



**HL7 CDA® R2 Implementation Guide:
Quality Reporting Document Architecture Category I
(QRDA I),
Release 1, STU Release 5.1 - US Realm**

HL7 Standard for Trial Use

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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 Patient Name (PTN.US.FIELDED) (required) US Realm Address (AD.US.FIELDED) (optional) US Realm Address (AD.US.FIELDED) (required) US Realm Person Name (PN.US.FIELDED) (optional) US Realm Date and Time (DTM.US.FIELDED) (optional) US Realm Date and Time (DTM.US.FIELDED) (required)

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.FIELDED) (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.FIELDED) (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 Patient Name (PTN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1)
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:2.16.840.1.113883.1.11.12212 (Marital Status)
religiousAffiliationCode	0..1	MAY		1198-5317	urn:oid:2.16.840.1.113883.1.11.19185 (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:2.16.840.1.113883.1.11.14914 (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)
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:2.16.840.1.113883.11.2.0.9.20 (Telecom Use (US Realm Header))
addr	1..*	SHALL		1198-5422	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.2.0.22.5.2)
author	1..*	SHALL		1198-5444	
time	1..1	SHALL		1198-5445	US Realm Date and Time (DTM.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.2.0.22.5.4)
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.FIELDED) (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.FIELDED) (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.FIELDED) (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.FIELDDED) (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:2.16.840.1.114222.4.11.1066 (Healthcare Provider Taxonomy (HIPAA))
addr	1..*	SHALL		1198-8220	US Realm Address (AD.US.FIELDDED) (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.FIELDDED) (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.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.2.0.22.5.2)
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.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.2.0.22.5.1.1)
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.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.2.0.22.5.4)
signatureCode	1..1	SHALL		1198-5583	
@code	1..1	SHALL		1198-5584	urn:oid:2.16.840.1.113883.5.89 (HL7ParticipationSignature) = 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.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.2.0.22.5.2)
telecom	1..*	SHALL		1198-5595	
@use	0..1	SHOULD		1198-	urn:oid:2.16.840.1.113883.11.2

				7999	0.9.20 (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:2.16.840.1.113883.10.2.0.22.5.1.1)
authenticator	0..*	MAY		1198-5607	
time	1..1	SHALL		1198-5608	US Realm Date and Time (DTM.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.2.0.22.5.4)
signatureCode	1..1	SHALL		1198-5610	
@code	1..1	SHALL		1198-5611	urn:oid:2.16.840.1.113883.5.89 (HL7ParticipationSignature) = S
sdhc: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:2.16.840.1.113883.10.2.0.22.5.2)
telecom	1..*	SHALL		1198-5622	
@use	0..1	SHOULD		1198-8000	urn:oid:2.16.840.1.113883.11.2 0.9.20 (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:2.16.840.1.113883.10.2.0.22.5.1.1)
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).
 - b. This code **SHALL** be drawn from the LOINC document type ontology (LOINC codes where SCALE = DOC) (CONF:1198-32948).
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)
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 Patient Name (PTN.US.FIELDDED)** (identifier:
urn:oid:2.16.840.1.113883.10.20.22.5.1) (CONF:1198-5284).

2. This patient **SHALL** contain exactly one [1..1] **administrativeGenderCode**, which **SHALL** be selected from ValueSet Administrative Gender (HL7 V3)
urn:oid:2.16.840.1.113883.1.11.1 **DYNAMIC** (CONF: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
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
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

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. 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.

3. If country is US, this addr **MAY** contain zero or one [0..1] **postalCode**, which **SHALL** be selected from ValueSet PostalCode
urn:oid:2.16.840.1.113883.3.88.12.80.2 **DYNAMIC** (CONF:1198-5403).

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 \(DTM.US.FIELDIED\)](#) (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: HL7ParticipationSignature 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: HL7ParticipationSignature 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).

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="201809151030" />
  <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" />
  <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" />
  <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" />
  <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 (V4)

[ClinicalDocument: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.1.1:2017-08-01 (open)]

Table 3: QRDA Category I Framework (V4) Contexts

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

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 4: QRDA Category I Framework (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
ClinicalDocument (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.1.1:2017-08-01)					
templateId	1..1	SHALL		3343-12910	
@root	1..1	SHALL		3343-14613	2.16.840.1.113883.10.20.24.1.1
@extension	1..1	SHALL		3343-27005	2017-08-01
code	1..1	SHALL		3343-12911	
@code	1..1	SHALL		3343-28137	55182-0
@codeSystem	1..1	SHALL		3343-28138	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
title	1..1	SHALL		3343-12912	
recordTarget	1..1	SHALL		3343-12913	
patientRole	1..1	SHALL		3343-28387	
patient	0..1	MAY		3343-28388	
sdtc:ethnicGroupCode	0..*	MAY		3343-28389	urn:oid:2.16.840.1.114222.4.11.877 (Detailed Ethnicity)
custodian	1..1	SHALL		3343-12914	
assignedCustodian	1..1	SHALL		3343-12915	
representedCustodianOrganization	1..1	SHALL		3343-12916	
component	1..1	SHALL		3343-12918	
structuredBody	1..1	SHALL		3343-12919	
component	1..1	SHALL		3343-12920	
section	1..1	SHALL		3343-17078	Measure Section (identifier: urn:oid:2.16.840.1.113883.10.20.24.2.2)
component	1..1	SHALL		3343-12923	
section	1..1	SHALL		3343-17079	Reporting Parameters Section (identifier:

					urn:oid:2.16.840.1.113883.10.20.17.2.1
component	1..1	SHALL		3343-12924	
section	1..1	SHALL		3343-17080	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:3343-12910) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.1.1" (CONF:3343-14613).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-27005).
3. **SHALL** contain exactly one [1..1] **code** (CONF:3343-12911).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="55182-0" Quality Measure Report (CONF:3343-28137).
 - 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:3343-28138).
4. **SHALL** contain exactly one [1..1] **title** (CONF:3343-12912).
5. **SHALL** contain exactly one [1..1] **recordTarget** (CONF:3343-12913).
 - a. This recordTarget **SHALL** contain exactly one [1..1] **patientRole** (CONF:3343-28387).
 - i. This patientRole **MAY** contain zero or one [0..1] **patient** (CONF:3343-28388).
 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:3343-28389).
6. **SHALL** contain exactly one [1..1] **custodian** (CONF:3343-12914).
 - a. This custodian **SHALL** contain exactly one [1..1] **assignedCustodian** (CONF:3343-12915).
 - i. This assignedCustodian **SHALL** contain exactly one [1..1] **representedCustodianOrganization** (CONF:3343-12916).
 1. This assignedCustodian **SHALL** represent the organization that owns and reports the data (CONF:3343-12917).
7. **SHALL** contain exactly one [1..1] **component** (CONF:3343-12918).
 - a. This component **SHALL** contain exactly one [1..1] **structuredBody** (CONF:3343-12919).
 - i. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:3343-12920) 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:3343-17078).
 - ii. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:3343-12923) 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:3343-17079).
- iii. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:3343-12924) 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:3343-17080).

1.1.3 QDM-Based QRDA (V6)

[ClinicalDocument: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.1.2:2018-10-01 (open)]

Draft as part of Quality Reporting Document Architecture Category I (QRDA I), Release 1, STU Release 5.1, US Realm

Table 5: QDM-Based QRDA (V6) Contexts

Contained By:	Contains:
	Reporting Parameters Section (required) Measure Section QDM (required) Patient Data Section QDM (V6) (required)

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

Table 6: QDM-Based QRDA (V6) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
ClinicalDocument (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.1.2:2018-10-01)					
templateId	1..1	SHALL		4388-12972	
@root	1..1	SHALL		4388-26943	2.16.840.1.113883.10.20.24.1.2
@extension	1..1	SHALL		4388-28696	2018-10-01
recordTarget	1..1	SHALL		4388-16598	
patientRole	1..1	SHALL		4388-16856	
id	0..1	MAY		4388-16857	
@root	1..1	SHALL		4388-16858	2.16.840.1.113883.4.572
id	0..1	MAY		4388-28697	
@root	1..1	SHALL		4388-28698	2.16.840.1.113883.4.927
patient	1..1	SHALL		4388-27570	
administrativeGenderCode	1..1	SHALL		4388-27572	
birthTime	1..1	SHALL		4388-27571	
raceCode	1..1	SHALL		4388-27573	
ethnicGroupCode	1..1	SHALL		4388-27574	
custodian	1..1	SHALL		4388-16600	
assignedCustodian	1..1	SHALL		4388-28239	
representedCustodianOrganization	1..1	SHALL		4388-28240	
id	0..1	MAY		4388-28241	
@root	1..1	SHALL		4388-28244	2.16.840.1.113883.4.336
@extension	1..1	SHALL		4388-28245	
id	0..1	MAY		4388-28242	

XPath	Card.	Verb	Data Type	CONF#	Value
@root	1..1	SHALL		4388-28246	2.16.840.1.113883.4.2
@extension	1..1	SHALL		4388-28247	
id	0..1	MAY		4388-28243	
@root	1..1	SHALL		4388-28248	1.3.6.1.4.1.33895
@extension	1..1	SHALL		4388-28249	
informationRecipient	0..*	MAY		4388-16703	
intendedRecipient	1..1	SHALL		4388-16704	
id	1..*	SHALL		4388-16705	
documentationOf	0..1	MAY		4388-16579	
serviceEvent	1..1	SHALL		4388-16580	
@classCode	1..1	SHALL		4388-16581	PCPR
performer	1..*	SHALL		4388-16583	
@typeCode	1..1	SHALL		4388-16584	PRF
time	0..1	MAY		4388-16585	
assignedEntity	1..1	SHALL		4388-16586	
id	0..1	MAY		4388-16587	
@root	1..1	SHALL		4388-16588	2.16.840.1.113883.4.6
representedOrganization	1..1	SHALL		4388-16591	
id	0..1	SHOULD		4388-16592	
@root	1..1	SHALL		4388-16593	2.16.840.1.113883.4.2
id	0..1	MAY		4388-16595	
@root	1..1	SHALL		4388-16596	2.16.840.1.113883.4.336
@extension	1..1	SHALL		4388-	

XPath	Card.	Verb	Data Type	CONF#	Value
				16597	
component	1..1	SHALL		4388-12973	
structuredBody	1..1	SHALL		4388-17081	
component	1..1	SHALL		4388-17082	
section	1..1	SHALL		4388-17083	Measure Section QDM (identifier: urn:oid:2.16.840.1.113883.10.20.24.2.3)
component	1..1	SHALL		4388-17090	
section	1..1	SHALL		4388-17092	Reporting Parameters Section (identifier: urn:oid:2.16.840.1.113883.10.20.17.2.1)
component	1..1	SHALL		4388-17091	
section	1..1	SHALL		4388-17093	Patient Data Section QDM (V6) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.2.1:2018-10-01)

1. Conforms to [QRDA Category I Framework \(V4\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.1.1:2017-08-01).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:4388-12972) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.1.2" (CONF:4388-26943).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2018-10-01" (CONF:4388-28696).
3. **SHALL** contain exactly one [1..1] **recordTarget** (CONF:4388-16598).
 - a. This recordTarget **SHALL** contain exactly one [1..1] **patientRole** (CONF:4388-16856).
 - i. This patientRole **MAY** contain zero or one [0..1] **id** (CONF:4388-16857) such that it
 1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.4.572" Medicare HIC number (CONF:4388-16858).
 - ii. This patientRole **MAY** contain zero or one [0..1] **id** (CONF:4388-28697) such that it
 1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.4.927" Medicare Beneficiary Identifier (MBI) (CONF:4388-28698).
 - iii. This patientRole **SHALL** contain exactly one [1..1] **patient** (CONF:4388-27570).

1. This patient **SHALL** contain exactly one [1..1] **administrativeGenderCode** (CONF:4388-27572).
Note: QDM Datatype: Patient Characteristic, Sex
2. This patient **SHALL** contain exactly one [1..1] **birthTime** (CONF:4388-27571).
Note: QDM Datatype: Patient Characteristic, Birth Date
3. This patient **SHALL** contain exactly one [1..1] **raceCode** (CONF:4388-27573).
Note: QDM Datatype: Patient Characteristic, Race
4. This patient **SHALL** contain exactly one [1..1] **ethnicGroupCode** (CONF:4388-27574).
Note: QDM Datatype: Patient Characteristic, Ethnicity
4. **SHALL** contain exactly one [1..1] **custodian** (CONF:4388-16600).
 - a. This custodian **SHALL** contain exactly one [1..1] **assignedCustodian** (CONF:4388-28239).
 - i. This assignedCustodian **SHALL** contain exactly one [1..1] **representedCustodianOrganization** (CONF:4388-28240).
 1. This representedCustodianOrganization **MAY** contain zero or one [0..1] **id** (CONF:4388-28241) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.4.336" CMS Certification Number (CONF:4388-28244).
 - b. **SHALL** contain exactly one [1..1] **@extension** (CONF:4388-28245).
 2. This representedCustodianOrganization **MAY** contain zero or one [0..1] **id** (CONF:4388-28242) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.4.2" Tax ID Number (CONF:4388-28246).
 - b. **SHALL** contain exactly one [1..1] **@extension** (CONF:4388-28247).
 3. This representedCustodianOrganization **MAY** contain zero or one [0..1] **id** (CONF:4388-28243) 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:4388-28248).
 - b. **SHALL** contain exactly one [1..1] **@extension** (CONF:4388-28249).
5. **MAY** contain zero or more [0..*] **informationRecipient** (CONF:4388-16703).
 - a. The informationRecipient, if present, **SHALL** contain exactly one [1..1] **intendedRecipient** (CONF:4388-16704).
 - i. This intendedRecipient **SHALL** contain at least one [1..*] **id** (CONF:4388-16705).

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:4388-16706).
6. **MAY** contain zero or one [0..1] **documentationOf** (CONF:4388-16579) such that it
 - a. **SHALL** contain exactly one [1..1] **serviceEvent** (CONF:4388-16580).
 - i. This serviceEvent **SHALL** contain exactly one [1..1] **@classCode**="PCPR" Care Provision (CONF:4388-16581).
 - ii. This serviceEvent **SHALL** contain at least one [1..*] **performer** (CONF:4388-16583).
 1. Such performers **SHALL** contain exactly one [1..1] **@typeCode**="PRF" Performer (CONF:4388-16584).
 2. Such performers **MAY** contain zero or one [0..1] **time** (CONF:4388-16585).
 3. Such performers **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:4388-16586).

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

- a. This assignedEntity **MAY** contain zero or one [0..1] **id** (CONF:4388-16587) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.4.6" National Provider ID (CONF:4388-16588).
- b. This assignedEntity **SHALL** contain exactly one [1..1] **representedOrganization** (CONF:4388-16591).

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:4388-16592) such that it
 1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.4.2" Tax ID Number (CONF:4388-16593).

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

- ii. This representedOrganization **MAY** contain zero or one [0..1] **id** (CONF:4388-16595) such that it
 1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.4.336" Facility CMS Certification Number (CONF:4388-16596).
 2. **SHALL** contain exactly one [1..1] **@extension** (CONF:4388-16597).
7. **SHALL** contain exactly one [1..1] **component** (CONF:4388-12973) such that it
 - a. **SHALL** contain exactly one [1..1] **structuredBody** (CONF:4388-17081).

- i. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:4388-17082) such that it
 1. **SHALL** contain exactly one [1..1] [Measure Section QDM](#) (identifier: urn:oid:2.16.840.1.113883.10.20.24.2.3) (CONF:4388-17083).
- ii. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:4388-17090) 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:4388-17092).
- iii. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:4388-17091) such that it
 1. **SHALL** contain exactly one [1..1] [Patient Data Section QDM \(V6\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.2.1:2018-10-01) (CONF:4388-17093).

Figure 17: documentationOf/serviceEvent example with identifiers

```

<documentationOf typeCode="DOC">
  <serviceEvent classCode="PCPR">
    <!-- care provision -->
    <effectiveTime>
      <low value="20180101"/>
      <high value="20181231"/>
    </effectiveTime>
    <!-- Can include multiple performers, each with identifiers such as an NPI, TIN,
CCN. -->
    <performer typeCode="PRF">
      <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="654321" />
        </representedOrganization>
      </assignedEntity>
    </performer>
  </serviceEvent>
</documentationOf>

```

2 SECTION-LEVEL TEMPLATES

2.1 Measure Section

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

Table 7: Measure Section Contexts

Contained By:	Contains:
QRDA Category I Framework (V4) (required)	Measure Reference (required)

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 8: 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) such that it
 - a. **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 9: Measure Section QDM Contexts

Contained By:	Contains:
QDM-Based QRDA (V6) (required)	eMeasure Reference QDM (required)

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

Table 10: 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 eCQM -->
  <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 eCQM 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 11: Patient Data Section Contexts

Contained By:	Contains:
QRDA Category I Framework (V4) (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) 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.

