root="ab1791b0-5c71-11db-b0de-0800200c9a66" />
      <code code="75323-6" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
displayName="Condition" />
      <!-- 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>
</entryRelationship>
</act>

```

3.55.1 Diagnosis Concern Act (V2)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.137:2016-08-01 (open)]

Table 246: Diagnosis Concern Act (V2) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Diagnosis

This template, along with its contained template Diagnosis, represents the QDM datatype: Diagnosis.

The QDM Version 4.2 has consolidated the previous "Diagnosis, Active" and "Diagnosis, Resolved" QDM datatypes into a single Diagnosis data type.

The effectiveTime/low of the Diagnosis Concern Act asserts when the concern became active. This equates to the time the concern was authored in the patient's chart. The effectiveTime/high asserts when the diagnosis was completed (e.g., when the clinician deemed there is no longer any need to track the underlying condition).

The QDM category Condition/Diagnosis/Problem represents a practitioner's identification of a patient's disease, illness, injury, or condition. This QDM category contains a single datatype to represent all of these concepts: Diagnosis. A practitioner determines the diagnosis by means of examination, diagnostic test results, patient history, and/or family history. Diagnoses are usually considered unfavorable, but may also represent neutral or favorable conditions that affect a patient's plan of care (e.g., pregnancy).

Diagnosis Concern Act is derived from the Problem Concern Act template with diagnosis being subject of concern. C-CDA has defined health concerns and problem concerns. Problem concerns are a subset of health concerns. Depending on what QDM data type is used to specify a health concern in a measure, appropriate QRDA template would be used.

Table 247: Diagnosis Concern Act (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.137:2016-08-01)					
@classCode	1..1	SHALL		3265-28148	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		3265-28149	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		3265-28143	
@root	1..1	SHALL		3265-28146	2.16.840.1.113883.10.20.24.3.137
@extension	1..1	SHALL		3265-28692	2016-08-01
statusCode	1..1	SHALL		3265-28144	
@code	1..1	SHALL		3265-28150	urn:oid:2.16.840.1.113762.1.4.1021.35 (QDM Diagnosis Status)
effectiveTime	1..1	SHALL		3265-28210	
low	1..1	SHALL		3265-28211	
entryRelationship	1..1	SHALL		3265-28142	
@typeCode	1..1	SHALL		3265-28151	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
observation	1..1	SHALL		3265-28145	Diagnosis (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.135)

1. Conforms to [Problem Concern Act \(V3\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.3:2015-08-01).
2. **SHALL** contain exactly one [1..1] **@classCode="ACT"** Act (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3265-28148).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3265-28149).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3265-28143) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.137"** (CONF:3265-28146).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-08-01"** (CONF:3265-28692).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3265-28144).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet [QDM Diagnosis Status](#) urn:oid:2.16.840.1.113762.1.4.1021.35 **DYNAMIC** (CONF:3265-28150).
6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:3265-28210).

- a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:3265-28211).
- 7. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:3265-28142) 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) (CONF:3265-28151).
 - b. **SHALL** contain exactly one [1..1] **Diagnosis** (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.135) (CONF:3265-28145).

Table 248: QDM Diagnosis Status

Value Set: QDM Diagnosis Status urn:oid:2.16.840.1.113762.1.4.1021.35			
The Quality Data Model (QDM) v4.2 Condition/Diagnosis/Problem data type implicitly supports active and resolved status through the use of timing relationships. The statusCode for Active diagnosis is "active"; the statusCode for Resolved diagnosis is "completed".			
Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
Active	ActStatus	urn:oid:2.16.840.1.113883.5.14	Active
...			

Figure 110: Diagnosis Concern Act (V2) Example

```
<act classCode="ACT" moodCode="EVN">
  <!-- Confirms to C-CDA 2.1 Problem Concern Act (V3) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.3" extension="2015-08-01" />
  <!-- Diagnosis Concern Act (V2) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.137" extension="2016-08-01"/>
  <id root="ec8a6ff8-ed4b-4f7e-82c3-e98e58b45de7" />
  <code code="CONC" codeSystem="2.16.840.1.113883.5.6" displayName="Concern" />
  <!-- The statusCode represents whether this is an active (active) or resolved
(completed) diagnosis -->
  <statusCode code="active" />
  <!-- This is the time that the diagnosis is authored in the patient's chart -->
  <effectiveTime>
    <!-- equivalent to author/time in the contained observation -->
    <low value="201504081130" />
  </effectiveTime>
  <entryRelationship typeCode="SUBJ">
    <!--Diagnosis -->
    <observation classCode="OBS" moodCode="EVN">
      <!-- Confirms to C-CDA R2.1 Problem Observation (V3) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.4" extension="2015-08-01"/>
      <!-- Diagnosis template -->
      <templateId root="2.16.840.1.113883.10.20.24.3.135"/>
      <id root="e5d9e01e-d778-40ba-9bd0-351d0222b26c"/>
      <code code="29308-4" displayName="diagnosis" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <!-- Onset Datetime -->
        <low value="20140101090000+0500"/>
        <!-- Abatement Datetime -->
        <high value="20150801090000+0500"/>
      </effectiveTime>
      <!-- Diagnosis -->
      <value xsi:type="CD" code="25907005" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED-CT" displayName="Diabetic gangrene (disorder)"
sdctc:valueSet="{ $QDMElementValueSetOID}" />
      <!-- QDM Attribute Anatomical Location Site -->
      <targetSiteCode code="56459004" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="foot" sdctc:valueSet="{ $QDMElementValueSetOID}"/>
      <!-- QDM Attribute: Reason -->
      <entryRelationship typeCode="RSON">
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-12-
01"/>
          <id root="aa348c15-ce6b-4988-b33b-7ae730c710e2"/>
          <code code="77301-0" codeSystem="2.16.840.1.113883.6.1"
displayName="Reason care action performed or not" codeSystemName="LOINC"/>
          <statusCode code="completed"/>
          <effectiveTime>
            <low value="20150605"/>
          </effectiveTime>
          <value xsi:type="CD" code="125629006"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"
displayName="Injury of colon" sdctc:valueSet="{ $QDMElementValueSetOID}" />
          </observation>
        </entryRelationship>
      </value>
    </observation>
  </entryRelationship>
</act>
```

```

    </entryRelationship>
    <!-- QDM Attribute: Severity -->
    <entryRelationship typeCode="REFR">
      <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.8" extension="2014-06-
09"/>
        <code code="SEV" displayName="Severity Observation"
codeSystem="2.16.840.1.113883.5.4" codeSystemName="ActCode"/>
        <statusCode code="completed"/>
        <value xsi:type="CD" code="371924009" displayName="Moderate to severe"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"/>
      </observation>
    </entryRelationship>
  </observation>
</entryRelationship>
</act>

```

3.55.2 Symptom Concern Act (V2)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.138:2016-08-01 (open)]

Table 249: Symptom Concern Act (V2) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Symptom

This template, along with its contained template Symptom, represents the QDM datatype: Symptom.

The QDM Version 4.2 has consolidated the previous "Symptom, Active" and "Symptom, Resolved" QDM datatypes into a single Symptom data type. The QDM Version 4.2 also retired the previous "Symptom, Inactive" and "Symptom, Assessed" QDM datatypes.

The effectiveTime/low of the Symptom Concern Act asserts when the problem concern became active. This equates to the time the problem concern was authored in the patient's chart.

Table 250: Symptom Concern Act (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.138:2016-08-01)					
@classCode	1..1	SHALL		3265-28547	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		3265-28548	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		3265-28539	
@root	1..1	SHALL		3265-28544	2.16.840.1.113883.10.20.24.3.138
@extension	1..1	SHALL		3265-28694	2016-08-01
statusCode	1..1	SHALL		3265-28540	
@code	1..1	SHALL		3265-28545	urn:oid:2.16.840.1.113762.1.4.1021.35 (QDM Diagnosis Status)
effectiveTime	1..1	SHALL		3265-28541	
low	1..1	SHALL		3265-28546	
entryRelationship	1..1	SHALL		3265-28538	
@typeCode	1..1	SHALL		3265-28543	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
observation	1..1	SHALL		3265-28542	Symptom (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.136)

1. Conforms to [Problem Concern Act \(V3\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.3:2015-08-01).
2. **SHALL** contain exactly one [1..1] **@classCode**="ACT" Act (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3265-28547).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3265-28548).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3265-28539) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.138" (CONF:3265-28544).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-08-01" (CONF:3265-28694).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3265-28540).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet [QDM Diagnosis Status](#) urn:oid:2.16.840.1.113762.1.4.1021.35 **DYNAMIC** (CONF:3265-28545).
6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:3265-28541).

- a. This effectiveTime **SHALL** contain exactly one [1..1] low (CONF:3265-28546).
- 7. **SHALL** contain exactly one [1..1] entryRelationship (CONF:3265-28538) 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) (CONF:3265-28543).
 - b. **SHALL** contain exactly one [1..1] [Symptom](#) (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.136) (CONF:3265-28542).

Figure 111: Symptom Concern Act Example

```
<act classCode="ACT" moodCode="EVN">
  <!-- Conforms to C-CDA 2.1 Problem Concern Act (V3) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.3" extension="2015-08-01" />
  <!-- Symptom Concern Act -->
  <templateId root="2.16.840.1.113883.10.20.24.3.138" />
  <id root="ec8a6ff8-ed4b-4f7e-82c3-e98e58b45de7" />
  <code code="CONC" codeSystem="2.16.840.1.113883.5.6" displayName="Concern" />
  <!-- The statusCode represents whether this is an active (active) or resolved
(completed) symptom -->
  <statusCode code="active" />
  <!-- This is the time that the symptom is authored in the patient's chart -->
  <effectiveTime>
    <!-- equivalent to author/time in the contained observation -->
    <low value="201504081130" />
  </effectiveTime>
  <entryRelationship typeCode="SUBJ">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Conforms to C-CDA R2.1 Problem Observation (V3) template -->
      <templateId root="2.16.840.1.113883.10.20.22.4.4" extension="2015-08-01"/>
      <!-- Symptom template -->
      <templateId root="2.16.840.1.113883.10.20.24.3.136"/>
      <id root="e5d9e01e-d778-40ba-9bd0-351d0222b299"/>
      <code code="75325-1" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
displayName="Symptom"/>
      <statusCode code="completed"/>
      <effectiveTime>
        <!-- Onset Datetime -->
        <low value="201504041129"/>
        <!-- Abatement Datetime -->
        <high value="201504081129"/>
      </effectiveTime>
      <!-- Symptom -->
      <value xsi:type="CD" code="233604007" codeSystem="2.16.840.1.113883.6.96"
displayName="Shortness of breath" sdtc:valueSet="{ $QDMElementValueSetOID }"/>
      <!-- QDM Attribute: Severity -->
      <entryRelationship typeCode="REFR">
        <observation classCode="OBS" moodCode="EVN">
          <templateId root="2.16.840.1.113883.10.20.22.4.8" extension="2014-06-
09"/>
          <code code="SEV" displayName="Severity Observation"
codeSystem="2.16.840.1.113883.5.4" codeSystemName="ActCode"/>
          <statusCode code="completed"/>
          <value xsi:type="CD" code="371924009" displayName="Moderate to severe"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"/>
        </observation>
      </entryRelationship>
    </observation>
  </entryRelationship>
</act>
```

3.56 Problem Observation (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.4:2015-08-01 (open)]

Table 251: Problem Observation (V3) Contexts

Contained By:	Contains:
Deceased Observation (V3) (optional) Encounter Diagnosis (V3) (required) Problem Concern Act (V3) (required)	Age Observation Author Participation Priority Preference Problem Status (DEPRECATED) Prognosis Observation

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 “biologically 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 252: Problem Observation (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.4:2015-08-01)					
@classCode	1..1	SHALL		1198-9041	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		1198-9042	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..1	MAY		1198-10139	
templateId	1..1	SHALL		1198-14926	
@root	1..1	SHALL		1198-14927	2.16.840.1.113883.10.20.22.4.4
@extension	1..1	SHALL		1198-32508	2015-08-01
id	1..*	SHALL		1198-9043	
code	1..1	SHALL		1198-9045	urn:oid:2.16.840.1.113883.3.88.12.3221.7.2 (Problem Type)
translation	1..*	SHALL		1198-32848	urn:oid:2.16.840.1.113883.3.88.12.3221.7.2 (Problem Type)
statusCode	1..1	SHALL		1198-9049	
@code	1..1	SHALL		1198-19112	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		1198-9050	
low	1..1	SHALL		1198-15603	
high	0..1	MAY		1198-15604	
value	1..1	SHALL	CD	1198-9058	urn:oid:2.16.840.1.113883.3.88.12.3221.7.4 (Problem)
qualifier	0..*	MAY		1198-31870	
translation	0..*	MAY		1198-16749	
@code	0..1	MAY		1198-16750	urn:oid:2.16.840.1.113883.6.90 (ICD-10-CM)
@code	0..1	MAY		1198-31871	
author	0..*	SHOULD		1198-31147	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..1	MAY		1198-9059	

@typeCode	1..1	SHALL		1198-9060	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		1198-9069	true
observation	1..1	SHALL		1198-15590	Age Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.31)
entryRelationship	0..1	MAY		1198-29951	
@typeCode	1..1	SHALL		1198-31531	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		1198-29952	Prognosis Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.113)
entryRelationship	0..*	MAY		1198-31063	
@typeCode	1..1	SHALL		1198-31532	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		1198-31064	Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143)
entryRelationship	0..1	MAY		1198-9063	
@typeCode	1..1	SHALL		1198-9068	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		1198-15591	Problem Status (DEPRECATED) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.6:2014-06-09)

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1198-9041).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1198-9042).

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.

3. **MAY** contain zero or one [0..1] @negationInd (CONF:1198-10139).
4. **SHALL** contain exactly one [1..1] templateId (CONF:1198-14926) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:1198-14927).
 - b. **SHALL** contain exactly one [1..1] @extension="2015-08-01" (CONF:1198-32508).
5. **SHALL** contain at least one [1..*] id (CONF:1198-9043).

6. **SHALL** contain exactly one [1..1] **code**, which **SHOULD** be selected from ValueSet [Problem Type](#) urn:oid:2.16.840.1.113883.3.88.12.3221.7.2 **STATIC** 2012-06-01 (CONF:1198-9045).
 - a. This code **SHALL** contain at least one [1..*] **translation**, which **SHOULD** be selected from ValueSet [Problem Type](#) urn:oid:2.16.840.1.113883.3.88.12.3221.7.2 2014-09-02 (CONF:1198-32848).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1198-9049).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:1198-19112).

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 an high element within a problem does indicate that the problem has been resolved.

8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1198-9050).

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

- a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:1198-15603).

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

- b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:1198-15604).

9. **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:1198-9058).

The observation/value and all the qualifiers together (often referred to as a post-coordinated expression) make up one concept. Qualifiers constrain 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, SNOMED CT allows constructing concepts as a combination of multiple codes. SNOMED CT defines a concept "pneumonia (disorder)" (233604007) an attribute "finding site" (363698007) and another concept "left lower lobe of lung (body structure)" (41224006). SNOMED CT allows one to combine these codes in a code phrase, as shown in the sample XML.

- a. This value **MAY** contain zero or more [0..*] **qualifier** (CONF:1198-31870).
- b. This value **MAY** contain zero or more [0..*] **translation** (CONF:1198-16749) 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:1198-16750).

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

- c. This value **MAY** contain zero or one [0..1] **@code** (CONF:1198-31871).
- 10. **SHOULD** contain zero or more [0..*] **Author Participation** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1198-31147).
- 11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1198-9059) 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:1198-9060).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** True (CONF:1198-9069).
 - c. **SHALL** contain exactly one [1..1] **Age Observation** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.31) (CONF:1198-15590).
- 12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1198-29951) 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:1198-31531).
 - b. **SHALL** contain exactly one [1..1] **Prognosis Observation** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.113) (CONF:1198-29952).
- 13. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1198-31063) 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:1198-31532).
 - b. **SHALL** contain exactly one [1..1] **Priority Preference** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143) (CONF:1198-31064).
- 14. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1198-9063) 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:1198-9068).
 - b. **SHALL** contain exactly one [1..1] **Problem Status (DEPRECATED)** (identifier: urn:h17ii:2.16.840.1.113883.10.20.22.4.6:2014-06-09) (CONF:1198-15591).

Figure 112: Problem Observation (V3) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- ** Problem Observation (V3) ** -->
  <templateId root="2.16.840.1.113883.10.20.22.4.4" extension="2015-08-01" />
  <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>

```

3.56.1 Diagnosis

[observation: identifier urn:oid:2.16.840.1.113883.10.20.24.3.135 (open)]

Table 253: Diagnosis Contexts

Contained By:	Contains:
Diagnosis Concern Act (V2) (required)	Severity Observation (V2)

This template represents the QDM datatype: Diagnosis. This template must be contained by a Diagnosis Concern Act template.

The QDM Version 4.2 has consolidated the previous "Diagnosis, Active" and "Diagnosis, Resolved" QDM datatypes into a single Diagnosis data type.

An active diagnosis is a problem, diagnosis, or condition that is currently monitored or tracked or is a factor that must be considered as part of the treatment plan in progress. A resolved diagnosis is a diagnosis that no longer requires treatment and by its nature is unlikely to recur. The Observation/Code is constrained to "Diagnosis" and an effectiveTime/low is required.

QDM Attribute: Onset Datetime is the estimated or actual date/time that the diagnosis/problem began, which is represented by effectiveTime/low.

QDM Attribute: Abatement Datetime is the estimated or actual date/time that the diagnosis/problem resolved or went into remission, which is represented by effectiveTime/high. If the abatement datetime is null, then the diagnosis is considered to still be active.

Table 254: Diagnosis Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.135)					
@classCode	1..1	SHALL		2228-28510	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-28511	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..0	SHALL NOT		2228-28512	
templateId	1..1	SHALL		2228-28498	
@root	1..1	SHALL		2228-28503	2.16.840.1.113883.10.20.24.3.135
code	1..1	SHALL		2228-28499	
@code	1..1	SHALL		2228-28505	29308-4
@codeSystem	1..1	SHALL		2228-28506	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
value	1..1	SHALL	CD	2228-28500	
@sdtc:valueSet	1..1	SHALL		2228-28508	
targetSiteCode	0..1	MAY		2228-28501	
translation	0..*	MAY		2228-28509	
entryRelationship	0..1	MAY		2228-28497	
@typeCode	1..1	SHALL		2228-28507	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		2228-28502	Severity Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09)

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" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28510).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-28511).
4. **SHALL NOT** contain [0..0] **@negationInd** (CONF:2228-28512).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-28498) such that it

- a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.24.3.135"` (CONF:2228-28503).
- 6. **SHALL** contain exactly one [1..1] `code` (CONF:2228-28499).
 - a. This code **SHALL** contain exactly one [1..1] `@code="29308-4"` diagnosis (CONF:2228-28505).
 - 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:2228-28506).
- 7. **SHALL** contain exactly one [1..1] `value` with `@xsi:type="CD"` (CONF:2228-28500).
 - a. This value **SHALL** contain exactly one [1..1] `@sdtc:valueSet` (CONF:2228-28508).

If the code used for QDM Attribute: Anatomical Location does not exist in the value set Body Site (2.16.840.1.113883.3.88.12.3221.8.9) then set `targetSiteCode/@nullFlavor="OTH"`, `targetSiteCode@codeSystem="2.16.840.1.113883.6.96"` and use translation for the code.

- 8. **MAY** contain zero or one [0..1] `targetSiteCode` (CONF:2228-28501).
Note: QDM Attribute: Anatomical Location Site
 - a. The `targetSiteCode`, if present, **MAY** contain zero or more [0..*] `translation` (CONF:2228-28509).
- 9. **MAY** contain zero or one [0..1] `entryRelationship` (CONF:2228-28497) such that it
Note: QDM Attribute: Severity
 - a. **SHALL** contain exactly one [1..1] `@typeCode="REFR"` (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-28507).
 - b. **SHALL** contain exactly one [1..1] [Severity Observation \(V2\)](#) (identifier: urn:h17ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09) (CONF:2228-28502).
- 10. This template **SHALL** be contained by a Diagnosis Concern Act (V2) (CONF:2228-28658).

Figure 113: Diagnosis Example

```

<!-- Must be contained in the Diagnosis Concern Act template to represent the Diagnosis QDM
data type -->
<observation classCode="OBS" moodCode="EVN">
  <!-- Conforms to C-CDA R2.1 Problem Observation (V3) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.4" extension="2015-08-01"/>
  <!-- Diagnosis -->
  <templateId root="2.16.840.1.113883.10.20.24.3.135"/>
  <id root="e5d9e01e-d778-40ba-9bd0-351d0222b26c"/>
  <code code="29308-4" displayName="diagnosis" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <!-- Onset Datetime -->
    <low value="20140101090000+0500"/>
    <!-- Abatement Datetime -->
    <high value="20150801090000+0500"/>
  </effectiveTime>
  <!-- Diagnosis -->
  <value xsi:type="CD" code="25907005" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Diabetic gangrene (disorder) "
sdtc:valueSet="{ $QDMElementValueSetOID}" />
  ...
</observation>

```

3.56.2 Symptom

[observation: identifier urn:oid:2.16.840.1.113883.10.20.24.3.136 (open)]

Table 255: Symptom Contexts

Contained By:	Contains:
Symptom Concern Act (V2) (required)	Severity Observation (V2)

This template represents the QDM datatype: Symptom. This template must be contained by a Symptom Concern Act template.

The QDM Version 4.2 has consolidated the previous "Symptom, Active" and "Symptom, Resolved" QDM datatypes into a single Symptom data type. The QDM Version 4.2 also retired the previous "Symptom, Inactive" and "Symptom, Assessed" QDM datatypes.

Symptom represents an indication that a person has a condition or disease. Some examples are headache, fever, fatigue, nausea, vomiting, and pain. Also, symptoms are subjective manifestations of the disease perceived by the patient. As an example to differentiate symptom from finding, the patient's subjective symptom of fever is distinguished from the temperature (a finding). For a finding, there is either a source of either a temperature-measuring device together with a recorder of the device (electronically) or an individual (healthcare provider, patient, etc.).

An active symptom is a patient's reported perception of departure from normal functioning that is present at the time indicated. A resolved symptom is a symptom that has been present in the

past and is currently not expected to recur. The Observation/Code is constrained to "Symptom" and an effectiveTime/low is required.

QDM Attribute: Onset Datetime is the estimated or actual date/time that the symptom began, which is represented by effectiveTime/low.

QDM Attribute: Abatement Datetime is the estimated or actual date/time that the symptom resolved or went into remission, which is represented by effectiveTime/high. If the abatement datetime is null, then the symptom is considered to still be active.

Table 256: Symptom Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.136)					
@classCode	1..1	SHALL		2228-28524	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-28525	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..0	SHALL NOT		2228-28526	
templateId	1..1	SHALL		2228-28514	
@root	1..1	SHALL		2228-28518	2.16.840.1.113883.10.20.24.3.136
code	1..1	SHALL		2228-28515	
@code	1..1	SHALL		2228-28520	75325-1
@codeSystem	1..1	SHALL		2228-28521	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
value	1..1	SHALL	CD	2228-28516	
@sdct:valueSet	1..1	SHALL		2228-28523	
entryRelationship	0..1	MAY		2228-28513	
@typeCode	1..1	SHALL		2228-28522	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		2228-28517	Severity Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09)

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"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28524).

3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-28525).
4. **SHALL NOT** contain [0..0] **@negationInd** (CONF:2228-28526).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-28514) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.136"** (CONF:2228-28518).
6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-28515).
 - a. This code **SHALL** contain exactly one [1..1] **@code="75325-1"** Symptom (CONF:2228-28520).
 - 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:2228-28521).
7. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:2228-28516).
 - a. This value **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-28523).
8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-28513) such that it Note: QDM Attribute: Severity
 - a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-28522).
 - b. **SHALL** contain exactly one [1..1] **Severity Observation (V2)** (identifier: urn:h17ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09) (CONF:2228-28517).
9. This template **SHALL** be contained by a Symptom Concern Act (V2) (CONF:2228-28667).

Figure 114: Symptom Example

```

<!-- Must be contained in the Symptom Act to represent Symptom QDM data type -->
<observation classCode="OBS" moodCode="EVN">
  <!-- Conforms to C-CDA R2.1 Problem Observation (V3) template -->
  <templateId root="2.16.840.1.113883.10.20.22.4.4" extension="2015-08-01"/>
  <!-- Symptom -->
  <templateId root="2.16.840.1.113883.10.20.24.3.136"/>
  <id root="e5d9e01e-d778-40ba-9bd0-351d0222b299"/>
  <code code="75325-1" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
  displayName="Symptom"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <!-- Onset Datetime -->
    <low value="201504041129"/>
    <!-- Abatement Datetime -->
    <high value="201504081129"/>
  </effectiveTime>
  <!-- Symptom -->
  <value xsi:type="CD" code="233604007" codeSystem="2.16.840.1.113883.6.96"
  displayName="Shortness of breath" sdtc:valueSet="{ $QDMElementValueSetOID }"/>
  ...
</observation>

```

3.57 Problem Status (DEPRECATED)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.6:2014-06-09 (open)]

Table 257: Problem Status (DEPRECATED) Contexts

Contained By:	Contains:
Problem Observation (V3) (optional)	

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

THIS TEMPLATE HAS BEEN DEPRECATED IN C-CDA R2 AND MAY BE DELETED FROM A FUTURE RELEASE OF THIS IMPLEMENTATION GUIDE. USE OF THIS TEMPLATE IS NOT RECOMMENDED.

Reason for deprecation: Per the explanation in Volume 1, Section 3.2 "Determining a Clinical Statement's Status", the status of a problem is determined based on attributes of the Problem Observation.

Table 258: Problem Status (DEPRECATED) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.6:2014-06-09)					
@classCode	1..1	SHALL		1098-7357	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		1098-7358	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1098-7359	
@root	1..1	SHALL		1098-10518	2.16.840.1.113883.10.20.22.4.6
code	1..1	SHALL		1098-19162	
@code	1..1	SHALL		1098-19163	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 33999-4
statusCode	1..1	SHALL		1098-7364	
@code	1..1	SHALL		1098-19113	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	1098-7365	urn:oid:2.16.840.1.113883.3.88.12.80.68 (Problem Status)

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-7357).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1098-7358).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-7359) such that it

- a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.6" (CONF:1098-10518).
- 4. **SHALL** contain exactly one [1..1] code (CONF:1098-19162).
 - a. This code **SHALL** contain exactly one [1..1] @code="33999-4" Status (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1 **STATIC**) (CONF:1098-19163).
- 5. **SHALL** contain exactly one [1..1] statusCode (CONF:1098-7364).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:1098-19113).
- 6. **SHALL** contain exactly one [1..1] value with @xsi:type="CD", where the code **SHALL** be selected from ValueSet [Problem Status](#) urn:oid:2.16.840.1.113883.3.88.12.80.68 **DYNAMIC** (CONF:1098-7365).

3.58 Procedure Activity Act (V2)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.12:2014-06-09 (open)]

Table 259: Procedure Activity Act (V2) Contexts

Contained By:	Contains:
	Author Participation Indication (V2) Instruction (V2) Medication Activity (V2) Service Delivery Location

This template represents any act that cannot be classified as an observation or procedure according to the HL7 RIM. Examples of these acts are a dressing change, teaching or feeding a patient, or providing comfort measures.

The common notion of "procedure" is broader than that specified by the HL7 Version 3 Reference Information Model (RIM). Procedure templates can be represented with various RIM classes: act (e.g., dressing change), observation (e.g., EEG), procedure (e.g., splenectomy).

Table 260: Procedure Activity Act (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.12:2014-06-09)					
@classCode	1..1	SHALL		1098-8289	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		1098-8290	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1098-8291	
@root	1..1	SHALL		1098-10519	2.16.840.1.113883.10.20.22.4.12
@extension	1..1	SHALL		1098-32505	2014-06-09
id	1..*	SHALL		1098-8292	
code	1..1	SHALL		1098-8293	
originalText	0..1	SHOULD		1098-19186	
reference	0..1	MAY		1098-19187	
@value	0..1	MAY		1098-19188	
statusCode	1..1	SHALL		1098-8298	
@code	1..1	SHALL		1098-32364	urn:oid:2.16.840.1.113883.11.20.9.22 (ProcedureAct statusCode)
effectiveTime	1..1	SHALL		1098-8299	
priorityCode	0..1	MAY		1098-8300	urn:oid:2.16.840.1.113883.1.11.16866 (Act Priority)
performer	0..*	SHOULD		1098-8301	
assignedEntity	1..1	SHALL		1098-8302	
id	1..*	SHALL		1098-8303	
addr	1..*	SHALL		1098-8304	
telecom	1..*	SHALL		1098-8305	
representedOrganization	0..1	SHOULD		1098-8306	
id	0..*	SHOULD		1098-8307	

name	0..*	MAY		1098-8308	
telecom	1..*	SHALL		1098-8310	
addr	1..*	SHALL		1098-8309	
author	1..*	SHOULD		1098-32477	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
participant	0..*	MAY		1098-8311	
@typeCode	1..1	SHALL		1098-8312	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = LOC
participantRole	1..1	SHALL		1098-15599	Service Delivery Location (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.32)
entryRelationship	0..*	MAY		1098-8314	
@typeCode	1..1	SHALL		1098-8315	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
@inversionInd	1..1	SHALL		1098-8316	true
encounter	1..1	SHALL		1098-8317	
@classCode	1..1	SHALL		1098-8318	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		1098-8319	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
id	1..1	SHALL		1098-8320	
entryRelationship	0..1	MAY		1098-8322	
@typeCode	1..1	SHALL		1098-8323	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		1098-8324	true
act	1..1	SHALL		1098-31396	Instruction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09)
entryRelationship	0..*	MAY		1098-8326	
@typeCode	1..1	SHALL		1098-8327	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON

observation	1..1	SHALL		1098-15601	Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09)
entryRelationship	0..*	MAY		1098-8329	
@typeCode	1..1	SHALL		1098-8330	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
substanceAdministration	1..1	SHALL		1098-15602	Medication Activity (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09)

1. **SHALL** contain exactly one [1..1] **@classCode="ACT"** Act (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-8289).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1098-8290).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-8291) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.12"** (CONF:1098-10519).
 - b. **SHALL** contain exactly one [1..1] **@extension="2014-06-09"** (CONF:1098-32505).
4. **SHALL** contain at least one [1..*] **id** (CONF:1098-8292).
5. **SHALL** contain exactly one [1..1] **code** (CONF:1098-8293).
 - a. This code **SHOULD** contain zero or one [0..1] **originalText** (CONF:1098-19186).
 - i. The originalText, if present, **MAY** contain zero or one [0..1] **reference** (CONF:1098-19187).
 1. The reference, if present, **MAY** contain zero or one [0..1] **@value** (CONF:1098-19188).
 - 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:1098-19189).
 - 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-4 (CodeSystem: 2.16.840.1.113883.6.12) or ICD10 PCS (CodeSystem: 2.16.840.1.113883.6.4) or CDT-2 (Code System: 2.16.840.1.113883.6.13) (CONF:1098-19190).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-8298).
 - 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:1098-32364).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1098-8299).
8. **MAY** contain zero or one [0..1] **priorityCode**, which **SHALL** be selected from ValueSet [Act Priority](#) urn:oid:2.16.840.1.113883.1.11.16866 **DYNAMIC** (CONF:1098-8300).

9. **SHOULD** contain zero or more [0..*] **performer** (CONF:1098-8301).
 - a. The performer, if present, **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:1098-8302).
 - i. This assignedEntity **SHALL** contain at least one [1..*] **id** (CONF:1098-8303).
 - ii. This assignedEntity **SHALL** contain at least one [1..*] **addr** (CONF:1098-8304).
 - iii. This assignedEntity **SHALL** contain at least one [1..*] **telecom** (CONF:1098-8305).
 - iv. This assignedEntity **SHOULD** contain zero or one [0..1] **representedOrganization** (CONF:1098-8306).
 1. The representedOrganization, if present, **SHOULD** contain zero or more [0..*] **id** (CONF:1098-8307).
 2. The representedOrganization, if present, **MAY** contain zero or more [0..*] **name** (CONF:1098-8308).
 3. The representedOrganization, if present, **SHALL** contain at least one [1..*] **telecom** (CONF:1098-8310).
 4. The representedOrganization, if present, **SHALL** contain at least one [1..*] **addr** (CONF:1098-8309).
10. **SHOULD** contain at least one [1..*] **Author Participation** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1098-32477).
11. **MAY** contain zero or more [0..*] **participant** (CONF:1098-8311) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="LOC"** Location (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1098-8312).
 - b. **SHALL** contain exactly one [1..1] **Service Delivery Location** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.32) (CONF:1098-15599).
12. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-8314) 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:1098-8315).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** true (CONF:1098-8316).
 - c. **SHALL** contain exactly one [1..1] **encounter** (CONF:1098-8317).
 - 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:1098-8318).
 - ii. This encounter **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1098-8319).
 - iii. This encounter **SHALL** contain exactly one [1..1] **id** (CONF:1098-8320).
 1. Set the encounter ID to the ID of an encounter in another section to signify they are the same encounter (CONF:1098-16849).
13. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1098-8322) 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:1098-8323).
 - b. **SHALL** contain exactly one [1..1] @inversionInd="true" true (CONF:1098-8324).
 - 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:1098-31396).
14. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-8326) 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:1098-8327).
 - 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:1098-15601).
15. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-8329) 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:1098-8330).
 - 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:1098-15602).

Table 261: Act Priority

Value Set: Act Priority urn:oid:2.16.840.1.113883.1.11.16866			
Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
A	ActPriority	urn:oid:2.16.840.1.113883.5.7	ASAP
CR	ActPriority	urn:oid:2.16.840.1.113883.5.7	Callback results
CS	ActPriority	urn:oid:2.16.840.1.113883.5.7	Callback for scheduling
CSP	ActPriority	urn:oid:2.16.840.1.113883.5.7	Callback placer for scheduling
CSR	ActPriority	urn:oid:2.16.840.1.113883.5.7	Contact recipient for scheduling
EL	ActPriority	urn:oid:2.16.840.1.113883.5.7	Elective
EM	ActPriority	urn:oid:2.16.840.1.113883.5.7	Emergency
P	ActPriority	urn:oid:2.16.840.1.113883.5.7	Preoperative
PRN	ActPriority	urn:oid:2.16.840.1.113883.5.7	As needed
R	ActPriority	urn:oid:2.16.840.1.113883.5.7	Routine
...			