Table 12: 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 (V6)

[section: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.2.1:2018-10-01
(open)]

Draft as part of Quality Reporting Document Architecture Category I (QRDA I),
Release 1, STU Release 5.1, US Realm

Table 13: Patient Data Section QDM (V6) Contexts

Contained By:	Contains:
QDM-Based QRDA (V6) (required)	Patient Characteristic Payer (optional) Patient Characteristic Expired (V3) (optional) Adverse Event (optional) Assessment Performed (V2) (optional) Assessment Recommended (V2) (optional) Encounter Performed Act (V2) (optional) Encounter Order Act (V2) (optional) Encounter Recommended Act (V2) (optional) Allergy Intolerance (optional) Symptom Concern Act (V3) (optional) Medication Active (V4) (optional) Diagnostic Study Order (V4) (optional) Diagnostic Study Performed (V4) (optional) Diagnosis Concern Act (V3) (optional) Family History Organizer QDM (V4) (optional) Device Order Act (V2) (optional) Device Recommended Act (V2) (optional) Immunization Order (V2) (optional) Intervention Performed (V4) (optional) Intervention Recommended (V4) (optional) Intervention Order (V4) (optional) Laboratory Test Order (V4) (optional) Laboratory Test Recommended (V4) (optional) Patient Care Experience (V4) (optional) Patient Characteristic Clinical Trial Participant (V4) (optional) Physical Exam Order (V4) (optional) Physical Exam Performed (V4) (optional) Physical Exam Recommended (V4) (optional) Provider Care Experience (V4) (optional) Substance Recommended (V4) (optional) Care Goal (V4) (optional) Provider Characteristic Observation Assertion (V3) (optional) Patient Characteristic Observation Assertion (V4) (optional) Diagnostic Study Recommended (V4) (optional) Immunization Administered (V2) (optional) Medication Administered (V4) (optional)

Contained By:	Contains:
	Program Participation (optional) Laboratory Test Performed (V4) (optional) Communication Performed (optional) Discharge Medication (V4) (optional) Medication Dispensed Act (V3) (optional) Medication Order (V5) (optional) Procedure Order (V5) (optional) Procedure Recommended (V5) (optional) Procedure Performed (V5) (optional) Assessment Order (optional) Device Applied (V5) (optional)

The Patient Data Section QDM (V6) 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 QDM HQMF pattern and QDM attributes. 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
- time/low/@value
- time/high/@value

Table 14: Patient Data Section QDM (V6) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.2.1:2018-10-01)					
templateId	1..1	SHALL		4388-12796	
@root	1..1	SHALL		4388-12797	2.16.840.1.113883.10.20.24.2.1
@extension	1..1	SHALL		4388-28405	2018-10-01
entry	0..*	MAY		4388-29176	
@typeCode	1..1	SHALL		4388-29178	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		4388-29177	Communication Performed (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.156:2018-10-01)
entry	0..*	MAY		4388-28684	
@typeCode	1..1	SHALL		4388-28685	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		4388-28686	Assessment Performed (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.144:2017-08-01)
entry	0..*	MAY		4388-28687	
@typeCode	1..1	SHALL		4388-28688	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		4388-28689	Assessment Recommended (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.145:2017-08-01)
entry	0..*	MAY		4388-29251	
@typeCode	1..1	SHALL		4388-29252	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		4388-29253	Assessment Order (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.158:2018-10-01)
entry	0..*	MAY		4388-29236	
@typeCode	0..1	MAY		4388-	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType)

XPath	Card.	Verb	Data Type	CONF#	Value
				29238	= DRIV
observation	1..1	SHALL		4388-29237	
entry	0..*	MAY		4388-12904	
@typeCode	1..1	SHALL		4388-16604	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		4388-28460	Device Order Act (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.130:2017-08-01
entry	0..*	MAY		4388-12906	
@typeCode	1..1	SHALL		4388-16605	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		4388-28461	Device Recommended Act (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.131:2017-08-01
entry	0..*	MAY		4388-12908	
@typeCode	1..1	SHALL		4388-16606	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		4388-28549	Diagnosis Concern Act (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.137:2017-08-01
entry	0..*	MAY		4388-13034	
@typeCode	1..1	SHALL		4388-16612	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		4388-28494	Encounter Order Act (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.132:2017-08-01
entry	0..*	MAY		4388-13146	
@typeCode	1..1	SHALL		4388-16613	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		4388-28495	Encounter Recommended Act (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.134:2017-08-01

XPath	Card.	Verb	Data Type	CONF#	Value
entry	0..*	MAY		4388-13154	
@typeCode	1..1	SHALL		4388-16617	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		4388-27076	Laboratory Test Order (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.37:2017-08-01)
entry	0..*	MAY		4388-13156	
@typeCode	1..1	SHALL		4388-16618	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		4388-27156	Laboratory Test Performed (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.38:2017-08-01)
entry	0..*	MAY		4388-13162	
@typeCode	1..1	SHALL		4388-16620	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
procedure	1..1	SHALL		4388-27084	Procedure Order (V5) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.63:2018-10-01)
entry	0..*	MAY		4388-13164	
@typeCode	1..1	SHALL		4388-16621	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
procedure	1..1	SHALL		4388-27130	Procedure Performed (V5) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.64:2018-10-01)
entry	0..*	MAY		4388-13166	
@typeCode	1..1	SHALL		4388-16622	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
procedure	1..1	SHALL		4388-27087	Procedure Recommended (V5) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.65:2018-10-01)
entry	0..*	MAY		4388-13170	
@typeCode	1..1	SHALL		4388-	urn:oid:2.16.840.1.113883.5.1

XPath	Card.	Verb	Data Type	CONF#	Value
				16624	002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		4388-27295	Provider Care Experience (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.67:2017-08-01)
entry	0..*	MAY		4388-13172	
@typeCode	1..1	SHALL		4388-16625	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		4388-28550	Symptom Concern Act (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.138:2017-08-01)
entry	0..*	MAY		4388-13245	
@typeCode	1..1	SHALL		4388-16628	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		4388-27296	Patient Care Experience (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.48:2017-08-01)
entry	0..*	MAY		4388-13249	
@typeCode	1..1	SHALL		4388-16630	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		4388-27136	Physical Exam Performed (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.59:2017-08-01)
entry	0..*	MAY		4388-13268	
@typeCode	1..1	SHALL		4388-16634	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
procedure	1..1	SHALL		4388-27133	Device Applied (V5) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.7:2018-10-01)
entry	0..*	MAY		4388-13272	
@typeCode	1..1	SHALL		4388-16636	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		4388-13273	Laboratory Test Recommended (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.7:2018-10-01)

XPath	Card.	Verb	Data Type	CONF#	Value
					urn:hl7ii:2.16.840.1.113883.1.0.20.24.3.39:2017-08-01
entry	0..*	MAY		4388-13294	
@typeCode	1..1	SHALL		4388-16638	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		4388-13295	Physical Exam Recommended (V4) (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.24.3.60:2017-08-01)
entry	0..*	MAY		4388-13903	
@typeCode	1..1	SHALL		4388-16642	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
substanceAdministration	1..1	SHALL		4388-27090	Medication Order (V5) (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.24.3.47:2018-10-01)
entry	0..*	MAY		4388-13910	
@typeCode	1..1	SHALL		4388-16643	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
substanceAdministration	1..1	SHALL		4388-27040	Medication Active (V4) (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.24.3.41:2017-08-01)
entry	0..*	MAY		4388-13912	
@typeCode	1..1	SHALL		4388-16644	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		4388-28570	Medication Dispensed Act (V3) (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.24.3.139:2018-10-01)
entry	0..*	MAY		4388-13916	
@typeCode	1..1	SHALL		4388-16645	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		4388-27042	Intervention Recommended (V4) (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.24.3.33:2017-08-01)
entry	0..*	MAY		4388-	

XPath	Card.	Verb	Data Type	CONF#	Value
				13918	
@typeCode	1..1	SHALL		4388-28434	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		4388-27145	Intervention Performed (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.32:2017-08-01)
entry	0..*	MAY		4388-13920	
@typeCode	1..1	SHALL		4388-16646	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		4388-27043	Intervention Order (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.31:2017-08-01)
entry	0..*	MAY		4388-13941	
@typeCode	1..1	SHALL		4388-16649	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		4388-28496	Encounter Performed Act (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.133:2017-08-01)
entry	0..*	MAY		4388-13947	
@typeCode	1..1	SHALL		4388-16653	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		4388-28956	Diagnostic Study Recommended (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.19:2017-08-01)
entry	0..*	MAY		4388-13949	
@typeCode	1..1	SHALL		4388-16654	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		4388-27142	Diagnostic Study Performed (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.18:2017-08-01)
entry	0..*	MAY		4388-13951	
@typeCode	1..1	SHALL		4388-16655	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType)

XPath	Card.	Verb	Data Type	CONF#	Value
					= DRIV
observation	1..1	SHALL		4388-13952	Diagnostic Study Order (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.17:2017-08-01)
entry	0..*	MAY		4388-14247	
@typeCode	1..1	SHALL		4388-16660	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		4388-27048	Patient Characteristic Clinical Trial Participant (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.51:2017-08-01)
entry	0..*	MAY		4388-14428	
@typeCode	1..1	SHALL		4388-16665	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
substanceAdministration	1..1	SHALL		4388-27153	Substance Recommended (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.75:2017-08-01)
entry	0..*	MAY		4388-14430	
@typeCode	1..1	SHALL		4388-16666	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		4388-14431	Patient Characteristic Payer (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.55)
entry	0..*	MAY		4388-14471	
@typeCode	1..1	SHALL		4388-16667	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		4388-27052	Patient Characteristic Expired (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.54:2016-02-01)
entry	0..*	MAY		4388-14565	
@typeCode	1..1	SHALL		4388-16670	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
organizer	1..1	SHALL		4388-	Family History Organizer QDM

XPath	Card.	Verb	Data Type	CONF#	Value
				27055	(V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.12:2017-08-01)
entry	0..*	MAY		4388-16548	
@typeCode	1..1	SHALL		4388-16674	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		4388-16549	Patient Characteristic Observation Assertion (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.103:2017-08-01)
entry	0..*	MAY		4388-16556	
@typeCode	1..1	SHALL		4388-16675	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
act	1..1	SHALL		4388-27062	Discharge Medication (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.105:2018-10-01)
entry	0..*	MAY		4388-16574	
@typeCode	1..1	SHALL		4388-16676	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		4388-27068	Care Goal (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.1:2017-08-01)
entry	0..*	MAY		4388-16707	
@typeCode	1..1	SHALL		4388-16708	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
substanceAdministration	1..1	SHALL		4388-28906	Medication Administered (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.42:2017-08-01)
entry	0..*	MAY		4388-27079	
@typeCode	1..1	SHALL		4388-27080	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		4388-27081	Physical Exam Order (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.58:2017-08-01)

XPath	Card.	Verb	Data Type	CONF#	Value
entry	0..*	MAY		4388-28594	
@typeCode	1..1	SHALL		4388-28595	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
substanceAdministration	1..1	SHALL		4388-29138	Immunization Administered (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.140:2017-08-01)
entry	0..*	MAY		4388-28648	
@typeCode	1..1	SHALL		4388-28649	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
substanceAdministration	1..1	SHALL		4388-28650	Immunization Order (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.143:2017-08-01)
entry	0..*	MAY		4388-28747	
@typeCode	1..1	SHALL		4388-28748	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		4388-28749	Adverse Event (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.146:2017-08-01)
entry	0..*	MAY		4388-28851	
@typeCode	1..1	SHALL		4388-28852	DRIV
observation	1..1	SHALL		4388-28853	Allergy Intolerance (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.147:2017-08-01)
entry	0..*	MAY		4388-28953	
@typeCode	1..1	SHALL		4388-28954	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observation	1..1	SHALL		4388-28955	Provider Characteristic Observation Assertion (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.114:2017-08-01)
entry	0..*	MAY		4388-28979	
@typeCode	1..1	SHALL		4388-28980	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV

XPath	Card.	Verb	Data Type	CONF#	Value
observation	1..1	SHALL		4388-28981	Program Participation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.154:2017-08-01)

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:4388-12796) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.2.1" (CONF:4388-12797).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2018-10-01" (CONF:4388-28405).
3. **MAY** contain zero or more [0..*] **entry** (CONF:4388-29176) 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:4388-29178).
 - b. **SHALL** contain exactly one [1..1] [Communication Performed](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.156:2018-10-01) (CONF:4388-29177).
4. **MAY** contain zero or more [0..*] **entry** (CONF:4388-28684) 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:4388-28685).
 - b. **SHALL** contain exactly one [1..1] [Assessment Performed \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.144:2017-08-01) (CONF:4388-28686).
5. **MAY** contain zero or more [0..*] **entry** (CONF:4388-28687) 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:4388-28688).
 - b. **SHALL** contain exactly one [1..1] [Assessment Recommended \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.145:2017-08-01) (CONF:4388-28689).
6. **MAY** contain zero or more [0..*] **entry** (CONF:4388-29251) 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:4388-29252).
 - b. **SHALL** contain exactly one [1..1] [Assessment Order](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.158:2018-10-01) (CONF:4388-29253).
7. **MAY** contain zero or more [0..*] **entry** (CONF:4388-29236) such that it
 - a. **MAY** contain zero or one [0..1] **@typeCode**="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4388-29238).

- b. **SHALL** contain exactly one [1..1] **observation** (CONF:4388-29237).
- 8. **MAY** contain zero or more [0..*] **entry** (CONF:4388-12904) 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:4388-16604).
 - b. **SHALL** contain exactly one [1..1] [Device Order Act \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.130:2017-08-01) (CONF:4388-28460).
- 9. **MAY** contain zero or more [0..*] **entry** (CONF:4388-12906) 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:4388-16605).
 - b. **SHALL** contain exactly one [1..1] [Device Recommended Act \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.131:2017-08-01) (CONF:4388-28461).
- 10. **MAY** contain zero or more [0..*] **entry** (CONF:4388-12908) 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:4388-16606).
 - b. **SHALL** contain exactly one [1..1] [Diagnosis Concern Act \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.137:2017-08-01) (CONF:4388-28549).
- 11. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13034) 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:4388-16612).
 - b. **SHALL** contain exactly one [1..1] [Encounter Order Act \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.132:2017-08-01) (CONF:4388-28494).
- 12. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13146) 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:4388-16613).
 - b. **SHALL** contain exactly one [1..1] [Encounter Recommended Act \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.134:2017-08-01) (CONF:4388-28495).
- 13. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13154) 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:4388-16617).
 - b. **SHALL** contain exactly one [1..1] [Laboratory Test Order \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.37:2017-08-01) (CONF:4388-27076).
- 14. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13156) 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:4388-16618).
 - b. **SHALL** contain exactly one [1..1] [Laboratory Test Performed \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.38:2017-08-01) (CONF:4388-27156).
- 15. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13162) 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:4388-16620).
 - b. **SHALL** contain exactly one [1..1] [Procedure Order \(V5\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.63:2018-10-01) (CONF:4388-27084).
- 16. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13164) 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:4388-16621).
 - b. **SHALL** contain exactly one [1..1] [Procedure Performed \(V5\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.64:2018-10-01) (CONF:4388-27130).
- 17. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13166) 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:4388-16622).
 - b. **SHALL** contain exactly one [1..1] [Procedure Recommended \(V5\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.65:2018-10-01) (CONF:4388-27087).
- 18. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13170) 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:4388-16624).
 - b. **SHALL** contain exactly one [1..1] [Provider Care Experience \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.67:2017-08-01) (CONF:4388-27295).
- 19. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13172) 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:4388-16625).
 - b. **SHALL** contain exactly one [1..1] [Symptom Concern Act \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.138:2017-08-01) (CONF:4388-28550).
- 20. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13245) 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:4388-16628).

- b. **SHALL** contain exactly one [1..1] [Patient Care Experience \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.48:2017-08-01) (CONF:4388-27296).
- 21. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13249) 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:4388-16630).
 - b. **SHALL** contain exactly one [1..1] [Physical Exam Performed \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.59:2017-08-01) (CONF:4388-27136).
- 22. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13268) 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:4388-16634).
 - b. **SHALL** contain exactly one [1..1] [Device Applied \(V5\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.7:2018-10-01) (CONF:4388-27133).
- 23. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13272) 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:4388-16636).
 - b. **SHALL** contain exactly one [1..1] [Laboratory Test Recommended \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.39:2017-08-01) (CONF:4388-13273).
- 24. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13294) 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:4388-16638).
 - b. **SHALL** contain exactly one [1..1] [Physical Exam Recommended \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.60:2017-08-01) (CONF:4388-13295).
- 25. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13903) 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:4388-16642).
 - b. **SHALL** contain exactly one [1..1] [Medication Order \(V5\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.47:2018-10-01) (CONF:4388-27090).
- 26. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13910) 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:4388-16643).
 - b. **SHALL** contain exactly one [1..1] [Medication Active \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.41:2017-08-01) (CONF:4388-27040).

27. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13912) 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:4388-16644).
 - b. **SHALL** contain exactly one [1..1] [Medication Dispensed Act \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.139:2018-10-01) (CONF:4388-28570).
28. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13916) 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:4388-16645).
 - b. **SHALL** contain exactly one [1..1] [Intervention Recommended \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.33:2017-08-01) (CONF:4388-27042).
29. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13918) 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:4388-28434).
 - b. **SHALL** contain exactly one [1..1] [Intervention Performed \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.32:2017-08-01) (CONF:4388-27145).
30. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13920) 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:4388-16646).
 - b. **SHALL** contain exactly one [1..1] [Intervention Order \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.31:2017-08-01) (CONF:4388-27043).
31. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13941) 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:4388-16649).
 - b. **SHALL** contain exactly one [1..1] [Encounter Performed Act \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.133:2017-08-01) (CONF:4388-28496).
32. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13947) 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:4388-16653).
 - b. **SHALL** contain exactly one [1..1] [Diagnostic Study Recommended \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.19:2017-08-01) (CONF:4388-28956).
33. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13949) 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:4388-16654).
 - b. **SHALL** contain exactly one [1..1] [Diagnostic Study Performed \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.18:2017-08-01) (CONF:4388-27142).
- 34. **MAY** contain zero or more [0..*] **entry** (CONF:4388-13951) 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:4388-16655).
 - b. **SHALL** contain exactly one [1..1] [Diagnostic Study Order \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.17:2017-08-01) (CONF:4388-13952).
- 35. **MAY** contain zero or more [0..*] **entry** (CONF:4388-14247) 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:4388-16660).
 - b. **SHALL** contain exactly one [1..1] [Patient Characteristic Clinical Trial Participant \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.51:2017-08-01) (CONF:4388-27048).
- 36. **MAY** contain zero or more [0..*] **entry** (CONF:4388-14428) 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:4388-16665).
 - b. **SHALL** contain exactly one [1..1] [Substance Recommended \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.75:2017-08-01) (CONF:4388-27153).
- 37. **MAY** contain zero or more [0..*] **entry** (CONF:4388-14430) 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:4388-16666).
 - b. **SHALL** contain exactly one [1..1] [Patient Characteristic Payer](#) (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.55) (CONF:4388-14431).
- 38. **MAY** contain zero or more [0..*] **entry** (CONF:4388-14471) 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:4388-16667).
 - 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:4388-27052).
- 39. **MAY** contain zero or more [0..*] **entry** (CONF:4388-14565) 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:4388-16670).

- b. **SHALL** contain exactly one [1..1] [Family History Organizer QDM \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.12:2017-08-01) (CONF:4388-27055).
- 40. **MAY** contain zero or more [0..*] **entry** (CONF:4388-16548) 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:4388-16674).
 - b. **SHALL** contain exactly one [1..1] [Patient Characteristic Observation Assertion \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.103:2017-08-01) (CONF:4388-16549).
- 41. **MAY** contain zero or more [0..*] **entry** (CONF:4388-16556) 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:4388-16675).
 - b. **SHALL** contain exactly one [1..1] [Discharge Medication \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.105:2018-10-01) (CONF:4388-27062).
- 42. **MAY** contain zero or more [0..*] **entry** (CONF:4388-16574) 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:4388-16676).
 - b. **SHALL** contain exactly one [1..1] [Care Goal \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.1:2017-08-01) (CONF:4388-27068).
- 43. **MAY** contain zero or more [0..*] **entry** (CONF:4388-16707) 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:4388-16708).
 - b. **SHALL** contain exactly one [1..1] [Medication Administered \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.42:2017-08-01) (CONF:4388-28906).
- 44. **MAY** contain zero or more [0..*] **entry** (CONF:4388-27079) 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:4388-27080).
 - b. **SHALL** contain exactly one [1..1] [Physical Exam Order \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.58:2017-08-01) (CONF:4388-27081).
- 45. **MAY** contain zero or more [0..*] **entry** (CONF:4388-28594) 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:4388-28595).

- b. **SHALL** contain exactly one [1..1] [Immunization Administered \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.140:2017-08-01) (CONF:4388-29138).
- 46. **MAY** contain zero or more [0..*] **entry** (CONF:4388-28648) 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:4388-28649).
 - b. **SHALL** contain exactly one [1..1] [Immunization Order \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.143:2017-08-01) (CONF:4388-28650).
- 47. **MAY** contain zero or more [0..*] **entry** (CONF:4388-28747) 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:4388-28748).
 - b. **SHALL** contain exactly one [1..1] [Adverse Event](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.146:2017-08-01) (CONF:4388-28749).
- 48. **MAY** contain zero or more [0..*] **entry** (CONF:4388-28851) such that it
 - a. **SHALL** contain exactly one [1..1] @**typeCode**="DRIV" is derived from (CONF:4388-28852).
 - b. **SHALL** contain exactly one [1..1] [Allergy Intolerance](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.147:2017-08-01) (CONF:4388-28853).
- 49. **MAY** contain zero or more [0..*] **entry** (CONF:4388-28953) 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:4388-28954).
 - b. **SHALL** contain exactly one [1..1] [Provider Characteristic Observation Assertion \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.114:2017-08-01) (CONF:4388-28955).
- 50. **MAY** contain zero or more [0..*] **entry** (CONF:4388-28979) 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:4388-28980).
 - b. **SHALL** contain exactly one [1..1] [Program Participation](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.154:2017-08-01) (CONF:4388-28981).

2.3 Reporting Parameters Section

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

Table 15: Reporting Parameters Section Contexts

Contained By:	Contains:
QRDA Category I Framework (V4) (required) QDM-Based QRDA (V6) (required)	Reporting Parameters Act (required)

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 16: 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:2.16.840.1.113883.5.10 02 (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 Admission Source

[participantRole: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.151:2017-08-01 (open)]

Table 17: Admission Source Contexts

Contained By:	Contains:
Encounter Performed (V4) (optional)	

This template represents the source of admission (point of origin) of an encounter.

Table 18: Admission Source Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
participantRole (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.151:2017-08-01)					
@classCode	1..1	SHALL		3343-29094	urn:oid:2.16.840.1.113883.5.111 (HL7RoleCode) = SDLOC
templateId	1..1	SHALL		3343-29091	
@root	1..1	SHALL		3343-29093	2.16.840.1.113883.10.20.24.3.151
@extension	1..1	SHALL		3343-29100	2017-08-01
code	1..1	SHALL		3343-29099	
addr	0..*	SHOULD		3343-29095	
telecom	0..*	SHOULD		3343-29096	
playingEntity	0..1	MAY		3343-29092	
@classCode	1..1	SHALL		3343-29097	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = PLC
name	0..1	MAY		3343-29098	

1. **SHALL** contain exactly one [1..1] **@classCode**="SDLOC" (CodeSystem: HL7RoleCode urn:oid:2.16.840.1.113883.5.111 **STATIC**) (CONF:3343-29094).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-29091) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.151" (CONF:3343-29093).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-29100).

3. **SHALL** contain exactly one [1..1] **code** (CONF:3343-29099).
4. **SHOULD** contain zero or more [0..*] **addr** (CONF:3343-29095).
5. **SHOULD** contain zero or more [0..*] **telecom** (CONF:3343-29096).
6. **MAY** contain zero or one [0..1] **playingEntity** (CONF:3343-29092).
 - a. The playingEntity, if present, **SHALL** contain exactly one [1..1] **@classCode="PLC"** (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41 **STATIC**) (CONF:3343-29097).
 - b. The playingEntity, if present, **MAY** contain zero or one [0..1] **name** (CONF:3343-29098).

Figure 19: Admission Source Example

```
<participantRole classCode="SDLOC">
  <templateId root="2.16.840.1.113883.10.20.24.3.151" extension="2017-08-01"/>
  <code code="42665001" codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED" displayName="Nursing home (environment)"/>
  <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>Nursing Home</name>
  </playingEntity>
</participantRole>
```

3.2 Adverse Event

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.146:2017-08-01 (open)]

Table 19: Adverse Event Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Reaction Observation (V2) (optional) Severity Observation (V2) (optional) Facility Location (V2) (optional) Adverse Event Cause Observation Assertion (required) Author (optional)

This template represents QDM data type: Adverse Event.

Adverse Event is used to define any untoward medical occurrence associated with the clinical care delivery, whether or not considered drug related.

The Relevant Period references: **startTime** – the time the adverse event began, and **stopTime** – the time the adverse event completed

The cause of the adverse event is represented via an entryRelationship of type “CAUS” (has cause).

Table 20: Adverse Event Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.146:2017-08-01)					
@classCode	1..1	SHALL		3343-28773	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3343-28774	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = EVN
@negationInd	0..0	SHALL NOT		3343-28776	
templateId	1..1	SHALL		3343-28751	
@root	1..1	SHALL		3343-28761	2.16.840.1.113883.10.20.24.3.1 46
@extension	1..1	SHALL		3343-28762	2017-08-01
id	1..*	SHALL		3343-28775	
code	1..1	SHALL		3343-28752	
@code	1..1	SHALL		3343-28763	ASSERTION
@codeSystem	1..1	SHALL		3343-28764	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		3343-28753	
@code	1..1	SHALL		3343-28765	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		3343-28754	
low	1..1	SHALL		3343-28766	
high	0..1	SHOULD		3343-28767	
value	1..1	SHALL	CD	3343-28756	
@code	1..1	SHALL		3343-28771	281647001
@codeSystem	1..1	SHALL		3343-28772	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
author	0..1	MAY		3343-28779	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
participant	0..1	MAY		3343-28780	Facility Location (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.

					20.24.3.100:2017-08-01
entryRelationship	1..1	SHALL		3343-28755	
@typeCode	1..1	SHALL		3343-28768	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = CAUS
@inversionInd	1..1	SHALL		3343-28769	true
observation	1..1	SHALL		3343-28770	Adverse Event Cause Observation Assertion (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.148:2017-08-01)
entryRelationship	0..1	SHOULD		3343-28750	
@typeCode	1..1	SHALL		3343-28759	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = MFST
@inversionInd	1..1	SHALL		3343-28760	true
observation	1..1	SHALL		3343-28758	Reaction Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.9:2014-06-09)
entryRelationship	0..1	MAY		3343-28757	
@typeCode	1..1	SHALL		3343-28777	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		3343-28778	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" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3343-28773).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-28774).
3. **SHALL NOT** contain [0..0] **@negationInd** (CONF:3343-28776).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-28751) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.146" (CONF:3343-28761).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-28762).
5. **SHALL** contain at least one [1..*] **id** (CONF:3343-28775).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3343-28752).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CONF:3343-28763).

- b. This code **SHALL** contain exactly one [1..1]
@codeSystem="2.16.840.1.113883.5.4" (CodeSystem: HL7ActCode
urn:oid:2.16.840.1.113883.5.4) (CONF:3343-28764).
- 7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3343-28753).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3343-28765).
- 8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:3343-28754).
Note: QDM Attribute: Relevant Period
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:3343-28766).
Note: startTime - the time the adverse event began
 - b. This effectiveTime **SHOULD** contain zero or one [0..1] **high** (CONF:3343-28767).
Note: stopTime - the time the adverse event completed
- 9. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:3343-28756).
 - a. This value **SHALL** contain exactly one [1..1] @code="281647001" Adverse reaction (CONF:3343-28771).
 - b. This value **SHALL** contain exactly one [1..1]
@codeSystem="2.16.840.1.113883.6.96" SNOMED CT (CodeSystem: SNOMED CT
urn:oid:2.16.840.1.113883.6.96) (CONF:3343-28772).
- 10. **MAY** contain zero or one [0..1] Author (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-28779).
Note: QDM Attribute: Author dateTime - the time the adverse event was entered into the clinical software
- 11. **MAY** contain zero or one [0..1] Facility Location (V2) (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.100:2017-08-01) (CONF:3343-28780).
Note: QDM Attribute: Facility Locations
- 12. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:3343-28755) 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) (CONF:3343-28768).
 - b. **SHALL** contain exactly one [1..1] @inversionInd="true" (CONF:3343-28769).
 - c. **SHALL** contain exactly one [1..1] Adverse Event Cause Observation Assertion (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.148:2017-08-01) (CONF:3343-28770).
- 13. **SHOULD** contain zero or one [0..1] **entryRelationship** (CONF:3343-28750) such that it
Note: QDM Attribute: Type
 - a. **SHALL** contain exactly one [1..1] @typeCode="MFST" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3343-28759).
 - b. **SHALL** contain exactly one [1..1] @inversionInd="true" (CONF:3343-28760).
 - 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:3343-28758).
- 14. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-28757) such that it
Note: QDM Attribute: Severity

- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3343-28777).
- b. **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:3343-28778).

Figure 20: Adverse Event Example

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.24.3.146" extension="2017-08-01"/>
  <id root="508d3dc6-4883-480c-bf03-419daed0b02f"/>
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" codeSystemName="ActCode"
displayName="Assertion"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <!-- QDM Attribute: Relevant Period - startTime -->
    <low value="201702021030"/>
    <!-- QDM Attribute: Relevant Period - stopTime -->
    <high value="201702021030"/>
  </effectiveTime>
  <value xsi:type="CD" code="281647001" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Adverse reaction"/>
  <participant typeCode="LOC">
    <!-- Facility Location (V2) -->
    <templateId root="2.16.840.1.113883.10.20.24.3.100" extension="2017-08-01"/>
    <time>
      <!-- QDM Attribute: Location Period -->
      <low value="20170202"/>
      <high value="20170202"/>
    </time>
    <participantRole classCode="SDLOC">
      <code code="309905000" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Adult Intensive Care Unit"/>
    </participantRole>
  </participant>
  <!-- QDM Attribute: Code -->
  <entryRelationship typeCode="CAUS" inversionInd="true">
    <!-- Adverse Event Cause Assertion Observation -->
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.148" extension="2017-08-01"/>
      <id root="2fbe77d3-0093-4ea3-bd78-b280f91fd765"/>
      <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="ActCode" displayName="Assertion"/>
      <value xsi:type="CD" code="444179007" codeSystem="2.16.840.1.113883.6.96"
displayName="Insertion of dual chamber pacemaker pulse generator (procedure)"/>
    </observation>
  </entryRelationship>
</observation>
```

3.3 Adverse Event Cause Observation Assertion

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.148:2017-08-01 (open)]

Table 21: Adverse Event Cause Observation Assertion Contexts

Contained By:	Contains:
Adverse Event (required)	

This template represents the Adverse Event QDM data types' Code attribute.

Table 22: Adverse Event Cause Observation Assertion Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.148:2017-08-01)					
@classCode	1..1	SHALL		3343-28741	OBS
@moodCode	1..1	SHALL		3343-28742	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = EVN
@negationInd	0..0	SHALL NOT		3343-28745	
templateId	1..1	SHALL		3343-28731	
@root	1..1	SHALL		3343-28736	2.16.840.1.113883.10.20.24.3.148
@extension	1..1	SHALL		3343-28737	2017-08-01
code	1..1	SHALL		3343-28730	
@code	1..1	SHALL		3343-28734	ASSERTION
@codeSystem	1..1	SHALL		3343-28735	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
value	1..1	SHALL	CD	3343-28733	

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:3343-28741).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3343-28742).
3. **SHALL NOT** contain [0..0] @negationInd (CONF:3343-28745).
4. **SHALL** contain exactly one [1..1] templateId (CONF:3343-28731) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.148" (CONF:3343-28736).
 - b. **SHALL** contain exactly one [1..1] @extension="2017-08-01" (CONF:3343-28737).
5. **SHALL** contain exactly one [1..1] code (CONF:3343-28730).

- a. This code **SHALL** contain exactly one [1..1] @code="ASSERTION" (CONF:3343-28734).
- b. This code **SHALL** contain exactly one [1..1]
@codeSystem="2.16.840.1.113883.5.4" (CodeSystem: HL7ActCode
urn:oid:2.16.840.1.113883.5.4) (CONF:3343-28735).
6. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:3343-28733).

Figure 21: Adverse Event Cause Observation Assertion Example

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.24.3.148" extension="2017-08-01" />
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" />
  <statusCode code="completed" />
  <value xsi:type="CD" code="93880001" codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="Primary malignant neoplasm of lung (disorder)" />
</observation>
```

3.4 Age Observation

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

Table 23: 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 24: 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:2.16.840.1.113883.5.1001 (HL7ActMood) = 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 (HL7ActStatus) = 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: HL7ActMood 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: HL7ActStatus 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 urn:oid:2.16.840.1.113883.11.20.9.21 **DYNAMIC** (CONF:81-7618).

Figure 22: 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>
```

3.5 Allergy Status Observation (DEPRECATED)

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

Table 25: 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 26: 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 (HL7ActMood) = 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 (HL7ActStatus) = 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: HL7ActMood 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: HL7ActStatus 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 27: 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:2.16.840.1.113883.3.6.96	Active
73425007	SNOMED CT	urn:oid:2.16.840.1.113883.3.6.96	Inactive
413322009	SNOMED CT	urn:oid:2.16.840.1.113883.3.6.96	Resolved

3.6 Assessment Performed (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.144:2017-08-01 (open)]

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Table 28: Assessment Performed (V2) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Reason (V3) (optional) Component (optional) Related To (optional) Author (optional)

This template represents the QDM datatype: Assessment, Performed.

Assessment is a category 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: Author dateTime is the time the assessment is completed.

QDM attribute: Component. Elements included or documented as part of assessment. Examples include: specific questions included in assessments. Each assessment may have one or more components.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V3) template.

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

Table 29: Assessment Performed (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.144:2017-08-01)					
@classCode	1..1	SHALL		3343-28670	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3343-28669	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@negationInd	0..1	MAY		3343-28671	
templateId	1..1	SHALL		3343-28652	
@root	1..1	SHALL		3343-28660	2.16.840.1.113883.10.20.24.3.144
@extension	1..1	SHALL		3343-28701	2017-08-01
code	1..1	SHALL		3343-28656	
statusCode	1..1	SHALL		3343-28653	
@code	1..1	SHALL		3343-28662	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
value	0..1	MAY		3343-28782	
methodCode	0..1	MAY		3343-28781	
author	0..1	MAY		3343-28783	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
entryRelationship	0..1	MAY		3343-28651	
@typeCode	1..1	SHALL		3343-28659	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		3343-28658	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)
entryRelationship	0..*	MAY		3343-28800	
observation	1..1	SHALL		3343-28801	Component (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.149:2017-08-01)
sdct:inFulfillmentOf1	0..*	MAY		3343-29119	Related To (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.150:2017-08-01)

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3343-28670).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-28669).
3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3343-28671).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-28652) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.144"** (CONF:3343-28660).
 - b. **SHALL** contain exactly one [1..1] **@extension="2017-08-01"** (CONF:3343-28701).
5. **SHALL** contain exactly one [1..1] **code** (CONF:3343-28656).
Note: QDM Attribute: Code
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3343-28653).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3343-28662).
7. **MAY** contain zero or one [0..1] **value** (CONF:3343-28782).
Note: QDM Attribute: Result
8. **MAY** contain zero or one [0..1] **methodCode** (CONF:3343-28781).
Note: QDM Attribute: Method
9. **MAY** contain zero or one [0..1] **Author** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-28783).
Note: QDM Attribute: Author dateTime - the time the assessment is completed
10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-28651) 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:3343-28659).
 - b. **SHALL** contain exactly one [1..1] **Reason (V3)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:3343-28658).
11. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:3343-28800) such that it
Note: QDM Attribute: Components
 - a. **SHALL** contain exactly one [1..1] **Component** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.149:2017-08-01) (CONF:3343-28801).
12. **MAY** contain zero or more [0..*] **Related To** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.150:2017-08-01) (CONF:3343-29119).
Note: QDM Attribute: relatedTo

Figure 23: Assessment Performed (V2) Example

```
<entry typeCode="DRIV">
  <observation classCode="OBS" moodCode="EVN">
    <!-- Assessment Performed (V2) -->
    <templateId root="2.16.840.1.113883.10.20.24.3.144" extension="2017-08-01"/>
    <id root="d55c711a-f958-4807-bdb6-45fe5b6195c0" />
    <code code="35088-4" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC"
      displayName="Glasgow Coma Scale"/>
    <text>Assessment Performed: Glasgow Coma Scale Assessment</text>
    <statusCode code="completed" />
    <author>
      <!-- QDM Attribute: Author dateTime -->
      <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-
01"/>
      <time value="201706101030"/>
      <assignedAuthor>
        <id nullFlavor="NA"/>
      </assignedAuthor>
    </author>
    <entryRelationship typeCode="REFR">
      <!-- Components -->
      <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.149" extension="2017-
08-01"/>
        <id root="bd54c4c7-49b8-47e4-b2d5-9d2b64c413b9"/>
        <code code="9267-6" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Glasgow Coma score eye opening"/>
        <!--<value xsi:type="INT">1</value>-->
        <value xsi:type="CD" code="LA6553-7"
codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="No eye
opening"/>
      </observation>
    </entryRelationship>
    <entryRelationship typeCode="REFR">
      <!-- Components -->
      <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.149" extension="2017-
08-01"/>
        <id root="204c9596-35a9-4e71-aa65-ac638c76be7d"/>
        <code code="9268-4" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Glasgow Coma score motor"/>
        <!--<value xsi:type="INT">3</value>-->
        <value xsi:type="CD" code="LA6564-4"
codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Flexion to
pain"/>
      </observation>
    </entryRelationship>
    <entryRelationship typeCode="REFR">
      <!-- Component -->
      <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.149" extension="2017-
08-01"/>
        <id root="5e555fa2-72cb-45a0-9d5b-968a2d3b9b44"/>
        <code code="9270-0" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Glasgow Coma score verbal"/>
```



```

        <!--<value xsi:type="INT">4</value-->
        <value xsi:type="CD" code="LA6560-2"
codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Confused"/>
    </observation>
</entryRelationship>
<entryRelationship typeCode="REFR">
    <!-- Component -->
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.149" extension="2017-
08-01"/>
        <id root="63bb6f9e-fb84-4b2b-a1aa-780d2c021c12"/>
        <code code="9270-0" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Glasgow Coma score total"/>
        <value xsi:type="INT" value="8"/>
    </observation>
</entryRelationship>
</observation>
</entry>

```

3.7 Communication Performed

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.156:2018-10-01
(open)]

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Table 30: Communication Performed Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Reason (V3) (optional) Related To (optional) Author (required)

This template represents the QDM datatype: Communication, Performed.

To meet criteria using this datatype, the communication indicated by the Communication QDM category is a conveyance of information from one entity (e.g., person, organization, or device) to another.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V3) template. Although Reason (V3) is not explicitly contained in every template, it is available for use in any template.

Table 31: Communication Performed Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.156:2018-10-01)					
@classCode	1..1	SHALL		4388-29160	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		4388-29161	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@negationInd	0..1	MAY		4388-29164	
templateId	1..1	SHALL		4388-29143	
@root	1..1	SHALL		4388-29151	2.16.840.1.113883.10.20.24.3.156
@extension	1..1	SHALL		4388-29152	2018-10-01
id	1..*	SHALL		4388-29162	
code	1..1	SHALL		4388-29159	
statusCode	1..1	SHALL		4388-29163	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY		4388-29165	
low	1..1	SHALL		4388-29170	
high	0..1	MAY		4388-29171	
author	1..1	SHALL		4388-29149	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
participant	0..1	MAY		4388-29144	
@typeCode	1..1	SHALL		4388-29156	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = IRCP
participantRole	1..1	SHALL		4388-29145	
code	1..1	SHALL		4388-29146	
@code	1..1	SHALL		4388-29153	158965000
@codeSystem	1..1	SHALL		4388-29154	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
participant	0..1	MAY		4388-29147	

XPath	Card.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4388-29158	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
participantRole	1..1	SHALL		4388-29148	
code	1..1	SHALL		4388-29172	
participant	0..1	MAY		4388-29166	
@typeCode	1..1	SHALL		4388-29173	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = VIA
participantRole	1..1	SHALL		4388-29167	
code	1..1	SHALL		4388-29174	
entryRelationship	0..1	MAY		4388-29168	
@typeCode	1..1	SHALL		4388-29175	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		4388-29169	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)
sdtc:inFulfillmentOf1	0..*	MAY		4388-29150	Related To (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.150:2017-08-01)

1. **SHALL** contain exactly one [1..1] **@classCode="ACT"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:4388-29160).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4388-29161).
3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:4388-29164).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4388-29143) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.156"** (CONF:4388-29151).
 - b. **SHALL** contain exactly one [1..1] **@extension="2018-10-01"** (CONF:4388-29152).
5. **SHALL** contain at least one [1..*] **id** (CONF:4388-29162).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4388-29159).
Note: QDM Attribute: Category
7. **SHALL** contain exactly one [1..1] **statusCode="completed"**, which **SHALL** be selected from CodeSystem HL7ActStatus (urn:oid:2.16.840.1.113883.5.14) (CONF:4388-29163).
8. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4388-29165).
Note: QDM Attribute: Relevant Period

- a. The effectiveTime, if present, **SHALL** contain exactly one [1..1] **low** (CONF:4388-29170).
Note: Start dateTime - the time the communication is sent
- b. The effectiveTime, if present, **MAY** contain zero or one [0..1] **high** (CONF:4388-29171).
Note: Stop dateTime - the time the communication is received
9. **SHALL** contain exactly one [1..1] **Author** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:4388-29149).
Note: QDM Attribute: Author dateTime - the time that the communication occurs or is sent
10. **MAY** contain zero or one [0..1] **participant** (CONF:4388-29144) 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:4388-29156).
 - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:4388-29145).
 - i. This participantRole **SHALL** contain exactly one [1..1] **code** (CONF:4388-29146).
Note: QDM Attribute: Recipient - The entity (e.g., person, organization, clinical information system, or device) which is the target of a communication
 1. This code **SHALL** contain exactly one [1..1] **@code="158965000"** Medical practitioner (CONF:4388-29153).
 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:4388-29154).
11. **MAY** contain zero or one [0..1] **participant** (CONF:4388-29147) 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:4388-29158).
 - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:4388-29148).
 - i. This participantRole **SHALL** contain exactly one [1..1] **code** (CONF:4388-29172).
Note: QDM Attribute: Sender - The entity (e.g., person, organization, clinical information system, or device) that is the source of a communication
12. **MAY** contain zero or one [0..1] **participant** (CONF:4388-29166) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="VIA"** via (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4388-29173).
 - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:4388-29167).
 - i. This participantRole **SHALL** contain exactly one [1..1] **code** (CONF:4388-29174).
Note: QDM Attribute: Medium - A channel used for a communication (e.g., fax, email, etc.)
13. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:4388-29168) such that it
Note: QDM Attribute: Code
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** Has reason (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4388-29175).

- b. **SHALL** contain exactly one [1..1] [Reason \(V3\)](#) (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:4388-29169).
14. **MAY** contain zero or more [0..*] [Related To](#) (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.150:2017-08-01) (CONF:4388-29150).
Note: QDM Attribute: relatedTo

Figure 24: Communication Performed Example