Table 262: ProcedureAct statusCode

Value Set: ProcedureAct statusCode urn:oid:2.16.840.1.113883.11.20.9.22			
A ValueSet of HL7 actStatus codes for use with a procedure activity			
Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
completed	ActStatus	urn:oid:2.16.840.1.113883.5.14	Completed
active	ActStatus	urn:oid:2.16.840.1.113883.5.14	Active
aborted	ActStatus	urn:oid:2.16.840.1.113883.5.14	Aborted
cancelled	ActStatus	urn:oid:2.16.840.1.113883.5.14	Cancelled

Figure 115: Procedure Activity Act Example

```
<act classCode="ACT" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.12" extension="2014-06-09" />
  <id root="1.2.3.4.5.6.7.8" extension="1234567" />
  <code code="274025005" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"
  displayName="Colonic polypectomy">
    <originalText>
      <reference value="#Procl" />
    </originalText>
  </code>
  <statusCode code="completed" />
  <effectiveTime value="20110203" />
  <priorityCode code="CR" codeSystem="2.16.840.1.113883.5.7" codeSystemName="ActPriority"
  displayName="Callback results" />
  <performer>
    <assignedEntity>
      <id root="2.16.840.1.113883.19" extension="1234" />
      <addr>
        <streetAddressLine>1001 Village Avenue</streetAddressLine>
        <city>Portland</city>
        <state>OR</state>
        <postalCode>99123</postalCode>
        <country>US</country>
      </addr>
      <telecom use="WP" value="tel: +1(555)-555-5000" />
      <representedOrganization>
        <id root="2.16.840.1.113883.19.5" />
        <name>Community Health and Hospitals</name>
        <telecom use="WP" value="tel:+1(555)-555-5000" />
        <addr>
          <streetAddressLine>1001 Village Avenue</streetAddressLine>
          <city>Portland</city>
          <state>OR</state>
          <postalCode>99123</postalCode>
          <country>US</country>
        </addr>
      </representedOrganization>
    </assignedEntity>
  </performer>
  <participant typeCode="LOC">
    <participantRole classCode="SDLOC">
      <templateId root="2.16.840.1.113883.10.20.22.4.32" />
      . . .
    </participantRole>
  </participant>
  <entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.19" extension="2014-06-09" />
      . . .
    </observation>
  </entryRelationship>
  <entryRelationship typeCode="SUBJ" inversionInd="true">
    <act classCode="ACT" moodCode="INT">
      <templateId root="2.16.840.1.113883.10.20.22.4.20" extension="2014-06-09" />
      . . .
    </act>
  </entryRelationship>
</act>
```



```
</entryRelationship>  
</act>
```

3.58.1 Intervention Performed (V3)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.32:2016-02-01 (open)]

Table 263: Intervention Performed (V3) Contexts

Contained By:	Contains:
Intervention Adverse Event (V3) (required)	Reason (V2)
Intervention Intolerance (V3) (required)	Result (V3)
Patient Data Section QDM (V4) (optional)	Status

This template represents the QDM datatype: Intervention, Performed.

This template indicates that an intervention has been completed. An intervention is an influencing force or act to modify a given state of affairs. An intervention is any action carried out (by a healthcare provider or a consumer) to improve or maintain the health of a subject of care with the expectation of producing an outcome. MoodCode is constrained to "EVN".

QDM Attribute: Start Datetime is represented by effectiveTime/low and is the time the intervention begins. QDM Attribute: Stop Datetime is represented by effectiveTime/high and is the time the intervention ends.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 264: Intervention Performed (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.32:2016-02-01)					
@classCode	1..1	SHALL		2228-27354	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		2228-13590	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..1	MAY		2228-28072	
templateId	1..1	SHALL		2228-13591	
@root	1..1	SHALL		2228-13592	2.16.840.1.113883.10.20.24.3.32
@extension	1..1	SHALL		2228-27144	2016-02-01
code	1..1	SHALL		2228-27633	
@sdtc:valueSet	1..1	SHALL		2228-27634	
statusCode	1..1	SHALL		2228-27362	
@code	1..1	SHALL		2228-27363	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		2228-13611	
low	1..1	SHALL		2228-13612	
high	0..1	MAY		2228-13613	
entryRelationship	0..1	MAY		2228-13604	
@typeCode	1..1	SHALL		2228-13605	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		2228-27143	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)
entryRelationship	0..1	MAY		2228-27356	
@typeCode	1..1	SHALL		2228-27357	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		2228-27358	Result (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.87:2016-02-01)
entryRelationship	0..1	MAY		2228-	

				27359	
@typeCode	1..1	SHALL		2228-27360	REFR
observation	1..1	SHALL		2228-27361	Status (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.93)

1. Conforms to [Procedure Activity Act \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.12:2014-06-09).
2. **SHALL** contain exactly one [1..1] @classCode="ACT" Act (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27354).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-13590).
4. **MAY** contain zero or one [0..1] @negationInd (CONF:2228-28072).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] templateId (CONF:2228-13591) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.32" (CONF:2228-13592).
 - b. **SHALL** contain exactly one [1..1] @extension="2016-02-01" (CONF:2228-27144).
6. **SHALL** contain exactly one [1..1] code (CONF:2228-27633).
 - a. This code **SHALL** contain exactly one [1..1] @sdtc:valueSet (CONF:2228-27634).
7. **SHALL** contain exactly one [1..1] statusCode (CONF:2228-27362).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:2228-27363).
8. **SHALL** contain exactly one [1..1] effectiveTime (CONF:2228-13611).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] low (CONF:2228-13612).
Note: QDM Attribute: Start Datetime
 - b. This effectiveTime **MAY** contain zero or one [0..1] high (CONF:2228-13613).
Note: QDM Attribute: Stop Datetime
9. **MAY** contain zero or one [0..1] entryRelationship (CONF:2228-13604) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] @typeCode="RSON" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-13605).
 - b. **SHALL** contain exactly one [1..1] [Reason \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-27143).
10. **MAY** contain zero or one [0..1] entryRelationship (CONF:2228-27356) such that it
Note: QDM Attribute: Result
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-27357).

- b. **SHALL** contain exactly one [1..1] Result (V3) (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.87:2016-02-01) (CONF:2228-27358).
11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-27359) such that it
Note: QDM Attribute: Status
- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers to (CONF:2228-27360).
 - b. **SHALL** contain exactly one [1..1] Status (identifier:
urn:oid:2.16.840.1.113883.10.20.24.3.93) (CONF:2228-27361).

Figure 116: Intervention Performed (V3) Example

```
<act classCode="ACT" moodCode="EVN">
  <!-- Conforms to C-CDA R2.1 Procedure Activity Act (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.12"
  extension="2014-06-09"/>
  <!-- Intervention Performed (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.32"
  extension="2016-02-01"/>
  <id root="db734647-fc99-424c-a864-7e3cda82e703"/>
  <code code="419553002"
  codeSystem="2.16.840.1.113883.6.96"
  codeSystemName="SNOMED CD"
  displayName="diet education"
  sdtc:valueSet="{ $QDMElementValueSetOID }"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <!-- QDM Attribute: Start Datetime -->
    <low value="201503011130"/>
    <!-- QDM Attribute: Stop Datetime -->
    <high value="201503011330"/>
  </effectiveTime>
  <!-- QDM Attribute: Reason -->
  <entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.88"
      extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
  <!-- QDM Attribute: Result -->
  <entryRelationship typeCode="REFR">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Conforms to C-CDA R2.1 Result Observation (V3) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.2"
      extension="2015-08-01" />
      <!-- Result (V3) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.87"
      extension="2016-02-01" />
      ...
    </observation>
  </entryRelationship>
  <entryRelationship typeCode="REFR">
    <!-- QDM Attribute: Status -->
    <observation classCode="OBS" moodCode="EVN">
      <!-- Status -->
      <templateId root="2.16.840.1.113883.10.20.24.3.93" />
      ...
    </observation>
  </entryRelationship>
</act>
```

3.59 Procedure Activity Observation (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.13:2014-06-09 (open)]

Table 265: Procedure Activity Observation (V2) Contexts

Contained By:	Contains:
	Author Participation Indication (V2) Instruction (V2) Medication Activity (V2) Reaction Observation (V2) Service Delivery Location

The common notion of procedure is broader than that specified by the HL7 Version 3 Reference Information Model (RIM). Therefore procedure templates can be represented with various RIM classes: act (e.g., dressing change), observation (e.g., EEG), procedure (e.g., splenectomy).

This template represents procedures that result in new information about the patient that cannot be classified as a procedure according to the HL7 RIM. Examples of these procedures are diagnostic imaging procedures, EEGs, and EKGs.

Table 266: Procedure Activity Observation (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.13:2014-06-09)					
@classCode	1..1	SHALL		1098-8282	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		1098-8237	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1098-8238	
@root	1..1	SHALL		1098-10520	2.16.840.1.113883.10.20.22.4.13
@extension	1..1	SHALL		1098-32507	2014-06-09
id	1..*	SHALL		1098-8239	
code	1..1	SHALL		1098-19197	
originalText	0..1	SHOULD		1098-19198	
reference	0..1	SHOULD		1098-19199	
@value	0..1	SHOULD		1098-19200	
statusCode	1..1	SHALL		1098-8245	
@code	1..1	SHALL		1098-32365	urn:oid:2.16.840.1.113883.11.20.9.22 (ProcedureAct statusCode)
effectiveTime	0..1	SHOULD		1098-8246	
priorityCode	0..1	MAY		1098-8247	urn:oid:2.16.840.1.113883.1.11.16866 (Act Priority)
value	1..1	SHALL		1098-16846	
@nullFlavor	0..1	MAY		1098-32778	
methodCode	0..1	MAY		1098-8248	
targetSiteCode	0..*	SHOULD		1098-8250	urn:oid:2.16.840.1.113883.3.88.12.3221.8.9 (Body Site)
performer	0..*	SHOULD		1098-8251	
assignedEntity	1..1	SHALL		1098-8252	
id	1..*	SHALL		1098-8253	

addr	1..*	SHALL		1098-8254	
telecom	1..*	SHALL		1098-8255	
representedOrganization	0..1	SHOULD		1098-8256	
id	0..*	SHOULD		1098-8257	
name	0..*	MAY		1098-8258	
telecom	1..1	SHALL		1098-8260	
addr	1..1	SHALL		1098-8259	
author	1..*	SHOULD		1098-32478	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
participant	0..*	MAY		1098-8261	
@typeCode	1..1	SHALL		1098-8262	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = LOC
participantRole	1..1	SHALL		1098-15904	Service Delivery Location (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.32)
entryRelationship	0..*	MAY		1098-8264	
@typeCode	1..1	SHALL		1098-8265	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
@inversionInd	1..1	SHALL		1098-8266	true
encounter	1..1	SHALL		1098-8267	
@classCode	1..1	SHALL		1098-8268	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		1098-8269	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
id	1..1	SHALL		1098-8270	
entryRelationship	0..1	MAY		1098-8272	
@typeCode	1..1	SHALL		1098-8273	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		1098-8274	true

act	1..1	SHALL		1098-31394	Instruction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.2.0.22.4.20:2014-06-09)
entryRelationship	0..*	MAY		1098-8276	
@typeCode	1..1	SHALL		1098-8277	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		1098-15906	Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.2.0.22.4.19:2014-06-09)
entryRelationship	0..*	MAY		1098-8279	
@typeCode	1..1	SHALL		1098-8280	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
substanceAdministration	1..1	SHALL		1098-15907	Medication Activity (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.2.0.22.4.16:2014-06-09)
entryRelationship	0..*	MAY		1098-32470	
@typeCode	1..1	SHALL		1098-32471	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		1098-32472	Reaction Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.2.0.22.4.9:2014-06-09)

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-8282).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1098-8237).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-8238) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.13" (CONF:1098-10520).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2014-06-09" (CONF:1098-32507).
4. **SHALL** contain at least one [1..*] **id** (CONF:1098-8239).
5. **SHALL** contain exactly one [1..1] **code** (CONF:1098-19197).
 - a. This code **SHOULD** contain zero or one [0..1] **originalText** (CONF:1098-19198).
 - i. The originalText, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:1098-19199).
 1. The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:1098-19200).
 - 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:1098-19201).

- 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-4 (CodeSystem: 2.16.840.1.113883.6.12) or ICD10 PCS (CodeSystem: 2.16.840.1.113883.6.4) or CDT-2 (Code System: 2.16.840.1.113883.6.13) (CONF:1098-19202).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-8245).
 - 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:1098-32365).
7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:1098-8246).
8. **MAY** contain zero or one [0..1] **priorityCode**, which **SHALL** be selected from ValueSet [Act Priority](#) urn:oid:2.16.840.1.113883.1.11.16866 **DYNAMIC** (CONF:1098-8247).
9. **SHALL** contain exactly one [1..1] **value** (CONF:1098-16846).

If nothing is appropriate for value, use an appropriate nullFlavor.

- a. This value **MAY** contain zero or one [0..1] @nullFlavor (CONF:1098-32778).
10. **MAY** contain zero or one [0..1] **methodCode** (CONF:1098-8248).
 - a. MethodCode **SHALL NOT** conflict with the method inherent in Observation / code (CONF:1098-8249).
11. **SHOULD** contain zero or more [0..*] **targetSiteCode**, which **SHALL** be selected from ValueSet [Body Site](#) urn:oid:2.16.840.1.113883.3.88.12.3221.8.9 **DYNAMIC** (CONF:1098-8250).
12. **SHOULD** contain zero or more [0..*] **performer** (CONF:1098-8251).
 - a. The performer, if present, **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:1098-8252).
 - i. This assignedEntity **SHALL** contain at least one [1..*] **id** (CONF:1098-8253).
 - ii. This assignedEntity **SHALL** contain at least one [1..*] **addr** (CONF:1098-8254).
 - iii. This assignedEntity **SHALL** contain at least one [1..*] **telecom** (CONF:1098-8255).
 - iv. This assignedEntity **SHOULD** contain zero or one [0..1] **representedOrganization** (CONF:1098-8256).
 1. The representedOrganization, if present, **SHOULD** contain zero or more [0..*] **id** (CONF:1098-8257).
 2. The representedOrganization, if present, **MAY** contain zero or more [0..*] **name** (CONF:1098-8258).
 3. The representedOrganization, if present, **SHALL** contain exactly one [1..1] **telecom** (CONF:1098-8260).
 4. The representedOrganization, if present, **SHALL** contain exactly one [1..1] **addr** (CONF:1098-8259).

13. **SHOULD** contain at least one [1..*] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1098-32478).
14. **MAY** contain zero or more [0..*] **participant** (CONF:1098-8261) such that it
- SHALL** contain exactly one [1..1] **@typeCode="LOC"** Location (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1098-8262).
 - SHALL** contain exactly one [1..1] [Service Delivery Location](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.32) (CONF:1098-15904).
15. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-8264) such that it
- SHALL** contain exactly one [1..1] **@typeCode="COMP"** Component (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1098-8265).
 - SHALL** contain exactly one [1..1] **@inversionInd="true"** true (CONF:1098-8266).
 - SHALL** contain exactly one [1..1] **encounter** (CONF:1098-8267).
 - This encounter **SHALL** contain exactly one [1..1] **@classCode="ENC"** Encounter (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-8268).
 - This encounter **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1098-8269).
 - This encounter **SHALL** contain exactly one [1..1] **id** (CONF:1098-8270).
 - Set encounter/id to the id of an encounter in another section to signify they are the same encounter (CONF:1098-16847).
16. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1098-8272) such that it
- SHALL** contain exactly one [1..1] **@typeCode="SUBJ"** Has Subject (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1098-8273).
 - SHALL** contain exactly one [1..1] **@inversionInd="true"** true (CONF:1098-8274).
 - 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:1098-31394).
17. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-8276) such that it
- SHALL** contain exactly one [1..1] **@typeCode="RSON"** Has Reason (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1098-8277).
 - 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:1098-15906).
18. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-8279) such that it
- SHALL** contain exactly one [1..1] **@typeCode="COMP"** Has Component (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1098-8280).
 - 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:1098-15907).

19. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-32470) 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:1098-32471).
 - 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:1098-32472).

Figure 117: Procedure Activity Observation (V2) Example

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.13" extension="2014-06-09" />
  <id extension="123456789" root="2.16.840.1.113883.19" />
  <code code="274025005"
    codeSystem="2.16.840.1.113883.6.96"
    displayName="Colonic polypectomy"
    codeSystemName="SNOMED-CT">
    <originalText>
      <reference value="#Procl" />
    </originalText>
  </code>
  <statusCode code="aborted" />
  <effectiveTime value="20110203" />
  <priorityCode code="CR" codeSystem="2.16.840.1.113883.5.7" codeSystemName="ActPriority"
  displayName="Callback results" />
  <value nullFlavor="NA" />
  <methodCode nullFlavor="UNK" />
  <targetSiteCode code="416949008" codeSystem="2.16.840.1.113883.6.96"
  codeSystemName="SNOMED CT" displayName="Abdomen and pelvis" />
  <performer>
    <assignedEntity>
      <id root="2.16.840.1.113883.19" extension="1234" />
      <addr>
        <streetAddressLine>1001 Village Avenue</streetAddressLine>
        <city>Portland</city>
        <state>OR</state>
        <postalCode>99123</postalCode>
        <country>US</country>
      </addr>
      <telecom use="WP" value="tel: +1(555)-555-5000" />
      <representedOrganization>
        <id root="2.16.840.1.113883.19.5" />
        <name>Community Health and Hospitals</name>
        <telecom use="WP" value="tel:+1(555)-555-5000" />
        <addr>
          <streetAddressLine>1001 Village Avenue</streetAddressLine>
          <city>Portland</city>
          <state>OR</state>
          <postalCode>99123</postalCode>
          <country>US</country>
        </addr>
      </representedOrganization>
    </assignedEntity>
  </performer>
  <participant typeCode="LOC">
    <participantRole classCode="SDLOC">
      <templateId root="2.16.840.1.113883.10.20.22.4.32" />
      . . .
    </participantRole>
  </participant>
  <entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.19" extension="2014-06-09" />
      . . .
    </observation>
  </entryRelationship>
</observation>
```

```

    </observation>
  </entryRelationship>
  <entryRelationship typeCode="SUBJ" inversionInd="true">
    <act classCode="ACT" moodCode="INT">
      <templateId root="2.16.840.1.113883.10.20.22.4.20" extension="2014-06-09" />
      . . .
    </act>
  </entryRelationship>
</observation>

```

3.59.1 Diagnostic Study Performed (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.18:2016-02-01 (open)]

Table 267: Diagnostic Study Performed (V3) Contexts

Contained By:	Contains:
Diagnostic Study Adverse Event (V3) (required) Diagnostic Study Intolerance (V3) (required) Patient Data Section QDM (V4) (optional)	Facility Location Radiation Dosage and Duration (V2) Reason (V2) Result (V3) Status

This template represents the QDM datatype: Diagnostic Study, Performed.

This template indicates that a diagnostic study has been completed. Diagnostic studies are those that are not performed in the clinical laboratory. Such studies include but are not limited to imaging studies, cardiology studies (electrocardiogram, treadmill stress testing), pulmonary function testing, vascular laboratory testing, and others. A time/date stamp is required, moodCode is constrained to “EVN” and statusCode is constrained to “completed”.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 268: Diagnostic Study Performed (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.18:2016-02-01)					
@classCode	1..1	SHALL		2228-27369	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-12950	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..1	MAY		2228-28063	
templateId	1..1	SHALL		2228-12951	
@root	1..1	SHALL		2228-12952	2.16.840.1.113883.10.20.24.3.18
@extension	1..1	SHALL		2228-27141	2016-02-01
code	1..1	SHALL		2228-27617	
@sdtc:valueSet	1..1	SHALL		2228-27618	
statusCode	1..1	SHALL		2228-12956	
@code	1..1	SHALL		2228-12957	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		2228-12958	
low	1..1	SHALL		2228-12959	
high	1..1	SHALL		2228-12960	
participant	0..1	MAY		2228-13031	Facility Location (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.100)
entryRelationship	0..1	MAY		2228-12963	
@typeCode	1..1	SHALL		2228-12964	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		2228-27140	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)
entryRelationship	0..1	MAY		2228-13389	
@typeCode	1..1	SHALL		2228-13390	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		2228-	Radiation Dosage and Duration

				27322	(V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01)
entryRelationship	0..1	MAY		2228-27368	
@typeCode	1..1	SHALL		2228-27370	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		2228-27371	Status (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.93)
entryRelationship	0..*	MAY		2228-27746	
@typeCode	1..1	SHALL		2228-28139	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		2228-27747	Result (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.87:2016-02-01)

1. Conforms to [Procedure Activity Observation \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.13:2014-06-09).
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27369).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-12950).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28063).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-12951) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.18" (CONF:2228-12952).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-02-01" (CONF:2228-27141).
6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-27617).
 - a. This code **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-27618).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:2228-12956).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:2228-12957).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:2228-12958).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:2228-12959).
Note: QDM Attribute: Start Datetime
 - b. This effectiveTime **SHALL** contain exactly one [1..1] **high** (CONF:2228-12960).
Note: QDM Attribute: Stop Datetime
9. **MAY** contain zero or one [0..1] [Facility Location](#) (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.100) (CONF:2228-13031).
Note: QDM Attribute: Facility Location

10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-12963) such that it
Note: QDM Attribute: Reason
- a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** (CodeSystem:
HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-12964).
 - b. **SHALL** contain exactly one [1..1] **Reason (V2)** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-27140).
11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-13389) such that it
Note: QDM Attribute: Radiation Dosage, Radiation Duration
- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** (CodeSystem:
HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-13390).
 - b. **SHALL** contain exactly one [1..1] **Radiation Dosage and Duration (V2)**
(identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01)
(CONF:2228-27322).
12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-27368) such that it
Note: QDM Attribute: Status
- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers to (CodeSystem:
HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-27370).
 - b. **SHALL** contain exactly one [1..1] **Status** (identifier:
urn:oid:2.16.840.1.113883.10.20.24.3.93) (CONF:2228-27371).
13. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:2228-27746) such that it
Note: QDM Attribute: Result
- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers to (CodeSystem:
HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-28139).
 - b. **SHALL** contain exactly one [1..1] **Result (V3)** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.87:2016-02-01) (CONF:2228-27747).

Figure 118: Diagnostic Study Performed (V3) Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Conforms to C-CDA R2.1 Procedure Activity Observation (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.13"
  extension="2014-06-09" />
  <!-- Diagnostic Study Performed (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.18"
  extension="2016-02-01" />
  <id root="1fad091f-7b4e-4661-b61c-53f9a82515b6" />
  <code code="24605-8"
  codeSystem="2.16.840.1.113883.6.1"
  displayName="Breast Mammogram diagnostic"
  codeSystemName="LOINC"
  sdtc:valueSet="{ $QDMElementValueSetOID }" />
  <text>Diagnostic Study, Performed: Breast Mammogram Diagnostic</text>
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start Datetime -->
    <low value="20150329090000+0500" />
    <!-- QDM Attribute: Stop Datetime -->
    <high value="20150329103000+0500" />
  </effectiveTime>
  <value xsi:type="CD" nullFlavor="NA" />
  <!-- QDM Attribute: Method -->
  <methodCode code="71651007"
  codeSystem="2.16.840.1.113883.6.96"
  displayName="Mammography"
  codeSystemName="SNOMED CT"
  sdtc:valueSet="{ $QDMElementValueSetOID }" />
  <participant typeCode="LOC">
    <!-- Facility Location template -->
    <templateId root="2.16.840.1.113883.10.20.24.3.100" />
    ...
  </participant>
  <!-- QDM Attribute: Reason -->
  <entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.88"
      extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
  <entryRelationship typeCode="REFR">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Radiation Dosage and Duration (QRDA I R3) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.91"
      extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
  <entryRelationship typeCode="REFR">
    <!-- QDM Attribute: Status -->
    <observation classCode="OBS" moodCode="EVN">
      <!-- Status -->
      <templateId root="2.16.840.1.113883.10.20.24.3.93" />
      ...
    </observation>
  </entryRelationship>
  ...
</observation>
```

```
</observation>
</entryRelationship>
</observation>
```

3.59.2 Physical Exam Performed (V3)

```
[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.59:2016-02-01
(open) ]
```

Table 269: Physical Exam Performed (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Reason (V2)

This template represents the QDM datatype: Physical Exam, Performed.

A physical exam has been completed. A time/date stamp is required, moodCode has been constrained to "EVN" and statusCode has been constrained to "completed". If there is a result, it is recorded in value.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 270: Physical Exam Performed (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.59:2016-02-01)					
@classCode	1..1	SHALL		2228-27559	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-12643	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..1	MAY		2228-28093	
templateId	1..1	SHALL		2228-12644	
@root	1..1	SHALL		2228-12645	2.16.840.1.113883.10.20.24.3.59
@extension	1..1	SHALL		2228-27135	2016-02-01
code	1..1	SHALL		2228-27651	
@sdtc:valueSet	1..1	SHALL		2228-27652	
statusCode	1..1	SHALL		2228-12649	
@code	1..1	SHALL		2228-12650	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		2228-12651	
low	1..1	SHALL		2228-12652	
high	1..1	SHALL		2228-12653	
entryRelationship	0..1	MAY		2228-12656	
@typeCode	1..1	SHALL		2228-12657	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		2228-27134	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)

1. Conforms to [Procedure Activity Observation \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.13:2014-06-09).
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27559).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-12643).

4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28093).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-12644) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.59"** (CONF:2228-12645).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-27135).
6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-27651).
 - a. This code **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-27652).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:2228-12649).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:2228-12650).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:2228-12651).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:2228-12652).
Note: QDM Attribute: Start Datetime
 - b. This effectiveTime **SHALL** contain exactly one [1..1] **high** (CONF:2228-12653).
Note: QDM Attribute: Stop Datetime
9. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-12656) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-12657).
 - b. **SHALL** contain exactly one [1..1] **Reason (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-27134).

Figure 119: Physical Exam Performed (V3) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Conforms to C-CDA R2.1 Procedure Activity Observation (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.13" extension="2014-06-09" />
  <!-- Physical Exam Performed (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.59" extension="2016-02-01" />
  <id extension="123456789" root="2.16.840.1.113883.19" />
  <!-- Physical Exam -->
  <code xsi:type="CD" code="8350-1" codeSystem="2.16.840.1.113883.6.1"
  displayName="Body weight Measured --with clothes" codeSystemName="LOINC"
  sdtc:valueSet="{ $QDMElementValueSetOID}" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start Datetime -->
    <low value="20150329090000+0500" />
    <!-- QDM Attribute: Stop Datetime -->
    <high value="20150329103000+0500" />
  </effectiveTime>
  <!-- QDM Attribute: Result -->
  <value xsi:type="PQ" value="79" unit="kg" />
  <!-- QDM Attribute: Reason -->
  <entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</observation>

```

3.60 Procedure Activity Procedure (V2)

[procedure: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.14:2014-06-09 (open)]

Table 271: Procedure Activity Procedure (V2) Contexts

Contained By:	Contains:
Reaction Observation (V2) (optional)	Author Participation Indication (V2) Instruction (V2) Medication Activity (V2) Product Instance Reaction Observation (V2) Service Delivery Location

The common notion of "procedure" is broader than that specified by the HL7 Version 3 Reference Information Model (RIM). Therefore procedure templates can be represented with various RIM classes: act (e.g., dressing change), observation (e.g., EEG), procedure (e.g., splenectomy).

This 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.

Table 272: Procedure Activity Procedure (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
procedure (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.14:2014-06-09)					
@classCode	1..1	SHALL		1098-7652	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		1098-7653	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1098-7654	
@root	1..1	SHALL		1098-10521	2.16.840.1.113883.10.20.22.4.14
@extension	1..1	SHALL		1098-32506	2014-06-09
id	1..*	SHALL		1098-7655	
code	1..1	SHALL		1098-7656	
originalText	0..1	SHOULD		1098-19203	
reference	0..1	SHOULD		1098-19204	
@value	0..1	SHOULD		1098-19205	
statusCode	1..1	SHALL		1098-7661	
@code	1..1	SHALL		1098-32366	urn:oid:2.16.840.1.113883.11.20.9.22 (ProcedureAct statusCode)
effectiveTime	0..1	SHOULD		1098-7662	
priorityCode	0..1	MAY		1098-7668	urn:oid:2.16.840.1.113883.1.11.16866 (Act Priority)
methodCode	0..1	MAY		1098-7670	
targetSiteCode	0..*	SHOULD		1098-7683	
@code	1..1	SHALL		1098-16082	urn:oid:2.16.840.1.113883.3.88.12.3221.8.9 (Body Site)
specimen	0..*	MAY		1098-7697	
specimenRole	1..1	SHALL		1098-7704	
id	0..*	SHOULD		1098-7716	
performer	0..*	SHOULD		1098-7718	

assignedEntity	1..1	SHALL		1098-7720	
id	1..*	SHALL		1098-7722	
addr	1..*	SHALL		1098-7731	
telecom	1..*	SHALL		1098-7732	
representedOrganization	0..1	SHOULD		1098-7733	
id	0..*	SHOULD		1098-7734	
name	0..*	MAY		1098-7735	
telecom	1..1	SHALL		1098-7737	
addr	1..1	SHALL		1098-7736	
author	1..*	SHOULD		1098-32479	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
participant	0..*	MAY		1098-7751	
@typeCode	1..1	SHALL		1098-7752	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DEV
participantRole	1..1	SHALL		1098-15911	Product Instance (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.37)
participant	0..*	MAY		1098-7765	
@typeCode	1..1	SHALL		1098-7766	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC
participantRole	1..1	SHALL		1098-15912	Service Delivery Location (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.32)
entryRelationship	0..*	MAY		1098-7768	
@typeCode	1..1	SHALL		1098-7769	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
@inversionInd	1..1	SHALL		1098-8009	true
encounter	1..1	SHALL		1098-7770	
@classCode	1..1	SHALL		1098-7771	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ENC

@moodCode	1..1	SHALL		1098-7772	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
id	1..1	SHALL		1098-7773	
entryRelationship	0..1	MAY		1098-7775	
@typeCode	1..1	SHALL		1098-7776	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		1098-7777	true
act	1..1	SHALL		1098-31395	Instruction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09)
entryRelationship	0..*	MAY		1098-7779	
@typeCode	1..1	SHALL		1098-7780	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		1098-15914	Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09)
entryRelationship	0..*	MAY		1098-7886	
@typeCode	1..1	SHALL		1098-7887	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
substanceAdministration	1..1	SHALL		1098-15915	Medication Activity (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09)
entryRelationship	0..*	MAY		1098-32473	
@typeCode	1..1	SHALL		1098-32474	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		1098-32475	Reaction Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.9:2014-06-09)

1. **SHALL** contain exactly one [1..1] @classCode="PROC" Procedure (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-7652).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1098-7653).
3. **SHALL** contain exactly one [1..1] templateId (CONF:1098-7654) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.14" (CONF:1098-10521).

- b. **SHALL** contain exactly one [1..1] **@extension="2014-06-09"** (CONF:1098-32506).
- 4. **SHALL** contain at least one [1..*] **id** (CONF:1098-7655).
- 5. **SHALL** contain exactly one [1..1] **code** (CONF:1098-7656).
 - a. This code **SHOULD** contain zero or one [0..1] **originalText** (CONF:1098-19203).
 - i. The originalText, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:1098-19204).
 - 1. The reference, if present, **SHOULD** contain zero or one [0..1] **@value** (CONF:1098-19205).
 - 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:1098-19206).
 - 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-4 (CodeSystem: 2.16.840.1.113883.6.12) or ICD10 PCS (CodeSystem: 2.16.840.1.113883.6.4) or CDT-2 (Code System: 2.16.840.1.113883.6.13) (CONF:1098-19207).
- 6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-7661).
 - 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:1098-32366).
- 7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:1098-7662).
- 8. **MAY** contain zero or one [0..1] **priorityCode**, which **SHALL** be selected from ValueSet [Act Priority](#) urn:oid:2.16.840.1.113883.1.11.16866 **DYNAMIC** (CONF:1098-7668).
- 9. **MAY** contain zero or one [0..1] **methodCode** (CONF:1098-7670).
 - a. MethodCode **SHALL NOT** conflict with the method inherent in Procedure / code (CONF:1098-7890).

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** (CONF:1098-7683).
 - a. The targetSiteCode, if present, **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet [Body Site](#) urn:oid:2.16.840.1.113883.3.88.12.3221.8.9 **DYNAMIC** (CONF:1098-16082).
- 11. **MAY** contain zero or more [0..*] **specimen** (CONF:1098-7697).
 - a. The specimen, if present, **SHALL** contain exactly one [1..1] **specimenRole** (CONF:1098-7704).
 - i. This specimenRole **SHOULD** contain zero or more [0..*] **id** (CONF:1098-7716).
 - 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:1098-29744).

- b. This specimen is for representing specimens obtained from a procedure (CONF:1098-16842).
12. **SHOULD** contain zero or more [0..*] **performer** (CONF:1098-7718) such that it
- a. **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:1098-7720).
 - i. This assignedEntity **SHALL** contain at least one [1..*] **id** (CONF:1098-7722).
 - ii. This assignedEntity **SHALL** contain at least one [1..*] **addr** (CONF:1098-7731).
 - iii. This assignedEntity **SHALL** contain at least one [1..*] **telecom** (CONF:1098-7732).
 - iv. This assignedEntity **SHOULD** contain zero or one [0..1] **representedOrganization** (CONF:1098-7733).
 - 1. The representedOrganization, if present, **SHOULD** contain zero or more [0..*] **id** (CONF:1098-7734).
 - 2. The representedOrganization, if present, **MAY** contain zero or more [0..*] **name** (CONF:1098-7735).
 - 3. The representedOrganization, if present, **SHALL** contain exactly one [1..1] **telecom** (CONF:1098-7737).
 - 4. The representedOrganization, if present, **SHALL** contain exactly one [1..1] **addr** (CONF:1098-7736).
13. **SHOULD** contain at least one [1..*] **Author Participation** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1098-32479).
14. **MAY** contain zero or more [0..*] **participant** (CONF:1098-7751) 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:1098-7752).
 - b. **SHALL** contain exactly one [1..1] **Product Instance** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.37) (CONF:1098-15911).
15. **MAY** contain zero or more [0..*] **participant** (CONF:1098-7765) 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:1098-7766).
 - b. **SHALL** contain exactly one [1..1] **Service Delivery Location** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.32) (CONF:1098-15912).
16. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-7768) 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:1098-7769).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true" true** (CONF:1098-8009).
 - c. **SHALL** contain exactly one [1..1] **encounter** (CONF:1098-7770).
 - 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:1098-7771).

- ii. This encounter **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1098-7772).
 - iii. This encounter **SHALL** contain exactly one [1..1] **id** (CONF:1098-7773).
 - 1. Set the encounter ID to the ID of an encounter in another section to signify they are the same encounter (CONF:1098-16843).
- 17. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1098-7775) 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:1098-7776).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** true (CONF:1098-7777).
 - 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:1098-31395).
- 18. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-7779) 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:1098-7780).
 - 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:1098-15914).
- 19. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-7886) 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:1098-7887).
 - 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:1098-15915).
- 20. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-32473) 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:1098-32474).
 - 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:1098-32475).

Figure 120: Procedure Activity Procedure (V2) Example