```
<act classCode="ACT" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.24.3.156" extension="2018-10-01"/>
  <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)"/>
  <statusCode code="completed"/>
  <author>
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="2018050101030"/>
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </assignedAuthor>
  </author>
  <participant typeCode="AUT">
    <participantRole>
      <code code="116154003" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Patient"/>
    </participantRole>
  </participant>
  <participant typeCode="IRCP">
    <participantRole>
      <code code="158965000" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Medical Practitioner"/>
    </participantRole>
  </participant>
  <!-- QDM Attribute: Related to -->
  <sdtc:inFulfillmentOf1 typeCode="FLFS">
    <sdtc:templateId root="2.16.840.1.113883.10.20.24.3.150" extension="2017-08-01"/>
    <sdtc:actReference classCode="SPLY" moodCode="RQO">
      <!-- For example, the id is the same as the id of another QDM element instance
contained in the same QRDA I document being referenced -->
      <sdtc:id root="1fad091f-7b4e-4661-b61c-53f9a82515b6"/>
    </sdtc:actReference>
  </sdtc:inFulfillmentOf1>
</act>
```

3.8 Component

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.149:2017-08-01 (open)]

Table 32: Component Contexts

Contained By:	Contains:
Diagnostic Study Performed (V4) (optional) Physical Exam Performed (V4) (optional) Laboratory Test Performed (V4) (optional) Assessment Performed (V3) (optional) Procedure Performed (V5) (optional)	

Elements included or documented as part of evaluations or test panels. Examples include: specific questions included in assessments, tests included in a laboratory test panel, observations included in a cardiac exam during a physical examination. Each assessment, diagnostic study, laboratory test, physical exam or procedure may have one or more components.

Laboratory test may have reference range.

Table 33: Component Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.149:2017-08-01)					
@classCode	1..1	SHALL		3343-28788	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3343-28789	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		3343-28786	
@root	1..1	SHALL		3343-28793	2.16.840.1.113883.10.20.24.3.149
@extension	1..1	SHALL		3343-28796	2017-08-01
id	1..*	SHALL		3343-28797	
code	1..1	SHALL		3343-28784	
value	1..1	SHALL		3343-28785	
referenceRange	0..1	MAY		3343-28794	
observationRange	1..1	SHALL		3343-28795	
code	0..0	SHALL NOT		3343-28798	
value	1..1	SHALL		3343-28799	

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:3343-28788).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:3343-28789).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-28786) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.149"** (CONF:3343-28793).
 - b. **SHALL** contain exactly one [1..1] **@extension="2017-08-01"** (CONF:3343-28796).
4. **SHALL** contain at least one [1..*] **id** (CONF:3343-28797).
5. **SHALL** contain exactly one [1..1] **code** (CONF:3343-28784).
Note: QDM Attribute: Code
6. **SHALL** contain exactly one [1..1] **value** (CONF:3343-28785).
Note: QDM Attribute: Result
7. **MAY** contain zero or one [0..1] **referenceRange** (CONF:3343-28794).
 - a. The referenceRange, if present, **SHALL** contain exactly one [1..1] **observationRange** (CONF:3343-28795).

- i. This observationRange **SHALL NOT** contain [0..0] **code** (CONF:3343-28798).
- ii. This observationRange **SHALL** contain exactly one [1..1] **value** (CONF:3343-28799).

Figure 25: Component Example

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.24.3.149" extension="2017-08-01"/>
  <id root="63bb6f9e-fb84-4b2b-aaaa-780d2c021c12"/>
  <code code="9270-0" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
  displayName="Glasgow Coma score total"/>
  <value xsi:type="INT" value="8"/>
</observation>
```

3.9 Criticality Observation

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

Table 34: Criticality Observation Contexts

Contained By:	Contains:
Substance or Device 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 35: 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:2.16.840.1.113883.5.10.01 (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).

Figure 26: 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>
```

3.10 Days Supplied

[supply: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.157:2018-10-01
(open)]

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Table 36: Days Supplied Contexts

Contained By:	Contains:
Discharge Medication (V4) (optional) Medication Dispensed (V5) (optional) Medication Order (V5) (optional)	

This template represents QDM attribute: Days Supplied.

Amount of medication expressed as a timing amount, i.e., the number of days over which the medication is expected to last.

Table 37: Days Supplied Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
supply (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.157:2018-10-01)					
@classCode	1..1	SHALL		4388-29196	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SPLY
@moodCode	1..1	SHALL		4388-29197	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4388-29179	
@root	1..1	SHALL		4388-29198	2.16.840.1.113883.10.20.24.3.157
@extension	1..1	SHALL		4388-29199	2018-10-01
quantity	1..1	SHALL		4388-29211	

1. **SHALL** contain exactly one [1..1] **@classCode**="SPLY" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4388-29196).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4388-29197).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:4388-29179) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.157" (CONF:4388-29198).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2018-10-01" (CONF:4388-29199).
4. **SHALL** contain exactly one [1..1] **quantity** (CONF:4388-29211).

Figure 27: Days Supplied Example

```
<supply classCode="SPLY" moodCode="EVN">
  <!--Days Supplied -->
  <templateId root="2.16.840.1.113883.10.20.24.3.157" extension="2018-10-01"/>
  <id root="6fc75044-6dc4-4ef6-ble4-736c951cdfe4"/>
  <quantity value="10" unit="d" />
</supply>
```

3.11 Deceased Observation (V3)

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

Table 38: Deceased Observation (V3) Contexts

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

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 39: 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:2.16.840.1.113883.5.10 01 (HL7ActMood) = EVN
templateId	1..1	SHALL		1198-14871	
@root	1..1	SHALL		1198-14872	2.16.840.1.113883.10.20.22.4.7 9
@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 (HL7ActCode) = 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 (HL7ActStatus) = 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:2.16.840.1.113883.5.10 02 (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: HL7ActMood 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: HL7ActCode 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: HL7ActStatus 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:hl7ii:2.16.840.1.113883.10.20.22.4.4:2015-08-01) (CONF:1198-14870).

Figure 28: 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>
```

3.11.1 Patient Characteristic Expired (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.54:2016-02-01
(open)]

Table 40: Patient Characteristic Expired (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (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 41: 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 (HL7ActMood) = 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: HL7ActMood 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 29: 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="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>
      <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>
```

3.12 Device Order Act (V2)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.130:2017-08-01
(open)]

Table 42: Device Order Act (V2) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Device Order (V4) (required)

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

Adding this act wrapper to the Device Order (V3) template allows device order to be negated.

Table 43: Device Order Act (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.130:2017-08-01)					
@classCode	1..1	SHALL		3343-28444	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		3343-28445	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = RQO
@negationInd	0..1	MAY		3343-28446	
templateId	1..1	SHALL		3343-28441	
@root	1..1	SHALL		3343-28447	2.16.840.1.113883.10.20.24.3.1 30
@extension	1..1	SHALL		3343-28918	2017-08-01
code	1..1	SHALL		3343-28442	
@code	1..1	SHALL		3343-28448	SPLY
@codeSystem	1..1	SHALL		3343-28449	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass)
entryRelationship	1..1	SHALL		3343-28443	
@typeCode	1..1	SHALL		3343-28450	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = SUBJ
supply	1..1	SHALL		3343-28451	Device Order (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.9:2017-08-01)

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" Act (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3343-28444).
2. **SHALL** contain exactly one [1..1] **@moodCode**="RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-28445).
3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3343-28446).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-28441) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.130" (CONF:3343-28447).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-28918).
5. **SHALL** contain exactly one [1..1] **code** (CONF:3343-28442).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="SPLY" Supply (CONF:3343-28448).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3343-28449).

6. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:3343-28443) 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:3343-28450).
 - b. **SHALL** contain exactly one [1..1] **Device Order (V4)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.9:2017-08-01) (CONF:3343-28451).

Figure 30: Device Order Act (V2) Example

```
<act classCode="ACT" moodCode="RQO">
  <templateId root="2.16.840.1.113883.10.20.24.3.130" extension="2017-08-01"/>
  <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 (V4) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.9" extension="2017-08-01"/>
      <id root="6a8d037d-f144-4071-9d1f-8a92a11dedc6"/>
      <statusCode code="active"/>
      <author>
        <time value="201610101030"/>
        <assignedAuthor>
          <id nullFlavor="NA"/>
        </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)"/>
          </playingDevice>
        </participantRole>
      </participant>
    </supply>
  </entryRelationship>
</act>
```

3.13 Device Recommended Act (V2)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.131:2017-08-01
(open)]

Table 44: Device Recommended Act (V2) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Device Recommended (V4) (required)

This template along with the Device Recommended (V4) template represent the QDM Datatype: Device, Recommended.

Adding an act wrapper to the Device Recommended (V4) template allows the device recommended to be negated.

Table 45: Device Recommended Act (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.131:2017-08-01)					
@classCode	1..1	SHALL		3343-28454	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		3343-28455	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = INT
@negationInd	0..1	MAY		3343-28657	
templateId	1..1	SHALL		3343-28452	
@root	1..1	SHALL		3343-28456	2.16.840.1.113883.10.20.24.3.131
@extension	1..1	SHALL		3343-28922	2017-08-01
entryRelationship	1..1	SHALL		3343-28453	
@typeCode	1..1	SHALL		3343-28458	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
supply	1..1	SHALL		3343-28459	Device Recommended (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.10:2017-08-01)

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" Act (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3343-28454).
2. **SHALL** contain exactly one [1..1] **@moodCode**="INT" Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-28455).
3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3343-28657).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-28452) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.131" (CONF:3343-28456).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-28922).
5. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:3343-28453) 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:3343-28458).

- b. **SHALL** contain exactly one [1..1] Device Recommended (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.10:2017-08-01) (CONF:3343-28459).

Figure 31: Device Recommended Act (V2) Example

```
<act classCode="ACT" moodCode="INT">
  <templateId root="2.16.840.1.113883.10.20.24.3.131" extension="2017-08-01"/>
  <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 (V4) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.10" extension="2017-08-01"/>
      <id root="6a8d037d-f144-4071-9d1f-8a92a11dedc6"/>
      <statusCode code="active"/>
      <author>
        <time value="201705101030"/>
        <assignedAuthor>
          <id nullFlavor="NA"/>
        </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)"/>
          </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="2017-08-
01"/>
          <code code="77301-0" codeSystem="2.16.840.1.113883.6.1"
displayName="Reason care action performed or not" codeSystemName="LOINC"/>
          <value xsi:type="CD" code="125629006"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT" displayName="Injury of
colon"/>
        </observation>
      </entryRelationship>
    </supply>
  </entryRelationship>
</act>
```

3.14 Discharge Medication (V4)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.105:2018-10-01
(open)]

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Table 46: Discharge Medication (V4) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Medication Activity (V2) (required) Days Supplied (optional)

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 (V3) template. Although Reason (V3) is not explicitly contained in every template, it is available for use in any template. To negate "Medication, Discharge" data type, use the act/negationInd in this template.

QDM attribute: Author dateTime is the time the discharge medication list on the discharge instruction form is authored. This is represented through the Author Participation template contained in the Medication Activity (V2) template.

Table 47: Discharge Medication (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.105:2018-10-01)					
@classCode	1..1	SHALL		4388-16550	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		4388-16551	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@negationInd	0..1	MAY		4388-28065	
templateId	1..1	SHALL		4388-26956	
@root	1..1	SHALL		4388-26957	2.16.840.1.113883.10.20.24.3.105
@extension	1..1	SHALL		4388-27037	2018-10-01
id	1..*	SHALL		4388-26955	
code	1..1	SHALL		4388-16552	
@code	1..1	SHALL		4388-28140	75311-1
@codeSystem	1..1	SHALL		4388-28141	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
entryRelationship	1..1	SHALL		4388-16553	
@typeCode	1..1	SHALL		4388-16554	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
substanceAdministration	1..1	SHALL		4388-16555	Medication Activity (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09)
entryRelationship	0..1	MAY		4388-29212	
@typeCode	1..1	SHALL		4388-29214	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
supply	1..1	SHALL		4388-29213	Days Supplied (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.157:2018-10-01)

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:4388-16550).
2. **SHALL** contain exactly one [1..1] **@moodCode**="RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4388-16551).

3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:4388-28065).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4388-26956) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.105" (CONF:4388-26957).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2018-10-01" (CONF:4388-27037).
5. **SHALL** contain at least one [1..*] **id** (CONF:4388-26955).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4388-16552).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="75311-1" Discharge medications (CONF:4388-28140).
 - 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:4388-28141).
7. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:4388-16553) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4388-16554).
 - 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:4388-16555).
8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:4388-29212) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4388-29214).
 - b. **SHALL** contain exactly one [1..1] Days Supplied (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.157:2018-10-01) (CONF:4388-29213).
Note: QDM Attribute: Days Supplied

Figure 32: Discharge Medication (V4) Example

```
<act classCode="ACT" moodCode="RQO">
  <!-- Discharge Medication (V4) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.105" extension="2018-10-01" />
  <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="20180301" />
        <!-- QDM Attribute: Stop datetime -->
        <high value="20180901" />
      </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" />
      <!-- 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" />
          </manufacturedMaterial>
        </manufacturedProduct>
      </consumable>
    </substanceAdministration>
  </entryRelationship>
</act>
```

3.15 Drug Monitoring Act

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

Table 48: Drug Monitoring Act Contexts

Contained By:	Contains:
Medication Activity (V2) (optional)	US Realm Person Name (PN.US.FIELDDED) (required)

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 49: 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:2.16.840.1.113883.1.11.15933 (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 Person Name (PN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1)

1. **SHALL** contain exactly one [1..1] **@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:2.16.840.1.113883.1.11.15933 **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 Person Name (PN.US.FIELDDED)** (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1) (CONF:1098-28669).

Figure 33: 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>
```

3.16 Drug Vehicle

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

Table 50: 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 51: 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 (HL7RoleClass) = 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: HL7RoleClass 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 34: 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>
```

3.17 Encounter Activity (V3)

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

Table 52: Encounter Activity (V3) Contexts

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

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

Table 53: 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:2.16.840.1.113883.5.10.01 (HL7ActMood) = EVN
templateId	1..1	SHALL		1198-8712	
@root	1..1	SHALL		1198-26353	2.16.840.1.113883.10.20.22.4.4.9
@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:2.16.840.1.113883.5.90 (HL7ParticipationType) = 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: HL7ActMood 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] **sdctc:dischargeDispositionCode** (CONF:1198-32176).
 Note: The prefix sdctc: SHALL be bound to the namespace "urn:hl7-org:sdctc". The use of the namespace provides a necessary extension to CDA R2 for the use of the dischargeDispositionCode element
 - a. This sdctc:dischargeDispositionCode **SHOULD** contain zero or one [0..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 zero or one [0..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: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90 **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).

Figure 35: 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" />
  <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>
```

3.17.1 Encounter Performed (V4)

[encounter: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.23:2017-08-01
(open)]

Table 54: Encounter Performed (V4) Contexts

Contained By:	Contains:
Encounter Performed Act (V2) (required)	Facility Location (V2) (optional) Principal Diagnosis (optional) Admission Source (optional) Author (optional)

This template, along with the Encounter Performed Act (V2) template, represents the QDM datatype: Encounter, Performed. This template must be contained in an Encounter Performed Act (V2) 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.

QDM Attribute: Diagnosis is a coded diagnosis/problem addressed during the encounter. Diagnosis attribute is intended to capture ALL diagnoses, including principal diagnosis. This is represented through entryRelationship to Encounter Diagnosis template as specified in the Encounter Activity (V3) parent template.

QDM Attribute: Principal Diagnosis is the coded diagnosis/problem established after study to be chiefly responsible for occasioning the admission of the patient to the hospital for care.

Table 55: Encounter Performed (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
encounter (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.23:2017-08-01)					
@classCode	1..1	SHALL		3343-27532	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		3343-27533	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = EVN
templateId	1..1	SHALL		3343-11861	
@root	1..1	SHALL		3343-11862	2.16.840.1.113883.10.20.24.3.2 3
@extension	1..1	SHALL		3343-26552	2017-08-01
id	1..*	SHALL		3343-28802	
@root	1..1	SHALL		3343-28804	
@extension	0..1	MAY		3343-28805	
code	1..1	SHALL		3343-27624	
statusCode	1..1	SHALL		3343-11874	
@code	1..1	SHALL		3343-11875	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		3343-11876	
low	1..1	SHALL		3343-11877	
high	1..1	SHALL		3343-11878	
author	0..1	MAY		3343-28806	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
participant	0..*	MAY		3343-13025	Facility Location (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.100:2017-08-01)
participant	0..1	MAY		3343-29101	
@typeCode	1..1	SHALL		3343-29102	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = LOC
participantRole	1..1	SHALL		3343-29103	Admission Source (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.151:2017-08-01)
entryRelationship	0..1	MAY		3343-	

				28597	
@typeCode	1..1	SHALL		3343-28600	REFR
observation	1..1	SHALL		3343-28598	Principal Diagnosis (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.152:2017-08-01

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:3343-27532).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-27533).
4. **SHALL** contain exactly one [1..1] templateId (CONF:3343-11861) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.23" (CONF:3343-11862).
 - b. **SHALL** contain exactly one [1..1] @extension="2017-08-01" (CONF:3343-26552).
5. **SHALL** contain at least one [1..*] id (CONF:3343-28802).
 - a. Such ids **SHALL** contain exactly one [1..1] @root (CONF:3343-28804).
 - b. Such ids **MAY** contain zero or one [0..1] @extension (CONF:3343-28805).
6. **SHALL** contain exactly one [1..1] code (CONF:3343-27624).
Note: QDM Attribute: Code
7. **SHALL** contain exactly one [1..1] statusCode (CONF:3343-11874).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3343-11875).
8. **SHALL** contain exactly one [1..1] effectiveTime (CONF:3343-11876).
Note: QDM Attribute: Relevant Period. QDM Attribute: Length of Stay is derived from admission time and discharge time.
 - a. This effectiveTime **SHALL** contain exactly one [1..1] low (CONF:3343-11877).
Note: startTime – The time the encounter began (admission time)
 - b. This effectiveTime **SHALL** contain exactly one [1..1] high (CONF:3343-11878).
Note: stopTime – The time the encounter ended (discharge time)
9. **MAY** contain zero or one [0..1] [Author](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-28806).
Note: QDM Attribute: Author dateTime
10. **MAY** contain zero or more [0..*] [Facility Location \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.100:2017-08-01) (CONF:3343-13025).
Note: QDM Attribute: Facility Locations
11. **MAY** contain zero or one [0..1] participant (CONF:3343-29101) such that it
Note: QDM Attribute: Admission Source
 - a. **SHALL** contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3343-29102).

- b. **SHALL** contain exactly one [1..1] [Admission Source](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.151:2017-08-01) (CONF:3343-29103).
- 12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-28597) such that it
 - Note: QDM Attribute: Principal Diagnosis
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" refers to (CONF:3343-28600).
 - b. **SHALL** contain exactly one [1..1] [Principal Diagnosis](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.152:2017-08-01) (CONF:3343-28598).
- 13. This template **SHALL** be contained by an Encounter Performed Act (V2) (CONF:3343-28803).

Figure 36: Encounter Performed (V4) Example

```

<!-- Must be contained in the Encounter Performed Act (V2) 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 (V4) templateId-->
  <templateId root="2.16.840.1.113883.10.20.24.3.23" extension="2017-08-01"/>
  <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"/>
  <text>Encounter, Performed: Emergency Department Visit</text>
  <statusCode code="completed"/>
  <effectiveTime>
    <!-- QDM Attribute: admission datetime -->
    <low value="20170301090000"/>
    <!-- QDM Attribute: discharge datetime -->
    <high value="20170301130000"/>
  </effectiveTime>
  <!-- QDM Attribute: Principal Dianosis -->
  <entryRelationship typeCode="REFR">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.152" extension="2017-08-01"/>
      <id root="92587992-6147-467e-8ce7-b080ef569df4"/>
      <code code="8319008" codeSystem="2.16.840.1.113883.6.96"
displayName="Principal Diagnosis" codeSystemName="SNOMED"/>
      <statusCode code="completed"/>
      <value xsi:type="CD" code="8319008" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Acute atrial infarction (disorder)"/>
    </observation>
  </entryRelationship>
</encounter>

```

3.18 Encounter Diagnosis (V3)

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

Table 56: Encounter Diagnosis (V3) Contexts

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

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 57: 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:2.16.840.1.113883.5.10 01 (HL7ActMood) = EVN
templateId	1..1	SHALL		1198-14895	
@root	1..1	SHALL		1198-14896	2.16.840.1.113883.10.20.22.4.8 0
@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:2.16.840.1.113883.5.10 02 (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: HL7ActMood 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 37: 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>
```

3.19 Encounter Order Act (V2)

```
[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.132:2017-08-01
(open)]
```

Table 58: Encounter Order Act (V2) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Encounter Order (V4) (required)

Table 59: Encounter Order Act (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.132:2017-08-01)					
@classCode	1..1	SHALL		3343-28469	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		3343-28470	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@negationInd	0..1	MAY		3343-28483	
templateId	1..1	SHALL		3343-28467	
@root	1..1	SHALL		3343-28471	2.16.840.1.113883.10.20.24.3.132
@extension	1..1	SHALL		3343-28812	2017-08-01
code	1..1	SHALL		3343-28810	
@code	1..1	SHALL		3343-28811	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ENC
entryRelationship	1..1	SHALL		3343-28468	
@typeCode	1..1	SHALL		3343-28473	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
encounter	1..1	SHALL		3343-28474	Encounter Order (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.22:2017-08-01)

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" Act (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3343-28469).
2. **SHALL** contain exactly one [1..1] **@moodCode**="RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-28470).
3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3343-28483).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-28467) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.132" (CONF:3343-28471).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-28812).
5. **SHALL** contain exactly one [1..1] **code** (CONF:3343-28810).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="ENC" Encounter (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3343-28811).
6. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:3343-28468) 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:3343-28473).
- b. **SHALL** contain exactly one [1..1] Encounter Order (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.22:2017-08-01) (CONF:3343-28474).

Figure 38: Encounter Order Act (V2) Example

```

<act classCode="ACT" moodCode="RQO">
  <!-- Encounter Order Act (V2) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.132" extension="2017-08-01"/>
  <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 (V4) template -->
      <templateId root="2.16.840.1.113883.10.20.24.3.22" extension="2017-08-01"/>
      <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"/>
      <text>Encounter for check-up (procedure)</text>
      <statusCode code="active"/>
      <author>
        <!-- C-CDA R2 Author Participation -->
        <templateId root="2.16.840.1.113883.10.20.22.4.119"/>
        <time value="201704081130"/>
        <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)"/>
          <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="2017-08-
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="201704081130"/>

```

```

                </effectiveTime>
                <value xsi:type="CD" code="125629006"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"
displayName="Injury of colon"/>
            </observation>
        </entryRelationship>
    </encounter>
</entryRelationship>
</act>

```

3.20 Encounter Performed Act (V2)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.133:2017-08-01
(open)]

Table 60: Encounter Performed Act (V2) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Encounter Performed (V4) (required)

This template, along with its contained Encounter Performed (V4) template, represents the QDM datatype: Encounter, Performed.

The Encounter Performed (V4) template itself does not support the negationInd attribute. Adding an act wrapper to the Encounter Performed (V4) template allows Encounter Performed to be negated.

Table 61: Encounter Performed Act (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.133:2017-08-01)					
@classCode	1..1	SHALL		3343-28477	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		3343-28478	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@negationInd	0..1	MAY		3343-28484	
templateId	1..1	SHALL		3343-28475	
@root	1..1	SHALL		3343-28479	2.16.840.1.113883.10.20.24.3.133
@extension	1..1	SHALL		3343-28809	2017-08-01
code	1..1	SHALL		3343-28807	
@code	1..1	SHALL		3343-28808	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ENC
entryRelationship	1..1	SHALL		3343-28476	
@typeCode	1..1	SHALL		3343-28481	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
encounter	1..1	SHALL		3343-28482	Encounter Performed (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.23:2017-08-01)

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" Act (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3343-28477).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-28478).
3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3343-28484).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-28475) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.133" (CONF:3343-28479).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-28809).
5. **SHALL** contain exactly one [1..1] **code** (CONF:3343-28807).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="ENC" Encounter (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3343-28808).
6. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:3343-28476) 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:3343-28481).
- b. **SHALL** contain exactly one [1..1] [Encounter Performed \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.23:2017-08-01) (CONF:3343-28482).

Figure 39: Encounter Performed Act (V2) Example

```
<act classCode="ACT" moodCode="EVN">
  <!--Encounter performed Act (V2) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.133" extension="2017-08-01"/>
  <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 (V4) templateId-->
      <templateId root="2.16.840.1.113883.10.20.24.3.23" extension="2017-08-01"/>
      <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"/>
      <text>Encounter, Performed: Emergency Department Visit</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <!-- QDM Attribute: Relevant Period - admission datetime -->
        <low value="20170301090000"/>
        <!-- QDM Attribute: Relevant Period - discharge datetime -->
        <high value="20170301130000"/>
      </effectiveTime>
    </encounter>
  </entryRelationship>
</act>
```

3.21 Encounter Recommended Act (V2)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.134:2017-08-01
(open)]

Table 62: Encounter Recommended Act (V2) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Encounter Recommended (V4) (required)

This template, along with its contained Encounter Recommended (V4) template, represents the QDM datatype: Encounter, Recommended.

The Encounter Recommended (V4) template itself does not support the negationInd attribute. Adding an act wrapper to the Encounter Recommended (V4) template allows Encounter Recommended to be negated.

Table 63: Encounter Recommended Act (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.134:2017-08-01)					
@classCode	1..1	SHALL		3343-28487	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		3343-28488	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = INT
@negationInd	0..1	MAY		3343-28489	
templateId	1..1	SHALL		3343-28485	
@root	1..1	SHALL		3343-28490	2.16.840.1.113883.10.20.24.3.134
@extension	1..1	SHALL		3343-28815	2017-08-01
code	1..1	SHALL		3343-28677	
@code	1..1	SHALL		3343-28814	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ENC
entryRelationship	1..1	SHALL		3343-28486	
@typeCode	1..1	SHALL		3343-28492	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
encounter	1..1	SHALL		3343-28493	Encounter Recommended (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.24:2017-08-01)

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" Act (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3343-28487).
2. **SHALL** contain exactly one [1..1] **@moodCode**="INT" Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-28488).
3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3343-28489).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-28485) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.134" (CONF:3343-28490).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-28815).
5. **SHALL** contain exactly one [1..1] **code** (CONF:3343-28677).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="ENC" Encounter (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3343-28814).
6. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:3343-28486) 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:3343-28492).
- b. **SHALL** contain exactly one [1..1] Encounter Recommended (V4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.24:2017-08-01) (CONF:3343-28493).

Figure 40: Encounter Recommended Act (V2) Example

```
<act classCode="ACT" moodCode="INT">
  <!--Encounter Recommended Act (V2) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.134" extension="2017-08-01"/>
  <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 (V4) template -->
      <templateId root="2.16.840.1.113883.10.20.24.3.24" extension="2017-08-01"/>
      <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"/>
      <text>Encounter for check-up (procedure)</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="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="2017-08-
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"/>
          <value xsi:type="CD" code="125629006"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT" displayName="Injury of
colon"/>
        </observation>
      </entryRelationship>
    </encounter>
  </entryRelationship>
</act>
```

3.22 Entry Reference

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

Table 64: 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 65: 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 (HL7ActMood) = 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 (HL7ActStatus) = 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: HL7ActMood 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 41: 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 42: 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>

```

3.23 External Document Reference

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

Table 66: 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 67: 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 (HL7ActMood) = 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: HL7ActMood 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 43: 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>
```

3.24 Family History Death Observation

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

Table 68: Family History Death Observation Contexts

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

This clinical statement records whether the family member is deceased.

Table 69: 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 (HL7ActMood) = 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 (HL7ActCode) = 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 (HL7ActStatus) = 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: HL7ActMood 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: HL7ActCode 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: HL7ActStatus 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 44: 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>
```

3.25 Family History Observation (V3)

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

Table 70: Family History Observation (V3) Contexts

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

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 71: 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:2.16.840.1.113883.5.10.01 (HL7ActMood) = EVN
templateId	1..1	SHALL		1198-8599	
@root	1..1	SHALL		1198-10496	2.16.840.1.113883.10.20.22.4.4.6
@extension	1..1	SHALL		1198-32605	2015-08-01
id	1..*	SHALL		1198-8592	
code	1..1	SHALL		1198-32427	urn:hl7ii:2.16.840.1.113883.3.8.8.12.3221.7.2:2012-06-01 (Problem Type (SNOMED CT))
translation	1..*	SHALL		1198-32847	urn:hl7ii:2.16.840.1.113883.3.8.8.12.3221.7.2:2014-09-02 (Problem Type (LOINC))
statusCode	1..1	SHALL		1198-8590	
@code	1..1	SHALL		1198-19098	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = 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: HL7ActMood 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 (SNOMED CT) urn:hl7ii:2.16.840.1.113883.3.88.12.3221.7.2:2012-06-01 **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 (LOINC) urn:hl7ii:2.16.840.1.113883.3.88.12.3221.7.2:2014-09-02 **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: HL7ActStatus 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).

Figure 45: 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>
```

3.25.1 Family History Observation QDM (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.112:2017-08-01 (open)]

Table 72: Family History Observation QDM (V3) Contexts

Contained By:	Contains:
Family History Organizer QDM (V4) (required)	Author (optional)

This template (along with its containing organizer template Family History Organizer QDM (V3) 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 73: Family History Observation QDM (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.112:2017-08-01)					
@classCode	1..1	SHALL		3343-27685	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3343-27686	urn:oid:2.16.840.1.113883.5.10.01 (HL7ActMood) = EVN
@negationInd	0..0	SHALL NOT		3343-28057	
templateId	1..1	SHALL		3343-27675	
@root	1..1	SHALL		3343-27681	2.16.840.1.113883.10.20.24.3.112
@extension	1..1	SHALL		3343-27682	2017-08-01
value	1..1	SHALL	CD	3343-27688	
author	0..1	MAY		3343-28571	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)

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:3343-27685).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-27686).
4. **SHALL NOT** contain [0..0] **@negationInd** (CONF:3343-28057).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-27675) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.112" (CONF:3343-27681).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-27682).
6. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:3343-27688).
Note: QDM Attribute: Code
7. **MAY** contain zero or one [0..1] **Author** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-28571).
Note: QDM Attribute: Author dateTime - the time the family history item is authored (i.e., entered into the record)
8. This template **SHALL** be contained by a Family History Organizer QDM (V4) (CONF:3343-28661).

Figure 46: Family History Observation QDM (V3) Example

```

<!-- Must be contained in the Family History Organizer (V4) 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 (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.112" extension="2017-08-01"/>
  <id root="d42ebf70-5c89-11db-b0de-0800200c9a66"/>
  <code code="75323-6" displayName="Condition" codeSystemName="LOINC"
codeSystem="2.16.840.1.113883.6.1">
    <translation code="64572001" displayName="Condition" codeSystemName="SNOMED CT"
codeSystem="2.16.840.1.113883.6.96"/>
  </code>
  <statusCode code="completed"/>
  <!-- Diagnosis/Condition/Problem -->
  <value xsi:type="CD" code="22298006" codeSystem="2.16.840.1.113883.6.96"
displayName="Myocardial infarction"/>
  <author>
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="2017020101030"/>
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </assignedAuthor>
  </author>
</observation>

```

3.26 Family History Organizer (V3)

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

Table 74: Family History Organizer (V3) Contexts

Contained By:	Contains:
	Family History Observation (V3) (required)

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 75: 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 (HL7ActMood) = 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 (HL7ActStatus) = 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 (HL7EntityClass) = PRS
code	1..1	SHALL		1198-15246	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	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: HL7ActMood 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: HL7ActStatus 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: HL7EntityClass urn:oid:2.16.840.1.113883.5.41 **STATIC**) (CONF:1198-15245).
 - ii. This **relatedSubject** **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:1198-15246](#)).
Note: QDM Attribute: Relationships
 - 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**, which **SHALL** be selected from ValueSet Administrative Gender (HL7 V3) urn:oid:2.16.840.1.113883.1.11.1 **DYNAMIC** (CONF:1198-15974).
 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).

Figure 47: 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>
    </relatedSubject>
    <subject>
      <sdct: 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" codeSystem="2.16.840.1.113883.5.1" />
      <birthTime value="1910" />
      <!-- Example use of sdct extensions :-->
      <!-- <sdct:deceasedInd value="true"/><sdct:deceasedTime value="1967"/>
      -->
    </subject>
  </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>
```

3.26.1 Family History Organizer QDM (V4)

[organizer: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.12:2017-08-01 (open)]

Table 76: Family History Organizer QDM (V4) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Family History Observation QDM (V3) (required)

This template (along with its contained template Family History Observation QDM (V3) represents the QDM datatype: Family History.

This template is an organizer that contains the Family History Observation (V3) 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 77: Family History Organizer QDM (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
organizer (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.12:2017-08-01)					
templateId	1..1	SHALL		3343-14175	
@root	1..1	SHALL		3343-14176	2.16.840.1.113883.10.20.24.3.12
@extension	1..1	SHALL		3343-26553	2017-08-01
component	1..*	SHALL		3343-27715	
observation	1..1	SHALL		3343-27716	Family History Observation QDM (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.112:2017-08-01)

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:3343-14175) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.12" (CONF:3343-14176).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-26553).
3. **SHALL** contain at least one [1..*] **component** (CONF:3343-27715) such that it
 - a. **SHALL** contain exactly one [1..1] [Family History Observation QDM \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.112:2017-08-01) (CONF:3343-27716).

Figure 48: Family History Organizer QDM (V4)

```
<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 (V4) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.12" extension="2017-08-01"/>
  <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>
    <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 (V3) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.112" extension="2017-08-01"/>
      <id root="d42ebf70-5c89-11db-b0de-0800200c9a66"/>
      <code code="75323-6" displayName="Condition" codeSystemName="LOINC"
codeSystem="2.16.840.1.113883.6.1">
        <translation code="64572001" displayName="Condition"
codeSystemName="SNOMED CT" codeSystem="2.16.840.1.113883.6.96"/>
      </code>
      <statusCode code="completed"/>
      <!-- Diagnosis/Condition/Problem -->
      <value xsi:type="CD" code="22298006" codeSystem="2.16.840.1.113883.6.96"
displayName="Myocardial infarction"/>
      <author>
        <time value="2017020101030"/>
        <assignedAuthor>
          <id nullFlavor="NA"/>
        </assignedAuthor>
      </author>
    </observation>
  </component>
</organizer>
```

3.27 Goal Observation

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

Table 78: Goal Observation Contexts

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

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 79: 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:2.16.840.1.113883.5.10 01 (HL7ActMood) = GOL
templateId	1..1	SHALL		1098-8583	
@root	1..1	SHALL		1098-10512	2.16.840.1.113883.10.20.22.4.1 21
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 (HL7ActStatus) = active
effectiveTime	0..1	SHOULD		1098-32335	
value	0..1	MAY		1098-32743	
author	0..*	SHOULD		1098-30995	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.2 0.22.4.119)
entryRelationship	0..*	MAY		1098-30701	
@typeCode	1..1	SHALL		1098-30702	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = REFR
act	1..1	SHALL		1098-30703	Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.2 0.22.4.122)
entryRelationship	0..*	MAY		1098-30704	
@typeCode	1..1	SHALL		1098-30705	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = COMP
act	1..1	SHALL		1098-32879	Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.2 0.22.4.122)
entryRelationship	0..1	SHOULD		1098-30785	
@typeCode	1..1	SHALL		1098-30786	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = REFR

observation	1..1	SHALL		1098-30787	Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.2.0.22.4.143)
entryRelationship	0..*	MAY		1098-31448	
@typeCode	1..1	SHALL		1098-31449	urn:oid:2.16.840.1.113883.5.10.02 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		1098-32880	Goal Observation (identifier: urn:oid:2.16.840.1.113883.10.2.0.22.4.121)
entryRelationship	0..*	MAY		1098-31559	
@typeCode	1..1	SHALL		1098-31560	urn:oid:2.16.840.1.113883.5.10.02 (HL7ActRelationshipType) = REFR
act	1..1	SHALL		1098-31588	Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.2.0.22.4.122)
reference	0..*	MAY		1098-32754	
@typeCode	1..1	SHALL		1098-32755	urn:oid:2.16.840.1.113883.5.10.02 (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: HL7ActMood 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: HL7ActStatus 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 the recordTarget (patient), this is a patient goal. If the author is a provider, this is a provider goal. If both patient and provider are authors, this is a negotiated goal. If no author is present, it is assumed the document or section author(s) is the author of this goal.