```

<procedure classCode="PROC" moodCode="EVN">
  <!-- Procedure Activity Procedure V2-->
  <templateId root="2.16.840.1.113883.10.20.22.4.14" extension="2014-06-09" />
  <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="#Proc1" />
    </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>

```

3.60.1 Device Applied (V3)

[procedure: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.7:2016-02-01
(open)]

Table 273: Device Applied (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Reason (V2)

This template represents the QDM datatype: Device, Applied.

This datatype indicates that equipment designed to treat, monitor, or diagnose a patient's status is in use (e.g., an antithrombotic device has been placed on the patient's legs to prevent thromboembolism, or a cardiac pacemaker is in place). The statusCode has been constrained to “completed” and there is a participant to represent the device.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 274: Device Applied (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
procedure (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.7:2016-02-01)					
@classCode	1..1	SHALL		2228-28050	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		2228-28051	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..1	MAY		2228-28052	
templateId	1..1	SHALL		2228-12391	
@root	1..1	SHALL		2228-12392	2.16.840.1.113883.10.20.24.3.7
@extension	1..1	SHALL		2228-27132	2016-02-01
code	1..1	SHALL		2228-12414	
@code	1..1	SHALL		2228-12415	360030002
@codeSystem	1..1	SHALL		2228-27536	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
statusCode	1..1	SHALL		2228-12394	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		2228-12395	
low	1..1	SHALL		2228-27537	
high	0..1	MAY		2228-27538	
approachSiteCode	0..1	MAY		2228-27376	
targetSiteCode	0..1	SHOULD		2228-12416	
@sdtc:valueSet	0..1	SHOULD		2228-27730	
translation	0..*	MAY		2228-27535	
@sdtc:valueSet	1..1	SHALL		2228-27731	
participant	1..1	SHALL		2228-12396	
@typeCode	1..1	SHALL		2228-12397	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV
participantRole	1..1	SHALL		2228-12398	

@classCode	1..1	SHALL		2228-12399	urn:oid:2.16.840.1.113883.5.110 (RoleClass) = MANU
playingDevice	1..1	SHALL		2228-12400	
@classCode	1..1	SHALL		2228-12401	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV
code	1..1	SHALL		2228-12402	
@sdtc:valueSet	1..1	SHALL		2228-27584	
entryRelationship	0..1	MAY		2228-12403	
@typeCode	1..1	SHALL		2228-12404	urn:oid:2.16.840.1.113883.5.100 2 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		2228-27131	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)

1. Conforms to [Procedure Activity Procedure \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.14:2014-06-09).
2. **SHALL** contain exactly one [1..1] @classCode="PROC" Procedure (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28050).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-28051).
4. **MAY** contain zero or one [0..1] @negationInd (CONF:2228-28052).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] templateId (CONF:2228-12391) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.7" (CONF:2228-12392).
 - b. **SHALL** contain exactly one [1..1] @extension="2016-02-01" (CONF:2228-27132).
6. **SHALL** contain exactly one [1..1] code (CONF:2228-12414).
 - a. This code **SHALL** contain exactly one [1..1] @code="360030002" application of device (CONF:2228-12415).
 - b. This code **SHALL** contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.96" (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:2228-27536).
7. **SHALL** contain exactly one [1..1] statusCode="completed", which **SHALL** be selected from CodeSystem ActStatus (urn:oid:2.16.840.1.113883.5.14) (CONF:2228-12394).
8. **SHALL** contain exactly one [1..1] effectiveTime (CONF:2228-12395).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] low (CONF:2228-27537).
Note: QDM Attribute: Start Datetime
 - b. This effectiveTime **MAY** contain zero or one [0..1] high (CONF:2228-27538).
Note: QDM Attribute: Removal Datetime
9. **MAY** contain zero or one [0..1] approachSiteCode (CONF:2228-27376).
Note: QDM Attribute: Anatomical Approach Site

If the code used for QDM Attribute: Anatomical Location does not exist in the value set Body Site (2.16.840.1.113883.3.88.12.3221.8.9) then set targetSiteCode/@nullFlavor="OTH", targetSiteCode@codeSystem="2.16.840.1.113883.6.96" and use translation for the code.

10. **SHOULD** contain zero or one [0..1] **targetSiteCode** (CONF:2228-12416).

Note: QDM Attribute: Anatomical Location Site

- a. The targetSiteCode, if present, **SHOULD** contain zero or one [0..1] **@sdct:valueSet** (CONF:2228-27730).
- b. The targetSiteCode, if present, **MAY** contain zero or more [0..*] **translation** (CONF:2228-27535).
 - i. The translation, if present, **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:2228-27731).

11. **SHALL** contain exactly one [1..1] **participant** (CONF:2228-12396) such that it

- a. **SHALL** contain exactly one [1..1] **@typeCode="DEV"** device, which **SHALL** be selected from CodeSystem HL7ParticipationType (urn:oid:2.16.840.1.113883.5.90) (CONF:2228-12397).
- b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:2228-12398).
 - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode="MANU"** manufactured product, which **SHALL** be selected from CodeSystem RoleClass (urn:oid:2.16.840.1.113883.5.110) (CONF:2228-12399).
 - ii. This participantRole **SHALL** contain exactly one [1..1] **playingDevice** (CONF:2228-12400).
 1. This playingDevice **SHALL** contain exactly one [1..1] **@classCode="DEV"** device, which **SHALL** be selected from CodeSystem HL7ParticipationType (urn:oid:2.16.840.1.113883.5.90) (CONF:2228-12401).
 2. This playingDevice **SHALL** contain exactly one [1..1] **code** (CONF:2228-12402).
 - a. This code **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:2228-27584).

12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-12403) such that it

Note: QDM Attribute: Reason

- a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** has reason, which **SHALL** be selected from CodeSystem HL7ActRelationshipType (urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-12404).
- b. **SHALL** contain exactly one [1..1] **Reason (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-27131).

Figure 121: Device Applied (V3) Example

```
<procedure classCode="PROC" moodCode="EVN">
  <!-- Conforms to C-CDA R2.1 Procedure Activity Procedure (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.14"
    extension="2014-06-09" />
  <!-- Device Applied (V3) Template -->
  <templateId root="2.16.840.1.113883.10.20.24.3.7" extension="2016-02-01" />
  <id root="20ebe7a7-a493-447d-922b-5d98fa8b96da" />
  <code code="360030002"
    displayName="application of device"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED-CT" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start Datetime -->
    <low value="20150101" />
    <!-- QDM Attribute: Removal Datetime -->
    <high value="20151201" />
  </effectiveTime>
  <!-- QDM Attribute: Anatomical Approach Site -->
  <approachSiteCode code="14742008"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="large intestinal structure"
    sdtc:valueSet="{ $QDMElementValueSetOID }" />
  <!-- QDM Attribute: Anatomical Location Site -->
  <targetSiteCode code="71854001"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="colon"
    sdtc:valueSet="{ $QDMElementValueSetOID }" />
  <participant typeCode="DEV">
    <participantRole classCode="MANU">
      <playingDevice classCode="DEV">
        <!-- Device -->
        <code code="401608003"
          codeSystem="2.16.840.1.113883.6.96"
          codeSystemName="SNOMED-CT"
          displayName="Suprapubic catheter (physical object)"
          sdtc:valueSet="{ $QDMElementValueSetOID }" />
        </playingDevice>
      </participantRole>
    </participant>
  <!-- QDM Attribute: Reason -->
  <entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.88"
        extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</procedure>
```

3.60.2 Procedure Performed (V3)

[procedure: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.64:2016-02-01
(open)]

Table 275: Procedure Performed (V3) Contexts

Contained By:	Contains:
Procedure Adverse Event (V3) (required) Procedure Intolerance (V3) (required) Patient Data Section QDM (V4) (optional)	Incision Datetime Radiation Dosage and Duration (V2) Reason (V2) Result (V3) Status

This template represents the QDM datatype: Procedure, Performed.

A procedure is a course of action intended to achieve a result in the care of persons with health problems. It is generally invasive and involves physical contact. A procedure may be a surgery or other type of physical manipulation of a person's body in whole or in part for purposes of making observations and diagnoses and/or providing treatment. Some of these procedures are not reimbursed. Note that procedure is distinct from intervention. MoodCode has been constrained to "EVN".

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 276: Procedure Performed (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
procedure (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.64:2016-02-01)					
@classCode	1..1	SHALL		2228-27308	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		2228-11261	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..1	MAY		2228-28098	
templateId	1..1	SHALL		2228-11262	
@root	1..1	SHALL		2228-11263	2.16.840.1.113883.10.20.24.3.64
@extension	1..1	SHALL		2228-27129	2016-02-01
code	1..1	SHALL		2228-27309	
@sdtc:valueSet	1..1	SHALL		2228-27310	
statusCode	1..1	SHALL		2228-27305	
@code	1..1	SHALL		2228-27367	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		2228-11669	
low	1..1	SHALL		2228-11670	
high	1..1	SHALL		2228-11671	
approachSiteCode	0..*	MAY		2228-27311	
@sdtc:valueSet	1..1	SHALL		2228-27313	
targetSiteCode	0..*	SHOULD		2228-27312	
@sdtc:valueSet	0..1	SHOULD		2228-27314	
translation	0..*	MAY		2228-27765	
@sdtc:valueSet	1..1	SHALL		2228-27766	
entryRelationship	0..1	MAY		2228-11371	
@typeCode	1..1	SHALL		2228-11372	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON

observation	1..1	SHALL		2228-11498	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)
entryRelationship	0..1	MAY		2228-11410	
@typeCode	1..1	SHALL		2228-11500	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
procedure	1..1	SHALL		2228-14564	Incision Datetime (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.89)
entryRelationship	0..1	MAY		2228-27302	
@typeCode	1..1	SHALL		2228-27303	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		2228-27321	Radiation Dosage and Duration (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01)
entryRelationship	0..*	MAY		2228-27315	
@typeCode	1..1	SHALL		2228-27316	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		2228-27317	Result (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.87:2016-02-01)
entryRelationship	0..1	MAY		2228-27364	
@typeCode	1..1	SHALL		2228-27365	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		2228-27366	Status (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.93)
value	1..1	SHALL	CD	2228-28608	
@sdct:valueSet	1..1	SHALL		2228-28613	
entryRelationship	0..1	MAY		2228-28614	
@typeCode	1..1	SHALL		2228-28617	REFR
observation	1..1	SHALL		2228-28615	
@classCode	1..1	SHALL		2228-28618	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-	urn:oid:2.16.840.1.113883.5.100

				28619	1 (ActMood) = EVN
code	1..1	SHALL		2228-28616	
@code	1..1	SHALL		2228-28620	260870009
@codeSystem	1..1	SHALL		2228-28621	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
value	1..1	SHALL	CD	2228-28624	
@sdtc:valueSet	1..1	SHALL		2228-28625	

1. Conforms to [Procedure Activity Procedure \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.14:2014-06-09).
2. **SHALL** contain exactly one [1..1] **@classCode**="PROC" Procedure (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27308).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-11261).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28098).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-11262) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.64" (CONF:2228-11263).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-02-01" (CONF:2228-27129).
6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-27309).
 - a. This code **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-27310).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:2228-27305).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:2228-27367).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:2228-11669).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:2228-11670).
Note: QDM Attribute: Start Datetime
 - b. This effectiveTime **SHALL** contain exactly one [1..1] **high** (CONF:2228-11671).
Note: QDM Attribute: Stop Datetime
9. **MAY** contain zero or more [0..*] **approachSiteCode** (CONF:2228-27311).
Note: QDM Attribute: Anatomical Approach Site
 - a. The approachSiteCode, if present, **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-27313).

If the code used for QDM Attribute: Anatomical Location does not exist in the value set Body Site (2.16.840.1.113883.3.88.12.3221.8.9) then set targetSiteCode/@nullFlavor="OTH", targetSiteCode@codeSystem="2.16.840.1.113883.6.96" and use translation for the code.

10. **SHOULD** contain zero or more [0..*] **targetSiteCode** (CONF:2228-27312).
 Note: QDM Attribute: Anatomical Location Site
- a. The targetSiteCode, if present, **SHOULD** contain zero or one [0..1] **@sdtc:valueSet** (CONF:2228-27314).
 - b. The targetSiteCode, if present, **MAY** contain zero or more [0..*] **translation** (CONF:2228-27765).
 - i. The translation, if present, **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-27766).
11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-11371) such that it
 Note: QDM Attribute: Reason
- a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-11372).
 - b. **SHALL** contain exactly one [1..1] **Reason (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-11498).
12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-11410) such that it
 Note: QDM Attribute: Incision Datetime
- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-11500).
 - b. **SHALL** contain exactly one [1..1] **Incision Datetime** (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.89) (CONF:2228-14564).
13. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-27302) such that it
 Note: QDM Attribute: Radiation Dosage, Radiation Duration
- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-27303).
 - b. **SHALL** contain exactly one [1..1] **Radiation Dosage and Duration (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01) (CONF:2228-27321).
14. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:2228-27315) such that it
 Note: QDM Attribute: Result
- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-27316).
 - b. **SHALL** contain exactly one [1..1] **Result (V3)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.87:2016-02-01) (CONF:2228-27317).
15. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-27364) such that it
 Note: QDM Attribute: Status
- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-27365).

- b. **SHALL** contain exactly one [1..1] **Status** (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.93) (CONF:2228-27366).
 - i. This observation **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:2228-28608).
 - 1. This value **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-28613).
16. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-28614) such that it
 Note: QDM Attribute: Ordinality
- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** refers to (CONF:2228-28617).
 - b. **SHALL** contain exactly one [1..1] **observation** (CONF:2228-28615).
 - i. This observation **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28618).
 - ii. This observation **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-28619).
 - iii. This observation **SHALL** contain exactly one [1..1] **code** (CONF:2228-28616).
 - 1. This code **SHALL** contain exactly one [1..1] **@code="260870009"** Priority (CONF:2228-28620).
 - 2. This code **SHALL** contain exactly one [1..1] **@codeSystem="2.16.840.1.113883.6.96"** (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:2228-28621).
 - iv. This observation **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:2228-28624).
 - 1. This value **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-28625).

Figure 122: Procedure Performed (V3) Example

```
<procedure classCode="PROC" moodCode="EVN">
  <!-- Conforms to C-CDA R2.1 Procedure Activity Procedure (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.14" extension="2014-06-09" />
  <!-- Procedure Performed (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.64" extension="2016-02-01" />
  <id root="d68b7e32-7810-4f5b-9cc2-acd54b0fd85d" />
  <code code="235326000"
    displayName="Right hemicolectomy"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    sdct:valueSet="{ $QDMElementValueSetOID }" />
  <text>Procedure, Performed: Right hemicolectomy </text>
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start Datetime -->
    <low value="20150329090000+0500" />
    <!-- QDM Attribute: End Datetime -->
    <high value="20150329103000+0500" />
  </effectiveTime>
  <!-- QDM Attribute: Ordinality -->
  <priorityCode code="63161005"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="Principal"
    sdct:valueSet="{ $QDMElementValueSetOID }" />
  <!-- QDM Attribute: Method -->
  <methodCode code="446223002"
    codeSystem="2.16.840.1.113883.6.96"
    displayName="Hand assisted laparoscopic right colectomy"
    codeSystemName="SNOMED-CT"
    sdct:valueSet="{ $QDMElementValueSetOID }" />
  <!-- QDM Attribute: Anatomical Approach Site -->
  <approachSiteCode code="14742008"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="large intestinal structure"
    sdct:valueSet="{ $QDMElementValueSetOID }" />
  <!-- QDM Attribute Anatomical Location Site -->
  <targetSiteCode code="71854001"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="colon"
    sdct:valueSet="{ $QDMElementValueSetOID }" />
  <!-- QDM Attributes: Radiation Dosage and Radiation Duration -->
  <entryRelationship typeCode="REFR">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Radiation Dosage and Duration templateId -->
      <templateId root="2.16.840.1.113883.10.20.24.3.91"
        extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
  <!-- QDM Attribute: Incision Datetime -->
  <entryRelationship typeCode="REFR">
    <procedure classCode="PROC" moodCode="EVN">
```

```

        <templateId root="2.16.840.1.113883.10.20.24.3.89" />
    ...
    </procedure>
</entryRelationship>
<!-- QDM Attribute: Reason -->
<entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.24.3.88"
            extension="2014-12-01" />
    ...
    </observation>
</entryRelationship>
<!-- QDM Attribute: Result -->
<entryRelationship typeCode="REFR">
    <observation classCode="OBS" moodCode="EVN">
        <!-- Conforms to C-CDA R2.1 Result Observation (V3) -->
        <templateId root="2.16.840.1.113883.10.20.22.4.2"
            extension="2015-08-01" />
        <!-- Result (V3) -->
        <templateId root="2.16.840.1.113883.10.20.24.3.87"
            extension="2016-02-01" />
    ...
    </observation>
</entryRelationship>
<!-- QDM Attribute: Status -->
<entryRelationship typeCode="REFR">
    <observation classCode="OBS" moodCode="EVN">
        <!-- Status -->
        <templateId root="2.16.840.1.113883.10.20.24.3.93" />
    ...
    </observation>
</entryRelationship>
<!-- QDM Attribute: Ordinality -->
<entryRelationship typeCode="REFR">
    <observation classCode="OBS" moodCode="EVN">
        <id root="92587992-6147-467e-8ce7-b080ef569df4"/>
        <code code="260870009" codeSystem="2.16.840.1.113883.6.96"
            displayName="Priority" codeSystemName="SNOMED CT"/>
        <value xsi:type="CD" code="63161005" codeSystem="2.16.840.1.113883.6.96"
            codeSystemName="SNOMED CT" displayName="principal"
            sdtc:valueSet="{QDMElementValueSetOID}" />
    </observation>
</entryRelationship>
</procedure>

```

3.61 Product Instance

[participantRole: identifier urn:oid:2.16.840.1.113883.10.20.22.4.37 (open)]

Table 277: Product Instance Contexts

Contained By:	Contains:
Procedure Activity Procedure (V2) (optional) Planned Supply (V2) (optional)	

This clinical statement represents a particular device that was placed in a patient or used as part of a procedure or other act. This provides a record of the identifier and other details about the given product that was used. For example, it is important to have a record that indicates not just that a hip prostheses was placed in a patient but that it was a particular hip prostheses number with a unique identifier.

The FDA Amendments Act specifies the creation of a Unique Device Identification (UDI) System that requires the label of devices to bear a unique identifier that will standardize device identification and identify the device through distribution and use.

The FDA permits an issuing agency to designate that their Device Identifier (DI) + Production Identifier (PI) format qualifies as a UDI through a process of accreditation. Currently, there are three FDA-accredited issuing agencies that are allowed to call their format a UDI. These organizations are GS1, HIBCC, and ICCBBA. For additional information on technical formats that qualify as UDI from each of the issuing agencies see the UDI Appendix.

When communicating only the issuing agency device identifier (i.e., subcomponent of the UDI), the use of the issuing agency OID is appropriate. However, when communicating the unique device identifier (DI + PI), the FDA OID (2.16.840.1.113883.3.3719) must be used.

When sending a UDI, populate the participantRole/id/@root with the FDA OID (2.16.840.1.113883.3.3719) and participantRole/id/@extension with the UDI.

When sending a DI, populate the participantRole/id/@root with the appropriate assigning agency OID and participantRole/id/@extension with the DI.

The scopingEntity/id should correspond to FDA or the appropriate issuing agency.

Table 278: Product Instance Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
participantRole (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.37)					
@classCode	1..1	SHALL		81-7900	urn:oid:2.16.840.1.113883.5.110 (RoleClass) = MANU
templateId	1..1	SHALL		81-7901	
@root	1..1	SHALL		81-10522	2.16.840.1.113883.10.20.22.4.37
id	1..*	SHALL		81-7902	
playingDevice	1..1	SHALL		81-7903	
code	0..1	SHOULD		81-16837	
scopingEntity	1..1	SHALL		81-7905	
id	1..*	SHALL		81-7908	

1. **SHALL** contain exactly one [1..1] **@classCode="MANU"** Manufactured Product (CodeSystem: RoleClass urn:oid:2.16.840.1.113883.5.110 **STATIC**) (CONF:81-7900).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:81-7901) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.37"** (CONF:81-10522).
3. **SHALL** contain at least one [1..*] **id** (CONF:81-7902).
4. **SHALL** contain exactly one [1..1] **playingDevice** (CONF:81-7903).
 - a. This playingDevice **SHOULD** contain zero or one [0..1] **code** (CONF:81-16837).
5. **SHALL** contain exactly one [1..1] **scopingEntity** (CONF:81-7905).
 - a. This scopingEntity **SHALL** contain at least one [1..*] **id** (CONF:81-7908).

Figure 123: Product Instance Example

```

<participantRole classCode="MANU">
  <templateId root="2.16.840.1.113883.10.20.22.4.37"/>
  <id root="2.16.840.1.113883.3.3719"
    extension="(01)5102222233336(11)141231(17)150707(10)A213B1(21)1234"
    assigningAuthorityName="FDA"/>
  <playingDevice>
    <code code="90412006" codeSystem="2.16.840.1.113883.6.96"
      displayName="Colonoscope"/>
  </playingDevice>
  <scopingEntity>
    <id root="2.16.840.1.113883.3.3719"/>
  </scopingEntity>
</participantRole>

```

3.62 Prognosis Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.22.4.113 (open)]

Table 279: Prognosis Observation Contexts

Contained By:	Contains:
Problem Observation (V3) (optional)	

This template represents the patient’s prognosis, which must be associated with a problem observation. It may serve as an alert to scope intervention plans.

The effectiveTime represents the clinically relevant time of the observation. The observation/value is not constrained and can represent the expected life duration in PQ, an anticipated course of the disease in text, or coded term.

Table 280: Prognosis Observation Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.113)					
@classCode	1..1	SHALL		1098-29035	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		1098-29036	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1098-29037	
@root	1..1	SHALL		1098-29038	2.16.840.1.113883.10.20.22.4.113
code	1..1	SHALL		1098-29039	
@code	1..1	SHALL		1098-29468	75328-5
@codeSystem	1..1	SHALL		1098-31349	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		1098-31350	
@code	1..1	SHALL		1098-31351	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		1098-31123	
value	1..1	SHALL		1098-29469	

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-29035).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1098-29036).
3. **SHALL** contain exactly one [1..1] templateId (CONF:1098-29037) such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.113" (CONF:1098-29038).
4. **SHALL** contain exactly one [1..1] **code** (CONF:1098-29039).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="75328-5" Prognosis (CONF:1098-29468).
 - 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:1098-31349).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-31350).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:1098-31351).
6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1098-31123).
7. **SHALL** contain exactly one [1..1] **value** (CONF:1098-29469).

Figure 124: Prognosis, Free Text Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Prognosis -->
  <templateId root="2.16.840.1.113883.10.20.22.4.113" />
  <id root="2097c709-291b-4a0f-bef9-ad9b23b3bb43" />
  <code code="75328-5"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="Prognosis" />
  <text>
    Presence of a life limiting condition(>50% possibility of death within 2 year)
  </text>
  <statusCode code="completed" />
  <effectiveTime value="20130606" />
  <value xsi:type="ST">Presence of a life limiting condition(>50% possibility of death
  within 2 year</value>
</observation>

```

Figure 125: Prognosis, Coded Example

```

<entryRelationship typeCode="REFR">
  <observation classCode="OBS" moodCode="EVN">
    <!-- Prognosis -->
    <templateId root="2.16.840.1.113883.10.20.22.4.113" />
    <id root="2097c709-291b-4a0f-bef9-ad9b23b3bb43" />
    <code code="75328-5"
      codeSystem="2.16.840.1.113883.6.1"
      codeSystemName="LOINC"
      displayName="Prognosis" />
    <statusCode code="completed" />
    <effectiveTime>
      <low value="20130301" />
    </effectiveTime>
    <value xsi:type="CD" code="67334001" codeSystem="2.16.840.1.113883.6.96"
      displayName="guarded prognosis" codeSystemName="SNOMED CT" />
    </observation>
  </entryRelationship>

```

3.63 Provider Care Experience (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.67:2016-02-01
(open)]

Table 281: Provider Care Experience (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	

This template represents the QDM datatype Provider Care Experience.

Provider Care Experience describes information collected from providers about their perception of the care provided.

Table 282: Provider Care Experience (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.67:2016-02-01)					
@classCode	1..1	SHALL		2228-12479	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-12480	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..0	SHALL NOT		2228-28100	
templateId	1..1	SHALL		2228-12481	
@root	1..1	SHALL		2228-12482	2.16.840.1.113883.10.20.24.3.67
@extension	1..1	SHALL		2228-27293	2016-02-01
id	1..*	SHALL		2228-12484	
code	1..1	SHALL		2228-12485	
@code	1..1	SHALL		2228-27562	77219-4
@codeSystem	1..1	SHALL		2228-27563	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		2228-12486	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		2228-12487	
low	1..1	SHALL		2228-28435	
high	0..1	MAY		2228-28436	
value	1..1	SHALL	CD	2228-12572	
@sdct:valueSet	1..1	SHALL		2228-27655	

1. **SHALL** contain exactly one [1..1] @classCode="OBS" observation, which **SHALL** be selected from CodeSystem HL7ActClass (urn:oid:2.16.840.1.113883.5.6) (CONF:2228-12479).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" event, which **SHALL** be selected from CodeSystem ActMood (urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-12480).
3. **SHALL NOT** contain [0..0] @negationInd (CONF:2228-28100).
4. **SHALL** contain exactly one [1..1] templateId (CONF:2228-12481) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.67" (CONF:2228-12482).

- b. **SHALL** contain exactly one [1..1] @extension="2016-02-01" (CONF:2228-27293).
- 5. **SHALL** contain at least one [1..*] id (CONF:2228-12484).
- 6. **SHALL** contain exactly one [1..1] code (CONF:2228-12485).
 - a. This code **SHALL** contain exactly one [1..1] @code="77219-4" Provider satisfaction with healthcare delivery (CONF:2228-27562).
 - 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:2228-27563).
- 7. **SHALL** contain exactly one [1..1] statusCode="completed", which **SHALL** be selected from CodeSystem ActStatus (urn:oid:2.16.840.1.113883.5.14) (CONF:2228-12486).
- 8. **SHALL** contain exactly one [1..1] effectiveTime (CONF:2228-12487).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] low (CONF:2228-28435).
Note: QDM Attribute: Start Datetime
 - b. This effectiveTime **MAY** contain zero or one [0..1] high (CONF:2228-28436).
Note: QDM Attribute: Stop Datetime
- 9. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:2228-12572).
 - a. This value **SHALL** contain exactly one [1..1] @sdtc:valueSet (CONF:2228-27655).

Figure 126: Provider Care Experience (V3) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Provider Care Experience (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.67" extension="2016-02-01" />
  <id root="ffa71406-ab33-4325-822e-0f0b1a4ebb6f" />
  <code code="77219-4"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="Provider satisfaction with healthcare delivery" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start Datetime -->
    <low value="20150101" />
    <!-- QDM Attribute: Stop Datetime -->
    <high value="20511231" />
  </effectiveTime>
  <value xsi:type="CD"
    code="445060000"
    displayName="Left against medical advice (finding)"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    sdtc:valueSet="{ $QDMElementValueSetOID}" />
</observation>

```

3.64 Provider Characteristic Observation Assertion (V2)

```
[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.114:2016-02-01 (open)]
```

This template represents the QDM datatype: Provider Characteristic.

Provider characteristics refer to specific factors about a provider. Included are demographics, behavioral factors, social, or cultural factors, available resources and preferences.

This is a pattern that can be used for any simple assertion observation of a provider characteristic.

Table 283: Provider Characteristic Observation Assertion (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.114:2016-02-01)					
@classCode	1..1	SHALL		2228-27773	OBS
@moodCode	1..1	SHALL		2228-27774	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = EVN
@negationInd	0..0	SHALL NOT		2228-28101	
templateId	1..1	SHALL		2228-27768	
@root	1..1	SHALL		2228-27772	2.16.840.1.113883.10.20.24.3.114
@extension	1..1	SHALL		2228-27780	2016-02-01
id	1..*	SHALL		2228-27775	
code	1..1	SHALL		2228-27767	
@code	1..1	SHALL		2228-27771	ASSERTION
@codeSystem	1..1	SHALL		2228-28136	urn:oid:2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		2228-27776	completed
effectiveTime	1..1	SHALL		2228-27769	
low	1..1	SHALL		2228-27777	
high	0..1	MAY		2228-27778	
value	1..1	SHALL	CD	2228-27770	
@sdct:valueSet	1..1	SHALL		2228-27779	
participant	0..1	MAY		2228-28217	
@typeCode	1..1	SHALL		2228-28219	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = IND
participantRole	1..1	SHALL		2228-28218	
id	0..*	SHOULD		2228-28221	
@root	0..1	SHOULD		2228-28222	2.16.840.1.113883.4.6

@extension	0..1	SHOULD		2228-28223	
code	0..1	SHOULD		2228-28220	urn:oid:2.16.840.1.114222.4.11.1066 (Healthcare Provider Taxonomy (HIPAA))

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CONF:2228-27773).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-27774).
3. **SHALL NOT** contain [0..0] **@negationInd** (CONF:2228-28101).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-27768) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.114" (CONF:2228-27772).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-02-01" (CONF:2228-27780).
5. **SHALL** contain at least one [1..*] **id** (CONF:2228-27775).
6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-27767).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CONF:2228-27771).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.5.4" (CodeSystem: ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:2228-28136).
7. **SHALL** contain exactly one [1..1] **statusCode**="completed" Completed (CONF:2228-27776).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:2228-27769).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:2228-27777).
Note: QDM Attribute: Start Datetime
 - b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:2228-27778).
Note: QDM Attribute: Stop Datetime
9. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:2228-27770).
 - a. This value **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-27779).
10. **MAY** contain zero or one [0..1] **participant** (CONF:2228-28217).
 - a. The participant, if present, **SHALL** contain exactly one [1..1] **@typeCode**="IND" individual (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:2228-28219).
 - b. The participant, if present, **SHALL** contain exactly one [1..1] **participantRole** (CONF:2228-28218).

This id/@root coupled with the id/@extension represents the individual provider's National Provider Identification number (NPI).

- i. This participantRole **SHOULD** contain zero or more [0..*] **id** (CONF:2228-28221) such that it
 1. **SHOULD** contain zero or one [0..1] **@root**="2.16.840.1.113883.4.6" National Provider ID (CONF:2228-28222).
 2. **SHOULD** contain zero or one [0..1] **@extension** (CONF:2228-28223).

- ii. This participantRole **SHOULD** contain zero or one [0..1] code, which **SHOULD** be selected from ValueSet [Healthcare Provider Taxonomy \(HIPAA\)](#) urn:oid:2.16.840.1.114222.4.11.1066 (CONF:2228-28220).

Figure 127: Provider Characteristic Observation Assertion (V2) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Provider Characteristic Observation Assertion (V2) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.114"
  extension="2016-02-01" />
  <id root="94de1700-9629-40b4-b56d-a4eac5f48726" />
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start Datetime -->
    <low value="19950501" />
    <!-- QDM Attribute: Stop Datetime -->
    <high value="20240101" />
  </effectiveTime>
  <!-- Provider Characteristic -->
  <value xsi:type="CD" code="2135-2"
  codeSystem="2.16.840.1.113883.6.238" codeSystemName="CDCREC"
  displayName="Hispanic or Latino"
  sdtc:valueSet="{ $QDMElementValueSetOID}" />
  <participant typeCode="IND">
    <participantRole>
      <id root="2.16.840.1.113883.4.6" extension="123456789" />
    </participantRole>
  </participant>
</observation>

```

3.65 Radiation Dosage and Duration (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01 (open)]

Table 284: Radiation Dosage and Duration (V2) Contexts

Contained By:	Contains:
Diagnostic Study Adverse Event (V3) (optional) Diagnostic Study Intolerance (V3) (optional) Diagnostic Study Performed (V3) (optional) Procedure Performed (V3) (optional) Procedure Order (V3) (optional) Diagnostic Study Order (V3) (optional) Diagnostic Study Recommended (V3) (optional)	

This template represents the QDM attributes: Radiation Dosage and Radiation Duration. Radiation Dosage describes the amount and Radiation Duration describes the duration of radiation given (or requested to be given) during a procedure.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 285: Radiation Dosage and Duration (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01)					
@classCode	1..1	SHALL		1140-13276	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		1140-13277	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..1	MAY		1140-28103	
templateId	1..1	SHALL		1140-13278	
@root	1..1	SHALL		1140-13279	2.16.840.1.113883.10.20.24.3.91
@extension	1..1	SHALL		1140-27335	2014-12-01
id	1..*	SHALL		1140-13281	
code	1..1	SHALL		1140-13282	
@code	1..1	SHALL		1140-27568	77304-4
@codeSystem	1..1	SHALL		1140-27569	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		1140-13284	
@code	1..1	SHALL		1140-13285	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	0..1	SHOULD		1140-13286	
low	0..1	MAY		1140-13292	
width	0..1	MAY		1140-27318	
high	0..1	MAY		1140-13293	
value	0..1	SHOULD		1140-13287	

1. **SHALL** contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:1140-13276).

2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:1140-13277).
3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:1140-28103).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:1140-13278) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.91" (CONF:1140-13279).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1140-27335).
5. **SHALL** contain at least one [1..*] **id** (CONF:1140-13281).
6. **SHALL** contain exactly one [1..1] **code** (CONF:1140-13282).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="77304-4" Radiation dose (CONF:1140-27568).
 - 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:1140-27569).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1140-13284).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:1140-13285).
8. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:1140-13286).
 - a. The effectiveTime, if present, **MAY** contain zero or one [0..1] **low** (CONF:1140-13292).
 - b. The effectiveTime, if present, **MAY** contain zero or one [0..1] **width** (CONF:1140-27318).
 - c. The effectiveTime, if present, **MAY** contain zero or one [0..1] **high** (CONF:1140-13293).
 - d. One of the following combinations **SHALL** be present: **@width**, **@low** and **@high**, **@low** and **@width** or **@width** and **@high**. **@width** by itself shall only be used when no start or end time is known. For example, when one knows that the duration of radiation needs to be 30 minutes, but one may not yet know when the start time will be eg. in a Procedure Order (CONF:1140-27319).
9. **SHOULD** contain zero or one [0..1] **value** (CONF:1140-13287).

Figure 128: Radiation Dosage and Duration (V2) Width Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Radiation Dosage and Duration (V2) templateId -->
  <templateId root="2.16.840.1.113883.10.20.24.3.91"
    extension="2014-12-01"/>
  <id root="fe9b6aab-70ef-4cec-88de-14f8fbaae06c" />
  <code code="77304-4"
    displayName="Radiation dose"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    sdtc:valueSet="{ $QDMElementValueSetOID}" />

  <statusCode code="completed" />

  <!-- QDM Attribute: Radiation Duration -->
  <effectiveTime>
    <width value="30" unit="min" />
  </effectiveTime>
</observation>
```

Figure 129: Radiation Dosage and Duration (V2) Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Radiation Dosage and Duration (V2) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.91"
    extension="2014-12-01" />
  <id root="fe9b6aab-70ef-4cec-88de-14f8fbaae06c" />
  <code code="77304-4"
    displayName="Radiation dose"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    sdtc:valueSet="{ $QDMElementValueSetOID}" />

  <statusCode code="completed" />

  <!-- QDM Attribute: Radiation Duration -->
  <effectiveTime>
    <low value="20120329090000+0500" />
    <high value="20120329103000+0500" />
  </effectiveTime>

  <!-- QDM Attribute: Radiation Dosage -->
  <value xsi:type="PQ"
    value="50"
    unit="cGy{total}" />
</observation>
```


3.66 Reaction Observation (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.9:2014-06-09 (open)]

Table 286: Reaction Observation (V2) Contexts

Contained By:	Contains:
Medication Activity (V2) (optional) Procedure Activity Procedure (V2) (optional) Procedure Activity Observation (V2) (optional) Allergy - Intolerance Observation (V2) (optional) Substance or Device Allergy - Intolerance Observation (V2) (optional) Immunization Activity (V2) (optional)	Medication Activity (V2) Procedure Activity Procedure (V2) Severity Observation (V2)

This clinical statement represents the response to an undesired symptom, finding, etc. due to administered or exposed substance. This reaction may be an undesired symptom, finding, etc. or it could be a desired response to a treatment. A reaction can be defined with respect to its severity, and can have been treated by one or more interventions.