9. **SHOULD** contain zero or more [0..*] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF: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
- SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1098-31560).
 - 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).
- 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).
 - 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 49: 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>

```

3.27.1 Care Goal (V4)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.1:2017-08-01 (open)]

Table 80: Care Goal (V4) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Target Outcome (V2) (optional) Related To (optional)

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 a change in status expected at a defined future time. That change can be an observation represented by other QDM categories (diagnostic tests, laboratory tests, symptoms, etc.) scheduled for some time in the future and with a particular value. A goal can be found in the plan of care (care plan), 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. This structure, through which the goals and care-planning actions and processes can be organized, planned, communicated, and checked for completion, is represented in the QDM categories as a Record Artifact. A time/date stamp is required. moodCode is constrained to “GOL” and actStatus is constrained to “active”.

QDM Attribute: relatedTo. It is the problem, procedure or other class of information to which the Care Goal is related.

QDM Attribute: Relevant Period addresses the time between the start of an action to the end of an action. Relevant PeriodstartTime is when the goal is recorded, and therefore should be considered effective. Relevant PeriodstopTime is when the target outcome is expected to be met.

Table 81: Care Goal (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.1:2017-08-01)					
@classCode	1..1	SHALL		3343-11245	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3343-11246	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = GOL
@negationInd	0..0	SHALL NOT		3343-28040	
templateId	1..1	SHALL		3343-11247	
@root	1..1	SHALL		3343-11248	2.16.840.1.113883.10.20.24.3.1
@extension	1..1	SHALL		3343-27067	2017-08-01
code	1..1	SHALL		3343-27576	
effectiveTime	1..1	SHALL		3343-11255	
low	1..1	SHALL		3343-27557	
high	0..1	MAY		3343-27558	
entryRelationship	0..1	MAY		3343-28036	
@typeCode	1..1	SHALL		3343-28037	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		3343-28038	Target Outcome (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.119:2017-08-01
sdtc:inFulfillmentOf1	0..*	MAY		3343-29115	Related To (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.150:2017-08-01

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:3343-11245).
3. **SHALL** contain exactly one [1..1] **@moodCode**="GOL" goal (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-11246).
4. **SHALL NOT** contain [0..0] **@negationInd** (CONF:3343-28040).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-11247) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.1" (CONF:3343-11248).

- b. **SHALL** contain exactly one [1..1] **@extension="2017-08-01"** (CONF:3343-27067).
- 6. **SHALL** contain exactly one [1..1] **code** (CONF:3343-27576).
Note: QDM Attribute: Code
- 7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:3343-11255).
Note: QDM Attribute: Relevant Period
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:3343-27557).
Note: startTime - when the goal is recorded, and therefore should be considered effective
 - b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:3343-27558).
Note: Stop dateTime - when the target outcome is expected to be met
- 8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-28036) 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:3343-28037).
 - b. **SHALL** contain exactly one [1..1] **Target Outcome (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.119:2017-08-01) (CONF:3343-28038).
- 9. **MAY** contain zero or more [0..*] **Related To** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.150:2017-08-01) (CONF:3343-29115).
Note: QDM Attribute: relatedTo

Figure 50: Care Goal (V4) 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 (V4) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.1" extension="2017-08-01"/>
  <id root="751aa255-0e10-4364-a56a-a4cf2aed0d01"/>
  <code code="44616-1" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
displayName="Pulse oximetry panel"/>
  <text>Care Goal: Pulse Oximetry greater than 92%</text>
  <statusCode code="active"/>
  <effectiveTime>
    <!-- QDM Attribute: Relevant Period - Start dateTime -->
    <low value="20170101"/>
  </effectiveTime>
  <value xsi:type="IVL_PQ">
    <low value="92" unit="%" />
  </value>
  <!-- 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="2017-08-01"/>
      <id root="3a4aa411-78b9-484b-a0f1-33f1cf49b4ad"/>
      <code code="29463-7" displayName="Body weight"
codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
      <value xsi:type="PQ" unit="kg" value="65"/>
    </observation>
  </entryRelationship>
  <!-- QDM Attribute: relatedTo -->
  <sdtc:inFulfillmentOf1 typeCode="FLFS">
    <sdtc:templateId root="2.16.840.1.113883.10.20.24.3.150" extension="2017-08-01"/>
    <sdtc:actReference classCode="SPLY" moodCode="RQO">
      <!-- For example, the id is the same as the id of another QDM element instance
contained in the same QRDA I document being referenced -->
      <sdtc:id root="1fad091f-7b4e-4661-b61c-53f9a82515b6"/>
    </sdtc:actReference>
  </sdtc:inFulfillmentOf1>
</observation>
```

3.28 Immunization Activity (V2)

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

Table 82: Immunization Activity (V2) Contexts

Contained By:	Contains:
	Drug Vehicle (optional) Immunization Refusal Reason (optional) Reaction Observation (V2) (optional) Indication (V2) (optional) Medication Supply Order (V2) (optional)

Contained By:	Contains:
	Medication Dispense (V2) (optional) Instruction (V2) (optional) Author Participation (optional) Substance Administered Act (optional) Immunization Medication Information (V2) (required) Precondition for Substance Administration (V2) (optional)

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 83: 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:2.16.840.1.113883.11.2 0.9.18 (MoodCodeEvnInt)
@negationInd	0..1	MAY		1098-8985	
templateId	1..1	SHALL		1098-8828	
@root	1..1	SHALL		1098-10498	2.16.840.1.113883.10.20.22.4.5 2
@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. 15933 (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:2.16.840.1.113762.1.4.1 021.30 (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:2.16.840.1.113883.10.2.0.22.4.119)
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:2.16.840.1.113883.10.2.0.22.4.24)
entryRelationship	0..*	MAY		1098-8853	
@typeCode	1..1	SHALL		1098-8854	urn:oid:2.16.840.1.113883.5.10 02 (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:2.16.840.1.113883.5.10 02 (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:2.16.840.1.113883.5.10 02 (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:2.16.840.1.113883.5.10 02 (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:2.16.840.1.113883.1.11.15933 **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:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09) (CONF:1098-15548).

Figure 51: 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>

```

3.28.1 Immunization Administered (V2)

[substanceAdministration: identifier
urn:hl7ii:2.16.840.1.113883.10.20.24.3.140:2017-08-01 (open)]

Table 84: Immunization Administered (V2) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Immunization Medication Information (V2) (required) Reason (V3) (optional)

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 (V3) template.

Table 85: Immunization Administered (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
substanceAdministration (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.140:2017-08-01)					
@classCode	1..1	SHALL		3343-28588	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SBADM
@moodCode	1..1	SHALL		3343-28589	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		3343-28574	
@root	1..1	SHALL		3343-28581	2.16.840.1.113883.10.20.24.3.140
@extension	1..1	SHALL		3343-28958	2017-08-01
statusCode	1..1	SHALL		3343-28576	
@code	1..1	SHALL		3343-28585	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		3343-28578	
@value	1..1	SHALL		3343-28959	
consumable	1..1	SHALL		3343-28957	
manufacturedProduct	1..1	SHALL		3343-28960	Immunization Medication Information (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09)
entryRelationship	0..1	MAY		3343-28577	
@typeCode	1..1	SHALL		3343-28586	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		3343-28587	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)

1. Conforms to [Immunization Activity \(V2\)](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.52:2014-06-09).
2. **SHALL** contain exactly one [1..1] **@classCode**="SBADM" Substance Administration (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3343-28588).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-28589).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-28574) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.140" (CONF:3343-28581).

- b. **SHALL** contain exactly one [1..1] @extension="2017-08-01" (CONF:3343-28958).
- 5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3343-28576).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3343-28585).
- 6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:3343-28578).
 Note: QDM Attribute: Author dateTime – the time the immunization is administered, i.e., a single point in time, or the time it is entered into the clinical software
 - a. This effectiveTime **SHALL** contain exactly one [1..1] @value (CONF:3343-28959).
- 7. **SHALL** contain exactly one [1..1] **consumable** (CONF:3343-28957).
 - 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:3343-28960).
- 8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-28577) 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:3343-28586).
 - b. **SHALL** contain exactly one [1..1] Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:3343-28587).

Figure 52: Immunization Administered (V2) Example

```

<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"/>
  <!-- Immunization Administered -->
  <templateId root="2.16.840.1.113883.10.20.24.3.140" extension="2017-08-01"/>
  <id root="1ea77951-61f4-425f-bb69-dd396d63c44f"/>
  <statusCode code="completed"/>
  <effectiveTime value="20041215"/>
  <!-- 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">
          </code>
          <lotNumberText>1</lotNumberText>
        </manufacturedMaterial>
      </manufacturedProduct>
    </consumable>
  </substanceAdministration>

```


3.29 Immunization Medication Information (V2)

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

Table 86: 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) Immunization Administered (V2) (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 87: 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 (HL7RoleClass) = 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	
lotNumberText	0..1	SHOULD		1098-9014	
manufacturerOrganization	0..1	SHOULD		1098-9012	

1. **SHALL** contain exactly one [1..1] **@classCode="MANU"** (CodeSystem: HL7RoleClass 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** (CONF:1098-31881).
- lotNumberText should be included if known. It may not be known for historical immunizations, planned immunizations, or refused/deferred immunizations.
- b. This **manufacturedMaterial** **SHOULD** contain zero or one [0..1] **lotNumberText** (CONF:1098-9014).
5. **SHOULD** contain zero or one [0..1] **manufacturerOrganization** (CONF:1098-9012).

Figure 53: 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>
```

3.30 Immunization Refusal Reason

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

Table 88: 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 89: 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:2.16.840.1.113883.5.10.01 (HL7ActMood) = 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 (HL7ActStatus) = 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: HL7ActMood 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: HL7ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:81-19104).

Figure 54: 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>
```

3.31 Incision Datetime

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

Table 90: Incision Datetime Contexts

Contained By:	Contains:
Procedure Performed (V5) (optional)	

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

Table 91: 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:2.16.840.1.113883.5.10 01 (HL7ActMood) = EVN
templateId	1..1	SHALL		67-11402	
@root	1..1	SHALL		67-11403	2.16.840.1.113883.10.20.24.3.89
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: HL7ActMood 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 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).
5. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:67-14561).

Figure 55: Incision Datetime Example

```
<procedure classCode="PROC" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.24.3.89" />
  <code code="34896006"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="incision" />
  <effectiveTime value="20170329091500" />
</procedure>
```

3.32 Indication (V2)

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

Table 92: 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 93: 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:2.16.840.1.113883.5.10 01 (HL7ActMood) = EVN
templateId	1..1	SHALL		1098-7482	
@root	1..1	SHALL		1098-10502	2.16.840.1.113883.10.20.22.4.1 9
@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 (HL7ActStatus) = 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: HL7ActMood 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 elsewhere in the document then this id must equal another entry/id in the same document instance. Application Software must be responsible for resolving the identifier back to its original object and then rendering the information in the correct place in the containing section's narrative text. Its purpose is to obviate the need to repeat the complete XML representation of the referred to entry when relating one entry to another.
5. **SHALL** contain exactly one [1..1] **code**, which **MAY** be selected from ValueSet Problem Type 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: HL7ActStatus 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 56: 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="cdbc33f0-6cde-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"/> -->
```


3.33 Instruction (V2)

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

Table 94: 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 95: 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 (HL7ActMood) = 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 (HL7ActStatus) = 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: HL7ActMood 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: HL7ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:1098-19106).

Figure 57: 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>
```

3.34 Laboratory Test Performed (V4)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.38:2017-08-01
(open)]

Table 96: Laboratory Test Performed (V4) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Status (optional) Result Observation (V3) (optional) Reason (V3) (optional) Component (optional) Author (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.

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 97: Laboratory Test Performed (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.38:2017-08-01)					
@classCode	1..1	SHALL		3343-11705	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3343-11706	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = EVN
@negationInd	0..1	MAY		3343-28077	
templateId	1..1	SHALL		3343-11721	
@root	1..1	SHALL		3343-11722	2.16.840.1.113883.10.20.24.3.3 8
@extension	1..1	SHALL		3343-27021	2017-08-01
id	1..*	SHALL		3343-11707	
code	1..1	SHALL		3343-27637	
statusCode	1..1	SHALL		3343-11709	
@code	1..1	SHALL		3343-11710	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		3343-11711	
low	1..1	SHALL		3343-11712	
high	1..1	SHALL		3343-11713	
value	0..0	SHALL NOT		3343-29134	
author	0..1	MAY		3343-29120	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
entryRelationship	0..1	MAY		3343-11727	
@typeCode	1..1	SHALL		3343-11728	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		3343-27161	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)
entryRelationship	0..1	MAY		3343-29122	
@typeCode	1..1	SHALL		3343-29127	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) =

					REFR
observation	1..1	SHALL		3343-29128	Result Observation (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01)
entryRelationship	0..1	MAY		3343-27748	
@typeCode	1..1	SHALL		3343-27749	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		3343-27750	Status (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.93)
entryRelationship	0..*	MAY		3343-29131	
@typeCode	1..1	SHALL		3343-29132	REFR
observation	1..1	SHALL		3343-29133	Component (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.149:2017-08-01)
referenceRange	0..1	MAY		3343-29123	
observationRange	1..1	SHALL		3343-29124	
code	0..0	SHALL NOT		3343-29129	
value	1..1	SHALL	IVL_P Q	3343-29130	

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3343-11705).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-11706).
3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3343-28077).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-11721) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.38" (CONF:3343-11722).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-27021).
5. **SHALL** contain at least one [1..*] **id** (CONF:3343-11707).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3343-27637).
Note: QDM Attribute: Code
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3343-11709).
 - a. This **statusCode** **SHALL** contain exactly one [1..1] **@code**="completed" (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3343-11710).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:3343-11711) such that it
Note: QDM Attribute: Relevant Period

- a. **SHALL** contain exactly one [1..1] **low** (CONF:3343-11712).
Note: startTime - the time the laboratory test is initiated (i.e., the time the specimen collection begins)
 - b. **SHALL** contain exactly one [1..1] **high** (CONF:3343-11713).
Note: stopTime - the time the laboratory test is initiated (i.e., the time the specimen collection ends)
9. **SHALL NOT** contain [0..0] **value** (CONF:3343-29134).
Note: Use Result Observation (V3) to represent Result and/or Result dateTime
10. **MAY** contain zero or one [0..1] **Author** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-29120).
Note: QDM Attribute: Author dateTime
11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-11727) 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:3343-11728).
 - b. **SHALL** contain exactly one [1..1] **Reason (V3)** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:3343-27161).
12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-29122) such that it
Note: QDM Attribute: Result, QDM Attribute: Result dateTime
 - a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers to (CodeSystem:
HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3343-29127).
 - b. **SHALL** contain exactly one [1..1] **Result Observation (V3)** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01) (CONF:3343-29128).
13. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-27748) 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:3343-27749).
 - b. **SHALL** contain exactly one [1..1] **Status** (identifier:
urn:oid:2.16.840.1.113883.10.20.24.3.93) (CONF:3343-27750).
14. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:3343-29131) such that it
Note: QDM Attribute: Components
 - a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers to (CONF:3343-29132).
 - b. **SHALL** contain exactly one [1..1] **Component** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.149:2017-08-01) (CONF:3343-29133).
15. **MAY** contain zero or one [0..1] **referenceRange** (CONF:3343-29123).
Note: QDM Attribute: Reference Range Low, QDM Attribute: Reference Range High
 - a. The referenceRange, if present, **SHALL** contain exactly one [1..1] **observationRange** (CONF:3343-29124).
 - i. This observationRange **SHALL NOT** contain [0..0] **code** (CONF:3343-29129).

- ii. This observationRange **SHALL** contain exactly one [1..1] value with @xsi:type="IVL_PQ" (CONF:3343-29130).

Figure 58: Laboratory Test Performed (V4) Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Laboratory Test Performed (V4) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.38" extension="2017-08-01" />
  <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"/>
  <text>Laboratory Test, Hematocrit</text>
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start Datetime -->
    <low value="20150329090000" />
    <!-- QDM Attribute: Stop Datetime -->
    <high value="20150329103000" />
  </effectiveTime>
  <!-- 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="2017-08-01" />
      ...
    </observation>
  </entryRelationship>
  <entryRelationship typeCode="REFR">
    <!-- Conforms to C-CDA R2.1 Result Observation (V3) -->
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.2" extension="2015-08-01"/>
      <code code="4544-3" displayName="Hematocrit" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC"/>
      <statusCode code="completed"/>
      <value xsi:type="PQ" value="35.3" unit="%"/>
    </observation>
  </entryRelationship>
</observation>
```

3.35 Measure Reference

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

Table 98: 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 99: 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 (HL7ActMood) = 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 (HL7ActStatus)
@code	1..1	SHALL		67-27020	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = 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: HL7ActMood 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** (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:67-12981).

- a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:67-27020).
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 Quality Measure (CONF:67-12998).

Figure 59: Measure Reference Example

```
<organizer classCode="CLUSTER" moodCode="EVN">
  <!-- Measure reference -->
  <templateId root="2.16.840.1.113883.10.20.24.3.98"/>
  <id value="fa300bcf-c582-40bd-b2c4-8b5336035865"/>
  <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 eCQM -->
      <text>Neonatal Admission Temperature</text>
    </externalDocument>
  </reference>
</organizer>
```

3.35.1 eMeasure Reference QDM

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

Table 100: eMeasure Reference QDM Contexts

Contained By:	Contains:
Measure Section QDM (required)	

This template defines the way that a QDM eCQM (formerly referred to as eMeasure) should be referenced in a QDM-Based QRDA. An eCQM 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 eCQM: the QualityMeasureDocument/id.

In addition to referencing an eCQM, 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 eCQM. For each population defined in a referenced eCQM, 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 101: 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:2.16.840.1.113883.5.10 01 (HL7ActMood) = EVN
templateId	1..1	SHALL		67-27018	
@root	1..1	SHALL		67-27019	2.16.840.1.113883.10.20.24.3.9 7
statusCode	1..1	SHALL		67-12807	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
reference	1..1	SHALL		67-12808	
@typeCode	1..1	SHALL		67-12809	urn:oid:2.16.840.1.113883.5.10 02 (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 (HL7ActCode) = 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 (HL7ActMood) = 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: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:67-12806).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:67-27018) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.97" (CONF:67-27019).
5. **SHALL** contain exactly one [1..1] **statusCode**="completed" completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:67-12807).
6. **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 eCQM.
 2. **SHALL** contain exactly one [1..1] **@extension** (CONF:67-12813).
Note: This @extension SHALL equal the version specific identifier for eCQM (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 eCQMs 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 eCQM version number not be submitted in a QRDA Category I report. Version specific identifier for an eCQM can be used to uniquely identify an eCQM and it is a required data element for QRDA I.

1. The version number **SHALL** equal the sequential eMeasure Version number (CONF:67-12870).
7. **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: HL7ActCode 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: HL7ActMood 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 60: eMeasure Reference QDM Example

```

<!-- 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"/>
    <id value="77acf01e-c554-4b23-9224-b9a47442ad88"/>
    <statusCode code="completed"/>
    <reference typeCode="REFR">
      <externalDocument classCode="DOC" moodCode="EVN">
        <!-- SHALL: This is the version specific identifier for eCQM:
        QualityMeasureDocument/id - the OID in the @root indicates that
        the @extension (which is a GUID) contains the version specific identifier for
eCQM -->
        <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
        eCQM Number and extension is the eCQM's NQF number -->
        <id root="2.16.840.1.113883.3.560.1" extension="0143"/>
        <!-- SHOULD: eCQM 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 eCQM -->
        <text>Children's Asthma Care (CAC-1) Relievers for Inpatient
        Asthma</text>
        <!-- SHOULD: setId is the eCQM version neutral id -->
        <setId root="dc78ee5d-1487-4d79-84c3-1dfdaaff0781c"/>
      </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 eCQM population (because some
        eCQMs 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>

```



```

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

```

3.36 Medication Activity (V2)

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

Table 102: 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) Discharge Medication (V3) (required)	Drug Vehicle (optional) Drug Monitoring Act (optional) Reaction Observation (V2) (optional) Indication (V2) (optional) Medication Supply Order (V2) (optional) Medication Information (V2) (required) Medication Dispense (V2) (optional) Instruction (V2) (optional) Author Participation (optional) Substance Administered Act (optional) Precondition for Substance Administration (V2) (optional) Medication Free Text Sig (optional)

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 103: 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:2.16.840.1.113762.1.4.1099.11 (Medication Status)
effectiveTime	1..1	SHALL		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:2.16.840.1.113762.1.4.1099.12 (Medication Route)
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		1098-32909	Medication Free Text Sig (identifier: urn:oid:2.16.840.1.113883.10.2

					0.22.4.147
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 Medication Status urn:oid:2.16.840.1.113762.1.4.1099.11 **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. QDM Attribute: relevantPeriod.startTime
 - b. **SHOULD** contain zero or one [0..1] **low** (CONF:1098-32776).
 Note: indicates when medication started. QDM Attribute: relevantPeriod.startTime

MAY contain zero or one [0..1] **high** (CONF:1098-32777).

Note: indicates when medication stopped. QDM Attribute: relevantPeriod.stopTime

- c. 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). QDM Attribute: Frequency
 - 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 urn:oid:2.16.840.1.113762.1.4.1099.12 **DYNAMIC** (CONF:1098-7514).
Note: QDM Attribute: Route
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).

Note: QDM Attribute: Dosage

- 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).
Note: QDM Attribute: Code
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).
Note: QDM Attribute: authorDatetime
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 61: 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 62: 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>
```

3.36.1 Medication Active (V4)

[substanceAdministration: identifier
urn:hl7ii:2.16.840.1.113883.10.20.24.3.41:2017-08-01 (open)]

Table 104: Medication Active (V4) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (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 105: Medication Active (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
substanceAdministration (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.41:2017-08-01)					
@moodCode	1..1	SHALL		3343-28861	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@negationInd	0..0	SHALL NOT		3343-28079	
templateId	1..1	SHALL		3343-28858	
@root	1..1	SHALL		3343-28860	2.16.840.1.113883.10.20.24.3.41
@extension	1..1	SHALL		3343-28654	2017-08-01
statusCode	1..1	SHALL		3343-28859	
@code	1..1	SHALL		3343-28655	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active

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: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-28861).
3. **SHALL NOT** contain [0..0] @negationInd (CONF:3343-28079).
4. **SHALL** contain exactly one [1..1] templateId (CONF:3343-28858) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.41" (CONF:3343-28860).
 - b. **SHALL** contain exactly one [1..1] @extension="2017-08-01" (CONF:3343-28654).
5. **SHALL** contain exactly one [1..1] statusCode (CONF:3343-28859).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="active" (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3343-28655).

Figure 63: Medication Active (V4) Example

```
<substanceAdministration classCode="SBADM" moodCode="EVN">
  <!-- Conforms to C-CDA R2 Medication Activity (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.16" extension="2014-06-09"/>
  <!-- Medication Active (V4) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.41" extension="2017-08-01"/>
  <id root="c0ea7bf3-50e7-4e7a-83a3-e5a9ccbb8541"/>
  <statusCode code="active"/>
  <effectiveTime xsi:type="IVL_TS">
    <!-- QDM Attribute: Relevant Period startTime -->
    <low value="20170301"/>
  </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"/>
  <!-- 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"/>
      </manufacturedMaterial>
    </manufacturedProduct>
  </consumable>
</substanceAdministration>
```

3.36.2 Medication Administered (V4)

[substanceAdministration: identifier
urn:hl7ii:2.16.840.1.113883.10.20.24.3.42:2017-08-01 (open)]

Table 106: Medication Administered (V4) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Reason (V3) (optional)

This template represents both QDM data types: Medication Administered and Substance Administered.

It represents substance administrations that have actually occurred (e.g., pills ingested or injections given)

QDM Attribute: Relevant Period. The startTime of relevant period corresponds to when a single medication administration event starts (e.g., the initiation of an intravenous infusion, or administering a pill or IM injection to a patient). The stopTime of relevant period corresponds to when a single medication administration event ends (e.g., the end time of the intravenous

infusion, or the administration of a pill or IM injection is completed - for pills and IM injections, the start and stop times are the same)

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 (V3) template.

Table 107: Medication Administered (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
substanceAdministration (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.42:2017-08-01)					
@classCode	1..1	SHALL		3343-12444	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SBADM
@moodCode	1..1	SHALL		3343-12445	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = EVN
@negationInd	0..1	MAY		3343-28080	
templateId	1..1	SHALL		3343-12446	
@root	1..1	SHALL		3343-12447	2.16.840.1.113883.10.20.24.3.4 2
@extension	1..1	SHALL		3343-27023	2017-08-01
statusCode	1..1	SHALL		3343-12452	
@code	1..1	SHALL		3343-13241	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
entryRelationship	0..1	MAY		3343-27022	
@typeCode	1..1	SHALL		3343-27024	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		3343-27162	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)

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] **@classCode**="SBADM" Substance Administration (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3343-12444).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-12445).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3343-28080).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-12446) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.42" (CONF:3343-12447).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-27023).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3343-12452).
 - a. This **statusCode** **SHALL** contain exactly one [1..1] **@code**="completed" (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3343-13241).
7. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-27022) 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:3343-27024).
 - b. **SHALL** contain exactly one [1..1] [Reason \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:3343-27162).

Figure 64: Medication Administered (V4) Example

```
<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"/>
  <!-- Medication Administered (V4) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.42" extension="2017-08-01"/>
  <id root="9069c123-80ad-47c8-a633-9dc02018ae56"/>
  <statusCode code="completed"/>
  <effectiveTime xsi:type="IVL_TS">
    <low value="20170301150000"/>
    <high value="20170301150000"/>
  </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"/>
  <!-- QDM Attribute: Dosage -->
  <doseQuantity value="1"/>
  <consumable>
    <manufacturedProduct classCode="MANU">
      <!-- Confirms 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"/>
      </manufacturedMaterial>
    </manufacturedProduct>
  </consumable>
</substanceAdministration>
```

3.37 Medication Dispense (V2)

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

Table 108: Medication Dispense (V2) Contexts

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

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

Table 109: 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:2.16.840.1.113883.5.10.01 (HL7ActMood) = 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: HL7ActMood 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).

Figure 65: 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>
```

3.37.1 Medication Dispensed (V5)

[supply: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.45:2018-10-01 (open)]

Draft as part of Quality Reporting Document Architecture Category I (QRDA I), Release 1, STU Release 5.1, US Realm

Table 110: Medication Dispensed (V5) Contexts

Contained By:	Contains:
Medication Dispensed Act (V3) (required)	Author (required) Days Supplied (optional)

Together with the Medication Dispensed Act (V3) template, this template represents the QDM datatype: Medication, Dispensed. This template must be contained within the Medication Dispensed Act (V3) template.

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.

Timing: The time the medication dispensing event occurs; the Author dateTime.

Timing: The Relevant Period addresses: startTime is when the first administration of the medication is expected. If not specified, the startTime defaults to the Author dateTime (the time the medication dispensing event occurs). stopTime is when the medication supply provided by the dispensing event is expected to be completed.

Table 111: Medication Dispensed (V5) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
supply (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.45:2018-10-01)					
@classCode	1..1	SHALL		4388-27528	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SPLY
@moodCode	1..1	SHALL		4388-27529	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4388-13851	
@root	1..1	SHALL		4388-13852	2.16.840.1.113883.10.20.24.3.45
@extension	1..1	SHALL		4388-26555	2018-10-01
statusCode	1..1	SHALL		4388-19440	
@code	1..1	SHALL		4388-19441	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	4388-29215	
low	1..1	SHALL		4388-29216	
high	1..1	SHALL		4388-29217	
author	1..1	SHALL		4388-28910	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
participant	0..1	MAY		4388-29218	
@typeCode	1..1	SHALL		4388-29222	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PRF
participantRole	1..1	SHALL		4388-29219	
id	1..*	SHALL		4388-29223	
entryRelationship	0..1	MAY		4388-28022	
@typeCode	1..1	SHALL		4388-28023	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
substanceAdministration	1..1	SHALL		4388-28224	
@classCode	1..1	SHALL		4388-28226	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SBADM
@moodCode	1..1	SHALL		4388-28227	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN

XPath	Card.	Verb	Data Type	CONF#	Value
effectiveTime	0..1	MAY		4388-28909	
@operator	1..1	SHALL		4388-28911	A
routeCode	0..1	MAY		4388-28225	
doseQuantity	0..1	MAY		4388-28913	
consumable	1..1	SHALL		4388-28229	
manufacturedProduct	1..1	SHALL		4388-28230	
manufacturedMaterial	1..1	SHALL		4388-28231	
@nullFlavor	1..1	SHALL		4388-28232	urn:oid:2.16.840.1.113883.5.1008 (HL7NullFlavor) = NA
entryRelationship	0..1	MAY		4388-29220	
@typeCode	1..1	SHALL		4388-29224	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
supply	1..1	SHALL		4388-29221	Days Supplied (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.157:2018-10-01)

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:4388-27528).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4388-27529).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4388-13851) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.45" (CONF:4388-13852).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2018-10-01" (CONF:4388-26555).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4388-19440).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4388-19441).
6. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4388-29215).
 Note: QDM Attribute: Relevant Period
 - a. The effectiveTime, if present, **SHALL** contain exactly one [1..1] **low** (CONF:4388-29216).
 Note: startTime = when the first administration of the medication is expected. If not

specified. the startTime defaults to the Author dateTime (the time the medication dispensing event occurs).

- b. The effectiveTime, if present, **SHALL** contain exactly one [1..1] **high** (CONF:4388-29217).

Note: stopTime = when the medication supply provided by the dispensing event is expected to be completed.

- 7. **SHALL** contain exactly one [1..1] **Author** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:4388-28910).
Note: QDM Attribute: Author dateTime – the time the medication dispensing event occurs;
QDM Attribute: dispenserId – author/assignedAuthor/id
- 8. **MAY** contain zero or one [0..1] **participant** (CONF:4388-29218) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="PRF"** Performer (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4388-29222).
 - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:4388-29219).
 - i. This participantRole **SHALL** contain at least one [1..*] **id** (CONF:4388-29223).
Note: QDM Attribute: prescriberId
- 9. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:4388-28022) such that it
Note: QDM Attribute: Dosage, Frequency, Route
 - a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4388-28023).
 - b. **SHALL** contain exactly one [1..1] **substanceAdministration** (CONF:4388-28224).
 - 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:4388-28226).
 - ii. This substanceAdministration **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4388-28227).
 - iii. This substanceAdministration **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4388-28909) such that it
Note: QDM Attribute: Frequency - (e.g., administration times per day).
 - 1. **SHALL** contain exactly one [1..1] **@operator="A"** (CONF:4388-28911).
 - 2. **SHALL** contain exactly one [1..1] **@xsi:type="PIVL_TS"** or **"EIVL_TS"** (CONF:1098-28499) (CONF:4388-28912).
 - iv. This substanceAdministration **MAY** contain zero or one [0..1] **routeCode** (CONF:4388-28225).
Note: QDM Attribute: Route
 - v. This substanceAdministration **MAY** contain zero or one [0..1] **doseQuantity** (CONF:4388-28913).
Note: QDM Attribute: Dosage
 - vi. This substanceAdministration **SHALL** contain exactly one [1..1] **consumable** (CONF:4388-28229).
 - 1. This consumable **SHALL** contain exactly one [1..1] **manufacturedProduct** (CONF:4388-28230).

- a. This manufacturedProduct **SHALL** contain exactly one [1..1] **manufacturedMaterial** (CONF:4388-28231).
 - i. This manufacturedMaterial **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CodeSystem: HL7NullFlavor urn:oid:2.16.840.1.113883.5.1008) (CONF:4388-28232).
- 10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:4388-29220) such that it
 Note: QDM Attribute: Days Supplied
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4388-29224).
 - b. **SHALL** contain exactly one [1..1] Days Supplied (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.157:2018-10-01) (CONF:4388-29221).
- 11. This template **SHALL** be contained by a Medication Dispensed Act (V3) (CONF:4388-28908).

Figure 66: Medication Dispensed (V5) Example

```
<!-- Must be contained in the Medication Dispensed Act (V3) 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 (V5) template -->
  <templateId root="2.16.840.1.113883.10.20.24.3.45" extension="2018-10-01"/>
  <id root="50ed595a-dfb6-49f0-8b19-1901b5d01c1a"/>
  <statusCode code="completed"/>
  <author>
    <time value="2018050101030"/>
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </assignedAuthor>
  </author>
  <!-- QDM Attribute: Refills -->
  <repeatNumber value="4"/>
  <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"/>
      </manufacturedMaterial>
    </manufacturedProduct>
  </product>
  <entryRelationship typeCode="REFR">
    <substanceAdministration classCode="SBADM" moodCode="EVN">
      <!-- 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"/>
      <!-- QDM Attribute: Dosage -->
      <doseQuantity value="1"/>
      <consumable>
        <manufacturedProduct>
          <manufacturedMaterial nullFlavor="NA"/>
        </manufacturedProduct>
      </consumable>
    </substanceAdministration>
  </entryRelationship>
</supply>
```

3.38 Medication Dispensed Act (V3)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.139:2018-10-01
(open)]

Draft as part of Quality Reporting Document Architecture Category I (QRDA I),
Release 1, STU Release 5.1, US Realm

Table 112: Medication Dispensed Act (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Medication Dispensed (V5) (required)

This template, along with its contained Medication Dispensed (V5) template, represents the QDM datatype: Medication, Dispensed. Adding an act wrapper to the Medication Dispensed (V5) template allows Medication Dispensed to be negated.

Table 113: Medication Dispensed Act (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.139:2018-10-01)					
@classCode	1..1	SHALL		4388-28562	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		4388-28563	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@negationInd	0..1	MAY		4388-28565	
templateId	1..1	SHALL		4388-28558	
@root	1..1	SHALL		4388-28560	2.16.840.1.113883.10.20.24.3.139
@extension	1..1	SHALL		4388-28907	2018-10-01
id	1..*	SHALL		4388-28564	
code	1..1	SHALL		4388-28567	
@code	1..1	SHALL		4388-28568	SPLY
@codeSystem	1..1	SHALL		4388-28569	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = 2.16.840.1.113883.5.6
entryRelationship	1..1	SHALL		4388-28557	
@typeCode	1..1	SHALL		4388-28561	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
supply	1..1	SHALL		4388-28566	Medication Dispensed (V5) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.45:2018-10-01)

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" Act (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:4388-28562).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4388-28563).
3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:4388-28565).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4388-28558) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.139" (CONF:4388-28560).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2018-10-01" (CONF:4388-28907).
5. **SHALL** contain at least one [1..*] **id** (CONF:4388-28564).

6. **SHALL** contain exactly one [1..1] **code** (CONF:4388-28567).
 - a. This code **SHALL** contain exactly one [1..1] **@code="SPLY"** supply (CONF:4388-28568).
 - 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:4388-28569).
7. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:4388-28557) 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:4388-28561).
 - b. **SHALL** contain exactly one [1..1] Medication Dispensed (V5) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.45:2018-10-01) (CONF:4388-28566).

Figure 67: Medication Dispensed Act (V3) Example

```
<act classCode="ACT" moodCode="EVN">
  <!-- Medication Dispensed Act (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.139" extension="2018-10-01"/>
  <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) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.18" extension="2014-06-09"/>
      <!-- Medication Dispensed (V5) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.45" extension="2018-10-01"/>
      <id root="50ed595a-dfb6-49f0-8b19-1901b5d01c1a"/>
      <statusCode code="completed"/>
      <!-- QDM Attribute: Refills -->
      <repeatNumber value="4"/>
      <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"/>
          </manufacturedMaterial>
        </manufacturedProduct>
      </product>
    ...
  </supply>
</entryRelationship>
</act>
```

3.39 Medication Free Text Sig

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

Table 114: 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 115: 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		81-32770	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SBADM
@moodCode	1..1	SHALL		81-32771	urn:oid:2.16.840.1.113883.11.20.9.18 (MoodCodeEvnInt)
templateId	1..1	SHALL		81-32753	
@root	1..1	SHALL		81-32772	2.16.840.1.113883.10.20.22.4.147
code	1..1	SHALL		81-32775	urn:oid:2.16.840.1.113883.6.1 (LOINC)
@code	1..1	SHALL		81-32780	76662-6
@codeSystem	1..1	SHALL		81-32781	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
text	1..1	SHALL		81-32754	
reference	1..1	SHALL		81-32755	
@value	0..1	SHOULD		81-32756	
consumable	1..1	SHALL		81-32776	
manufacturedProduct	1..1	SHALL		81-32777	
manufacturedLabeledDrug	1..1	SHALL		81-32778	
@nullFlavor	1..1	SHALL		81-32779	NA

1. **SHALL** contain exactly one [1..1] **@classCode**="SBADM" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:81-32770).
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:81-32771).
Note: moodCode must match the parent substanceAdministration EVN or INT
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:81-32753) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.147" (CONF:81-32772).
4. **SHALL** contain exactly one [1..1] **code** (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:81-32775).

- a. This code **SHALL** contain exactly one [1..1] **@code**="76662-6" Instructions Medication (CONF:81-32780).
 - 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:81-32781).
5. **SHALL** contain exactly one [1..1] **text** (CONF:81-32754).
- 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:81-32755).
 - i. This reference **SHOULD** contain zero or one [0..1] **@value** (CONF:81-32756).
 - 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:81-32774).
6. **SHALL** contain exactly one [1..1] **consumable** (CONF:81-32776).
- a. This consumable **SHALL** contain exactly one [1..1] **manufacturedProduct** (CONF:81-32777).
 - i. This manufacturedProduct **SHALL** contain exactly one [1..1] **manufacturedLabeledDrug** (CONF:81-32778).
 - 1. This manufacturedLabeledDrug **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" Not Applicable (CONF:81-32779).