Table 287: Reaction Observation (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.9:2014-06-09)					
@classCode	1..1	SHALL		1098-7325	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		1098-7326	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1098-7323	
@root	1..1	SHALL		1098-10523	2.16.840.1.113883.10.20.22.4.9
@extension	1..1	SHALL		1098-32504	2014-06-09
id	1..*	SHALL		1098-7329	
code	1..1	SHALL		1098-16851	
@code	1..1	SHALL		1098-31124	ASSERTION
@codeSystem	1..1	SHALL		1098-32169	urn:oid:2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		1098-7328	
@code	1..1	SHALL		1098-19114	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	0..1	SHOULD		1098-7332	
low	0..1	SHOULD		1098-7333	
high	0..1	SHOULD		1098-7334	
value	1..1	SHALL	CD	1098-7335	urn:oid:2.16.840.1.113883.3.88.12.3221.7.4 (Problem)
entryRelationship	0..*	MAY		1098-7337	
@typeCode	1..1	SHALL		1098-7338	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
@inversionInd	1..1	SHALL		1098-7343	true
procedure	1..1	SHALL		1098-15920	Procedure Activity Procedure (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.14:2014-06-09)
entryRelationship	0..*	MAY		1098-	

				7340	
@typeCode	1..1	SHALL		1098-7341	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
@inversionInd	1..1	SHALL		1098-7344	true
substanceAdministration	1..1	SHALL		1098-15921	Medication Activity (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09)
entryRelationship	0..1	MAY		1098-7580	
@typeCode	1..1	SHALL		1098-7581	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		1098-10375	true
observation	1..1	SHALL		1098-15922	Severity Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09)

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-7325).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1098-7326).
3. **SHALL** contain exactly one [1..1] templateId (CONF:1098-7323) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.9" (CONF:1098-10523).
 - b. **SHALL** contain exactly one [1..1] @extension="2014-06-09" (CONF:1098-32504).
4. **SHALL** contain at least one [1..*] id (CONF:1098-7329).
5. **SHALL** contain exactly one [1..1] code (CONF:1098-16851).
 - a. This code **SHALL** contain exactly one [1..1] @code="ASSERTION" (CONF:1098-31124).
 - b. This code **SHALL** contain exactly one [1..1] @codeSystem="2.16.840.1.113883.5.4" (CodeSystem: ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:1098-32169).
6. **SHALL** contain exactly one [1..1] statusCode (CONF:1098-7328).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:1098-19114).
7. **SHOULD** contain zero or one [0..1] effectiveTime (CONF:1098-7332).
 - a. The effectiveTime, if present, **SHOULD** contain zero or one [0..1] low (CONF:1098-7333).
 - b. The effectiveTime, if present, **SHOULD** contain zero or one [0..1] high (CONF:1098-7334).

8. **SHALL** contain exactly one [1..1] **value** with `@xsi:type="CD"`, where the code **SHALL** be selected from ValueSet [Problem](#) urn:oid:2.16.840.1.113883.3.88.12.3221.7.4 **DYNAMIC** (CONF:1098-7335).
9. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-7337) 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:1098-7338).
 - b. **SHALL** contain exactly one [1..1] `@inversionInd="true"` True (CONF:1098-7343).

This procedure activity is intended to contain information about procedures that were performed in response to an allergy reaction.

- c. **SHALL** contain exactly one [1..1] [Procedure Activity Procedure \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.14:2014-06-09) (CONF:1098-15920).
10. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-7340) 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:1098-7341).
 - b. **SHALL** contain exactly one [1..1] `@inversionInd="true"` True (CONF:1098-7344).

This medication activity is intended to contain information about medications that were administered in response to an allergy reaction.

- c. **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:1098-15921).
11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1098-7580) 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:1098-7581).
 - b. **SHALL** contain exactly one [1..1] `@inversionInd="true"` TRUE (CONF:1098-10375).
 - c. **SHALL** contain exactly one [1..1] [Severity Observation \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09) (CONF:1098-15922).

Figure 130: Reaction Observation (V2) Example

```

<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.9" extension="2014-06-09" />
  <id root="4adc1020-7b14-11db-9fe1-0800200c9a64" />
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" />
  <text>
    <reference value="#reaction1" />
  </text>
  <statusCode code="completed" />
  <effectiveTime>
    <low value="200802260805-0800" />
    <high value="200802281205-0800" />
  </effectiveTime>
  <value xsi:type="CD" code="422587007" codeSystem="2.16.840.1.113883.6.96"
  displayName="Nausea" />
  <entryRelationship typeCode="SUBJ" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.8" extension="2014-06-09" />
      . . .
    </observation>
  </entryRelationship>
</observation>

```

3.66.1 Reaction (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.85:2014-12-01 (open)]

Table 288: Reaction (V2) Contexts

Contained By:	Contains:
Device Adverse Event (V3) (required) Act Intolerance or Adverse Event Observation (V3) (optional) Device Allergy (V3) (required) Device Intolerance (V3) (optional) Medication Adverse Effect (V3) (optional) Medication Allergy (V3) (optional) Medication Intolerance (V3) (optional)	

This template represents the QDM attribute: Reaction.

This conformant result observation clinical statement requires an effectiveTime. A result observation represents an undesired symptom, finding, etc., due to an administered substance, device, diagnostic study, intervention, laboratory test or procedure. A reaction can be defined with respect to its severity, and can have been treated by one or more interventions.

Table 289: Reaction (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.85:2014-12-01)					
templateId	1..1	SHALL		1140-11332	
@root	1..1	SHALL		1140-11333	2.16.840.1.113883.10.20.24.3.85
@extension	1..1	SHALL		1140-27008	2014-12-01
effectiveTime	1..1	SHALL		1140-11370	
value	1..1	SHALL	CD	1140-27306	
@sdtc:valueSet	1..1	SHALL		1140-27307	

1. Conforms to [Reaction Observation \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.9:2014-06-09).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1140-11332) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.85" (CONF:1140-11333).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1140-27008).
3. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1140-11370).
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:1140-27306).
 - a. This value **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:1140-27307).

Figure 131: Reaction (V2) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Conforms to C-CDA R2 Reaction Observation (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.9" extension="2014-06-09" />
  <!-- Reaction (QRDA I V2) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.85" extension="2014-12-01" />
  <id root="80aed311-8af7-401f-ab7f-727260d2b033" />
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"
    codeSystemName="ActCode" displayName="Assertion" />
  <statusCode code="completed" />
  <effectiveTime>
    <low value="20110215" />
  </effectiveTime>
  <value xsi:type="CD" code="404684003" displayName="Nausea"
    codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"
    sdtc:valueSet="{ $QDMElementValueSetOID}" />
</observation>

```

3.67 Reason (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01 (open)]

Table 290: Reason (V2) Contexts

Contained By:	Contains:
<p>Diagnostic Study Performed (V3) (optional) Intervention Performed (V3) (optional) Intervention Recommended (V3) (optional) Laboratory Test Performed (V3) (optional) Procedure Performed (V3) (optional) Laboratory Test Recommended (V3) (optional) Laboratory Test Order (V3) (optional) Physical Exam Order (V3) (optional) Physical Exam Recommended (V3) (optional) Physical Exam Performed (V3) (optional) Procedure Order (V3) (optional) Procedure Recommended (V3) (optional) Intervention Order (V3) (optional) Patient Characteristic Clinical Trial Participant (V3) (optional) Diagnostic Study Order (V3) (optional) Device Order (V3) (optional) Device Applied (V3) (optional) Device Recommended (V3) (optional) Encounter Active (V3) (optional) Encounter Order (V3) (optional) Encounter Performed (V3) (optional) Encounter Recommended (V3) (optional) Medication Administered (V3) (optional) Medication Order (V3) (optional) Substance Recommended (V3) (optional) Immunization Administered (optional) Immunization Order (optional) Assessment Performed (optional) Assessment Recommended (optional)</p>	

This template represents the QDM attribute: Reason.

This template describes the thought process or justification for an action or for not performing an action. Examples include patient, system, or medical-related reasons for declining to perform specific actions. Note that the parent template that calls this template can be asserted to have occurred or to not have occurred. Therefore, this template simply adds a reason to some other (possibly negated) act. As such, there is nothing in this template that says whether the parent act did or did not occur.

Table 291: Reason (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01)					
@classCode	1..1	SHALL		1140-11357	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		1140-11358	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1140-11359	
@root	1..1	SHALL		1140-11360	2.16.840.1.113883.10.20.24.3.88
@extension	1..1	SHALL		1140-27027	2014-12-01
id	1..*	SHALL		1140-26998	
code	1..1	SHALL		1140-11361	
@code	1..1	SHALL		1140-11362	77301-0
@codeSystem	1..1	SHALL		1140-27028	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		1140-11364	
@code	1..1	SHALL		1140-11365	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		1140-11366	
low	1..1	SHALL		1140-27551	
high	0..1	MAY		1140-27552	
value	1..1	SHALL	CD	1140-11367	
@sdtc:valueSet	1..1	SHALL		1140-27657	

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:1140-11357).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:1140-11358).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1140-11359) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.88" (CONF:1140-11360).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1140-27027).
4. **SHALL** contain at least one [1..*] **id** (CONF:1140-26998).

5. **SHALL** contain exactly one [1..1] **code** (CONF:1140-11361).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="77301-0" Reason care action performed or not (CONF:1140-11362).
 - 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:1140-27028).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1140-11364).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:1140-11365).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1140-11366).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:1140-27551).
 - b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:1140-27552).
8. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:1140-11367).
 - a. This value **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:1140-27657).

Figure 132: Reason (V2) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Reason (V2) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-12-01" />
  <id root="5750a5bb-6a01-4b99-9b1c-cda56b1dce0c" />
  <code code="77301-0"
    codeSystem="2.16.840.1.113883.6.1"
    displayName="Reason care action performed or not"
    codeSystemName="LOINC" />
  <statusCode code="completed" />
  <effectiveTime>
    <low value="20120105"/>
  </effectiveTime>
  <value xsi:type="CD"
    code="57054005"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="Acute myocardial infarction"
    sdtc:valueSet="{ $QDMElementValueSetOID }" />
</observation>

```

3.68 Reporting Parameters Act

[act: identifier urn:oid:2.16.840.1.113883.10.20.17.3.8 (open)]

Table 292: Reporting Parameters Act Contexts

Contained By:	Contains:
Reporting Parameters Section (required)	

This template provides information about the reporting time interval and context for the patient data being reported to the receiving organization. The receiving organization may tell the reporting hospitals what information to include, such as dates representing the quarters of the

year for which data are desired. The reporting parameter time interval refers to the data being sent in the document and may differ from the quality measure's measurement period or valid dates for the data set.

Table 293: Reporting Parameters Act Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:oid:2.16.840.1.113883.10.20.17.3.8)					
@classCode	1..1	SHALL		23-3269	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		23-3270	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		23-18098	
@root	1..1	SHALL		23-18099	2.16.840.1.113883.10.20.17.3.8
id	1..*	SHALL		23-26549	
code	1..1	SHALL		23-3272	
@code	1..1	SHALL		23-26550	252116004
@codeSystem	1..1	SHALL		23-26551	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
effectiveTime	1..1	SHALL		23-3273	
low	1..1	SHALL		23-3274	
high	1..1	SHALL		23-3275	

1. **SHALL** contain exactly one [1..1] **@classCode="ACT"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:23-3269).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:23-3270).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:23-18098) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.17.3.8"** (CONF:23-18099).
4. **SHALL** contain at least one [1..*] **id** (CONF:23-26549).
5. **SHALL** contain exactly one [1..1] **code** (CONF:23-3272).
 - a. This code **SHALL** contain exactly one [1..1] **@code="252116004"** Observation Parameters (CONF:23-26550).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem="2.16.840.1.113883.6.96"** (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:23-26551).

6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:23-3273).
 - a. This **effectiveTime** **SHALL** contain exactly one [1..1] **low** (CONF:23-3274).
 - b. This **effectiveTime** **SHALL** contain exactly one [1..1] **high** (CONF:23-3275).

Figure 133: Reporting Parameters Act Example

```

<act classCode="ACT" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.17.3.8"/>
  <id root="55a43e20-6463-46eb-81c3-9a3a1ad41225"/>
  <code code="252116004"
    codeSystem="2.16.840.1.113883.6.96"
    displayName="Observation Parameters"/>
  <!-- This reporting period shows that Good Health Clinic is
    sending data for the first quarter of the year.
    The referenced measure definition may be valid for the
    entire year or more-->
  <effectiveTime>
    <low value="20160101"/>
    <!-- The first day of the period reported. -->
    <high value="20161231"/>
    <!-- The last day of the period reported. -->
  </effectiveTime>
</act>

```

3.69 Result Observation (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01 (open)]

Table 294: Result Observation (V3) Contexts

Contained By:	Contains:
	Author Participation

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 295: Result Observation (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01)					
@classCode	1..1	SHALL		1198-7130	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		1198-7131	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1198-7136	
@root	1..1	SHALL		1198-9138	2.16.840.1.113883.10.20.22.4.2
@extension	1..1	SHALL		1198-32575	2015-08-01
id	1..*	SHALL		1198-7137	
code	1..1	SHALL		1198-7133	urn:oid:2.16.840.1.113883.6.1 (LOINC)
statusCode	1..1	SHALL		1198-7134	
@code	1..1	SHALL		1198-14849	urn:oid:2.16.840.1.113883.11.20.9.39 (Result Status)
effectiveTime	1..1	SHALL		1198-7140	
value	1..1	SHALL		1198-7143	
interpretationCode	0..*	SHOULD		1198-7147	
@code	1..1	SHALL		1198-32476	urn:oid:2.16.840.1.113883.1.11.78 (Observation Interpretation (HL7))
methodCode	0..1	MAY	SET<CE>	1198-7148	
targetSiteCode	0..1	MAY	SET<CD>	1198-7153	
author	0..*	SHOULD		1198-7149	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
referenceRange	0..*	SHOULD		1198-7150	
observationRange	1..1	SHALL		1198-7151	
code	0..0	SHALL NOT		1198-7152	
value	1..1	SHALL		1198-32175	

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1198-7130).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1198-7131).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1198-7136) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.2"** (CONF:1198-9138).
 - b. **SHALL** contain exactly one [1..1] **@extension="2015-08-01"** (CONF:1198-32575).
4. **SHALL** contain at least one [1..*] **id** (CONF:1198-7137).
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:1198-7133).
 - 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:1198-19212).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1198-7134).
 - 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:1198-14849).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1198-7140).
Note: Represents the biologically 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:1198-7143).
 - a. If Observation/value is a physical quantity (**xs:type="PQ"**), the unit of measure **SHALL** be selected from ValueSet UnitsOfMeasureCaseSensitive 2.16.840.1.113883.1.11.12839 **DYNAMIC** (CONF:1198-31484).
 - 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:1198-31866).
 - c. If Observation/value is a CD (**xs:type="CD"**) the value **SHOULD** be SNOMED-CT (CONF:1198-32610).
9. **SHOULD** contain zero or more [0..*] **interpretationCode** (CONF:1198-7147).
 - a. The interpretationCode, if present, **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet [Observation Interpretation \(HL7\)](#) urn:oid:2.16.840.1.113883.1.11.78 **STATIC** (CONF:1198-32476).
10. **MAY** contain zero or one [0..1] **methodCode** (CONF:1198-7148).
11. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:1198-7153).
12. **SHOULD** contain zero or more [0..*] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1198-7149).
13. **SHOULD** contain zero or more [0..*] **referenceRange** (CONF:1198-7150).
 - a. The referenceRange, if present, **SHALL** contain exactly one [1..1] **observationRange** (CONF:1198-7151).
 - i. This observationRange **SHALL NOT** contain [0..0] **code** (CONF:1198-7152).

- ii. This observationRange **SHALL** contain exactly one [1..1] value (CONF:1198-32175).

Table 296: Result Status

Value Set: Result Status urn:oid:2.16.840.1.113883.11.20.9.39			
Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
aborted	ActStatus	urn:oid:2.16.840.1.113883.5.14	aborted
active	ActStatus	urn:oid:2.16.840.1.113883.5.14	active
cancelled	ActStatus	urn:oid:2.16.840.1.113883.5.14	cancelled
completed	ActStatus	urn:oid:2.16.840.1.113883.5.14	completed
held	ActStatus	urn:oid:2.16.840.1.113883.5.14	held
suspended	ActStatus	urn:oid:2.16.840.1.113883.5.14	suspended

Table 297: Observation Interpretation (HL7)

Value Set: Observation Interpretation (HL7) urn:oid:2.16.840.1.113883.1.11.78			
Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
A	HITSP-CS-83	urn:oid:2.16.840.1.113883.5.83	abnormal
B	HITSP-CS-83	urn:oid:2.16.840.1.113883.5.83	better
Carrier	HITSP-CS-83	urn:oid:2.16.840.1.113883.5.83	carrier
D	HITSP-CS-83	urn:oid:2.16.840.1.113883.5.83	decreased
HX	HITSP-CS-83	urn:oid:2.16.840.1.113883.5.83	above high threshold
I	HITSP-CS-83	urn:oid:2.16.840.1.113883.5.83	intermediate
IND	HITSP-CS-83	urn:oid:2.16.840.1.113883.5.83	indeterminate
LX	HITSP-CS-83	urn:oid:2.16.840.1.113883.5.83	below low threshold
MS	HITSP-CS-83	urn:oid:2.16.840.1.113883.5.83	moderately susceptible
N	HITSP-CS-83	urn:oid:2.16.840.1.113883.5.83	normal
...			

Figure 134: Result Observation (V3) Example

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.2" extension="2015-08-01" />
  <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>
```


3.69.1 Laboratory Test Performed (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.38:2016-02-01 (open)]

Table 298: Laboratory Test Performed (V3) Contexts

Contained By:	Contains:
Laboratory Test Adverse Event (V3) (required)	Reason (V2)
Laboratory Test Intolerance (V3) (required)	Status
Patient Data Section QDM (V4) (optional)	

This template represents the QDM datatype: Laboratory Test, Performed.

The Laboratory Test Performed template represents the medical procedure of obtaining a sample of blood, urine, or other substance from the body. This template can also describe the result of a study in the clinical laboratory (traditionally chemistry, hematology, microbiology, serology, urinalysis, blood bank). A time/date stamp is required. If there is a result, it is recorded in value.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 299: Laboratory Test Performed (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.38:2016-02-01)					
@classCode	1..1	SHALL		2228-11705	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-11706	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..1	MAY		2228-28077	
templateId	1..1	SHALL		2228-11721	
@root	1..1	SHALL		2228-11722	2.16.840.1.113883.10.20.24.3.38
@extension	1..1	SHALL		2228-27021	2016-02-01
id	1..*	SHALL		2228-11707	
code	1..1	SHALL		2228-27637	
@sdtc:valueSet	1..1	SHALL		2228-27638	
statusCode	1..1	SHALL		2228-11709	
@code	1..1	SHALL		2228-11710	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		2228-11711	
low	1..1	SHALL		2228-11712	
high	1..1	SHALL		2228-11713	
entryRelationship	0..1	MAY		2228-11727	
@typeCode	1..1	SHALL		2228-11728	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		2228-27161	Reason (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.38:2014-12-01)
entryRelationship	0..1	MAY		2228-27748	
@typeCode	1..1	SHALL		2228-27749	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		2228-27750	Status (identifier: urn:oid:2.16.840.1.113883.10.20.

1. Conforms to [Result Observation \(V3\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01).
2. **SHALL** contain exactly one [1..1] **@classCode="OBS"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-11705).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-11706).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28077).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-11721) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.38"** (CONF:2228-11722).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-27021).
6. **SHALL** contain at least one [1..*] **id** (CONF:2228-11707).
7. **SHALL** contain exactly one [1..1] **code** (CONF:2228-27637).
 - a. This code **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-27638).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:2228-11709).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:2228-11710).
9. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:2228-11711).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:2228-11712).
Note: QDM Attribute: Start Datetime
 - b. This effectiveTime **SHALL** contain exactly one [1..1] **high** (CONF:2228-11713).
Note: QDM Attribute: Stop Datetime
10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-11727) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-11728).
 - b. **SHALL** contain exactly one [1..1] [Reason \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:2228-27161).
11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-27748) such that it
Note: QDM Attribute: Status
 - a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-27749).
 - b. **SHALL** contain exactly one [1..1] [Status](#) (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.93) (CONF:2228-27750).

Figure 135: Laboratory Test Performed (V3) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Conforms to C-CDA R2.1 Result Observation (V3) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.2" extension="2015-08-01" />
  <!-- Laboratory Test Performed (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.38" extension="2016-02-01" />
  <id root="1fad091f-7b4e-4661-b61c-53f9a82515b6" />
  <!-- Laboratory Test -->
  <code code="4544-3" displayName="Hematocrit [Volume Fraction] of Blood by Automated
count"
    codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
    sdtc:valueSet="{ $QDMElementValueSetOID}" />
  <text>Laboratory Test, Hematocrit</text>
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start Datetime -->
    <low value="20150329090000+0500" />
    <!-- QDM Attribute: Stop Datetime -->
    <high value="20150329103000+0500" />
  </effectiveTime>
  <!-- QDM Attribute: Result -->
  <value xsi:type="PQ" value="35.3" unit="%" />
  <!-- QDM Attribute: Status -->
  <entryRelationship typeCode="REFR">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Status -->
      <templateId root="2.16.840.1.113883.10.20.24.3.93" />
      ...
    </observation>
  </entryRelationship>
  <!-- QDM Attribute: Reason -->
  <entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</observation>

```

3.69.2 Result (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.87:2016-02-01 (open)]

Table 300: Result (V3) Contexts

Contained By:	Contains:
Diagnostic Study Performed (V3) (optional) Intervention Performed (V3) (optional) Procedure Performed (V3) (optional) Assessment Performed (optional)	Status

This template represents the QDM attribute: Result.

This template describes the final consequences or data collected from a sequence of actions or events, or observable entities, including but not limited to procedures, laboratory tests, physical examinations, or diagnostic tests.

Table 301: Result (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.87:2016-02-01)					
templateId	1..1	SHALL		2228-11672	
@root	1..1	SHALL		2228-11673	2.16.840.1.113883.10.20.24.3.87
@extension	1..1	SHALL		2228-27035	2016-02-01
code	1..1	SHALL		2228-27658	
@sdtc:valueSet	1..1	SHALL		2228-27659	
value	1..1	SHALL		2228-16701	
entryRelationship	0..1	MAY		2228-14171	
@typeCode	1..1	SHALL		2228-14172	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		2228-14174	Status (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.93)

1. Conforms to [Result Observation \(V3\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-11672) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.87" (CONF:2228-11673).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-02-01" (CONF:2228-27035).
3. **SHALL** contain exactly one [1..1] **code** (CONF:2228-27658).
 - a. This code **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:2228-27659).
4. **SHALL** contain exactly one [1..1] **value** (CONF:2228-16701).
 - a. If xsi:type=PQ, then **@units** shall be drawn from Unified Code for Units of Measure (UCUM) 2.16.840.1.113883.6.8 code system. Additional constraint is dependent on criteria in the corresponding eMeasure (CONF:2228-16702).
5. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:2228-14171) such that it

- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-14172).
- b. **SHALL** contain exactly one [1..1] [Status](#) (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.93) (CONF:2228-14174).

Figure 136: Result (V3) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Conforms to C-CDA R2.1 Result Observation (V3) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.2" extension="2015-08-01" />
  <!-- Result (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.87" extension="2016-02-01" />
  <id root="ed971e73-c060-4258-8838-69c830254b5a" />
  <code code="36625-2" displayName="Breast Mammogram"
  codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
  sdtc:valueSet="{ $QDMElementValueSetOID}" />
  <statusCode code="completed" />
  <effectiveTime value="201503231430" />
  <value xsi:type="CD" code="369895002" codeSystem="2.16.840.1.113883.6.96"
  displayName="T1: Breast tumor &lt; 2 cm in greatest dimension"
  codeSystemName="SNOMED CT" sdtc:valueSet="{ $QDMElementValueSetOID}" />
  <entryRelationship typeCode="REFR">
    <!-- QDM Attribute: Status (Result)-->
    <observation classCode="OBS" moodCode="EVN">
      <!-- Status -->
      <templateId root="2.16.840.1.113883.10.20.24.3.93" />
      ...
    </observation>
  </entryRelationship>
</observation>

```

3.70 Service Delivery Location

[participantRole: identifier urn:oid:2.16.840.1.113883.10.20.22.4.32 (open)]

Table 302: Service Delivery Location Contexts

Contained By:	Contains:
Procedure Activity Act (V2) (optional) Procedure Activity Procedure (V2) (optional) Procedure Activity Observation (V2) (optional) Planned Encounter (V2) (optional) Encounter Activity (V3) (optional)	

This clinical statement represents the location of a service event where an act, observation or procedure took place.

Table 303: Service Delivery Location Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
participantRole (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.32)					
@classCode	1..1	SHALL		81-7758	urn:oid:2.16.840.1.113883.5.111 (RoleCode) = SDLOC
templateId	1..1	SHALL		81-7635	
@root	1..1	SHALL		81-10524	2.16.840.1.113883.10.20.22.4.32
code	1..1	SHALL		81-16850	urn:oid:2.16.840.1.113883.1.11.20275 (HealthcareServiceLocation)
addr	0..*	SHOULD		81-7760	
telecom	0..*	SHOULD		81-7761	
playingEntity	0..1	MAY		81-7762	
@classCode	1..1	SHALL		81-7763	urn:oid:2.16.840.1.113883.5.41 (EntityClass) = PLC
name	0..1	MAY		81-16037	

1. **SHALL** contain exactly one [1..1] **@classCode="SDLOC"** (CodeSystem: RoleCode urn:oid:2.16.840.1.113883.5.111 **STATIC**) (CONF:81-7758).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:81-7635) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.32"** (CONF:81-10524).
3. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [HealthcareServiceLocation](#) urn:oid:2.16.840.1.113883.1.11.20275 **STATIC** (CONF:81-16850).
4. **SHOULD** contain zero or more [0..*] **addr** (CONF:81-7760).
5. **SHOULD** contain zero or more [0..*] **telecom** (CONF:81-7761).
6. **MAY** contain zero or one [0..1] **playingEntity** (CONF:81-7762).
 - a. The playingEntity, if present, **SHALL** contain exactly one [1..1] **@classCode="PLC"** (CodeSystem: EntityClass urn:oid:2.16.840.1.113883.5.41 **STATIC**) (CONF:81-7763).
 - b. The playingEntity, if present, **MAY** contain zero or one [0..1] **name** (CONF:81-16037).

Table 304: HealthcareServiceLocation

<p>Value Set: HealthcareServiceLocation urn:oid:2.16.840.1.113883.1.11.20275</p> <p>A comprehensive classification of locations and settings where healthcare services are provided. This value set is based on the National Healthcare Safety Network (NHSN) location code system that has been developed over a number of years through CDC's interaction with a variety of healthcare facilities and is intended to serve a variety of reporting needs where coding of healthcare service locations is required.</p> <p>Value Set Source: https://vsac.nlm.nih.gov/</p>			
Code	Code System	Code System OID	Print Name
1162-7	HL7 HealthcareServiceLocation	urn:oid:2.16.840.1.113883.6.259	24-Hour observation area
1184-1	HL7 HealthcareServiceLocation	urn:oid:2.16.840.1.113883.6.259	Administrative area
1210-4	HL7 HealthcareServiceLocation	urn:oid:2.16.840.1.113883.6.259	Adult Mixed Acuity Unit
1099-1	HL7 HealthcareServiceLocation	urn:oid:2.16.840.1.113883.6.259	Adult step down unit [post-critical care]
1110-6	HL7 HealthcareServiceLocation	urn:oid:2.16.840.1.113883.6.259	Allergy clinic
1166-8	HL7 HealthcareServiceLocation	urn:oid:2.16.840.1.113883.6.259	Ambulatory surgical setting
1212-0	HL7 HealthcareServiceLocation	urn:oid:2.16.840.1.113883.6.259	Any Age Mixed Acuity Unit
1106-4	HL7 HealthcareServiceLocation	urn:oid:2.16.840.1.113883.6.259	Assisted living area
1145-2	HL7 HealthcareServiceLocation	urn:oid:2.16.840.1.113883.6.259	Behavioral health clinic
1185-8	HL7 HealthcareServiceLocation	urn:oid:2.16.840.1.113883.6.259	Blood bank
...			

Figure 137: Service Delivery Location Example

```

<participantRole classCode="SDLOC">
  <templateId root="2.16.840.1.113883.10.20.22.4.32"/>
  <code code="1160-1" codeSystem="2.16.840.1.113883.6.259"
    codeSystemName="HealthcareServiceLocation" displayName="Urgent Care Center"/>
  <addr>
    <streetAddressLine>17 Daws Rd.</streetAddressLine>
    <city>Blue Bell</city>
    <state>MA</state>
    <postalCode>02368</postalCode>
    <country>US</country>
  </addr>
  <telecom use="WP" value="tel:+1(555)555-5000"/>
  <playingEntity classCode="PLC">
    <name>Community Health and Hospitals</name>
  </playingEntity>
</participantRole>

```

3.71 Severity Observation (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09
(open)]

Table 305: Severity Observation (V2) Contexts

Contained By:	Contains:
Reaction Observation (V2) (optional) Allergy - Intolerance Observation (V2) (optional) Substance or Device Allergy - Intolerance Observation (V2) (optional) Diagnosis (optional) Symptom (optional)	

This clinical statement represents the gravity of the problem, such as allergy or reaction, in terms of its actual or potential impact on the patient. The Severity Observation can be associated with an Allergy - Intolerance Observation, Substance or Device Allergy - Intolerance Observation, Reaction Observation or all. When the Severity Observation is associated directly with an allergy it characterizes the allergy. When the Severity Observation is associated with a Reaction Observation it characterizes a reaction. A person may manifest many symptoms in a reaction to a single substance, and each reaction to the substance can be represented. However, each reaction observation can have only one severity observation associated with it. For example, someone may have a rash reaction observation as well as an itching reaction observation, but each can have only one level of severity.

Table 306: Severity Observation (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09)					
@classCode	1..1	SHALL		1098-7345	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		1098-7346	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1098-7347	
@root	1..1	SHALL		1098-10525	2.16.840.1.113883.10.20.22.4.8
@extension	1..1	SHALL		1098-32577	2014-06-09
code	1..1	SHALL		1098-19168	
@code	1..1	SHALL		1098-19169	SEV
@codeSystem	1..1	SHALL		1098-32170	urn:oid:2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		1098-7352	
@code	1..1	SHALL		1098-19115	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	1098-7356	urn:oid:2.16.840.1.113883.3.88.1.2.3221.6.8 (Problem Severity)

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-7345).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1098-7346).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-7347) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.8"** (CONF:1098-10525).
 - b. **SHALL** contain exactly one [1..1] **@extension="2014-06-09"** (CONF:1098-32577).
4. **SHALL** contain exactly one [1..1] **code** (CONF:1098-19168).
 - a. This code **SHALL** contain exactly one [1..1] **@code="SEV"** Severity (CONF:1098-19169).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem="2.16.840.1.113883.5.4"** (CodeSystem: ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:1098-32170).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-7352).

- a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:1098-19115).
- 6. **SHALL** contain exactly one [1..1] value with @xsi:type="CD", where the code **SHALL** be selected from ValueSet [Problem Severity](#) urn:oid:2.16.840.1.113883.3.88.12.3221.6.8 **DYNAMIC** (CONF:1098-7356).

Table 307: Problem Severity

Value Set: Problem Severity urn:oid:2.16.840.1.113883.3.88.12.3221.6.8			
This is a description of the level of the severity of the problem.			
Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
255604002	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Mild (qualifier value)
371923003	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Mild to moderate (qualifier value)
6736007	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Moderate (severity modifier) (qualifier value)
371924009	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Moderate to severe (qualifier value)
24484000	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Severe (severity modifier) (qualifier value)
399166001	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Fatal (qualifier value)

Figure 138: Severity Observation (V2) Example

```

<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.8" extension="2014-06-09" />
  <code code="SEV" displayName="Severity Observation" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="ActCode" />
  <text>
    <reference value="#allergyseverity1" />
  </text>
  <statusCode code="completed" />
  <value xsi:type="CD" code="371924009" displayName="Moderate to severe"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT" />
</observation>

```

3.72 Status

[observation: identifier urn:oid:2.16.840.1.113883.10.20.24.3.93 (open)]

Table 308: Status Contexts

Contained By:	Contains:
Diagnostic Study Performed (V3) (optional) Intervention Performed (V3) (optional) Result (V3) (optional) Laboratory Test Performed (V3) (optional) Procedure Performed (V3) (optional)	

This simple “status” clinical statement should only be used if there is not already a described method for handling status. This template should be used if actStatus code does not convey enough meaning.

Table 309: Status Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.93)					
@classCode	1..1	SHALL		67-11879	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		67-11880	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		67-11881	
@root	1..1	SHALL		67-11882	2.16.840.1.113883.10.20.24.3.93
id	1..*	SHALL		67-11884	
code	1..1	SHALL		67-11885	
@code	1..1	SHALL		67-11886	33999-4
@codeSystem	1..1	SHALL		67-27011	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
value	1..1	SHALL		67-11887	

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:67-11879).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:67-11880).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:67-11881) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.93"** (CONF:67-11882).

4. **SHALL** contain at least one [1..*] **id** (CONF:67-11884).
5. **SHALL** contain exactly one [1..1] **code** (CONF:67-11885).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="33999-4" status (CONF:67-11886).
 - 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:67-27011).
6. **SHALL** contain exactly one [1..1] **value** (CONF:67-11887).

Figure 139: Status Example

```

<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.24.3.93" />
  <id root="29b776d3-089b-4a7f-b6e9-e45080091922" />
  <code code="33999-4"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="Status" />
  <value xsi:type="CD"
    code="445665009"
    displayName="Final Report"
    sdtc:valueSet="{ $QDMElementValueSetOID}" />
</observation>

```

3.73 Substance Administered Act

[act: identifier urn:oid:2.16.840.1.113883.10.20.22.4.118 (open)]

Table 310: Substance Administered Act Contexts

Contained By:	Contains:
Medication Activity (V2) (optional) Immunization Activity (V2) (optional)	

This template represents the administration course in a series. The entryRelationship/sequenceNumber in the containing template shows the order of this particular administration in that medication series.

Table 311: Substance Administered Act Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.118)					
@classCode	1..1	SHALL		1098-31500	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		1098-31501	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1098-31502	
@root	1..1	SHALL		1098-31503	2.16.840.1.113883.10.20.22.4.118
id	1..*	SHALL		1098-31504	
code	1..1	SHALL		1098-31506	
@code	1..1	SHALL		1098-31507	416118004
@codeSystem	1..1	SHALL		1098-31508	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
statusCode	1..1	SHALL		1098-31505	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	0..1	MAY		1098-31509	

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" Act (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:1098-31500).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:1098-31501).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-31502) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.118" (CONF:1098-31503).
4. **SHALL** contain at least one [1..*] **id** (CONF:1098-31504).
5. **SHALL** contain exactly one [1..1] **code** (CONF:1098-31506).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="416118004" Administration (CONF:1098-31507).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.96" (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:1098-31508).
6. **SHALL** contain exactly one [1..1] **statusCode**="completed" Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:1098-31505).
7. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:1098-31509).

Figure 140: Substance Administered Act Example

```

<substanceAdministration classCode="SBADM" moodCode="EVN">
  ...
  <consumable>
    ...
    <code code="43" codeSystem="2.16.840.1.113883.6.59" displayName="Hepatitis B
Vaccine" codeSystemName="CVX" />
  </consumable>
  <entryRelationship typeCode="COMP">
    <!-- This entryRelationship sequenceNumber indicates this is #2 in the series -->
    <sequenceNumber value="2" />
    <act classCode="ACT" moodCode="EVN">
      <!-- Substance Administered Act Template -->
      <templateId root="2.16.840.1.113883.10.20.22.4.118" />
      <id root="df8908d0-40f2-11e3-aa6e-0800200c9a66" />
      <code code="416118004" displayName="administration"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED-CT" />
      <statusCode code="completed" />
      <effectiveTime value="19991101" />
    </act>
  </entryRelationship>
  ...
</substanceAdministration>

```

3.74 Substance or Device Allergy - Intolerance Observation (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.90:2014-06-09
(open)]

Table 312: Substance or Device Allergy - Intolerance Observation (V2) Contexts

Contained By:	Contains:
	Allergy Status Observation (DEPRECATED) Author Participation Reaction Observation (V2) Severity Observation (V2)

This template reflects a discrete observation about a patient's allergy or intolerance to a substance or device. Because it is a discrete observation, it will have a statusCode of "completed". The effectiveTime, also referred to as the 'biologically 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 penicillin allergy that developed five years ago, the effectiveTime is five years ago.

The effectiveTime of the Substance or Device Allergy - Intolerance Observation is the definitive indication of whether or not the underlying allergy/intolerance is resolved. If 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 313: Substance or Device Allergy - Intolerance Observation (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.90:2014-06-09)					
@classCode	1..1	SHALL		1098-16303	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		1098-16304	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1098-16305	
@root	1..1	SHALL		1098-16306	2.16.840.1.113883.10.20.24.3.90
@extension	1..1	SHALL		1098-32527	2014-06-09
id	1..*	SHALL		1098-16307	
code	1..1	SHALL		1098-16345	
@code	1..1	SHALL		1098-16346	ASSERTION
@codeSystem	1..1	SHALL		1098-32171	urn:oid:2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		1098-16308	
@code	1..1	SHALL		1098-26354	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		1098-16309	
low	1..1	SHALL		1098-31536	
high	0..1	MAY		1098-31537	
value	1..1	SHALL	CD	1098-16312	
@code	1..1	SHALL	CS	1098-16317	urn:oid:2.16.840.1.113883.3.88.12.3221.6.2 (Allergy and Intolerance Type)
author	0..*	SHOULD		1098-31144	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
participant	0..*	SHOULD		1098-16318	
@typeCode	1..1	SHALL		1098-16319	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
participantRole	1..1	SHALL		1098-16320	

@classCode	1..1	SHALL		1098-16321	urn:oid:2.16.840.1.113883.5.110 (RoleClass) = MANU
playingEntity	1..1	SHALL		1098-16322	
@classCode	1..1	SHALL		1098-16323	urn:oid:2.16.840.1.113883.5.41 (EntityClass) = MMAT
code	1..1	SHALL		1098-16324	urn:oid:2.16.840.1.113762.1.4.10.1 (Substance-Reactant for Intolerance)
entryRelationship	0..1	MAY		1098-16333	
@typeCode	1..1	SHALL		1098-16335	urn:oid:2.16.840.1.113883.5.100.2 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		1098-16334	true
observation	1..1	SHALL		1098-16336	Allergy Status Observation (DEPRECATED) (identifier: urn:hl7ii:2.16.840.1.113883.10.2.0.22.4.28:2014-06-09)
entryRelationship	0..*	SHOULD		1098-16337	
@typeCode	1..1	SHALL		1098-16339	urn:oid:2.16.840.1.113883.5.100.2 (HL7ActRelationshipType) = MFST
@inversionInd	1..1	SHALL		1098-16338	true
observation	1..1	SHALL		1098-16340	Reaction Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.2.0.22.4.9:2014-06-09)
entryRelationship	0..1	MAY		1098-16341	
@typeCode	1..1	SHALL		1098-16342	urn:oid:2.16.840.1.113883.5.100.2 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		1098-16343	true
observation	1..1	SHALL		1098-16344	Severity Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.2.0.22.4.8:2014-06-09)

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-16303).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1098-16304).
3. **SHALL** contain exactly one [1..1] templateId (CONF:1098-16305) such that it

- a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.24.3.90"` (CONF:1098-16306).
 - b. **SHALL** contain exactly one [1..1] `@extension="2014-06-09"` (CONF:1098-32527).
4. **SHALL** contain at least one [1..*] `id` (CONF:1098-16307).
5. **SHALL** contain exactly one [1..1] `code` (CONF:1098-16345).
- a. This code **SHALL** contain exactly one [1..1] `@code="ASSERTION"` Assertion (CONF:1098-16346).
 - b. This code **SHALL** contain exactly one [1..1] `@codeSystem="2.16.840.1.113883.5.4"` (CodeSystem: ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:1098-32171).
6. **SHALL** contain exactly one [1..1] `statusCode` (CONF:1098-16308).
- a. This statusCode **SHALL** contain exactly one [1..1] `@code="completed"` Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:1098-26354).
7. **SHALL** contain exactly one [1..1] `effectiveTime` (CONF:1098-16309).
- Note: The effectiveTime/low (a.k.a. "onset date") asserts when the allergy/intolerance became biologically active. The effectiveTime/high (a.k.a. "resolution date") asserts when the allergy/intolerance became biologically resolved.

If the allergy/intolerance 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'.

- a. This effectiveTime **SHALL** contain exactly one [1..1] `low` (CONF:1098-31536).
 - b. This effectiveTime **MAY** contain zero or one [0..1] `high` (CONF:1098-31537).
8. **SHALL** contain exactly one [1..1] `value` with `@xsi:type="CD"` (CONF:1098-16312).
- a. This value **SHALL** contain exactly one [1..1] `@code`, which **SHALL** be selected from ValueSet [Allergy and Intolerance Type](#) urn:oid:2.16.840.1.113883.3.88.12.3221.6.2 **DYNAMIC** (CONF:1098-16317).
Note: Many systems will simply assign a fixed value here (e.g., "allergy to substance").
9. **SHOULD** contain zero or more [0..*] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1098-31144).
10. **SHOULD** contain zero or more [0..*] `participant` (CONF:1098-16318) such that it
- a. **SHALL** contain exactly one [1..1] `@typeCode="CSM"` Consumable (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90 **STATIC**) (CONF:1098-16319).
 - b. **SHALL** contain exactly one [1..1] `participantRole` (CONF:1098-16320).
 - i. This participantRole **SHALL** contain exactly one [1..1] `@classCode="MANU"` Manufactured Product (CodeSystem: RoleClass urn:oid:2.16.840.1.113883.5.110 **STATIC**) (CONF:1098-16321).
 - ii. This participantRole **SHALL** contain exactly one [1..1] `playingEntity` (CONF:1098-16322).
 - 1. This playingEntity **SHALL** contain exactly one [1..1] `@classCode="MMAT"` Manufactured Material (CodeSystem:

EntityClass urn:oid:2.16.840.1.113883.5.41 **STATIC**
(CONF:1098-16323).

2. This playingEntity **SHALL** contain exactly one [1..1] **code**, which **MAY** be selected from ValueSet [Substance-Reactant for Intolerance](#) urn:oid:2.16.840.1.113762.1.4.1010.1 **DYNAMIC** (CONF:1098-16324).
11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1098-16333) 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:1098-16335).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** True (CONF:1098-16334).
 - c. **SHALL** contain exactly one [1..1] [Allergy Status Observation \(DEPRECATED\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.28:2014-06-09) (CONF:1098-16336).
12. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:1098-16337) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="MFST"** Is Manifestation of (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1098-16339).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** True (CONF:1098-16338).
 - c. **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:1098-16340).
13. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1098-16341) 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:1098-16342).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** True (CONF:1098-16343).
 - c. **SHALL** contain exactly one [1..1] [Severity Observation \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09) (CONF:1098-16344).

Table 314: Substance-Reactant for Intolerance

Value Set: Substance-Reactant for Intolerance urn:oid:2.16.840.1.113762.1.4.1010.1
 A substance or other type of agent (e.g., sunshine) that may be associated with an intolerance reaction event or a propensity to such an event. These concepts are expected to be at a more general level of abstraction (ingredients versus more specific formulations). This value set is quite general and includes concepts that may never cause an adverse event, particularly the included SNOMED CT concepts. The code system-specific value sets in this grouping value set are intended to provide broad coverage of all kinds of agents, but the expectation for use is that the chosen concept identifier for a substance should be appropriately specific and drawn from the available code systems in the following priority order: NDFRT, then RXNORM, then UNII, then SNOMED CT. This overarching grouping value set is intended to support identification of drug classes, individual medication ingredients, foods, general substances and environmental entities.
 Value set intensionally defined as a GROUPING made up of:
 Value Set: Medication Drug Class (2.16.840.1.113883.3.88.12.80.18) (NDFRT drug class codes); Value Set: Clinical Drug Ingredient (2.16.840.1.113762.1.4.1010.7) (RxNORM ingredient codes); Value Set: Unique Ingredient Identifier - Complete Set (2.16.840.1.113883.3.88.12.80.20) (UNII ingredient codes); Value Set: Substance Other Than Clinical Drug (2.16.840.1.113762.1.4.1010.9) (SNOMED CT substance codes).
 Value Set Source: <http://www.hl7.org>

Code	Code System	Code System OID	Print Name
18867	RxNorm	urn:oid:2.16.840.1.113883.6.88	benazepril
196500	RxNorm	urn:oid:2.16.840.1.113883.6.88	Coversyl
83515	RxNorm	urn:oid:2.16.840.1.113883.6.88	eprosartan
237057	RxNorm	urn:oid:2.16.840.1.113883.6.88	lepirudin
C24814	NDFRT	urn:oid:2.16.840.1.113883.3.3.26.1.5	Acyclovir
N0000168624	NDFRT	urn:oid:2.16.840.1.113883.3.3.26.1.5	Azacosterol
N0000006690	NDFRT	urn:oid:2.16.840.1.113883.3.3.26.1.5	Soybean Oil
QE1QX6B99R	Unique Ingredient Identifier (UNII)	urn:oid:2.16.840.1.113883.4.9	PEANUT
...			

3.74.1 Allergy - Intolerance Observation (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.7:2014-06-09 (open)]

Table 315: Allergy - Intolerance Observation (V2) Contexts

Contained By:	Contains:
	Author Participation Criticality Observation Reaction Observation (V2) Severity Observation (V2)

This template reflects a discrete observation about a patient's allergy or intolerance. Because it is a discrete observation, it will have a statusCode of "completed". The effectiveTime, also referred to as the "biologically 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 penicillin allergy that developed five years ago, the effectiveTime is five years ago.

The effectiveTime of the Allergy - Intolerance Observation is the definitive indication of whether or not the underlying allergy/intolerance is resolved. If 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".

The agent responsible for an allergy or adverse reaction is not always a manufactured material (for example, food allergies), nor is it necessarily consumed. The following constraints reflect limitations in the base CDA R2 specification, and should be used to represent any type of responsible agent, i.e., use playingEntity classCode = "MMAT" for all agents, manufactured or not.

Table 316: Allergy - Intolerance Observation (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.7:2014-06-09)					
@classCode	1..1	SHALL		1098-7379	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		1098-7380	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..1	MAY		1098-31526	
templateId	1..1	SHALL		1098-7381	
@root	1..1	SHALL		1098-10488	2.16.840.1.113883.10.20.22.4.7
@extension	1..1	SHALL		1098-32526	2014-06-09
id	1..*	SHALL		1098-7382	
code	1..1	SHALL		1098-15947	
@code	1..1	SHALL		1098-15948	ASSERTION
@codeSystem	1..1	SHALL		1098-32153	urn:oid:2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		1098-19084	
@code	1..1	SHALL		1098-19085	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		1098-7387	
low	1..1	SHALL		1098-31538	
high	0..1	MAY		1098-31539	
value	1..1	SHALL	CD	1098-7390	urn:oid:2.16.840.1.113883.3.88.12.3221.6.2 (Allergy and Intolerance Type)
author	0..*	SHOULD		1098-31143	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
participant	1..1	SHALL		1098-7402	
@typeCode	1..1	SHALL		1098-7403	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
participantRole	1..1	SHALL		1098-7404	

@classCode	1..1	SHALL		1098-7405	urn:oid:2.16.840.1.113883.5.110 (RoleClass) = MANU
playingEntity	1..1	SHALL		1098-7406	
@classCode	1..1	SHALL		1098-7407	urn:oid:2.16.840.1.113883.5.41 (EntityClass) = MMAT
code	1..1	SHALL		1098-7419	urn:oid:2.16.840.1.113762.1.4.10.1 (Substance-Reactant for Intolerance)
entryRelationship	0..*	SHOULD		1098-7447	
@typeCode	1..1	SHALL		1098-7907	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = MFST
@inversionInd	1..1	SHALL		1098-7449	true
observation	1..1	SHALL		1098-15955	Reaction Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.2.0.22.4.9:2014-06-09)
entryRelationship	0..1	SHOULD NOT		1098-9961	
@typeCode	1..1	SHALL		1098-9962	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		1098-9964	true
observation	1..1	SHALL		1098-15956	Severity Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.2.0.22.4.8:2014-06-09)
entryRelationship	0..1	SHOULD		1098-32910	
@typeCode	1..1	SHALL		1098-32911	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
@inversionInd	0..1	SHALL		1098-32912	true
observation	1..1	SHALL		1098-32913	Criticality Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.145)

1. Conforms to [Substance or Device Allergy - Intolerance Observation \(V2\) template \(identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.90:2014-06-09\)](#).
2. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-7379).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1098-7380).

4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:1098-31526).
Note: Use negationInd="true" to indicate that the allergy was not observed.
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-7381) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.7"** (CONF:1098-10488).
 - b. **SHALL** contain exactly one [1..1] **@extension="2014-06-09"** (CONF:1098-32526).
6. **SHALL** contain at least one [1..*] **id** (CONF:1098-7382).
7. **SHALL** contain exactly one [1..1] **code** (CONF:1098-15947).
 - a. This code **SHALL** contain exactly one [1..1] **@code="ASSERTION"** Assertion (CONF:1098-15948).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem="2.16.840.1.113883.5.4"** (CodeSystem: ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:1098-32153).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-19084).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:1098-19085).
9. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1098-7387).
Note: If the allergy/intolerance 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'.
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:1098-31538).
Note: The effectiveTime/low (a.k.a. "onset date") asserts when the allergy/intolerance became biologically active.
 - b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:1098-31539).
Note: The effectiveTime/high (a.k.a. "resolution date") asserts when the allergy/intolerance became biologically resolved.
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"**, where the code **SHALL** be selected from ValueSet [Allergy and Intolerance Type](#) urn:oid:2.16.840.1.113883.3.88.12.3221.6.2 **DYNAMIC** (CONF:1098-7390).
Note: The consumable participant points to the precise allergen or substance of intolerance. Because the consumable and the reaction are more clinically relevant than a categorization of the allergy/adverse event type, many systems will simply assign a fixed value here (e.g., "allergy to substance").
11. **SHOULD** contain zero or more [0..*] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1098-31143).
12. **SHALL** contain exactly one [1..1] **participant** (CONF:1098-7402) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="CSM"** Consumable (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90 **STATIC**) (CONF:1098-7403).
 - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:1098-7404).
 - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode="MANU"** Manufactured Product (CodeSystem: RoleClass urn:oid:2.16.840.1.113883.5.110 **STATIC**) (CONF:1098-7405).

- ii. This participantRole **SHALL** contain exactly one [1..1] **playingEntity** (CONF:1098-7406).
 - 1. This playingEntity **SHALL** contain exactly one [1..1] **@classCode="MMAT" Manufactured Material** (CodeSystem: EntityClass urn:oid:2.16.840.1.113883.5.41 **STATIC**) (CONF:1098-7407).
 - 2. This playingEntity **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet Substance-Reactant for Intolerance urn:oid:2.16.840.1.113762.1.4.1010.1 **DYNAMIC** (CONF:1098-7419).
- 13. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:1098-7447) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="MFST" Is Manifestation of** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1098-7907).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true" True** (CONF:1098-7449).
 - c. **SHALL** contain exactly one [1..1] Reaction Observation (V2) (identifier: urn:h17ii:2.16.840.1.113883.10.20.22.4.9:2014-06-09) (CONF:1098-15955).
- 14. **SHOULD NOT** contain zero or one [0..1] **entryRelationship** (CONF:1098-9961) 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:1098-9962).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true" True** (CONF:1098-9964).
 - c. **SHALL** contain exactly one [1..1] Severity Observation (V2) (identifier: urn:h17ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09) (CONF:1098-15956).
- 15. **SHOULD** contain zero or one [0..1] **entryRelationship** (CONF:1098-32910) 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) (CONF:1098-32911).
 - b. **SHALL** contain zero or one [0..1] **@inversionInd="true" True** (CONF:1098-32912).
 - c. **SHALL** contain exactly one [1..1] Criticality Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.145) (CONF:1098-32913).

Figure 141: Allergy - Intolerance Observation (V2) Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- ** Allergy observation ** -->
  <templateId root="2.16.840.1.113883.10.20.22.4.7" extension="2014-06-09" />
  <id root="901db0f8-9355-4794-81cd-fd951ef07917" />
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" />
  <!-- Observation statusCode represents the status of the act of observing -->
  <statusCode code="completed" />
  <effectiveTime>
    <!-- The low value reflects the date of onset of the allergy -->
    <low nullFlavor="UNK" />
    <!-- The high value reflects when the allergy was known to be resolved
        (and will generally be absent) -->
  </effectiveTime>
  <value xsi:type="CD" code="419199007" displayName="Allergy to substance"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT" />
  <author>
    <time value="201010110915-0800" />
    <assignedAuthor>
      <id extension="222223333" root="1.1.1.1.1.1.1.3" />
    </assignedAuthor>
  </author>
  <participant typeCode="CSM">
    <participantRole classCode="MANU">
      <playingEntity classCode="MMAT">
        <code code="2670" displayName="Codeine" codeSystem="2.16.840.1.113883.6.88"
codeSystemName="RxNorm" />
      </playingEntity>
    </participantRole>
  </participant>
  <entryRelationship typeCode="MFST" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      <!-- ** Reaction observation ** -->
      <templateId root="2.16.840.1.113883.10.20.22.4.9" extension="2014-06-09" />
      <id root="38c63dea-1a43-4f84-ab71-1ffd04f6aldd" />
      <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" />
      <text>
        <reference value="#reaction2" />
      </text>
      <statusCode code="completed" />
      <effectiveTime>
        <low nullFlavor="UNK" />
      </effectiveTime>
      <value xsi:type="CD" code="56018004" displayName="Wheezing"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT" />
    </observation>
  </entryRelationship>
  <entryRelationship typeCode="SUBJ" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      <!-- ** Severity observation ** -->
      <templateId root="2.16.840.1.113883.10.20.22.4.8" extension="2014-06-09" />
      <code code="SEV" displayName="Severity Observation"
codeSystem="2.16.840.1.113883.5.4" codeSystemName="ActCode" />
      <text>
        <reference value="#allergyseverity2" />
      </text>
    </observation>
  </entryRelationship>
</observation>
```

```

        <statusCode code="completed" />
        <value xsi:type="CD" code="255604002" displayName="Mild"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT" />
    </observation>
</entryRelationship>
</observation>

```

3.74.2 Medication Adverse Effect (V3)

```

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.43:2016-02-01
(open)]

```

Table 317: Medication Adverse Effect (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Reaction (V2)

This template represents the QDM datatypes: Medication, Adverse Effect and Substance, Adverse Event.

This datatype represents an adverse effect from a medication. A medication adverse effect refers to a condition that occurs when medications or biological substances are administered and the condition is not considered an allergy. Examples of this are: electrolyte imbalances from diuretics administration, infections from immunosuppressant drugs, and tumor development from medications for autoimmune diseases.

Note: There are future plans to better align the medication templates and value sets to meet the needs of substances that are not medications. Suggestions include renaming from "medication" to "substance administration" and changing value set bindings to broader grouping value sets that include RxNorm along with substances from other code systems.

Note: There is work in progress to update the Allergy/Adverse Event Type value set and the value set name and its members are subject to change.

Table 318: Medication Adverse Effect (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.43:2016-02-01)					
@classCode	1..1	SHALL		2228-14110	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-14111	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..0	SHALL NOT		2228-28081	
templateId	1..1	SHALL		2228-14112	
@root	1..1	SHALL		2228-14113	2.16.840.1.113883.10.20.24.3.43
@extension	1..1	SHALL		2228-27030	2016-02-01
value	1..1	SHALL	CD	2228-14134	
@code	1..1	SHALL		2228-14135	419511003
@codeSystem	1..1	SHALL		2228-28554	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
participant	1..1	SHALL		2228-27964	
@typeCode	1..1	SHALL		2228-27968	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
participantRole	1..1	SHALL		2228-27965	
@classCode	1..1	SHALL		2228-27969	urn:oid:2.16.840.1.113883.5.110 (RoleClass) = MANU
playingEntity	1..1	SHALL		2228-27966	
@classCode	1..1	SHALL		2228-27970	urn:oid:2.16.840.1.113883.5.41 (EntityClass) = MMAT
code	1..1	SHALL		2228-27967	
@sdtc:valueSet	1..1	SHALL		2228-27971	
entryRelationship	0..1	SHOULD		2228-14130	
@typeCode	1..1	SHALL		2228-14131	MFST
@inversionInd	1..1	SHALL		2228-14132	true
observation	1..1	SHALL		2228-27124	Reaction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.2

1. Conforms to [Allergy - Intolerance Observation \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.7:2014-06-09).
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-14110).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-14111).
4. **SHALL NOT** contain [0..0] **@negationInd** (CONF:2228-28081).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-14112) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.43" (CONF:2228-14113).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-02-01" (CONF:2228-27030).
6. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:2228-14134).
 - a. This value **SHALL** contain exactly one [1..1] **@code**="419511003" Propensity to adverse reactions to drug (disorder) (CONF:2228-14135).
 - b. This value **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.96" (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:2228-28554).
7. **SHALL** contain exactly one [1..1] **participant** (CONF:2228-27964) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="CSM" Consumable (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:2228-27968).
 - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:2228-27965).
 - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode**="MANU" Manufactured product (CodeSystem: RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:2228-27969).
 - ii. This participantRole **SHALL** contain exactly one [1..1] **playingEntity** (CONF:2228-27966).
 1. This playingEntity **SHALL** contain exactly one [1..1] **@classCode**="MMAT" Manufactured material (CodeSystem: EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:2228-27970).
 2. This playingEntity **SHALL** contain exactly one [1..1] **code** (CONF:2228-27967).
 - a. This code **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:2228-27971).
8. **SHOULD** contain zero or one [0..1] **entryRelationship** (CONF:2228-14130) such that it Note: QDM Attribute: Reaction
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="MFST" (CONF:2228-14131).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd**="true" (CONF:2228-14132).
 - c. **SHALL** contain exactly one [1..1] [Reaction \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.85:2014-12-01) (CONF:2228-27124).

Figure 142: Medication Adverse Effect (V3) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Conforms to C-CDA R2.1 Allergy - Intolerance Observation (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.7" extension="2014-06-09" />
  <!-- Medication Adverse Effect (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.43" extension="2016-02-01" />
  <id root="901db0f8-9355-4794-81cd-fd951efe7817" />
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- The low value reflects the date of onset of the adverse effect -->
    <!-- QDM Attribute: Start Datetime -->
    <low value="20141101" />
    <!-- QDM Attribute: Stop Datetime -->
    <!-- The high value reflects when the adverse effect was known to be resolved (and
will generally be absent) -->
  </effectiveTime>
  <value xsi:type="CD" code="419511003" displayName="Propensity to adverse reactions to
drug (disorder)" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT" />
  <participant typeCode="CSM">
    <participantRole classCode="MANU">
      <playingEntity classCode="MMAT">
        <!-- Medication -->
        <code code="105152" codeSystem="2.16.840.1.113883.6.88"
codeSystemName="RxNorm" displayName="Amoxicillin 60 MG/ML Oral Suspension"
sdct:valueSet="{QDMElementValueSetOID}" />
      </playingEntity>
    </participantRole>
  </participant>
  <!-- QDM Attribute: Reaction -->
  <entryRelationship typeCode="MFST" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Conforms to C-CDA R2.1 Reaction Observation (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.9" extension="2014-06-09" />
      <!-- Reaction (V2) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.85" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</observation>

```

3.74.3 Medication Allergy (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.44:2016-02-01 (open)]

Table 319: Medication Allergy (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Reaction (V2)

This template represents the QDM datatypes: Medication, Allergy, Substance, Allergy, and Immunization, Allergy

A medication allergy is an immunologically mediated reaction that exhibits specificity and recurs on re-exposure to the offending drug.

Note: There are future plans to better align the medication templates and value sets to meet the needs of substances that are not medications. Suggestions include renaming from "medication" to "substance administration" and changing value set bindings to broader grouping value sets that include RxNorm along with substances from other code systems.

Note: There is work in progress to update the Allergy/Adverse Event Type value set and the value set name, and as such, its members are subject to change.

Table 320: Medication Allergy (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.44:2016-02-01)					
@classCode	1..1	SHALL		2228-14136	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-14137	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..0	SHALL NOT		2228-28082	
templateId	1..1	SHALL		2228-14138	
@root	1..1	SHALL		2228-14139	2.16.840.1.113883.10.20.24.3.44
@extension	1..1	SHALL		2228-27031	2016-02-01
value	1..1	SHALL	CD	2228-14159	
@code	1..1	SHALL		2228-14160	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 416098002
participant	1..1	SHALL		2228-27972	
@typeCode	1..1	SHALL		2228-27976	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
participantRole	1..1	SHALL		2228-27973	
@classCode	1..1	SHALL		2228-27977	urn:oid:2.16.840.1.113883.5.110 (RoleClass) = MANU
playingEntity	1..1	SHALL		2228-27974	
@classCode	1..1	SHALL		2228-27978	urn:oid:2.16.840.1.113883.5.41 (EntityClass) = MMAT
code	1..1	SHALL		2228-27975	
@sdtc:valueSet	1..1	SHALL		2228-27979	
entryRelationship	0..1	SHOULD		2228-14155	
@typeCode	1..1	SHALL		2228-14156	MFST
@inversionInd	1..1	SHALL		2228-14157	true
observation	1..1	SHALL		2228-27125	Reaction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.85:2014-12-01)

1. Conforms to [Allergy - Intolerance Observation \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.7:2014-06-09).
2. **SHALL** contain exactly one [1..1] **@classCode="OBS"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-14136).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-14137).
4. **SHALL NOT** contain [0..0] **@negationInd** (CONF:2228-28082).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-14138) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.44"** (CONF:2228-14139).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-27031).
6. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:2228-14159).
 - a. This value **SHALL** contain exactly one [1..1] **@code="416098002"** Drug allergy (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:2228-14160).
7. **SHALL** contain exactly one [1..1] **participant** (CONF:2228-27972) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="CSM"** Consumable (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:2228-27976).
 - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:2228-27973).
 - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode="MANU"** Manufactured product (CodeSystem: RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:2228-27977).
 - ii. This participantRole **SHALL** contain exactly one [1..1] **playingEntity** (CONF:2228-27974).
 1. This playingEntity **SHALL** contain exactly one [1..1] **@classCode="MMAT"** Manufactured material (CodeSystem: EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:2228-27978).
 2. This playingEntity **SHALL** contain exactly one [1..1] **code** (CONF:2228-27975).
 - a. This code **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:2228-27979).
8. **SHOULD** contain zero or one [0..1] **entryRelationship** (CONF:2228-14155) such that it Note: QDM Attribute: Reaction
 - a. **SHALL** contain exactly one [1..1] **@typeCode="MFST"** (CONF:2228-14156).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** (CONF:2228-14157).
 - c. **SHALL** contain exactly one [1..1] [Reaction \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.85:2014-12-01) (CONF:2228-27125).

Figure 143: Medication Allergy (V3) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Conforms to C-CDA R2.1 Allergy - Intolerance Observation (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.7" extension="2014-06-09" />
  <!-- Medication Allergy (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.44" extension="2016-02-01" />
  <id root="901db0f8-9355-4794-81cd-fd951efe7817" />
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- The low value reflects the date of onset of the allergy -->
    <!-- QDM Attribute: Start Datetime -->
    <low value="20151101" />
    <!-- QDM Attribute: Stop Datetime -->
    <!-- The high value reflects when the allergy was known to be resolved (and will
    generally be absent) -->
  </effectiveTime>
  <value xsi:type="CD" code="416098002" displayName="Drug allergy"
  codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT" />
  <participant typeCode="CSM">
    <participantRole classCode="MANU">
      <playingEntity classCode="MMAT">
        <!-- Medication -->
        <code code="105152" codeSystem="2.16.840.1.113883.6.88"
        codeSystemName="RxNorm"
        displayName="Amoxicillin 60 MG/ML Oral Suspension"
        sdtc:valueSet="{QDMElementValueSetOID}" />
      </playingEntity>
    </participantRole>
  </participant>
  <!-- QDM Attribute: Reaction -->
  <entryRelationship typeCode="MFST" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Conforms to C-CDA R2.1 Reaction Observation (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.9" extension="2014-06-09" />
      <!-- Reaction (V2) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.85" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</observation>

```

3.74.4 Medication Intolerance (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.46:2016-02-01 (open)]

Table 321: Medication Intolerance (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Reaction (V2)

This template represents the QDM datatypes: Medication, Intolerance, Substance, Intolerance, and Immunization, Intolerance.

This datatype represents an intolerance to a medication. Medication intolerance is a reaction in specific patients representing a low threshold to the normal pharmacological action of a drug. Intolerance is generally based on patient report and perception of his or her ability to tolerate proper administration of a medication. Medication intolerance is distinct from medication allergy and medication adverse effects.

Note: There are future plans to better align the medication templates and value sets to meet the needs of substances that are not medications. Suggestions include renaming from "medication" to "substance administration" and changing value set bindings to broader grouping value sets that include RxNorm along with substances from other code systems.

Note: There is work in progress to update the Allergy/Adverse Event Type value set and the value set name and its members are subject to change.

Table 322: Medication Intolerance (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.46:2016-02-01)					
@classCode	1..1	SHALL		2228-14086	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-14087	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..0	SHALL NOT		2228-28083	
templateId	1..1	SHALL		2228-14088	
@root	1..1	SHALL		2228-27418	2.16.840.1.113883.10.20.24.3.46
@extension	1..1	SHALL		2228-27032	2016-02-01
value	1..1	SHALL	CD	2228-14162	
@code	1..1	SHALL		2228-27419	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 59037007
participant	1..1	SHALL		2228-27980	
@typeCode	1..1	SHALL		2228-27984	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
participantRole	1..1	SHALL		2228-27981	
@classCode	1..1	SHALL		2228-27985	urn:oid:2.16.840.1.113883.5.110 (RoleClass) = MANU
playingEntity	1..1	SHALL		2228-27982	
@classCode	1..1	SHALL		2228-27986	urn:oid:2.16.840.1.113883.5.41 (EntityClass) = MMAT
code	1..1	SHALL		2228-27983	
@sdtc:valueSet	1..1	SHALL		2228-27987	
entryRelationship	0..1	SHOULD		2228-14106	
@typeCode	1..1	SHALL		2228-14107	MFST
@inversionInd	1..1	SHALL		2228-14108	true
observation	1..1	SHALL		2228-27128	Reaction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.85:2014-12-01)

1. Conforms to [Allergy - Intolerance Observation \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.7:2014-06-09).
2. **SHALL** contain exactly one [1..1] **@classCode="OBS"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-14086).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-14087).
4. **SHALL NOT** contain [0..0] **@negationInd** (CONF:2228-28083).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-14088) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.46"** (CONF:2228-27418).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-27032).
6. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:2228-14162).
 - a. This value **SHALL** contain exactly one [1..1] **@code="59037007"** Drug intolerance (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:2228-27419).
7. **SHALL** contain exactly one [1..1] **participant** (CONF:2228-27980) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="CSM"** Consumable (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:2228-27984).
 - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:2228-27981).
 - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode="MANU"** Manufactured product (CodeSystem: RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:2228-27985).
 - ii. This participantRole **SHALL** contain exactly one [1..1] **playingEntity** (CONF:2228-27982).
 1. This playingEntity **SHALL** contain exactly one [1..1] **@classCode="MMAT"** Manufactured material (CodeSystem: EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:2228-27986).
 2. This playingEntity **SHALL** contain exactly one [1..1] **code** (CONF:2228-27983).
 - a. This code **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:2228-27987).
8. **SHOULD** contain zero or one [0..1] **entryRelationship** (CONF:2228-14106) such that it Note: QDM Attribute: Reaction
 - a. **SHALL** contain exactly one [1..1] **@typeCode="MFST"** (CONF:2228-14107).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** (CONF:2228-14108).
 - c. **SHALL** contain exactly one [1..1] [Reaction \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.85:2014-12-01) (CONF:2228-27128).

Figure 144: Medication Intolerance (V3) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Conforms to C-CDA R2.1 Allergy - Intolerance Observation (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.7" extension="2014-06-09" />
  <!-- Medication Intolerance (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.46" extension="2016-02-01" />
  <id root="901db0f8-9355-4794-81cd-fd951efe7817" />
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- The low value reflects the date of onset of the intolerance -->
    <!-- QDM Attribute: Start Datetime -->
    <low value="20151101" />
    <!-- QDM Attribute: Stop Datetime -->
    <!-- The high value reflects when the intolerance was known to be resolved
    (and will generally be absent) -->
  </effectiveTime>
  <value xsi:type="CD" code="59037007" displayName="Drug intolerance"
  codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT" />
  <participant typeCode="CSM">
    <participantRole classCode="MANU">
      <playingEntity classCode="MMAT">
        <!-- Medication -->
        <code code="105152" codeSystem="2.16.840.1.113883.6.88"
        codeSystemName="RxNorm" displayName="Amoxicillin 60 MG/ML Oral Suspension"
sdtc:valueSet="{QDMElementValueSetOID}" />
      </playingEntity>
    </participantRole>
  </participant>
  <!-- QDM Attribute: Reaction -->
  <entryRelationship typeCode="MFST" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Conforms to C-CDA R2.1 Reaction Observation (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.9" extension="2015-06-09" />
      <!-- Reaction (V2) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.85" extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</observation>

```

3.74.5 Device Adverse Event (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.5:2016-02-01 (open)]

Table 323: Device Adverse Event (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Reaction (V2)

This template represents the QDM datatype: Device, Adverse Event.

This datatype indicates an unexpected or dangerous reaction to a device. Serious adverse events are those that are fatal, life-threatening, permanently or significantly disabling, require or prolong hospitalization, require intervention to prevent permanent impairment or damage, or that require specific treatment, care plan, or encounter. A time/date stamp is required as are notations indicating whether item is patient reported and/or provider verified.

Table 324: Device Adverse Event (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.5:2016-02-01)					
@classCode	1..1	SHALL		2228-28048	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-28047	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..0	SHALL NOT		2228-28049	
templateId	1..1	SHALL		2228-12106	
@root	1..1	SHALL		2228-26942	2.16.840.1.113883.10.20.24.3.5
@extension	1..1	SHALL		2228-27029	2016-02-01
value	1..1	SHALL	CD	2228-12111	
@code	1..1	SHALL		2228-12189	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 420134006
participant	1..1	SHALL		2228-12112	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType)
@typeCode	1..1	SHALL		2228-12113	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PRD
participantRole	1..1	SHALL		2228-12114	
@classCode	1..1	SHALL		2228-12115	urn:oid:2.16.840.1.113883.5.110 (RoleClass) = MANU
playingDevice	1..1	SHALL		2228-12116	
@classCode	1..1	SHALL		2228-12117	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType)
code	1..1	SHALL		2228-12118	
@sdtc:valueSet	1..1	SHALL		2228-27582	
entryRelationship	1..1	SHALL		2228-12119	
@typeCode	1..1	SHALL		2228-12122	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = MFST
@inversionInd	1..1	SHALL		2228-12123	true
observation	1..1	SHALL		2228-27123	Reaction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.85:2014-12-01)

1. Conforms to [Substance or Device Allergy - Intolerance Observation \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.90:2014-06-09).
2. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28048).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-28047).
4. **SHALL NOT** contain [0..0] **@negationInd** (CONF:2228-28049).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-12106) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.5"** (CONF:2228-26942).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-27029).
6. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:2228-12111).
 - a. This value **SHALL** contain exactly one [1..1] **@code="420134006"** propensity to adverse reactions, which **SHALL** be selected from CodeSystem SNOMED CT (urn:oid:2.16.840.1.113883.6.96) (CONF:2228-12189).
7. **SHALL** contain exactly one [1..1] **participant** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90 **STATIC**) (CONF:2228-12112) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="PRD"** product (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:2228-12113).
 - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:2228-12114).
 - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode="MANU"** manufactured product (CodeSystem: RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:2228-12115).
 - ii. This participantRole **SHALL** contain exactly one [1..1] **playingDevice** (CONF:2228-12116).
 1. This playingDevice **SHALL** contain exactly one [1..1] **@classCode** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90 **STATIC**) (CONF:2228-12117).
 2. This playingDevice **SHALL** contain exactly one [1..1] **code** (CONF:2228-12118).
 - a. This code **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:2228-27582).
8. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:2228-12119) such that it
 Note: QDM Attribute: Reaction
 - a. **SHALL** contain exactly one [1..1] **@typeCode="MFST"** is manifestation of (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-12122).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** (CONF:2228-12123).
 - c. **SHALL** contain exactly one [1..1] [Reaction \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.85:2014-12-01) (CONF:2228-27123).

Figure 145: Device Adverse Event (V3) Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Conforms to C-CDA R2.1 Substance or Device Allergy - Intolerance Observation (V2) -->
  <!--
  <templateId root="2.16.840.1.113883.10.20.24.3.90" extension="2014-06-09" />
  <!-- Device Adverse Event (V3) templateId -->
  <templateId root="2.16.840.1.113883.10.20.24.3.5" extension="2016-02-01" />
  <id root="e5f26626-b63a-4b4a-9d5a-8a90215ddd5d" />
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start Datetime -->
    <low value="20110101" />
    <!-- QDM Attribute: Stop Datetime -->
    <high value="20160101" />
  </effectiveTime>
  <value xsi:type="CD" code="420134006" displayName="propensity to adverse reactions"
codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED-CT" />
  <participant typeCode="PRD">
    <participantRole classCode="MANU">
      <playingDevice classCode="DEV">
        <!-- Device -->
        <code code="69805005" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT"
          displayName="Insulin pump, device (physical object)"
sdtc:valueSet="{QDMElementValueSetOID}" />
      </playingDevice>
    </participantRole>
  </participant>
  <!-- QDM Attribute: Reaction -->
  <entryRelationship typeCode="MFST" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Conforms to C-CDA R2.1 Reaction Observation (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.9" extension="2014-06-09" />
      <!-- Reaction (V2) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.85" extension="2014-12-01" />
      <id root="80aed311-8af7-401f-ab7f-727260d2b033" />
      <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="ActCode"
        displayName="Assertion" />
      <statusCode code="completed" />
      <effectiveTime>
        <low value="20110215" />
        <high value="20110415"/>
      </effectiveTime>
      <value xsi:type="CD" code="404684003" displayName="Nausea"
sdtc:valueSet="{QDMElementValueSetOID}" />
    </observation>
  </entryRelationship>
</observation>
```

3.74.6 Device Allergy (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.6:2016-02-01
(open)]

Table 325: Device Allergy (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Reaction (V2)

This template represents the QDM datatype: Device, Allergy.

This datatype represents an immunologically mediated reaction that exhibits specificity and recurrence on re-exposure to the offending device (e.g., implanted device). A time/date stamp is required as are notations indicating whether the item is patient reported and/or provider verified.

Note: There is work in progress to update the Allergy/Adverse Event Type value set and the value set name and its members are subject to change.

Table 326: Device Allergy (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.6:2016-02-01)					
@classCode	1..1	SHALL		2228-28437	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-28438	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..0	SHALL NOT		2228-28439	
templateId	1..1	SHALL		2228-12134	
@root	1..1	SHALL		2228-26941	2.16.840.1.113883.10.20.24.3.6
@extension	1..1	SHALL		2228-27033	2016-02-01
value	1..1	SHALL	CD	2228-12140	
@code	1..1	SHALL		2228-12188	419199007
@codeSystem	1..1	SHALL		2228-28440	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT)
participant	1..1	SHALL		2228-12141	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType)
@typeCode	1..1	SHALL		2228-12142	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PRD
participantRole	1..1	SHALL		2228-12143	
@classCode	1..1	SHALL		2228-12144	urn:oid:2.16.840.1.113883.5.110 (RoleClass) = MANU
playingDevice	1..1	SHALL		2228-12145	
@classCode	1..1	SHALL		2228-12146	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV
code	1..1	SHALL		2228-12147	
@sdtc:valueSet	1..1	SHALL		2228-27583	
entryRelationship	1..1	SHALL		2228-12148	
@typeCode	1..1	SHALL		2228-12149	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = MFST
@inversionInd	1..1	SHALL		2228-12150	true
observation	1..1	SHALL		2228-27127	Reaction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.2

1. Conforms to [Substance or Device Allergy - Intolerance Observation \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.90:2014-06-09).
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28437).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-28438).
4. **SHALL NOT** contain [0..0] **@negationInd** (CONF:2228-28439).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-12134) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.6" (CONF:2228-26941).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-02-01" (CONF:2228-27033).
6. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:2228-12140).
 - a. This value **SHALL** contain exactly one [1..1] **@code**="419199007" allergy to substance (CONF:2228-12188).
 - b. This value **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:2228-28440).
7. **SHALL** contain exactly one [1..1] **participant** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90 **STATIC**) (CONF:2228-12141) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="PRD" product (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:2228-12142).
 - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:2228-12143).
 - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode**="MANU" manufactured product (CodeSystem: RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:2228-12144).
 - ii. This participantRole **SHALL** contain exactly one [1..1] **playingDevice** (CONF:2228-12145).
 1. This playingDevice **SHALL** contain exactly one [1..1] **@classCode**="DEV" device (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:2228-12146).
 2. This playingDevice **SHALL** contain exactly one [1..1] **code** (CONF:2228-12147).
 - a. This code **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:2228-27583).
8. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:2228-12148) such that it Note: QDM Attribute: Reaction
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="MFST" is manifestation of (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-12149).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd**="true" (CONF:2228-12150).
 - c. **SHALL** contain exactly one [1..1] [Reaction \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.85:2014-12-01) (CONF:2228-27127).

Figure 146: Device Allergy (V3) Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Conforms to C-CDA R2.1 Substance or Device Allergy - Intolerance Observation (V2)
-->
  <templateId root="2.16.840.1.113883.10.20.24.3.90" extension="2014-06-09" />
  <!-- Device Allergy (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.6" extension="2016-02-01" />
  <id root="68c53659-2058-47c2-9e80-de5e4aafdaf8" />
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM attribute: Start Datetime -->
    <low value="201501211640" />
    <!-- QDM attribute: Stop Datetime -->
    <high value="201501211643" />
  </effectiveTime>
  <value xsi:type="CD"
code="419199007"
displayName="allergy to substance"
codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED-CT" />
  <participant typeCode="PRD">
    <participantRole classCode="MANU">
      <playingDevice classCode="DEV">
        <!-- Device -->
        <code code="401608003"
codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED-CT"
displayName="Suprapubic catheter (physical object)"
sdct:valueSet="{ $QDMElementValueSetOID }" />
        </playingDevice>
      </participantRole>
    </participant>
  <!-- QDM Attribute: Reaction -->
  <entryRelationship typeCode="MFST" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Conforms to C-CDA R2.1 Reaction Observation (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.9"
extension="2014-06-09" />
      <!-- Reaction (V2) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.85"
extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</observation>
```

3.74.7 Device Intolerance (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.8:2016-02-01
(open)]

Table 327: Device Intolerance (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Reaction (V2)

This template represents the QDM datatype: Device, Intolerance.

This datatype represents a reaction in specific patients representing a low threshold to the normal actions of a device. Intolerance is generally based on patient report and perception of his or her ability to tolerate a device that was properly applied. A time/date stamp is required as are notations indicating whether the item is patient reported and/or provider verified.

Note: There is work in progress to update the Allergy/Adverse Event Type value set and the value set name and its members are subject to change.

Table 328: Device Intolerance (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.8:2016-02-01)					
@classCode	1..1	SHALL		2228-28053	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		2228-28054	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..0	SHALL NOT		2228-28055	
templateId	1..1	SHALL		2228-12162	
@root	1..1	SHALL		2228-26940	2.16.840.1.113883.10.20.24.3.8
@extension	1..1	SHALL		2228-27034	2016-02-01
value	1..1	SHALL	CD	2228-12342	
@code	1..1	SHALL		2228-26936	420134006
@codeSystem	1..1	SHALL		2228-26937	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
participant	1..1	SHALL		2228-12170	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType)
@typeCode	1..1	SHALL		2228-12171	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PRD
participantRole	1..1	SHALL		2228-12172	
@classCode	1..1	SHALL		2228-12173	urn:oid:2.16.840.1.113883.5.110 (RoleClass) = MANU
playingDevice	1..1	SHALL		2228-12174	
@classCode	1..1	SHALL		2228-12175	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV
code	1..1	SHALL		2228-12176	
@sdtc:valueSet	1..1	SHALL		2228-27585	
entryRelationship	0..*	MAY		2228-16347	
@inversionInd	1..1	SHALL		2228-16348	true
typeId	1..1	SHALL	x_ActRelationshipEntryRela	2228-16349	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = MFST

			tionshi p		
observation	1..1	SHALL		2228-27126	Reaction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.85:2014-12-01)

1. Conforms to [Substance or Device Allergy - Intolerance Observation \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.90:2014-06-09).
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28053).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-28054).
4. **SHALL NOT** contain [0..0] **@negationInd** (CONF:2228-28055).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-12162) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.8" (CONF:2228-26940).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-02-01" (CONF:2228-27034).
6. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:2228-12342).
 - a. This value **SHALL** contain exactly one [1..1] **@code**="420134006" propensity to adverse reactions (CONF:2228-26936).
 - b. This value **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.96" (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:2228-26937).
7. **SHALL** contain exactly one [1..1] **participant** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90 **STATIC**) (CONF:2228-12170) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="PRD" product (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:2228-12171).
 - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:2228-12172).
 - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode**="MANU" manufactured product (CodeSystem: RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:2228-12173).
 - ii. This participantRole **SHALL** contain exactly one [1..1] **playingDevice** (CONF:2228-12174).
 1. This playingDevice **SHALL** contain exactly one [1..1] **@classCode**="DEV" device (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:2228-12175).
 2. This playingDevice **SHALL** contain exactly one [1..1] **code** (CONF:2228-12176).
 - a. This code **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:2228-27585).
8. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:2228-16347) such that it
 Note: QDM Attribute: Reaction
 - a. **SHALL** contain exactly one [1..1] **@inversionInd**="true" True (CONF:2228-16348).

- b. **SHALL** contain exactly one [1..1] **typeId="MFST"** Is manifestation of (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-16349).
- c. **SHALL** contain exactly one [1..1] **Reaction (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.85:2014-12-01) (CONF:2228-27126).

Figure 147: Device Intolerance (V3) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Conforms to C-CDA R2.1 Substance or Device Allergy -
  Intolerance Observation (V2) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.90" extension="2014-06-09" />
  <!-- Device Intolerance (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.8" extension="2016-02-01" />
  <id root="aab8571c-db69-4239-9d36-657c85daae" />
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM attribute: Start Datetime -->
    <low value="201501211640" />
    <!-- QDM attribute: Stop Datetime -->
    <high value="201501211643" />
  </effectiveTime>
  <value xsi:type="CD"
  code="420134006"
  displayName="propensity to adverse reactions"
  codeSystem="2.16.840.1.113883.6.96"
  codeSystemName="SNOMED-CT" />
  <participant typeCode="PRD">
    <participantRole classCode="MANU">
      <playingDevice classCode="DEV">
        <!-- Device -->
        <code code="401608003"
        codeSystem="2.16.840.1.113883.6.96"
        codeSystemName="SNOMED-CT"
        displayName="Suprapubic catheter (physical object)"
        sdtc:valueSet="{QDMElementValueSetOID}"/>
        </playingDevice>
      </participantRole>
    </participant>
  <!-- QDM Attribute: Reaction -->
  <entryRelationship typeCode="MFST" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Conforms to C-CDA R2.1 Reaction Observation (V2) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.9" extension="2014-06-09" />
      <!-- Reaction (V2) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.85"
      extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</observation>

```

3.75 Target Outcome

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.119:2014-12-01 (open)]

Table 329: Target Outcome Contexts

Contained By:	Contains:
Care Goal (V3) (optional)	

This template represents the QDM attribute: Target Outcome.

This attribute is the outcome that was expected and represents the met Care Goal.

Table 330: Target Outcome Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.119:2014-12-01)					
@classCode	1..1	SHALL		1140-28033	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		1140-28034	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		1140-28025	
@root	1..1	SHALL		1140-28028	2.16.840.1.113883.10.20.24.3.119
@extension	1..1	SHALL		1140-28029	2014-12-01
id	1..*	SHALL		1140-28035	
code	1..1	SHALL		1140-28026	urn:oid:2.16.840.1.113883.6.1 (LOINC)
@sdct:valueSet	0..1	SHOULD		1140-28390	
value	1..1	SHALL		1140-28027	

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:1140-28033).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:1140-28034).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1140-28025) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.119" (CONF:1140-28028).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1140-28029).
4. **SHALL** contain at least one [1..*] **id** (CONF:1140-28035).

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:1140-28026).
 - a. This code **SHOULD** contain zero or one [0..1] **@sdtc:valueSet** (CONF:1140-28390).
6. **SHALL** contain exactly one [1..1] **value** (CONF:1140-28027).

Figure 148: Target Outcome Example

```

<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.24.3.119"
    extension="2014-12-01" />
  <id root="3a4aa411-78b9-484b-a0f1-33f1cf49b4ad" />
  <code code="29463-7"
    displayName="Body weight"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    sdtc:valueSet="2.16.840.1.113883.3.464.1003.121.12.1015" />
  <value xsi:type="PQ" unit="kg" value="65" />
</observation>

```

3.76 Transfer From (V3)

[encounter: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.81:2016-02-01 (open)]

Table 331: Transfer From (V3) Contexts

Contained By:	Contains:
Transfer From Act (required)	

This template along with the Transfer From Encounter Act template represent the QDM datatype: Transfer From.

Transfer of care refers to the different locations or settings a patient is released to, or received from, in order to ensure the coordination and continuity of healthcare. Transfer From specifies the setting from which a patient is received (e.g., home, acute care hospital, skilled nursing).

Table 332: Transfer From (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
encounter (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.81:2016-02-01)					
@classCode	1..1	SHALL		2228-28306	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		2228-28307	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		2228-13189	
@root	1..1	SHALL		2228-13190	2.16.840.1.113883.10.20.24.3.81
@extension	1..1	SHALL		2228-28308	2016-02-01
id	1..*	SHALL		2228-28309	
code	1..1	SHALL		2228-28302	
@code	1..1	SHALL		2228-28310	77305-1
@codeSystem	1..1	SHALL		2228-28311	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		2228-28303	
@code	1..1	SHALL		2228-28312	urn:oid:2.16.840.1.113883.5.14 (ActStatus) = completed
participant	1..1	SHALL		2228-28304	
@typeCode	1..1	SHALL		2228-28313	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = ORG
time	1..1	SHALL		2228-28305	
low	1..1	SHALL		2228-28314	
high	0..1	MAY		2228-28315	
participantRole	1..1	SHALL		2228-28316	
@classCode	1..1	SHALL		2228-28320	urn:oid:2.16.840.1.113883.5.110 (RoleClass) = LOCE
code	1..1	SHALL		2228-28317	
@sdct:valueSet	1..1	SHALL		2228-28321	

1. **SHALL** contain exactly one [1..1] **@classCode="ENC"** Encounter (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28306).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-28307).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-13189) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.81"** (CONF:2228-13190).
 - b. **SHALL** contain exactly one [1..1] **@extension="2016-02-01"** (CONF:2228-28308).
4. **SHALL** contain at least one [1..*] **id** (CONF:2228-28309).
5. **SHALL** contain exactly one [1..1] **code** (CONF:2228-28302).
 - a. This code **SHALL** contain exactly one [1..1] **@code="77305-1"** Transferred from (CONF:2228-28310).
 - 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:2228-28311).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:2228-28303).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:2228-28312).
7. **SHALL** contain exactly one [1..1] **participant** (CONF:2228-28304) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="ORG"** Origin (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:2228-28313).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:2228-28305).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:2228-28314).
Note: QDM Attribute: Start Datetime
 - ii. This time **MAY** contain zero or one [0..1] **high** (CONF:2228-28315).
Note: QDM Attribute: End Datetime
 - c. **SHALL** contain exactly one [1..1] **participantRole** (CONF:2228-28316).
 - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode="LOCE"** Located entity (CodeSystem: RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:2228-28320).
 - ii. This participantRole **SHALL** contain exactly one [1..1] **code** (CONF:2228-28317).
 1. This code **SHALL** contain exactly one [1..1] **@sdct:valueSet** (CONF:2228-28321).
8. This template **SHALL** be contained by a Transfer From Act (CONF:2228-28663).

Figure 149: Transfer From (V3) Example

```

<!-- Must be contained in the Transfer From Act template to represent the Transfer, From
QDM data type -->
<encounter classCode="ENC" moodCode="EVN">
  <!-- Transfer From (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.81"
    extension="2016-02-01" />
  <id root="49d75f61-0dec-4972-9a51-e2490b18c772" />
  <code code="77305-1"
    codeSystem="2.16.840.1.113883.6.1"
    displayName="Transferred from"
    codeSystemName="LOINC" />
  <statusCode code="completed" />
  <participant typeCode="ORG">
    <time>
      <!-- QDM Attribute: Start Datetime -->
      <low value="201511041030" />
      <!-- QDM Attribute: Start Datetime -->
      <high value="201511041030" />
    </time>
    <participantRole classCode="LOCE">
      <!-- Transfer from location -->
      <code code="309911002" codeSystem="2.16.840.1.113883.6.96"
        codeSystemName="SNOMED CT"
        displayName="Respiratory intensive care unit (environment)"
        sdtc:valueSet="{ $QDMElementValueSetOID }" />
    </participantRole>
  </participant>
</encounter>

```

3.77 Transfer From Act

[act: identifier urn:oid:2.16.840.1.113883.10.20.24.3.141 (open)]

Table 333: Transfer From Act Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Transfer From (V3)

This template, along with the contained Transfer From (V3) template, represents the QDM datatype: Transfer From.

The Transfer From template itself does not currently support the negationInd attribute. Adding an act wrapper to the Transfer From template allows Transfer From to be negated.

Transfer of care refers to the different locations or settings a patient is released to, or received from, in order to ensure the coordination and continuity of healthcare. Transfer From specifies the setting from which a patient is received (e.g., home, acute care hospital, skilled nursing).

Table 334: Transfer From Act Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.141)					
@classCode	1..1	SHALL		2228-28412	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		2228-28413	urn:oid:2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..1	MAY		2228-28431	
templateId	1..1	SHALL		2228-28410	
@root	1..1	SHALL		2228-28414	2.16.840.1.113883.10.20.24.3.141
id	1..*	SHALL		2228-28415	
code	1..1	SHALL		2228-28411	
@code	1..1	SHALL		2228-28416	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ENC
entryRelationship	1..1	SHALL		2228-28417	
@typeCode	1..1	SHALL		2228-28418	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
encounter	1..1	SHALL		2228-28419	Transfer From (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.81:2016-02-01)

1. **SHALL** contain exactly one [1..1] **@classCode="ACT"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28412).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-28413).
3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28431).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-28410).
 - a. This templateId **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.141"** (CONF:2228-28414).
5. **SHALL** contain at least one [1..*] **id** (CONF:2228-28415).
6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-28411).
 - a. This code **SHALL** contain exactly one [1..1] **@code="ENC"** encounter (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28416).
7. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:2228-28417) 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) (CONF:2228-28418).
- b. **SHALL** contain exactly one [1..1] Transfer From (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.81:2016-02-01) (CONF:2228-28419).

Figure 150: Transfer From Act Example

```

<!-- Must be contained in the Transfer From Act template to represent the Transfer, From
QDM data type -->
<act classCode="ACT" moodCode="EVN">
  <!-- Transfer From Act -->
  <templateId root="2.16.840.1.113883.10.20.24.3.141"/>
  <id root="ec8a6ff8-ed4b-4f7e-82c3-e98e58b45de7" />
  <code code="ENC" codeSystem="2.16.840.1.113883.5.6" displayName="Encounter"
codeSystemName="ActClass"/>
  <entryRelationship typeCode="SUBJ">
    <encounter classCode="ENC" moodCode="EVN">
      <!-- Transfer From (V3) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.81"
extension="2016-02-01" />
      <id root="49d75f61-0dec-4972-9a51-e2490b18c772" />
      <code code="77305-1"
codeSystem="2.16.840.1.113883.6.1"
displayName="Transferred from"
codeSystemName="LOINC" />
      <statusCode code="completed" />
      <participant typeCode="ORG">
        <time>
          <!-- QDM Attribute: Start Datetime -->
          <low value="201511041030" />
          <!-- QDM Attribute: Start Datetime -->
          <high value="201511041030" />
        </time>
        <participantRole classCode="LOCE">
          <!-- Transfer from location -->
          <code code="309911002" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT"
displayName="Respiratory intensive care unit (environment)"
sdctc:valueSet="{ $QDMElementValueSetOID}" />
        </participantRole>
      </participant>
    </encounter>
  </entryRelationship>
</act>

```

3.78 Transfer To (V3)

[encounter: identifier urn:h17ii:2.16.840.1.113883.10.20.24.3.82:2016-02-01
(open)]

Table 335: Transfer To (V3) Contexts

Contained By:	Contains:
Transfer To Act (required)	

This template along with the Transfer To Encounter Act template represent the QDM datatype: Transfer To.

Transfer of care refers to the different locations or settings a patient is released to, or received from, in order to ensure the coordination and continuity of healthcare. Transfer To specifies the setting the patient is released to (e.g., home, acute care hospital, skilled nursing).

Table 336: Transfer To (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
encounter (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.82:2016-02-01)					
@classCode	1..1	SHALL		2228-28358	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ENC
templateId	1..1	SHALL		2228-13182	
@root	1..1	SHALL		2228-13183	2.16.840.1.113883.10.20.24.3.82
@extension	0..1	MAY		2228-28359	2016-02-01
id	1..*	SHALL		2228-28360	
code	1..1	SHALL		2228-28352	
@code	1..1	SHALL		2228-28361	77306-9
@codeSystem	0..1	MAY		2228-28362	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		2228-28353	
@code	0..1	MAY		2228-28363	completed
participant	1..1	SHALL		2228-28354	
@typeCode	1..1	SHALL		2228-28364	DST
time	1..1	SHALL		2228-28355	
low	1..1	SHALL		2228-28365	
high	0..1	MAY		2228-28366	

1. **SHALL** contain exactly one [1..1] **@classCode**="ENC" Encounter (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28358).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-13182) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.82" (CONF:2228-13183).
 - b. **MAY** contain zero or one [0..1] **@extension**="2016-02-01" (CONF:2228-28359).
3. **SHALL** contain at least one [1..*] **id** (CONF:2228-28360).
4. **SHALL** contain exactly one [1..1] **code** (CONF:2228-28352).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="77306-9" Discharge disposition (CONF:2228-28361).

- b. This code **MAY** contain zero or one [0..1] @codeSystem="2.16.840.1.113883.6.1" (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:2228-28362).
- 5. **SHALL** contain exactly one [1..1] statusCode (CONF:2228-28353).
 - a. This statusCode **MAY** contain zero or one [0..1] @code="completed" Completed (CONF:2228-28363).
- 6. **SHALL** contain exactly one [1..1] participant (CONF:2228-28354) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="DST" Destination (CONF:2228-28364).
 - b. **SHALL** contain exactly one [1..1] time (CONF:2228-28355).
 - i. This time **SHALL** contain exactly one [1..1] low (CONF:2228-28365).
Note: QDM Attribute: Start Datetime
 - ii. This time **MAY** contain zero or one [0..1] high (CONF:2228-28366).
Note: QDM Attribute: End Datetime
- 7. This template **SHALL** be contained by a Transfer To Act (CONF:2228-28664).

Figure 151: Transfer To (V3) Example

```

<!-- Must be contained in the Transfer To Act template to represent the Transfer, To QDM
data type -->
<encounter classCode="ENC" moodCode="EVN">
  <!-- Transfer To (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.82"
    extension="2016-02-01" />
  <id root="49d75f61-0dec-4972-9a51-e2490b18c772" />
  <code code="77306-9"
    codeSystem="2.16.840.1.113883.6.1"
    displayName="Discharge disposition"
    codeSystemName="LOINC" />
  <statusCode code="completed" />
  <participant typeCode="DST">
    <time>
      <!-- QDM Attribute: Start Datetime -->
      <low value="201511041030" />
      <!-- QDM Attribute: Start Datetime -->
      <high value="201511041030" />
    </time>
    <participantRole classCode="LOCE">
      <!-- Transfer to location -->
      <code code="309911002"
        codeSystem="2.16.840.1.113883.6.96"
        codeSystemName="SNOMED CT"
        displayName="Respiratory intensive care unit (environment)"
        sdtc:valueSet="{QDMElementValueSetOID}" />
    </participantRole>
  </participant>
</encounter>

```

3.79 Transfer To Act

[act: identifier urn:oid:2.16.840.1.113883.10.20.24.3.142 (open)]

Table 337: Transfer To Act Contexts

Contained By:	Contains:
Patient Data Section QDM (V4) (optional)	Transfer To (V3)

This template, along with its contained Transfer To (V3) template, represents the QDM datatype: Transfer To.

The Transfer To template itself does not currently support the negationInd attribute. Adding an act wrapper to the Transfer To template allows to negated Transfer To.

Transfer of care refers to the different locations or settings a patient is released to, or received from, in order to ensure the coordination and continuity of healthcare. Transfer To specifies the setting the patient is released to (e.g., home, acute care hospital, skilled nursing).

Table 338: Transfer To Act Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.142)					
@classCode	1..1	SHALL		2228-28426	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		2228-28427	urn:oid:2.16.840.1.113883.5.100 1 (ActMood) = EVN
@negationInd	0..1	MAY		2228-28430	
templateId	1..1	SHALL		2228-28421	
@root	1..1	SHALL		2228-28424	2.16.840.1.113883.10.20.24.3.14 2
id	1..*	SHALL		2228-28428	
code	1..1	SHALL		2228-28422	
@code	1..1	SHALL		2228-28425	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ENC
entryRelationship	1..1	SHALL		2228-28420	
@typeCode	1..1	SHALL		2228-28429	urn:oid:2.16.840.1.113883.5.100 2 (HL7ActRelationshipType) = SUBJ
encounter	1..1	SHALL		2228-28423	Transfer To (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.82:2016-02-01

1. **SHALL** contain exactly one [1..1] **@classCode="ACT"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28426).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:2228-28427).
3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:2228-28430).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:2228-28421).
 - a. This templateId **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.142"** (CONF:2228-28424).
5. **SHALL** contain at least one [1..*] **id** (CONF:2228-28428).
6. **SHALL** contain exactly one [1..1] **code** (CONF:2228-28422).
 - a. This code **SHALL** contain exactly one [1..1] **@code="ENC"** encounter (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:2228-28425).
7. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:2228-28420) 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) (CONF:2228-28429).
 - b. **SHALL** contain exactly one [1..1] **Transfer To (V3)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.82:2016-02-01) (CONF:2228-28423).

Figure 152: Transfer To Act Example

```
<act classCode="ACT" moodCode="EVN">
  <!-- Transfer To Act -->
  <templateId root="2.16.840.1.113883.10.20.24.3.142"/>
  <id root="ec8a6ff8-ed4b-4f7e-82c3-e98e58b45de7" />
  <code code="ENC" codeSystem="2.16.840.1.113883.5.6" displayName="Encounter"
codeSystemName="ActClass"/>
  <entryRelationship typeCode="SUBJ">
    <encounter classCode="ENC" moodCode="EVN">
      <!-- Transfer To (V3) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.82"
extension="2016-02-01" />
      <id root="49d75f61-0dec-4972-9a51-e2490b18c772" />
      <code code="77306-9"
codeSystem="2.16.840.1.113883.6.1"
displayName="Discharge disposition"
codeSystemName="LOINC" />
      <statusCode code="completed" />
      <participant typeCode="DST">
        <time>
          <!-- QDM Attribute: Start Datetime -->
          <low value="201511041030" />
          <!-- QDM Attribute: Start Datetime -->
          <high value="201511041030" />
        </time>
        <participantRole classCode="LOCE">
          <!-- Transfer to location -->
          <code code="309911002"
codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT"
displayName="Respiratory intensive care unit (environment)"
sdct:valueSet="{ $QDMElementValueSetOID}" />
        </participantRole>
      </participant>
    </encounter>
  </entryRelationship>
</act>
```

4 SUBENTRY TEMPLATES

4.1 Facility Location

[participant: identifier urn:oid:2.16.840.1.113883.10.20.24.3.100 (open)]

Table 339: Facility Location Contexts

Contained By:	Contains:
Diagnostic Study Performed (V3) (optional) Encounter Active (V3) (optional) Encounter Performed (V3) (optional)	

This clinical statement represents the location where an act, observation or procedure took place.

Table 340: Facility Location Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
participant (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.100)					
@typeCode	1..1	SHALL		67-13374	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC
templateId	1..1	SHALL		67-13375	
@root	1..1	SHALL		67-13376	2.16.840.1.113883.10.20.24.3.100
time	1..1	SHALL		67-13371	
low	1..1	SHALL		67-13384	
high	1..1	SHALL		67-13385	
participantRole	1..1	SHALL		67-13372	
@classCode	1..1	SHALL		67-13373	urn:oid:2.16.840.1.113883.5.110 (RoleClass) = SDLOC
code	1..1	SHALL		67-13378	
addr	0..*	SHOULD		67-13379	
telecom	0..*	SHOULD		67-13380	
playingEntity	0..1	MAY		67-13381	
@classCode	1..1	SHALL		67-13382	urn:oid:2.16.840.1.113883.5.41 (EntityClass) = PLC
name	0..1	MAY		67-13383	

1. **SHALL** contain exactly one [1..1] **@typeCode**="LOC" location (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90 **STATIC**) (CONF:67-13374).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:67-13375) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.100" (CONF:67-13376).
3. **SHALL** contain exactly one [1..1] **time** (CONF:67-13371).
 - a. This time **SHALL** contain exactly one [1..1] **low** (CONF:67-13384).
 - b. This time **SHALL** contain exactly one [1..1] **high** (CONF:67-13385).
4. **SHALL** contain exactly one [1..1] **participantRole** (CONF:67-13372).
 - a. This participantRole **SHALL** contain exactly one [1..1] **@classCode**="SDLOC" service delivery location (CodeSystem: RoleClass urn:oid:2.16.840.1.113883.5.110 **STATIC**) (CONF:67-13373).

- b. This participantRole **SHALL** contain exactly one [1..1] **code** (CONF:67-13378).
- c. This participantRole **SHOULD** contain zero or more [0..*] **addr** (CONF:67-13379).
- d. This participantRole **SHOULD** contain zero or more [0..*] **telecom** (CONF:67-13380).
- e. This participantRole **MAY** contain zero or one [0..1] **playingEntity** (CONF:67-13381).
 - i. The playingEntity, if present, **SHALL** contain exactly one [1..1] **@classCode="PLC" place** (CodeSystem: EntityClass urn:oid:2.16.840.1.113883.5.41 **STATIC**) (CONF:67-13382).
 - ii. The playingEntity, if present, **MAY** contain zero or one [0..1] **name** (CONF:67-13383).

Figure 153: Facility Location Example

```

<participant typeCode="LOC">
  <!-- Facility Location template -->
  <templateId root="2.16.840.1.113883.10.20.24.3.100"/>
  <time>
    <!-- Attribute: facility location arrival datetime -->
    <low value="20120203"/>
    <!-- Attribute: facility location departure datetime -->
    <high value="20120206"/>
  </time>
  <participantRole classCode="SDLOC">
    <code code="GACH"
      codeSystem="2.16.840.1.113883.5.111"
      codeSystemName="HL7RoleCode"
      displayName="General Acute Care Hospital"
      sdtc:valueSet="{ $QDMElementValueSetOID }"/>
    <addr>
      <streetAddressLine>17 Daws Rd.</streetAddressLine>
      <city>Blue Bell</city>
      <state>MA</state>
      <postalCode>02368</postalCode>
      <country>US</country>
    </addr>
    <telecom nullFlavor="UNK"/>
    <playingEntity classCode="PLC">
      <name>Good Health Clinic</name>
    </playingEntity>
  </participantRole>
</participant>

```

4.2 Fulfills (V2)

```

[sdtc:inFulfillmentOf1: identifier
urn:hl7ii:2.16.840.1.113883.10.20.24.3.126:2016-08-01 (open)]

```

This template represents the QDM general relationship operator: Fulfills.

The Fulfills general relationship operator indicates that one QDM element fulfills another. This is often used in the context of a note/report fulfilling a referral or order, but other applications may exist.

This template uses the CDA extension `sdtc:inFulfillmentOf1` which is available to be used inside an observation, substanceAdministration, supply, procedure, encounter, procedure or an act. Any one of the preceding could potentially fulfill an order or recommendation. This template will reference (using `sdtc:actReference`) an already existing order or recommendation in the QRDA document. The id of the existing order or recommendation will be used to reference the already existing data without repeating it in this template. The `sdtc:actReference/id` is required and must be the same id as the entry/id it is referencing. The `sdtc:actReference/id` cannot be a null value. The `sdtc:actReference/classCode` and `sdtc:actReference/moodCode` must be the same as the entry/classCode and entry/moodCode of the entry being referenced.

This template is not specifically contained by any other QRDA templates but it can be used by any observation, substanceAdministration, supply, procedure, encounter, procedure or act that fulfills an order.

Table 341: Fulfills (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
sdtc:inFulfillmentOf1 (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.126:2016-08-01)					
@typeCode	1..1	SHALL		3265-28381	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = FLFS
sdtc:templateId	1..1	SHALL		3265-28379	
@root	1..1	SHALL		3265-28382	2.16.840.1.113883.10.20.24.3.126
@extension	1..1	SHALL		3265-28383	2016-08-01
sdtc:actReference	1..1	SHALL		3265-28380	
@classCode	1..1	SHALL		3265-28384	
@moodCode	1..1	SHALL		3265-28385	
sdtc:id	1..*	SHALL		3265-28386	
@root	1..1	SHALL		3265-28690	
@extension	1..1	SHALL		3265-28691	

1. **SHALL** contain exactly one [1..1] `@typeCode="FLFS"` Fulfills (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-28381).
2. **SHALL** contain exactly one [1..1] `sdtc:templateId` (CONF:3265-28379) such that it
 - a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.24.3.126"` (CONF:3265-28382).
 - b. **SHALL** contain exactly one [1..1] `@extension="2016-08-01"` (CONF:3265-28383).
3. **SHALL** contain exactly one [1..1] `sdtc:actReference` (CONF:3265-28380).

@classCode must be the same as the entry/classCode of the entry being referenced.

- a. This sdtc:actReference **SHALL** contain exactly one [1..1] @classCode (CONF:3265-28384).

@moodCode must be the same as the entry/moodCode of the entry being referenced.

- b. This sdtc:actReference **SHALL** contain exactly one [1..1] @moodCode (CONF:3265-28385).

The 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.

- c. This sdtc:actReference **SHALL** contain at least one [1..*] sdtc:id (CONF:3265-28386).
 - i. Such sdtc:ids **SHALL** contain exactly one [1..1] @root (CONF:3265-28690).
 - ii. Such sdtc:ids **SHALL** contain exactly one [1..1] @extension (CONF:3265-28691).

Figure 154: Fulfills Example

```
<procedure classCode="PROC" moodCode="EVN">
  <!-- Conforms to C-CDA R2 Procedure Activity Procedure (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.14"
    extension="2014-06-09" />
  <!-- QRDA R3: Device Applied Template -->
  <templateId root="2.16.840.1.113883.10.20.24.3.7"
    extension="2014-12-01" />

  ...

  <!-- This Device, Applied procedure is in fulfillment of a Device, Order
    defined elsewhere in the CDA XML -->
  <!-- QRDA R3: Fulfills -->
  <sdtc:inFulfillmentOf1 typeCode="FLFS">
    <sdtc:templateId root="2.16.840.1.113883.10.20.24.3.126"
      extension="2016-08-01"/>
    <!-- The classCode and moodCode are the same as the classCode and moodCode
      of the Device, Order being referenced -->
    <sdtc:actReference classCode="SPLY" moodCode="RQO">
      <!-- The id is the same as the id of the Device, Order being referenced -->
      <sdtc:id root="6a8d037d-f144-4071-9d1f-8a92a11dedc6" />
    </sdtc:actReference>
  </sdtc:inFulfillmentOf1>
</procedure>
```

5 PARTICIPATION AND OTHER TEMPLATES

5.1 Author Participation

[author: identifier urn:oid:2.16.840.1.113883.10.20.22.4.119 (open)]

Table 342: Author Participation Contexts

Contained By:	Contains:
<p>Medication Activity (V2) (optional) Procedure Activity Act (V2) (optional) Procedure Activity Procedure (V2) (optional) Procedure Activity Observation (V2) (optional) Goal Observation (required) Allergy - Intolerance Observation (V2) (optional) Substance or Device Allergy - Intolerance Observation (V2) (optional) Immunization Activity (V2) (optional) Planned Act (V2) (optional) Planned Encounter (V2) (optional) Planned Procedure (V2) (optional) Planned Observation (V2) (optional) Planned Supply (V2) (optional) Planned Medication Activity (V2) (optional) Priority Preference (optional) Planned Coverage (optional) Planned Immunization Activity (optional) Result Observation (V3) (optional) Problem Observation (V3) (optional) Problem Concern Act (V3) (optional) Intervention Recommended (V3) (required) Laboratory Test Recommended (V3) (required) Laboratory Test Order (V3) (required) Physical Exam Order (V3) (required) Physical Exam Recommended (V3) (required) Procedure Order (V3) (required) Procedure Recommended (V3) (required) Intervention Order (V3) (required) Diagnostic Study Order (V3) (required) Diagnostic Study Recommended (V3) (required) Device Order (V3) (required) Device Recommended (V3) (required) Encounter Order (V3) (required) Encounter Recommended (V3) (required) Medication Order (V3) (required) Substance Recommended (V3) (required) Family History Observation QDM (V2) (optional) Immunization Order (required)</p>	

Contained By:	Contains:
Assessment Recommended (required)	

This template represents the Author Participation (including the author timestamp). CDA R2 requires that Author and Author timestamp be asserted in the document header. From there, authorship propagates to contained sections and contained entries, unless explicitly overridden.

The Author Participation template was added to those templates in scope for analysis in R2. Although it is not explicitly stated in all templates the Author Participation template can be used in any template.

Table 343: Author Participation Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
author (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)					
templateId	1..1	SHALL		1098-32017	
@root	1..1	SHALL		1098-32018	2.16.840.1.113883.10.20.22.4.119
time	1..1	SHALL		1098-31471	
assignedAuthor	1..1	SHALL		1098-31472	
id	1..*	SHALL		1098-31473	
code	0..1	SHOULD		1098-31671	urn:oid:2.16.840.1.114222.4.11.1066 (Healthcare Provider Taxonomy (HIPAA))
assignedPerson	0..1	MAY		1098-31474	
name	0..*	MAY		1098-31475	
representedOrganization	0..1	MAY		1098-31476	
id	0..*	MAY		1098-31478	
name	0..*	MAY		1098-31479	
telecom	0..*	MAY		1098-31480	
addr	0..*	MAY		1098-31481	

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-32017) such that it

- a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.22.4.119"` (CONF:1098-32018).
- 2. **SHALL** contain exactly one [1..1] `time` (CONF:1098-31471).
- 3. **SHALL** contain exactly one [1..1] `assignedAuthor` (CONF:1098-31472).
 - a. This `assignedAuthor` **SHALL** contain at least one [1..*] `id` (CONF:1098-31473).
 Note: This `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. If the `id` is pointing to a participant already described elsewhere in the document, `assignedAuthor/id` is sufficient to identify this participant and none of the remaining details of `assignedAuthor` 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 author participant.
 - i. If the ID isn't referencing an author described elsewhere in the document, then the author components required in US Realm Header are required here as well (CONF:1098-32628).
 - b. This `assignedAuthor` **SHOULD** contain zero or one [0..1] `code`, which **SHOULD** be selected from ValueSet [Healthcare Provider Taxonomy \(HIPAA\)](#) `urn:oid:2.16.840.1.114222.4.11.1066` **DYNAMIC** (CONF:1098-31671).
 - i. If the content is patient authored the `code` **SHOULD** be selected from Personal And Legal Relationship Role Type (2.16.840.1.113883.11.20.12.1) (CONF:1098-32315).
 - c. This `assignedAuthor` **MAY** contain zero or one [0..1] `assignedPerson` (CONF:1098-31474).
 - i. The `assignedPerson`, if present, **MAY** contain zero or more [0..*] `name` (CONF:1098-31475).
 - d. This `assignedAuthor` **MAY** contain zero or one [0..1] `representedOrganization` (CONF:1098-31476).
 - i. The `representedOrganization`, if present, **MAY** contain zero or more [0..*] `id` (CONF:1098-31478).
 - ii. The `representedOrganization`, if present, **MAY** contain zero or more [0..*] `name` (CONF:1098-31479).
 - iii. The `representedOrganization`, if present, **MAY** contain zero or more [0..*] `telecom` (CONF:1098-31480).
 - iv. The `representedOrganization`, if present, **MAY** contain zero or more [0..*] `addr` (CONF:1098-31481).

Figure 155: New Author Participant Example

```

<author>
  <templateId root="2.16.840.1.113883.10.20.22.4.119" />
  <time value="201308011235-0800" />
  <assignedAuthor>
    <id root="20cf14fb-b65c-4c8c-a54d-b0cca834c18c" />
    <code code="163W00000X" codeSystem="2.16.840.1.113883.5.53" codeSystemName="Health
Care Provider Taxonomy" displayName="Registered nurse" />
    <assignedPerson>
      <name>
        <given>Nurse</given>
        <family>Nightingale</family>
        <suffix>RN</suffix>
      </name>
    </assignedPerson>
    <representedOrganization>
      <id root="2.16.840.1.113883.19.5" />
      <name>Good Health Hospital</name>
    </representedOrganization>
  </assignedAuthor>
</author>

```

Figure 156: Existing Author Reference Example

```

<author>
  <time value="201308011235-0800" />
  <assignedAuthor>
    <!--
      This id points to a participant already described
      elsewhere in the document
    -->
    <id root="20cf14fb-b65c-4c8c-a54d-b0cca834c18c" />
  </assignedAuthor>
</author>

```

5.2 US Realm Address (AD.US.FIELDDED)

[addr: identifier urn:oid:2.16.840.1.113883.10.20.22.5.2 (open)]

Table 344: US Realm Address (AD.US.FIELDDED) Contexts

Contained By:	Contains:
Medication Dispense (V2) (optional) US Realm Header (V3) (required)	

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

Table 345: US Realm Address (AD.US.FIELDDED) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
addr (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2)					
@use	0..1	SHOULD		81-7290	urn:oid:2.16.840.1.113883.1.11.10637 (PostalAddressUse)
country	0..1	SHOULD		81-7295	urn:oid:2.16.840.1.113883.3.88.12.80.63 (Country)
state	0..1	SHOULD		81-7293	urn:oid:2.16.840.1.113883.3.88.12.80.1 (StateValueSet)
city	1..1	SHALL		81-7292	
postalCode	0..1	SHOULD		81-7294	urn:oid:2.16.840.1.113883.3.88.12.80.2 (PostalCode)
streetAddressLine	1..1	SHALL		81-7291	

1. **SHOULD** contain zero or one [0..1] **@use**, which **SHALL** be selected from ValueSet [PostalAddressUse](#) urn:oid:2.16.840.1.113883.1.11.10637 **STATIC** 2005-05-01 (CONF:81-7290).
2. **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:81-7295).
3. **SHOULD** contain zero or one [0..1] **state** (ValueSet: [StateValueSet](#) urn:oid:2.16.840.1.113883.3.88.12.80.1 **DYNAMIC**) (CONF:81-7293).
 - a. State is required if the country is US. If country is not specified, it's assumed to be US. If country is something other than US, the state **MAY** be present but **MAY** be bound to different vocabularies (CONF:81-10024).
4. **SHALL** contain exactly one [1..1] **city** (CONF:81-7292).
5. **SHOULD** contain zero or one [0..1] **postalCode**, which **SHOULD** be selected from ValueSet [PostalCode](#) urn:oid:2.16.840.1.113883.3.88.12.80.2 **DYNAMIC** (CONF:81-7294).
 - a. PostalCode is required if the country is US. If country is not specified, it's assumed to be US. If country is something other than US, the postalCode **MAY** be present but **MAY** be bound to different vocabularies (CONF:81-10025).
6. **SHALL** contain exactly one [1..1] **streetAddressLine** (CONF:81-7291).
7. **SHALL NOT** have mixed content except for white space (CONF:81-7296).

Table 346: PostalAddressUse

Value Set: PostalAddressUse urn:oid:2.16.840.1.113883.1.11.10637			
A value set of HL7 Codes for address use.			
Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
BAD	AddressUse	urn:oid:2.16.840.1.113883.5.1119	bad address
CONF	AddressUse	urn:oid:2.16.840.1.113883.5.1119	confidential
DIR	AddressUse	urn:oid:2.16.840.1.113883.5.1119	direct
H	AddressUse	urn:oid:2.16.840.1.113883.5.1119	home address
HP	AddressUse	urn:oid:2.16.840.1.113883.5.1119	primary home
HV	AddressUse	urn:oid:2.16.840.1.113883.5.1119	vacation home
PHYS	AddressUse	urn:oid:2.16.840.1.113883.5.1119	physical visit address
PST	AddressUse	urn:oid:2.16.840.1.113883.5.1119	postal address
PUB	AddressUse	urn:oid:2.16.840.1.113883.5.1119	public
TMP	AddressUse	urn:oid:2.16.840.1.113883.5.1119	temporary
...			

Table 347: StateValueSet

Value Set: StateValueSet urn:oid:2.16.840.1.113883.3.88.12.80.1			
Identifies addresses within the United States are recorded using the FIPS 5-2 two-letter alphabetic codes for the State, District of Columbia, or an outlying area of the United States or associated area			
Value Set Source: http://www.census.gov/geo/reference/ansi_statetables.html			
Code	Code System	Code System OID	Print Name
AL	FIPS 5-2 (State)	urn:oid:2.16.840.1.113883.3.6.92	Alabama
AK	FIPS 5-2 (State)	urn:oid:2.16.840.1.113883.3.6.92	Alaska
AZ	FIPS 5-2 (State)	urn:oid:2.16.840.1.113883.3.6.92	Arizona
AR	FIPS 5-2 (State)	urn:oid:2.16.840.1.113883.3.6.92	Arkansas
CA	FIPS 5-2 (State)	urn:oid:2.16.840.1.113883.3.6.92	California
CO	FIPS 5-2 (State)	urn:oid:2.16.840.1.113883.3.6.92	Colorado
CT	FIPS 5-2 (State)	urn:oid:2.16.840.1.113883.3.6.92	Connecticut
DE	FIPS 5-2 (State)	urn:oid:2.16.840.1.113883.3.6.92	Delaware
DC	FIPS 5-2 (State)	urn:oid:2.16.840.1.113883.3.6.92	District of Columbia
FL	FIPS 5-2 (State)	urn:oid:2.16.840.1.113883.3.6.92	Florida
...			

Figure 157: US Realm Address Example

```

<addr use="HP">
  <streetAddressLine>22 Sample Street</streetAddressLine>
  <city>Beaverton</city>
  <state>OR</state>
  <postalCode>97867</postalCode>
  <country>US</country>
</addr>

```

5.3 US Realm Date and Time (DTM.US.FIELDDED)

[effectiveTime: identifier urn:oid:2.16.840.1.113883.10.20.22.5.4 (open)]

Table 348: US Realm Date and Time (DTM.US.FIELDDED) Contexts

Contained By:	Contains:
US Realm Header (V3) (required)	

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

This data type uses the same rules as US Realm Date and Time (DT.US.FIELDED), but is used with elements having a datatype of TS.

Table 349: US Realm Date and Time (DTM.US.FIELDED) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
effectiveTime (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.4)					

1. **SHALL** be precise to the day (CONF:81-10127).
2. **SHOULD** be precise to the minute (CONF:81-10128).
3. **MAY** be precise to the second (CONF:81-10129).
4. If more precise than day, **SHOULD** include time-zone offset (CONF:81-10130).

Figure 158: US Realm Date and Time Example

```

<!-- Common values for date/time elements would range in precision to the day YYYYMMDD to
precision to the second with a time zone offset YYYYMMDDHHMMSS - ZZzz -->
<!-- time element with TS data type precise to the day for a birthdate -->
<time value="19800531"/>
<!-- effectiveTime element with IVL<TS> data type precise to the second for an observation
-->
<effectiveTime>
  <low value='20110706122735-0800' />
  <high value='20110706122815-0800' />
</effectiveTime>

```

5.4 US Realm Patient Name (PTN.US.FIELDED)

[name: identifier urn:oid:2.16.840.1.113883.10.20.22.5.1 (open)]

Table 350: US Realm Patient Name (PTN.US.FIELDED) Contexts

Contained By:	Contains:
Drug Monitoring Act (required)	

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

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

Table 351: US Realm Patient Name (PTN.US.FIELDDED) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
name (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1)					
@use	0..1	MAY		81-7154	urn:oid:2.16.840.1.113883.1.11.15913 (EntityNameUse)
family	1..1	SHALL	ST	81-7159	
@qualifier	0..1	MAY		81-7160	urn:oid:2.16.840.1.113883.11.20.9.26 (EntityPersonNamePartQualifier)
given	1..*	SHALL	ST	81-7157	
@qualifier	0..1	MAY		81-7158	urn:oid:2.16.840.1.113883.11.20.9.26 (EntityPersonNamePartQualifier)
prefix	0..*	MAY	ST	81-7155	
@qualifier	0..1	MAY		81-7156	urn:oid:2.16.840.1.113883.11.20.9.26 (EntityPersonNamePartQualifier)
suffix	0..1	MAY	ST	81-7161	
@qualifier	0..1	MAY		81-7162	urn:oid:2.16.840.1.113883.11.20.9.26 (EntityPersonNamePartQualifier)

1. **MAY** contain zero or one [0..1] **@use**, which **SHALL** be selected from ValueSet [EntityNameUse](#) urn:oid:2.16.840.1.113883.1.11.15913 **STATIC** 2005-05-01 (CONF:81-7154).
2. **SHALL** contain exactly one [1..1] **family** (CONF:81-7159).
 - a. This family **MAY** contain zero or one [0..1] **@qualifier**, which **SHALL** be selected from ValueSet [EntityPersonNamePartQualifier](#) urn:oid:2.16.840.1.113883.11.20.9.26 **STATIC** 2011-09-30 (CONF:81-7160).
3. **SHALL** contain at least one [1..*] **given** (CONF:81-7157).
 - a. Such givens **MAY** contain zero or one [0..1] **@qualifier**, which **SHALL** be selected from ValueSet [EntityPersonNamePartQualifier](#) urn:oid:2.16.840.1.113883.11.20.9.26 **STATIC** 2011-09-30 (CONF:81-7158).
 - b. The second occurrence of given (given2) if provided, **SHALL** include middle name or middle initial (CONF:81-7163).
4. **MAY** contain zero or more [0..*] **prefix** (CONF:81-7155).
 - a. The prefix, if present, **MAY** contain zero or one [0..1] **@qualifier**, which **SHALL** be selected from ValueSet [EntityPersonNamePartQualifier](#) urn:oid:2.16.840.1.113883.11.20.9.26 **STATIC** 2011-09-30 (CONF:81-7156).
5. **MAY** contain zero or one [0..1] **suffix** (CONF:81-7161).

- a. The suffix, if present, **MAY** contain zero or one [0..1] @qualifier, which **SHALL** be selected from ValueSet [EntityPersonNamePartQualifier](#) urn:oid:2.16.840.1.113883.11.20.9.26 **STATIC** 2011-09-30 (CONF:81-7162).
6. **SHALL NOT** have mixed content except for white space (CONF:81-7278).

Table 352: EntityNameUse

Value Set: EntityNameUse urn:oid:2.16.840.1.113883.1.11.15913			
Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
A	EntityNameUse	urn:oid:2.16.840.1.113883.5.45	Artist/Stage
ABC	EntityNameUse	urn:oid:2.16.840.1.113883.5.45	Alphabetic
ASGN	EntityNameUse	urn:oid:2.16.840.1.113883.5.45	Assigned
C	EntityNameUse	urn:oid:2.16.840.1.113883.5.45	License
I	EntityNameUse	urn:oid:2.16.840.1.113883.5.45	Indigenous/Tribal
IDE	EntityNameUse	urn:oid:2.16.840.1.113883.5.45	Ideographic
L	EntityNameUse	urn:oid:2.16.840.1.113883.5.45	Legal
P	EntityNameUse	urn:oid:2.16.840.1.113883.5.45	Pseudonym
PHON	EntityNameUse	urn:oid:2.16.840.1.113883.5.45	Phonetic
R	EntityNameUse	urn:oid:2.16.840.1.113883.5.45	Religious
...			

Table 353: EntityPersonNamePartQualifier

Value Set: EntityPersonNamePartQualifier urn:oid:2.16.840.1.113883.11.20.9.26			
Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
AC	EntityNamePartQualifier	urn:oid:2.16.840.1.113883.5.43	academic
AD	EntityNamePartQualifier	urn:oid:2.16.840.1.113883.5.43	adopted
BR	EntityNamePartQualifier	urn:oid:2.16.840.1.113883.5.43	birth
CL	EntityNamePartQualifier	urn:oid:2.16.840.1.113883.5.43	callme
IN	EntityNamePartQualifier	urn:oid:2.16.840.1.113883.5.43	initial
NB	EntityNamePartQualifier	urn:oid:2.16.840.1.113883.5.43	nobility
PR	EntityNamePartQualifier	urn:oid:2.16.840.1.113883.5.43	professional
SP	EntityNamePartQualifier	urn:oid:2.16.840.1.113883.5.43	spouse
TITLE	EntityNamePartQualifier	urn:oid:2.16.840.1.113883.5.43	title
VV	EntityNamePartQualifier	urn:oid:2.16.840.1.113883.5.43	voorvoegsel

Figure 159: US Realm Patient Name Example

```

<name use="L">
  <prefix qualifier="TITLE">Rep</suffix>
  <given>Evelyn</given>
  <given qualifier="CL">Eve</given>
  <family qualifier="BR">Everywoman</family>
  <suffix qualifier="AC">J.D.</suffix>
</name>

```

5.5 US Realm Person Name (PN.US.FIELDED)

[name: identifier urn:oid:2.16.840.1.113883.10.20.22.5.1.1 (open)]

Table 354: US Realm Person Name (PN.US.FIELDED) Contexts

Contained By:	Contains:
US Realm Header (V3) (required)	

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

Table 355: US Realm Person Name (PN.US.FIELDED) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
name (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1)					
name	1..1	SHALL		81-9368	

1. **SHALL** contain exactly one [1..1] **name** (CONF:81-9368).
 - a. The content of name **SHALL** be either a conformant Patient Name (PTN.US.FIELDED), or a string (CONF:81-9371).
 - b. The string **SHALL NOT** contain name parts (CONF:81-9372).

6 TEMPLATE IDS IN THIS GUIDE

Table 356: Template List

Template Title	Template Type	templateId
QDM-Based QRDA (V4)	document	urn:hl7ii:2.16.840.1.113883.10.20.24.1.2:2016-08-01
QRDA Category I Framework (V3)	document	urn:hl7ii:2.16.840.1.113883.10.20.24.1.1:2016-02-01
US Realm Header (V3)	document	urn:hl7ii:2.16.840.1.113883.10.20.22.1.1:2015-08-01
Measure Section	section	urn:oid:2.16.840.1.113883.10.20.24.2.2
Measure Section QDM	section	urn:oid:2.16.840.1.113883.10.20.24.2.3
Patient Data Section	section	urn:oid:2.16.840.1.113883.10.20.17.2.4
Patient Data Section QDM (V4)	section	urn:hl7ii:2.16.840.1.113883.10.20.24.2.1:2016-08-01
Reporting Parameters Section	section	urn:oid:2.16.840.1.113883.10.20.17.2.1
Act Intolerance or Adverse Event Observation (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.104:2016-02-01
Age Observation	entry	urn:oid:2.16.840.1.113883.10.20.22.4.31
Allergy - Intolerance Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.7:2014-06-09
Allergy Status Observation (DEPRECATED)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.28:2014-06-09
Assessment Performed	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.144:2016-08-01
Assessment Recommended	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.145:2016-08-01
Care Goal (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.1:2016-02-01
Communication from Patient to Provider (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.2:2016-02-01
Communication from Provider to Patient (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.3:2016-02-01
Communication from Provider to Provider (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.4:2016-02-01
Criticality Observation	entry	urn:oid:2.16.840.1.113883.10.20.22.4.145
Deceased Observation (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.79:2015-08-01
Device Adverse Event (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.

Template Title	Template Type	templateId
		24.3.5:2016-02-01
Device Allergy (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.6:2016-02-01
Device Applied (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.7:2016-02-01
Device Intolerance (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.8:2016-02-01
Device Order (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.9:2016-02-01
Device Order Act	entry	urn:oid:2.16.840.1.113883.10.20.24.3.130
Device Recommended (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.10:2016-02-01
Device Recommended Act	entry	urn:oid:2.16.840.1.113883.10.20.24.3.131
Diagnosis	entry	urn:oid:2.16.840.1.113883.10.20.24.3.135
Diagnosis Concern Act (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.137:2016-08-01
Diagnostic Study Adverse Event (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.15:2016-02-01
Diagnostic Study Intolerance (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.16:2016-02-01
Diagnostic Study Order (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.17:2016-02-01
Diagnostic Study Performed (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.18:2016-02-01
Diagnostic Study Recommended (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.19:2016-02-01
Discharge Medication (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.105:2016-02-01
Drug Monitoring Act	entry	urn:oid:2.16.840.1.113883.10.20.24.123
Drug Vehicle	entry	urn:oid:2.16.840.1.113883.10.20.24.24
eMeasure Reference QDM	entry	urn:oid:2.16.840.1.113883.10.20.24.3.97
Encounter Active (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.21:2016-02-01
Encounter Activity (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.49:2015-08-01
Encounter Diagnosis (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.80:2015-08-01
Encounter Order (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.22:2016-02-01
Encounter Order Act	entry	urn:oid:2.16.840.1.113883.10.20.2

Template Title	Template Type	templateId
		4.3.132
Encounter Performed (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.23:2016-02-01
Encounter Performed Act	entry	urn:oid:2.16.840.1.113883.10.20.24.3.133
Encounter Recommended (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.24:2016-02-01
Encounter Recommended Act	entry	urn:oid:2.16.840.1.113883.10.20.24.3.134
Entry Reference	entry	urn:oid:2.16.840.1.113883.10.20.24.4.122
External Document Reference	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.115:2014-06-09
Family History Death Observation	entry	urn:oid:2.16.840.1.113883.10.20.24.4.47
Family History Observation (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.46:2015-08-01
Family History Observation QDM (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.112:2016-02-01
Family History Organizer (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.45:2015-08-01
Family History Organizer QDM (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.12:2016-02-01
Goal Observation	entry	urn:oid:2.16.840.1.113883.10.20.24.4.121
Immunization Activity (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.52:2014-06-09
Immunization Administered	entry	urn:oid:2.16.840.1.113883.10.20.24.3.140
Immunization Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09
Immunization Order	entry	urn:oid:2.16.840.1.113883.10.20.24.3.143
Immunization Refusal Reason	entry	urn:oid:2.16.840.1.113883.10.20.24.4.53
Incision Datetime	entry	urn:oid:2.16.840.1.113883.10.20.24.3.89
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Intervention Adverse Event (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.29:2016-02-01
Intervention Intolerance (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.30:2016-02-01
Intervention Order (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.

Template Title	Template Type	templateId
		24.3.31:2016-02-01
Intervention Performed (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.32:2016-02-01
Intervention Recommended (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.33:2016-02-01
Laboratory Test Adverse Event (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.35:2016-02-01
Laboratory Test Intolerance (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.36:2016-02-01
Laboratory Test Order (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.37:2016-02-01
Laboratory Test Performed (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.38:2016-02-01
Laboratory Test Recommended (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.39:2016-02-01
Measure Reference	entry	urn:oid:2.16.840.1.113883.10.20.24.3.98
Medication Active (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.41:2016-02-01
Medication Activity (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09
Medication Administered (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.42:2016-02-01
Medication Adverse Effect (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.43:2016-02-01
Medication Allergy (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.44:2016-02-01
Medication Dispense (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09
Medication Dispensed (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.45:2016-02-01
Medication Dispensed Act	entry	urn:oid:2.16.840.1.113883.10.20.24.3.139
Medication Free Text Sig	entry	urn:oid:2.16.840.1.113883.10.20.22.4.147
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Medication Intolerance (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.46:2016-02-01
Medication Order (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.47:2016-02-01
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Supply Request (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.99:2015-04-05
Patient Care Experience (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.

Template Title	Template Type	templateId
		24.3.48:2016-02-01
Patient Characteristic Clinical Trial Participant (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.51:2016-02-01
Patient Characteristic Expired (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.54:2016-02-01
Patient Characteristic Observation Assertion (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.103:2016-02-01
Patient Characteristic Payer	entry	urn:oid:2.16.840.1.113883.10.20.24.3.55
Physical Exam Order (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.58:2016-02-01
Physical Exam Performed (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.59:2016-02-01
Physical Exam Recommended (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.60:2016-02-01
Planned Act (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.39:2014-06-09
Planned Coverage	entry	urn:oid:2.16.840.1.113883.10.20.22.4.129
Planned Encounter (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.40:2014-06-09
Planned Immunization Activity	entry	urn:oid:2.16.840.1.113883.10.20.22.4.120
Planned Medication Activity (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.42:2014-06-09
Planned Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.44:2014-06-09
Planned Procedure (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.41:2014-06-09
Planned Supply (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.43:2014-06-09
Precondition for Substance Administration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09
Priority Preference	entry	urn:oid:2.16.840.1.113883.10.20.22.4.143
Problem Concern Act (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.3:2015-08-01
Problem Observation (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.4:2015-08-01
Problem Status (DEPRECATED)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.6:2014-06-09
Procedure Activity Act (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.12:2014-06-09
Procedure Activity Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.13:2014-06-09
Procedure Activity Procedure (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.

Template Title	Template Type	templateId
		22.4.14:2014-06-09
Procedure Adverse Event (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.61:2016-02-01
Procedure Intolerance (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.62:2016-02-01
Procedure Order (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.63:2016-02-01
Procedure Performed (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.64:2016-02-01
Procedure Recommended (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.65:2016-02-01
Product Instance	entry	urn:oid:2.16.840.1.113883.10.20.2.4.37
Prognosis Observation	entry	urn:oid:2.16.840.1.113883.10.20.2.4.113
Provider Care Experience (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.67:2016-02-01
Provider Characteristic Observation Assertion (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.114:2016-02-01
Radiation Dosage and Duration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01
Reaction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.85:2014-12-01
Reaction Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.9:2014-06-09
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Reporting Parameters Act	entry	urn:oid:2.16.840.1.113883.10.20.17.3.8
Result (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.87:2016-02-01
Result Observation (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01
Service Delivery Location	entry	urn:oid:2.16.840.1.113883.10.20.2.4.32
Severity Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09
Status	entry	urn:oid:2.16.840.1.113883.10.20.2.4.3.93
Substance Administered Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.118
Substance or Device Allergy - Intolerance Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.90:2014-06-09
Substance Recommended (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.75:2016-02-01
Symptom	entry	urn:oid:2.16.840.1.113883.10.20.2

Template Title	Template Type	templateId
		4.3.136
Symptom Concern Act (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.138:2016-08-01
Target Outcome	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.119:2014-12-01
Transfer From (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.81:2016-02-01
Transfer From Act	entry	urn:oid:2.16.840.1.113883.10.20.24.3.141
Transfer To (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.82:2016-02-01
Transfer To Act	entry	urn:oid:2.16.840.1.113883.10.20.24.3.142
Facility Location	subentry	urn:oid:2.16.840.1.113883.10.20.24.3.100
Fulfills (V2)	subentry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.126:2016-08-01
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.22.4.119
US Realm Address (AD.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.22.5.2
US Realm Date and Time (DTM.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.22.5.4
US Realm Patient Name (PTN.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.22.5.1
US Realm Person Name (PN.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.22.5.1.1

Table 358: Template Containments

Template Title	Template Type	templateId
QDM-Based QRDA (V4)	document	urn:hl7ii:2.16.840.1.113883.10.20.24.1.2:2016-08-01
Measure Section QDM	section	urn:oid:2.16.840.1.113883.10.20.24.2.3
eMeasure Reference QDM	entry	urn:oid:2.16.840.1.113883.10.20.24.3.97
Patient Data Section QDM (V4)	section	urn:hl7ii:2.16.840.1.113883.10.20.24.2.1:2016-08-01
Assessment Performed	entry	urn:oid:2.16.840.1.113883.10.20.24.3.144
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Result (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.87:2016-02-01
Status	entry	urn:oid:2.16.840.1.113883.10.20.24.3.93
Assessment Recommended	entry	urn:oid:2.16.840.1.113883.10.20.24.3.145
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.24.4.119
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Care Goal (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.1:2016-02-01
Target Outcome	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.119:2014-12-01
Communication from Patient to Provider (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.2:2016-02-01
Communication from Provider to Patient (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.3:2016-02-01
Communication from Provider to Provider (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.4:2016-02-01
Device Adverse Event (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.5:2016-02-01
Reaction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.85:2014-12-01
Device Allergy (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.6:2016-02-01
Reaction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.85:2014-12-01
Device Applied (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.7:2016-02-01
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01

Template Title	Template Type	templateId
Device Intolerance (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.8:2016-02-01
Reaction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.85:2014-12-01
Device Order Act	entry	urn:oid:2.16.840.1.113883.10.20.24.3.130
Device Order (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.9:2016-02-01
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.24.4.119
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Device Recommended Act	entry	urn:oid:2.16.840.1.113883.10.20.24.3.131
Device Recommended (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.10:2016-02-01
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.24.4.119
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Diagnosis Concern Act (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.137:2016-08-01
Diagnosis	entry	urn:oid:2.16.840.1.113883.10.20.24.3.135
Severity Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09
Diagnostic Study Adverse Event (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.15:2016-02-01
Diagnostic Study Performed (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.18:2016-02-01
Facility Location	subentry	urn:oid:2.16.840.1.113883.10.20.24.3.100
Radiation Dosage and Duration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Result (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.87:2016-02-01
Status	entry	urn:oid:2.16.840.1.113883.10.20.24.3.93
Status	entry	urn:oid:2.16.840.1.113883.10.20.24.3.93
Radiation Dosage and Duration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01
Diagnostic Study Intolerance (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.16:2016-02-01

Template Title	Template Type	templateId
Diagnostic Study Performed (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.18:2016-02-01
Facility Location	subentry	urn:oid:2.16.840.1.113883.10.20.24.3.100
Radiation Dosage and Duration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Result (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.87:2016-02-01
Status	entry	urn:oid:2.16.840.1.113883.10.20.24.3.93
Status	entry	urn:oid:2.16.840.1.113883.10.20.24.3.93
Radiation Dosage and Duration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01
Diagnostic Study Order (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.17:2016-02-01
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.24.119
Radiation Dosage and Duration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Diagnostic Study Performed (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.18:2016-02-01
Facility Location	subentry	urn:oid:2.16.840.1.113883.10.20.24.3.100
Radiation Dosage and Duration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Result (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.87:2016-02-01
Status	entry	urn:oid:2.16.840.1.113883.10.20.24.3.93
Status	entry	urn:oid:2.16.840.1.113883.10.20.24.3.93
Diagnostic Study Recommended (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.19:2016-02-01
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.24.119
Radiation Dosage and Duration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01
Discharge Medication (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.105:2016-02-01

Template Title	Template Type	templateId
Medication Activity (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.22.4.119
Drug Monitoring Act	entry	urn:oid:2.16.840.1.113883.10.20.22.4.123
US Realm Patient Name (PTN.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.22.5.1
Drug Vehicle	entry	urn:oid:2.16.840.1.113883.10.20.22.4.24
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Medication Dispense (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09
Immunization Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Immunization Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
US Realm Address (AD.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.22.5.2
Medication Free Text Sig	entry	urn:oid:2.16.840.1.113883.10.20.22.4.147
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Immunization Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Precondition for Substance Administration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09
Reaction Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.9:2014-06-09

Template Title	Template Type	templateId
Procedure Activity Procedure (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.14:2014-06-09
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.22.4.119
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Product Instance	entry	urn:oid:2.16.840.1.113883.10.20.22.4.37
Service Delivery Location	entry	urn:oid:2.16.840.1.113883.10.20.22.4.32
Severity Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09
Substance Administered Act	entry	urn:oid:2.16.840.1.113883.10.20.22.4.118
Encounter Active (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.21:2016-02-01
Facility Location	subentry	urn:oid:2.16.840.1.113883.10.20.24.3.100
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Encounter Order Act	entry	urn:oid:2.16.840.1.113883.10.20.24.3.132
Encounter Order (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.22:2016-02-01
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.22.4.119
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Encounter Performed Act	entry	urn:oid:2.16.840.1.113883.10.20.24.3.133
Encounter Performed (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.23:2016-02-01
Facility Location	subentry	urn:oid:2.16.840.1.113883.10.20.24.3.100
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Encounter Recommended Act	entry	urn:oid:2.16.840.1.113883.10.20.24.3.134
Encounter Recommended (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.24:2016-02-01
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.22.4.119
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01

Template Title	Template Type	templateId
Family History Organizer QDM (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.12:2016-02-01
Family History Observation QDM (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.112:2016-02-01
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.22.4.119
Immunization Administered	entry	urn:oid:2.16.840.1.113883.10.20.24.3.140
Immunization Activity (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.52:2014-06-09
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.22.4.119
Drug Vehicle	entry	urn:oid:2.16.840.1.113883.10.20.22.4.24
Immunization Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09
Immunization Refusal Reason	entry	urn:oid:2.16.840.1.113883.10.20.22.4.53
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Medication Dispense (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09
Immunization Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Immunization Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
US Realm Address (AD.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.22.5.2
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Immunization Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09

Template Title	Template Type	templateId
Precondition for Substance Administration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09
Reaction Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.9:2014-06-09
Medication Activity (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Drug Monitoring Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.123
US Realm Patient Name (PTN.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.1
Drug Vehicle	entry	urn:oid:2.16.840.1.113883.10.20.2.4.24
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Medication Dispense (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09
Immunization Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Immunization Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
US Realm Address (AD.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.2
Medication Free Text Sig	entry	urn:oid:2.16.840.1.113883.10.20.2.4.147
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Immunization Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.

Template Title	Template Type	templateId
		22.4.20:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Precondition for Substance Administration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09
Substance Administered Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.118
Procedure Activity Procedure (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.14:2014-06-09
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Medication Activity (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Drug Monitoring Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.123
US Realm Patient Name (PTN.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.1
Drug Vehicle	entry	urn:oid:2.16.840.1.113883.10.20.2.4.24
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Medication Dispense (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09
Immunization Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Immunization Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09

Template Title	Template Type	templateId
US Realm Address (AD.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.2
Medication Free Text Sig	entry	urn:oid:2.16.840.1.113883.10.20.2.4.147
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Immunization Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Precondition for Substance Administration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09
Substance Administered Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.118
Product Instance	entry	urn:oid:2.16.840.1.113883.10.20.2.4.37
Service Delivery Location	entry	urn:oid:2.16.840.1.113883.10.20.2.4.32
Severity Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09
Substance Administered Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.118
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Immunization Order	entry	urn:oid:2.16.840.1.113883.10.20.2.4.3.143
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Intervention Adverse Event (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.29:2016-02-01
Intervention Performed (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.32:2016-02-01
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Result (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.87:2016-02-01
Status	entry	urn:oid:2.16.840.1.113883.10.20.2.4.3.93

Template Title	Template Type	templateId
Status	entry	urn:oid:2.16.840.1.113883.10.20.24.3.93
Intervention Intolerance (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.30:2016-02-01
Intervention Performed (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.32:2016-02-01
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Result (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.87:2016-02-01
Status	entry	urn:oid:2.16.840.1.113883.10.20.24.3.93
Status	entry	urn:oid:2.16.840.1.113883.10.20.24.3.93
Intervention Order (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.31:2016-02-01
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.24.4.119
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Intervention Performed (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.32:2016-02-01
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Result (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.87:2016-02-01
Status	entry	urn:oid:2.16.840.1.113883.10.20.24.3.93
Status	entry	urn:oid:2.16.840.1.113883.10.20.24.3.93
Intervention Recommended (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.33:2016-02-01
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.24.4.119
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Laboratory Test Adverse Event (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.35:2016-02-01
Laboratory Test Performed (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.38:2016-02-01
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Status	entry	urn:oid:2.16.840.1.113883.10.20.24.3.93
Laboratory Test Intolerance (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.36:2016-02-01

Template Title	Template Type	templateId
Laboratory Test Performed (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.38:2016-02-01
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Status	entry	urn:oid:2.16.840.1.113883.10.20.24.3.93
Laboratory Test Order (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.37:2016-02-01
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.24.4.119
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Laboratory Test Performed (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.38:2016-02-01
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Status	entry	urn:oid:2.16.840.1.113883.10.20.24.3.93
Laboratory Test Recommended (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.39:2016-02-01
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.24.4.119
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Medication Active (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.41:2016-02-01
Medication Administered (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.42:2016-02-01
Medication Activity (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.24.4.119
Drug Monitoring Act	entry	urn:oid:2.16.840.1.113883.10.20.24.4.123
US Realm Patient Name (PTN.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.24.5.1
Drug Vehicle	entry	urn:oid:2.16.840.1.113883.10.20.24.4.24
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Medication Dispense (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09
Immunization Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09

Template Title	Template Type	templateId
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Immunization Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
US Realm Address (AD.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.22.5.2
Medication Free Text Sig	entry	urn:oid:2.16.840.1.113883.10.20.22.4.147
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Immunization Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Precondition for Substance Administration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09
Reaction Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.9:2014-06-09
Procedure Activity Procedure (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.14:2014-06-09
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.22.4.119
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Product Instance	entry	urn:oid:2.16.840.1.113883.10.20.22.4.37
Service Delivery Location	entry	urn:oid:2.16.840.1.113883.10.20.22.4.32
Severity Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09
Substance Administered Act	entry	urn:oid:2.16.840.1.113883.10.20.22.4.118
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01

Template Title	Template Type	templateId
Medication Adverse Effect (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.43:2016-02-01
Reaction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.85:2014-12-01
Medication Allergy (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.44:2016-02-01
Reaction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.85:2014-12-01
Medication Dispensed Act	entry	urn:oid:2.16.840.1.113883.10.20.24.3.139
Medication Dispensed (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.45:2016-02-01
Medication Intolerance (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.46:2016-02-01
Reaction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.85:2014-12-01
Medication Order (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.47:2016-02-01
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.24.119
Medication Supply Request (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.99:2015-04-05
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Patient Care Experience (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.48:2016-02-01
Patient Characteristic Clinical Trial Participant (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.51:2016-02-01
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Patient Characteristic Expired (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.54:2016-02-01
Patient Characteristic Observation Assertion (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.103:2016-02-01
Patient Characteristic Payer	entry	urn:oid:2.16.840.1.113883.10.20.24.3.55
Physical Exam Order (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.58:2016-02-01
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.24.119
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Physical Exam Performed (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.59:2016-02-01
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01

Template Title	Template Type	templateId
Physical Exam Recommended (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.60:2016-02-01
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Procedure Adverse Event (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.61:2016-02-01
Procedure Performed (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.64:2016-02-01
Incision Datetime	entry	urn:oid:2.16.840.1.113883.10.20.2.4.3.89
Radiation Dosage and Duration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Result (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.87:2016-02-01
Status	entry	urn:oid:2.16.840.1.113883.10.20.2.4.3.93
Status	entry	urn:oid:2.16.840.1.113883.10.20.2.4.3.93
Procedure Intolerance (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.62:2016-02-01
Procedure Performed (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.64:2016-02-01
Incision Datetime	entry	urn:oid:2.16.840.1.113883.10.20.2.4.3.89
Radiation Dosage and Duration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Result (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.87:2016-02-01
Status	entry	urn:oid:2.16.840.1.113883.10.20.2.4.3.93
Status	entry	urn:oid:2.16.840.1.113883.10.20.2.4.3.93
Procedure Order (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.63:2016-02-01
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Radiation Dosage and Duration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01

Template Title	Template Type	templateId
Procedure Performed (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.64:2016-02-01
Incision Datetime	entry	urn:oid:2.16.840.1.113883.10.20.24.3.89
Radiation Dosage and Duration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.91:2014-12-01
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Result (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.87:2016-02-01
Status	entry	urn:oid:2.16.840.1.113883.10.20.24.3.93
Status	entry	urn:oid:2.16.840.1.113883.10.20.24.3.93
Procedure Recommended (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.65:2016-02-01
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.24.4.119
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Provider Care Experience (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.67:2016-02-01
Substance Recommended (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.75:2016-02-01
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.24.4.119
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Symptom Concern Act (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.138:2016-08-01
Symptom	entry	urn:oid:2.16.840.1.113883.10.20.24.3.136
Severity Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09
Transfer From Act	entry	urn:oid:2.16.840.1.113883.10.20.24.3.141
Transfer From (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.81:2016-02-01
Transfer To Act	entry	urn:oid:2.16.840.1.113883.10.20.24.3.142
Transfer To (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.82:2016-02-01
Reporting Parameters Section	section	urn:oid:2.16.840.1.113883.10.20.17.2.1
Reporting Parameters Act	entry	urn:oid:2.16.840.1.113883.10.20.17.3.8

Template Title	Template Type	templateId
QRDA Category I Framework (V3)	document	urn:hl7ii:2.16.840.1.113883.10.20.24.1.1:2016-02-01
Measure Section	section	urn:oid:2.16.840.1.113883.10.20.24.2.2
Measure Reference	entry	urn:oid:2.16.840.1.113883.10.20.24.3.98
Patient Data Section	section	urn:oid:2.16.840.1.113883.10.20.17.2.4
Reporting Parameters Section	section	urn:oid:2.16.840.1.113883.10.20.17.2.1
Reporting Parameters Act	entry	urn:oid:2.16.840.1.113883.10.20.17.3.8
US Realm Header (V3)	document	urn:hl7ii:2.16.840.1.113883.10.20.22.1.1:2015-08-01
US Realm Address (AD.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.22.5.2
US Realm Date and Time (DTM.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.22.5.4
US Realm Person Name (PN.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.22.5.1.1
Act Intolerance or Adverse Event Observation (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.104:2016-02-01
Reaction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.85:2014-12-01
Deceased Observation (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.79:2015-08-01
Problem Observation (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.4:2015-08-01
Age Observation	entry	urn:oid:2.16.840.1.113883.10.20.22.4.31
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.22.4.119
Priority Preference	entry	urn:oid:2.16.840.1.113883.10.20.22.4.143
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.22.4.119
Problem Status (DEPRECATED)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.6:2014-06-09
Prognosis Observation	entry	urn:oid:2.16.840.1.113883.10.20.22.4.113
Provider Characteristic Observation Assertion (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.114:2016-02-01
Fulfills (V2)	subentry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.126:2016-08-01

7 VALUE SETS IN THIS GUIDE

Table 358: Value Sets

Name	OID	URL
Act Priority	urn:oid:2.16.840.1.113883.1.11.16866	https://vsac.nlm.nih.gov/
ActStatus	urn:oid:2.16.840.1.113883.1.11.159331	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.113883.1.11.15933
AdministrationUnitDoseForm	urn:oid:2.16.840.1.113762.1.4.1021.30	N/A
Administrative Gender (HL7 V3)	urn:oid:2.16.840.1.113883.1.11.1	https://vsac.nlm.nih.gov/
AgePQ_UCUM	urn:oid:2.16.840.1.113883.11.20.9.21	http://unitsofmeasure.org/ucum.html
Allergy and Intolerance Type	urn:oid:2.16.840.1.113883.3.88.12.3221.6.2	https://vsac.nlm.nih.gov
Body Site	urn:oid:2.16.840.1.113883.3.88.12.3221.8.9	https://vsac.nlm.nih.gov/
Clinical Substance	urn:oid:2.16.840.1.113762.1.4.1010.2	https://vsac.nlm.nih.gov/
Country	urn:oid:2.16.840.1.113883.3.88.12.80.63	http://www.iso.org/iso/country_codes/iso_3166_code_lists.htm
Criticality Observation	urn:oid:2.16.840.1.113883.1.11.20549	N/A
CVX Vaccines Administered - Vaccine Set	urn:oid:2.16.840.1.113762.1.4.1010.6	http://www2a.cdc.gov/vaccines/iis/iisstandards/vaccines.asp?rpt=cvx
Detailed Ethnicity	urn:oid:2.16.840.1.114222.4.11.877	http://phinvads.cdc.gov/vads/ViewValueSet.action?pid=34D34BBC-617F-DD11-B38D-00188B398520#
Encounter Planned	urn:oid:2.16.840.1.113883.11.20.9.52	http://vtsl.vetmed.vt.edu/TerminologyMgt/RF2Browser/ISA.cfm?SCT_ConceptID=308335008
EncounterTypeCode	urn:oid:2.16.840.1.113883.3.88.12.80.32	https://vsac.nlm.nih.gov/
EntityNameUse	urn:oid:2.16.840.1.113883.1.11.15913	https://vsac.nlm.nih.gov/
EntityPersonNamePartQualifier	urn:oid:2.16.840.1.113883.11.20.9.26	https://vsac.nlm.nih.gov/
Ethnicity	urn:oid:2.16.840.1.114222.4.11.837	https://vsac.nlm.nih.gov/
Family Member Value Set	urn:oid:2.16.840.1.113883.1.11.19579	http://www.hl7.org/documentcenter/public/standards/vocabulary/vocabulary_tables/infrastructure/vocabulary/vocabulary.htm

Name	OID	URL
Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.114222.4.11.1066	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.1066
HealthcareServiceLocation	urn:oid:2.16.840.1.113883.1.11.20275	https://vsac.nlm.nih.gov/
HL7 BasicConfidentialityKind	urn:oid:2.16.840.1.113883.1.11.16926	https://vsac.nlm.nih.gov/
INDRoleclassCodes	urn:oid:2.16.840.1.113883.11.20.933	https://vsac.nlm.nih.gov/
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/
LanguageAbilityProficiency	urn:oid:2.16.840.1.113883.1.11.12199	https://vsac.nlm.nih.gov/
Marital Status	urn:oid:2.16.840.1.113883.1.11.12212	https://vsac.nlm.nih.gov/
Medication Clinical Drug	urn:oid:2.16.840.1.113762.1.4.10104	http://phinvads.cdc.gov/vads/ViewValueSet.action?id=239BEF3E-971C-DF11-B334-0015173D1785
Medication Fill Status	urn:oid:2.16.840.1.113883.3.88.1280.64	https://vsac.nlm.nih.gov/
Medication Route FDA	urn:oid:2.16.840.1.113883.3.88.123221.8.7	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.113883.3.88.12.3221.8.7
MoodCodeEvnInt	urn:oid:2.16.840.1.113883.11.20.918	https://vsac.nlm.nih.gov/
No Immunization Reason Value Set	urn:oid:2.16.840.1.113883.1.11.19717	https://vsac.nlm.nih.gov/
Observation Interpretation (HL7)	urn:oid:2.16.840.1.113883.1.11.178	https://vsac.nlm.nih.gov/
ParticipationFunction	urn:oid:2.16.840.1.113883.1.11.10267	https://vsac.nlm.nih.gov/
Patient Education	urn:oid:2.16.840.1.113883.11.20.934	https://vsac.nlm.nih.gov/
Payer	urn:oid:2.16.840.1.114222.4.11.3591	https://vsac.nlm.nih.gov/
Personal And Legal Relationship Role Type	urn:oid:2.16.840.1.113883.11.20.12.1	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.113883.11.20.12.1
Planned moodCode (Act/Encounter/Procedure)	urn:oid:2.16.840.1.113883.11.20.923	https://vsac.nlm.nih.gov/
Planned moodCode (Observation)	urn:oid:2.16.840.1.113883.11.20.925	https://vsac.nlm.nih.gov/
Planned moodCode (SubstanceAdministration/Supply)	urn:oid:2.16.840.1.113883.11.20.924	https://vsac.nlm.nih.gov/
PostalAddressUse	urn:oid:2.16.840.1.113883.1.11.10	https://vsac.nlm.nih.gov/

Name	OID	URL
	637	
PostalCode	urn:oid:2.16.840.1.113883.3.88.12.80.2	http://ushik.ahrq.gov/ViewItemDetails?system=mdr&itemKey=86671000
Priority Level	urn:oid:2.16.840.1.113883.11.20.9.60	https://vsac.nlm.nih.gov/
Problem	urn:oid:2.16.840.1.113883.3.88.12.3221.7.4	http://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.113883.3.88.12.3221.7.4
Problem Severity	urn:oid:2.16.840.1.113883.3.88.12.3221.6.8	https://vsac.nlm.nih.gov/
Problem Status	urn:oid:2.16.840.1.113883.3.88.12.80.68	https://vsac.nlm.nih.gov/
Problem Type	urn:oid:2.16.840.1.113883.3.88.12.3221.7.2	http://www.loinc.org
ProblemAct statusCode	urn:oid:2.16.840.1.113883.11.20.9.19	http://www.hl7.org/documentcenter/public/standards/vocabulary/vocabulary_tables/infrastructure/vocabulary/vocabulary.html
ProcedureAct statusCode	urn:oid:2.16.840.1.113883.11.20.9.22	https://vsac.nlm.nih.gov/
QDM Diagnosis Status	urn:oid:2.16.840.1.113762.1.4.102.1.35	https://vsac.nlm.nih.gov/
Race	urn:oid:2.16.840.1.113883.1.11.14.914	https://vsac.nlm.nih.gov/
Race Category Excluding Nulls	urn:oid:2.16.840.1.113883.3.2074.1.1.3	https://vsac.nlm.nih.gov/
Religious Affiliation	urn:oid:2.16.840.1.113883.1.11.19.185	https://vsac.nlm.nih.gov/
Result Status	urn:oid:2.16.840.1.113883.11.20.9.39	https://vsac.nlm.nih.gov/
Specific Vaccine Clinical Drug	urn:oid:2.16.840.1.113762.1.4.101.0.10	https://vsac.nlm.nih.gov/
StateValueSet	urn:oid:2.16.840.1.113883.3.88.12.80.1	http://www.census.gov/geo/reference/ansi_statetables.html
Substance-Reactant for Intolerance	urn:oid:2.16.840.1.113762.1.4.101.0.1	http://www.hl7.org
Telecom Use (US Realm Header)	urn:oid:2.16.840.1.113883.11.20.9.20	https://vsac.nlm.nih.gov/
UnitsOfMeasureCaseSensitive	urn:oid:2.16.840.1.113883.1.11.12.839	http://unitsofmeasure.org/ucum.html
Vaccine Clinical Drug	urn:oid:2.16.840.1.113762.1.4.101.0.8	https://vsac.nlm.nih.gov/
x_ServiceEventPerformer	urn:oid:2.16.840.1.113883.1.11.19.601	http://www.hl7.org/documentcenter/public/standards/vocabulary/vocabulary_tables/infrastructure/vocabulary/vocabulary.html

8 CODE SYSTEMS IN THIS GUIDE

Table 360: Code Systems

Name	OID
ActCode	urn:oid:2.16.840.1.113883.5.4
ActMood	urn:oid:2.16.840.1.113883.5.1001
ActPriority	urn:oid:2.16.840.1.113883.5.7
ActReason	urn:oid:2.16.840.1.113883.5.8
ActStatus	urn:oid:2.16.840.1.113883.5.14
AddressUse	urn:oid:2.16.840.1.113883.5.1119
AdministrativeGender	urn:oid:2.16.840.1.113883.5.1
CDC Vaccine Code (CVX)	urn:oid:2.16.840.1.113883.12.292
ConfidentialityCode	urn:oid:2.16.840.1.113883.5.25
Country	urn:oid:2.16.840.1.113883.3.88.12.80.63
CPT4	urn:oid:2.16.840.1.113883.6.12
EntityClass	urn:oid:2.16.840.1.113883.5.41
EntityNamePartQualifier	urn:oid:2.16.840.1.113883.5.43
EntityNameUse	urn:oid:2.16.840.1.113883.5.45
FIPS 5-2 (State)	urn:oid:2.16.840.1.113883.6.92
Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.113883.6.101
HITSP-CS-83	urn:oid:2.16.840.1.113883.5.83
HL7 HealthcareServiceLocation	urn:oid:2.16.840.1.113883.6.259
HL7 Race	urn:oid:2.16.840.1.113883.5.104
HL7ActClass	urn:oid:2.16.840.1.113883.5.6
HL7ActRelationshipType	urn:oid:2.16.840.1.113883.5.1002
HL7NullFlavor	urn:oid:2.16.840.1.113883.5.1008
HL7ParticipationType	urn:oid:2.16.840.1.113883.5.90
ICD-10-CM	urn:oid:2.16.840.1.113883.6.90
Language	urn:oid:2.16.840.1.113883.6.121
LanguageAbilityMode	urn:oid:2.16.840.1.113883.5.60
LanguageAbilityProficiency	urn:oid:2.16.840.1.113883.5.61
LOINC	urn:oid:2.16.840.1.113883.6.1
MaritalStatus	urn:oid:2.16.840.1.113883.5.2
NCI Thesaurus (NCIt)	urn:oid:2.16.840.1.113883.3.26.1.1
NDFRT	urn:oid:2.16.840.1.113883.3.26.1.5
ObservationValue	urn:oid:2.16.840.1.113883.5.1063
participationFunction	urn:oid:2.16.840.1.113883.5.88
Participationsignature	urn:oid:2.16.840.1.113883.5.89
Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238

Name	OID
ReligiousAffiliation	urn:oid:2.16.840.1.113883.5.1076
RoleClass	urn:oid:2.16.840.1.113883.5.110
RoleCode	urn:oid:2.16.840.1.113883.5.111
RxNorm	urn:oid:2.16.840.1.113883.6.88
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
UCUM	urn:oid:2.16.840.1.113883.6.8
Unique Ingredient Identifier (UNII)	urn:oid:2.16.840.1.113883.4.9
USPostalCodes	urn:oid:2.16.840.1.113883.6.231

9 CHANGES FROM PREVIOUS VERSION

9.1 QDM-Based QRDA (V4)

[QDM-Based QRDA \(V4\) \(urn:hl7ii:2.16.840.1.113883.10.20.24.1.2:2016-08-01\)](#)

Change	Old	New
Name	QDM-Based QRDA (V3)	QDM-Based QRDA (V4)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.24.1.2:2016-02-01	urn:hl7ii:2.16.840.1.113883.10.20.24.1.2:2016-08-01
CONF #: 3265-28696 Added		SHALL contain exactly one [1..1] @extension="2016-08-01" (CONF:3265-28696).
CONF #: 2228-26944 Removed	SHALL contain exactly one [1..1] @extension="2016-02-01" (CONF:2228-26944).	
CONF #: 3265-17093 Modified	This component SHALL contain exactly one [1..1] Patient Data Section QDM (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.2.1:2016-02-01) (CONF:2228-17093).	This component SHALL contain exactly one [1..1] Patient Data Section QDM (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.2.1:2016-08-01) (CONF:3265-17093).

9.2 Diagnosis Concern Act (V2)

[Diagnosis Concern Act \(V2\) \(urn:hl7ii:2.16.840.1.113883.10.20.24.3.137:2016-08-01\)](#)

Change	Old	New
Name	Diagnosis Concern Act	Diagnosis Concern Act (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.24.3.137	urn:hl7ii:2.16.840.1.113883.10.20.24.3.137:2016-08-01
Description	<p>This template, along with its contained template Diagnosis, represents the QDM datatype: Diagnosis.</p> <p>The QDM Version 4.2 has consolidated the previous "Diagnosis, Active" and "Diagnosis, Resolved" QDM datatypes into a single Diagnosis data type.</p> <p>The effectiveTime/low of the Diagnosis Concern Act asserts when the concern became active. This equates to the time the concern was authored in the patient's chart. The effectiveTime/high asserts when the diagnosis was completed (e.g., when the clinician deemed there is no longer any need to track the underlying condition).</p>	<p>This template, along with its contained template Diagnosis, represents the QDM datatype: Diagnosis.</p> <p>The QDM Version 4.2 has consolidated the previous "Diagnosis, Active" and "Diagnosis, Resolved" QDM datatypes into a single Diagnosis data type.</p> <p>The effectiveTime/low of the Diagnosis Concern Act asserts when the concern became active. This equates to the time the concern was authored in the patient's chart. The effectiveTime/high asserts when the diagnosis was completed (e.g., when the clinician deemed there is no longer any need to track the underlying condition).</p> <p>The QDM category Condition/Diagnosis/Problem represents a practitioner's identification of a patient's disease, illness, injury, or condition. This QDM category contains a single datatype to represent all of these concepts: Diagnosis. A practitioner determines the diagnosis by means of examination, diagnostic test results, patient history, and/or family history. Diagnoses are usually considered unfavorable, but may also represent neutral or favorable conditions that affect a patient's plan of care (e.g., pregnancy).</p> <p>Diagnosis Concern Act is derived from the Problem Concern Act template with diagnosis being subject of concern. C-CDA has defined health concerns and problem concerns. Problem concerns are a subset of health concerns. Depending on what QDM</p>

Change	Old	New
		data type is used to specify a health concern in a measure, appropriate QRDA template would be used.
CONF #: 3265-28692 Added		SHALL contain exactly one [1..1] @extension="2016-08-01" (CONF:3265-28692).
CONF #: 3265-28150 Modified	This statusCode SHALL contain exactly one [1..1] @code="active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:2228-28150).	This statusCode SHALL contain exactly one [1..1] @code, which SHALL be selected from ValueSet QDM Diagnosis Status urn:oid:2.16.840.1.113762.1.4.102 1.35 DYNAMIC (CONF:3265-28150).

9.3 Symptom Concern Act (V2)

[Symptom Concern Act \(V2\) \(urn:hl7ii:2.16.840.1.113883.10.20.24.3.138:2016-08-01\)](#)

Change	Old	New
Name	Symptom Concern Act	Symptom Concern Act (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.24.3.138	urn:hl7ii:2.16.840.1.113883.10.20.24.3.138:2016-08-01
Description	<p>This template, along with its contained template Symptom, represents the QDM datatype: Symptom.</p> <p>The QDM Version 4.2 has consolidated the previous "Symptom, Active" and "Symptom, Resolved" QDM datatypes into a single Symptom data type. The QDM Version 4.2 also retired the previous "Symptom, Inactive" and "Symptom, Assessed" QDM datatypes.</p> <p>The effectiveTime/low of the Symptom Concern Act asserts when the health concern became active. This equates to the time the health concern was authored in the patient's chart.</p>	<p>This template, along with its contained template Symptom, represents the QDM datatype: Symptom.</p> <p>The QDM Version 4.2 has consolidated the previous "Symptom, Active" and "Symptom, Resolved" QDM datatypes into a single Symptom data type. The QDM Version 4.2 also retired the previous "Symptom, Inactive" and "Symptom, Assessed" QDM datatypes.</p> <p>The effectiveTime/low of the Symptom Concern Act asserts when the problem concern became active. This equates to the time the problem concern was authored in the patient's chart.</p>
CONF #: 3265-28694 Added		SHALL contain exactly one [1..1] @extension="2016-08-01" (CONF:3265-28694).
CONF #: 3265-28545 Modified	This statusCode SHALL contain exactly one [1..1] @code="active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:2228-28545).	This statusCode SHALL contain exactly one [1..1] @code, which SHALL be selected from ValueSet QDM Diagnosis Status urn:oid:2.16.840.1.113762.1.4.102 1.35 DYNAMIC (CONF:3265-28545).

9.4 Patient Data Section QDM (V4)

Patient Data Section QDM (V4) (<urn:hl7ii:2.16.840.1.113883.10.20.24.2.1:2016-08-01>)

Change	Old	New
Name	Patient Data Section QDM (V3)	Patient Data Section QDM (V4)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.24.2.1:2016-02-01	urn:hl7ii:2.16.840.1.113883.10.20.24.2.1:2016-08-01
Description	<p>The Patient Data Section QDM (V3) contains entries that conform to the QDM approach to QRDA. In contrast to a QRDA Framework Patient Data Section that requires but does not specify the structured entries, the Patient Data Section QDM contained entry templates have specific requirements to align the quality measure data element type with its corresponding NQF QDM HQMF pattern, its referenced value set and potential QDM attributes. Contained entries must reference the corresponding eMeasure value set via the sdtc:valueSet attribute. All entries must also have time element. See Quality Data Model-Based QRDA IG.</p>	<p>The Patient Data Section QDM (V4) contains entries that conform to the QDM approach to QRDA. In contrast to a QRDA Framework Patient Data Section that requires but does not specify the structured entries, the Patient Data Section QDM contained entry templates have specific requirements to align the quality measure data element type with its corresponding NQF QDM HQMF pattern, its referenced value set and potential QDM attributes. Contained entries must reference the corresponding eMeasure value set via the sdtc:valueSet attribute. All entries must also have time element. See Quality Data Model-Based QRDA in Volume 1 of this IG.</p> <p>For time elements, a Coordinated Universal Time (UTC time) offset should not be used anywhere in a QRDA Category I file or, if a UTC time offset is needed anywhere, then it must be specified everywhere a time field is provided. Example time elements are:</p> <ul style="list-style-type: none"> • effectiveTime/@value • effectiveTime/low/@value • effectiveTime/high/@value • time/@value • birthTime/@value • time/low/@value • time/high/@value
CONF #: 3265-28684 Added		MAY contain zero or more [0..*] entry (CONF:3265-28684) such that it
CONF #: 3265-28685 Added		SHALL contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-28685).
CONF #: 3265-28686 Added		SHALL contain exactly one [1..1]

Change	Old	New
		Assessment Performed (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.144:2016-08-01) (CONF:3265-28686).
CONF #: 3265-28687 Added		MAY contain zero or more [0..*] entry (CONF:3265-28687) such that it
CONF #: 3265-28688 Added		SHALL contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3265-28688).
CONF #: 3265-28689 Added		SHALL contain exactly one [1..1] Assessment Recommended (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.145:2016-08-01) (CONF:3265-28689).
CONF #: 2228-13148 Removed	MAY contain zero or more [0..*] entry (CONF:2228-13148) such that it	
CONF #: 2228-13150 Removed	MAY contain zero or more [0..*] entry (CONF:2228-13150) such that it	
CONF #: 2228-13152 Removed	MAY contain zero or more [0..*] entry (CONF:2228-13152) such that it	
CONF #: 2228-13865 Removed	MAY contain zero or more [0..*] entry (CONF:2228-13865) such that it	
CONF #: 2228-13149 Removed	SHALL contain exactly one [1..1] Functional Status Order (V3) (RETIRED) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.25:2016-02-01) (CONF:2228-13149).	
CONF #: 2228-16614 Removed	SHALL contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-16614).	
CONF #: 2228-27139 Removed	SHALL contain exactly one [1..1] Functional Status Performed (V3) (RETIRED) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.26:2016-02-01) (CONF:2228-27139).	
CONF #: 2228-16615 Removed	SHALL contain exactly one [1..1] @typeCode="DRIV" is derived from	

Change	Old	New
	(CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-16615).	
CONF #: 2228-27073 Removed	SHALL contain exactly one [1..1] Functional Status Recommended (V3) (RETIRED) (identifier: urn:hl7ii:2.16.840.1.113883.10.20. 24.3.27:2016-02-01) (CONF:2228- 27073).	
CONF #: 2228-16616 Removed	SHALL contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-16616).	
CONF #: 2228-27300 Removed	SHALL contain exactly one [1..1] Risk Category Assessment (V3) (RETIRED) (identifier: urn:hl7ii:2.16.840.1.113883.10.20. 24.3.69:2016-02-01) (CONF:2228- 27300).	
CONF #: 2228-16639 Removed	SHALL contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:2228-16639).	
CONF #: 3265-28405 Modified	SHALL contain exactly one [1..1] @extension="2016-02-01" (CONF:2228-28405).	SHALL contain exactly one [1..1] @extension="2016-08-01" (CONF:3265-28405).
CONF #: 3265-28549 Modified	SHALL contain exactly one [1..1] Diagnosis Concern Act (identifier: urn:oid:2.16.840.1.113883.10.20.2 4.3.137) (CONF:2228-28549).	SHALL contain exactly one [1..1] Diagnosis Concern Act (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20. 24.3.137:2016-08-01) (CONF:3265-28549).
CONF #: 3265-28550 Modified	SHALL contain exactly one [1..1] Symptom Concern Act (identifier: urn:oid:2.16.840.1.113883.10.20.2 4.3.138) (CONF:2228-28550).	SHALL contain exactly one [1..1] Symptom Concern Act (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20. 24.3.138:2016-08-01) (CONF:3265-28550).

9.5 Fulfills (V2)

[Fulfills \(V2\) \(urn:hl7ii:2.16.840.1.113883.10.20.24.3.126:2016-08-01\)](#)

Change	Old	New
Name	Fulfills	Fulfills (V2)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.24.3.126:2014-12-01	urn:hl7ii:2.16.840.1.113883.10.20.24.3.126:2016-08-01
CONF #: 3265-28690 Added		Such sdtc:ids SHALL contain exactly one [1..1] @root (CONF:3265-28690).
CONF #: 3265-28691 Added		Such sdtc:ids SHALL contain exactly one [1..1] @extension (CONF:3265-28691).
CONF #: 3265-28383 Modified	SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1140-28383).	SHALL contain exactly one [1..1] @extension="2016-08-01" (CONF:3265-28383).
CONF #: 3265-28386 Modified	The 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. The ID cannot have Null value (e.g., nullFlavor is not allowed). This sdtc:actReference SHALL contain at least one [1..*] sdtc:id (CONF:1140-28386).	The 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. This sdtc:actReference SHALL contain at least one [1..*] sdtc:id (CONF:3265-28386).