Figure 68: 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>
```

3.40 Medication Information (V2)

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

Table 116: 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 117: 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 (HL7RoleClass) = 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:2.16.840.1.113762.1.4.1010.4 (Medication Clinical Drug)
translation	0..*	MAY		1098-31884	urn:oid:2.16.840.1.113762.1.4.1010.2 (Clinical Substance)
manufacturerOrganization	0..1	MAY		1098-7416	

1. **SHALL** contain exactly one [1..1] **@classCode="MANU"** (CodeSystem: HL7RoleClass 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).

Figure 69: 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="745679" displayName="200 ACTUAT Albuterol 0.09 MG/ACTUAT Metered Dose Inhaler" codeSystem="2.16.840.1.113883.6.88" codeSystemName="RxNorm" />
  </manufacturedMaterial>
  <manufacturerOrganization>
    <name>Medication Factory Inc.</name>
  </manufacturerOrganization>
</manufacturedProduct>
```

3.41 Medication Supply Order (V2)

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

Table 118: Medication Supply Order (V2) Contexts

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

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

Table 119: 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 (HL7ActMood) = 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:2.16.840.1.113883.1.11.15933 (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:2.16.840.1.113883.10.20.22.4.20:2014-06-09)

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: HL7ActMood 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:2.16.840.1.113883.1.11.15933 **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 70: 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>
```

3.42 Patient Care Experience (V4)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.48:2017-08-01 (open)]

Table 120: Patient Care Experience (V4) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Author (required)

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. It is usually measured with a validated survey tool. The most common tool is the Consumer Assessment of Healthcare Providers and Systems.

QDM Attribute: Author dateTime is the time that the care experience is recorded.

Table 121: Patient Care Experience (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.48:2017-08-01)					
@classCode	1..1	SHALL		3343-12464	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3343-12465	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@negationInd	0..0	SHALL NOT		3343-28085	
templateId	1..1	SHALL		3343-12466	
@root	1..1	SHALL		3343-12467	2.16.840.1.113883.10.20.24.3.48
@extension	1..1	SHALL		3343-27290	2017-08-01
id	1..*	SHALL		3343-12469	
code	1..1	SHALL		3343-12470	
@code	1..1	SHALL		3343-13037	77218-6
@codeSystem	1..1	SHALL		3343-27555	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		3343-12471	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
value	1..1	SHALL	CD	3343-13038	
author	1..1	SHALL		3343-28932	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)

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:3343-12464).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" event, which **SHALL** be selected from CodeSystem HL7ActMood (urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-12465).
3. **SHALL NOT** contain [0..0] @negationInd (CONF:3343-28085).
4. **SHALL** contain exactly one [1..1] templateId (CONF:3343-12466) such that it

- a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.48" (CONF:3343-12467).
 - b. **SHALL** contain exactly one [1..1] @extension="2017-08-01" (CONF:3343-27290).
5. **SHALL** contain at least one [1..*] id (CONF:3343-12469).
6. **SHALL** contain exactly one [1..1] code (CONF:3343-12470).
 - a. This code **SHALL** contain exactly one [1..1] @code="77218-6" Patient satisfaction with healthcare delivery (CONF:3343-13037).
 - 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:3343-27555).
7. **SHALL** contain exactly one [1..1] statusCode="completed", which **SHALL** be selected from CodeSystem HL7ActStatus (urn:oid:2.16.840.1.113883.5.14) (CONF:3343-12471).
8. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:3343-13038).
9. **SHALL** contain exactly one [1..1] [Author](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-28932).
Note: QDM Attribute: Author dateTime - the time that the care experience is recorded

Figure 71: Patient Care Experience (V4) Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Patient Care Experience (V4) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.48" extension="2017-08-01"/>
  <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"/>
  <value xsi:type="CD" code="185481008" displayName="Dissatisfied with doctor (finding)"
  codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"/>
  <author>
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="2017050101030"/>
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </assignedAuthor>
  </author>
</observation>
```

3.43 Patient Characteristic Clinical Trial Participant (V4)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.51:2017-08-01 (open)]

Table 122: Patient Characteristic Clinical Trial Participant (V4) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Reason (V3) (optional)

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 123: Patient Characteristic Clinical Trial Participant (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.51:2017-08-01)					
@classCode	1..1	SHALL		3343-16711	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3343-12526	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = EVN
@negationInd	0..0	SHALL NOT		3343-28086	
templateId	1..1	SHALL		3343-12537	
@root	1..1	SHALL		3343-12538	2.16.840.1.113883.10.20.24.3.5 1
@extension	1..1	SHALL		3343-27026	2017-08-01
id	1..*	SHALL		3343-26996	
code	1..1	SHALL		3343-13041	
@code	1..1	SHALL		3343-28130	ASSERTION
@codeSystem	1..1	SHALL		3343-28131	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		3343-13042	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
effectiveTime	1..1	SHALL		3343-12536	
low	1..1	SHALL		3343-27668	
high	0..1	MAY		3343-27669	
value	1..1	SHALL	CD	3343-16712	
entryRelationship	0..1	MAY		3343-12531	
@typeCode	1..1	SHALL		3343-12532	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		3343-12533	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3343-16711).

2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" event, which **SHALL** be selected from CodeSystem HL7ActMood (urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-12526).
3. **SHALL NOT** contain [0..0] **@negationInd** (CONF:3343-28086).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-12537) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.51" (CONF:3343-12538).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-27026).
5. **SHALL** contain at least one [1..*] **id** (CONF:3343-26996).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3343-13041).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CONF:3343-28130).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.5.4" (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3343-28131).
7. **SHALL** contain exactly one [1..1] **statusCode**="active" (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3343-13042).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:3343-12536).
Note: QDM Attribute: Relevant Period
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:3343-27668).
Note: startTime - the time the clinical trial started
 - b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:3343-27669).
Note: stopTime - the time the clinical trial ended
9. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:3343-16712).
10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-12531) 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:3343-12532).
 - b. **SHALL** contain exactly one [1..1] **Reason (V3)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:3343-12533).

Figure 72: Patient Characteristic Clinical Trial Participant (V4) Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Patient Characteristic Clinical Trial Participant (V4) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.51" extension="2017-08-01"/>
  <id root="b42132cb-9ea4-4d84-93ce-4b5cd2d2ac3d"/>
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>
  <statusCode code="active"/>
  <effectiveTime>
    <low value="201706151030"/>
  </effectiveTime>
  <value xsi:type="CD" code="428024001" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="clinical trial participant"/>
</observation>
```


3.44 Patient Characteristic Observation Assertion (V4)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.103:2017-08-01 (open)]

Table 124: Patient Characteristic Observation Assertion (V4) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (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.

Table 125: Patient Characteristic Observation Assertion (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.103:2017-08-01)					
@classCode	1..1	SHALL		3343-16536	OBS
@moodCode	1..1	SHALL		3343-16537	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = EVN
@negationInd	0..0	SHALL NOT		3343-28623	
templateId	1..1	SHALL		3343-26962	
@root	1..1	SHALL		3343-26963	2.16.840.1.113883.10.20.24.3.103
@extension	1..1	SHALL		3343-27781	2017-08-01
id	1..*	SHALL		3343-16538	
code	1..1	SHALL		3343-16544	
@code	1..1	SHALL		3343-16545	ASSERTION
@codeSystem	1..1	SHALL		3343-28135	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		3343-16539	completed
effectiveTime	1..1	SHALL		3343-16540	
low	1..1	SHALL		3343-27670	
high	0..1	MAY		3343-27671	
value	1..1	SHALL	CD	3343-16541	

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CONF:3343-16536).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3343-16537).
3. **SHALL NOT** contain [0..0] **@negationInd** (CONF:3343-28623).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-26962) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.103" (CONF:3343-26963).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-27781).
5. **SHALL** contain at least one [1..*] **id** (CONF:3343-16538).

6. **SHALL** contain exactly one [1..1] **code** (CONF:3343-16544).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" (CONF:3343-16545).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.5.4" (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3343-28135).
7. **SHALL** contain exactly one [1..1] **statusCode**="completed" Completed (CONF:3343-16539).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:3343-16540).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:3343-27670).
Note: QDM Attribute: Author dateTime
 - b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:3343-27671).
9. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:3343-16541).

Figure 73: Patient Characteristic Observation Assertion (V4) Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Patient Characteristic Observation Assertion (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.103" extension="2017-08-01"/>
  <id root="94de1700-9629-40b4-b56d-a4eac5f48726"/>
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="201506151030"/>
  </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)"/>
</observation>
```

3.45 Patient Characteristic Payer

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

Table 126: Patient Characteristic Payer Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	

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

Table 127: 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 (HL7ActMood) = 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: HL7ActMood 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).
Note: QDM Attribute: Relevant Period
 - a. This **effectiveTime** **SHALL** contain exactly one [1..1] **low** (CONF:67-26934).
Note: **startTime** – The first day of insurance coverage with the referenced payer
 - b. This **effectiveTime** **SHOULD** contain zero or one [0..1] **high** (CONF:67-26935).
Note: **stopTime** – The last day of insurance coverage with the referenced payer
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).

Figure 74: 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"/>
</observation>
```

3.46 Planned Act (V2)

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

Table 128: Planned Act (V2) Contexts

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

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 129: 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:2.16.840.1.113883.11.2 0.9.23 (Planned moodCode (Act/Encounter/Procedure))
templateId	1..1	SHALL		1098-30430	
@root	1..1	SHALL		1098-30431	2.16.840.1.113883.10.20.22.4.3 9
@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 (HL7ActStatus) = active
effectiveTime	0..1	SHOULD		1098-30433	
performer	0..*	MAY		1098-30435	
author	0..1	SHOULD		1098-32020	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.2 0.22.4.119)
entryRelationship	0..*	MAY		1098-31067	
@typeCode	1..1	SHALL		1098-31068	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		1098-31069	Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.2 0.22.4.143)
entryRelationship	0..*	MAY		1098-32021	
@typeCode	1..1	SHALL		1098-32022	urn:oid:2.16.840.1.113883.5.10 02 (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** 2014-09-01 (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: HL7ActStatus 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).

Figure 75: 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>
```

3.46.1 Intervention Order (V4)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.31:2017-08-01 (open)]

Table 130: Intervention Order (V4) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Reason (V3) (optional) Author (required)

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 Attribute: Author dateTime corresponds 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 (V3) template.

Table 131: Intervention Order (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.31:2017-08-01)					
@classCode	1..1	SHALL		3343-27353	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		3343-13742	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = RQO
@negationInd	0..1	MAY		3343-28071	
templateId	1..1	SHALL		3343-13743	
@root	1..1	SHALL		3343-13744	2.16.840.1.113883.10.20.24.3.3 1
@extension	1..1	SHALL		3343-26556	2017-08-01
code	1..1	SHALL		3343-13746	
author	1..1	SHALL		3343-27343	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
entryRelationship	0..1	MAY		3343-13756	
@typeCode	1..1	SHALL		3343-13757	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		3343-27159	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)

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:3343-27353).

3. **SHALL** contain exactly one [1..1] **@moodCode**="RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-13742).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3343-28071).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-13743) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.31" (CONF:3343-13744).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-26556).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3343-13746).
Note: QDM Attribute: Code
7. **SHALL** contain exactly one [1..1] **Author** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-27343).
Note: QDM Attribute: Author dateTime – the time the intervention order was signed
8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-13756) 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:3343-13757).
 - b. **SHALL** contain exactly one [1..1] **Reason (V3)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:3343-27159).

Figure 76: Intervention Order (V4) Example

```

<act classCode="ACT" moodCode="RQO">
  <!-- Conforms to C-CDA R2 Planned Act (V2) template -->
  <templateId root="2.16.840.1.113883.10.20.22.4.39" extension="2014-06-09"/>
  <!-- Intervention Order (V4) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.31" extension="2017-08-01"/>
  <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"/>
  <statusCode code="active"/>
  <author>
    <!-- QDM Attribute: Author dateTime - the time the intervention order was signed --
  >
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="201704081130"/>
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </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="2017-08-01"/>
      <code code="77301-0" codeSystem="2.16.840.1.113883.6.1" displayName="Reason
care action performed or not" codeSystemName="LOINC"/>
      <statusCode code="completed"/>
      <value xsi:type="CD" code="254838004" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Carcinoma of breast"/>
    </observation>
  </entryRelationship>
</act>

```

3.46.2 Intervention Recommended (V4)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.33:2017-08-01 (open)]

Table 132: Intervention Recommended (V4) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Reason (V3) (optional)
	Author (required)

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 Attribute: Author dateTime corresponds 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 (V3) template.

Table 133: Intervention Recommended (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.33:2017-08-01)					
@classCode	1..1	SHALL		3343-27355	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		3343-13763	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = INT
@negationInd	0..1	MAY		3343-28073	
templateId	1..1	SHALL		3343-13764	
@root	1..1	SHALL		3343-13765	2.16.840.1.113883.10.20.24.3.3 3
@extension	1..1	SHALL		3343-26557	2017-08-01
code	1..1	SHALL		3343-13767	
author	1..1	SHALL		3343-27349	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
entryRelationship	0..1	MAY		3343-13777	
@typeCode	1..1	SHALL		3343-13778	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		3343-27160	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01

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:3343-27355).
3. **SHALL** contain exactly one [1..1] **@moodCode**="INT" Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-13763).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3343-28073).
Note: QDM Attribute: Negation Rationale

5. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-13764) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.33" (CONF:3343-13765).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-26557).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3343-13767).
Note: QDM Attribute: Code
7. **SHALL** contain exactly one [1..1] **Author** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-27349).
Note: QDM Attribute: Author dateTime – the time the recommendation was authored (i.e.,
provided to the patient)
8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-13777) 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:3343-13778).
 - b. **SHALL** contain exactly one [1..1] **Reason (V3)** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:3343-27160).

Figure 77: Intervention Recommended (V4) 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 (V4) template -->
  <templateId root="2.16.840.1.113883.10.20.24.3.33" extension="2017-08-01"/>
  <id root="db734647-fc99-424c-a864-7e3cda82e703"/>
  <!-- Intervention -->
  <code code="225323000" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CD"
  displayName="Smoking cessation education (procedure)"/>
  <statusCode code="active"/>
  <author>
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="201704081130"/>
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </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="2017-08-01"/>
      <code code="77301-0" codeSystem="2.16.840.1.113883.6.1"
      displayName="Reason care action performed or not" codeSystemName="LOINC"/>
      <value xsi:type="CD" code="160605003" codeSystem="2.16.840.1.113883.6.96"
      codeSystemName="SNOMED CT" displayName="Heavy cigarette smoker (20-39 cigs/day)
      (finding)"/>
    </observation>
  </entryRelationship>
</act>
```

3.47 Planned Coverage

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

Table 134: Planned Coverage Contexts

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

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

Table 135: 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 (HL7ActCode) = ACT
@moodCode	1..1	SHALL		1098-31946	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = INT
templateId	1..1	SHALL		1098-31947	
@root	1..1	SHALL		1098-31948	2.16.840.1.113883.10.20.22.4.1 29
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 (HL7ActCode) = 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:2.16.840.1.113883.5.10 02 (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:2.16.840.1.113883.5.10 01 (HL7ActMood) = 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 (HL7ActStatus) = active

1. **SHALL** contain exactly one [1..1] **@classCode="ACT"** act (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:1098-31945).
2. **SHALL** contain exactly one [1..1] **@moodCode="INT"** Intent (CodeSystem: HL7ActMood 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: HL7ActCode 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: HL7ActMood 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: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:1098-31975).

Figure 78: 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>
```

3.48 Planned Encounter (V2)

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

Table 136: Planned Encounter (V2) Contexts

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

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 137: 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:2.16.840.1.113883.11.2 0.9.23 (Planned moodCode (Act/Encounter/Procedure))
templateId	1..1	SHALL		1098-30437	
@root	1..1	SHALL		1098-30438	2.16.840.1.113883.10.20.22.4.4 0
@extension	1..1	SHALL		1098-32553	2014-06-09
id	1..*	SHALL		1098-8567	
code	0..1	SHOULD		1098-31032	urn:oid:2.16.840.1.113883.11.2 0.9.52 (Encounter Planned)
statusCode	1..1	SHALL		1098-30439	
@code	1..1	SHALL		1098-31880	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = 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:2.16.840.1.113883.10.2 0.22.4.119)
participant	0..*	MAY		1098-30443	
@typeCode	1..1	SHALL		1098-31875	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC
participantRole	1..1	SHALL		1098-31876	Service Delivery Location (identifier: urn:oid:2.16.840.1.113883.10.2 0.22.4.32)
entryRelationship	0..1	MAY		1098-31033	
@typeCode	1..1	SHALL		1098-31034	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		1098-31035	Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.2 0.22.4.143)

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** 2014-09-01 (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: HL7ActStatus 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: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (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).

Figure 79: 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>
```

3.48.1 Encounter Order (V4)

[encounter: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.22:2017-08-01
(open)]

Table 138: Encounter Order (V4) Contexts

Contained By:	Contains:
Encounter Order Act (V2) (required)	Facility Location (V2) (optional) Reason (V3) (optional) Author (required)

This template, along with Encounter Order Act (V2) template, represents the QDM datatype: Encounter, Order. This template must be contained in an Encounter Order Act (V2) 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 attribute: Author dateTime corresponds to when the order was signed. The time the activity is intended to take place is represented by effectiveTime.

QDM attribute: Facility Location is represented through the Service Delivery Location template specified in the Planned Encounter (V2) parent template.

Table 139: Encounter Order (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
encounter (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.22:2017-08-01)					
@classCode	1..1	SHALL		3343-27534	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		3343-11932	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = RQO
templateId	1..1	SHALL		3343-11933	
@root	1..1	SHALL		3343-11934	2.16.840.1.113883.10.20.24.3.2 2
@extension	1..1	SHALL		3343-27064	2017-08-01
code	1..1	SHALL		3343-11936	
author	1..1	SHALL		3343-27341	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
participant	0..1	MAY		3343-29136	Facility Location (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.100:2017-08-01)
entryRelationship	0..1	MAY		3343-11950	
@typeCode	1..1	SHALL		3343-11951	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		3343-11952	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)

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:3343-27534).
3. **SHALL** contain exactly one [1..1] **@moodCode**="RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-11932).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-11933) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.22" (CONF:3343-11934).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-27064).
5. **SHALL** contain exactly one [1..1] **code** (CONF:3343-11936).
Note: QDM Attribute: Code
6. **SHALL** contain exactly one [1..1] **Author** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-27341).
Note: QDM Attribute: Author dateTime - the time the order was signed

7. **MAY** contain zero or one [0..1] [Facility Location \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.100:2017-08-01) (CONF:3343-29136).
Note: QDM Attribute: Facility Locations
8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-11950) 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:3343-11951).
 - b. **SHALL** contain exactly one [1..1] [Reason \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:3343-11952).
9. This template **SHALL** be contained by an Encounter Order Act (V2) (CONF:3343-28668).

Figure 80: Encounter Order (V4) Example

```

<!-- Must be contained in the Encounter Order Act (V2) 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 (V4) template -->
  <templateId root="2.16.840.1.113883.10.20.24.3.22" extension="2017-08-01"/>
  <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"/>
  <text>Encounter for check-up (procedure)</text>
  <statusCode code="active"/>
  <author>
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="201704281130"/>
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </assignedAuthor>
  </author>
  ...
</encounter>

```

3.48.2 Encounter Recommended (V4)

[encounter: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.24:2017-08-01 (open)]

Table 140: Encounter Recommended (V4) Contexts

Contained By:	Contains:
Encounter Recommended Act (V2) (required)	Facility Location (V2) (optional) Reason (V3) (optional) Author (required)

This template, along with the Encounter Recommended Act (V2) template, represents the QDM datatype: Encounter, Recommended. This template must be contained in an Encounter Recommended Act (V2) 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 Attribute: attributes: Start Datetime and Stop Datetime are represented by author/time (a single point in time) and Author dateTime corresponds to when the recommendation was signed/authored (i.e., provided to the patient). The time the activity is recommended to take place is represented by effectiveTime.

QDM Attribute: Facility Location is represented through the Service Delivery Location template specified in the Planned Encounter (V2) parent template.

QDM Attribute: Author dateTime corresponds to when the recommendation was authored (i.e., provided to the patient). The time the activity is recommended to take place is represented by effectiveTime.

QDM Attribute: Facility Location is represented through the Service Delivery Location template specified in the Planned Encounter (V2) parent template.

Table 141: Encounter Recommended (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
encounter (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.24:2017-08-01)					
@classCode	1..1	SHALL		3343-27549	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		3343-11911	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = INT
templateId	1..1	SHALL		3343-11912	
@root	1..1	SHALL		3343-11913	2.16.840.1.113883.10.20.24.3.2 4
@extension	1..1	SHALL		3343-27066	2017-08-01
code	1..1	SHALL		3343-11915	
author	1..1	SHALL		3343-27347	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
participant	0..1	MAY		3343-29137	Facility Location (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.100:2017-08-01)
entryRelationship	0..1	MAY		3343-11929	
@typeCode	1..1	SHALL		3343-11930	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		3343-27065	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)

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:3343-27549).
3. **SHALL** contain exactly one [1..1] @moodCode="INT" Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-11911).
4. **SHALL** contain exactly one [1..1] templateId (CONF:3343-11912) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.24" (CONF:3343-11913).
 - b. **SHALL** contain exactly one [1..1] @extension="2017-08-01" (CONF:3343-27066).
5. **SHALL** contain exactly one [1..1] code (CONF:3343-11915).
6. **SHALL** contain exactly one [1..1] [Author](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-27347).
Note: QDM Attribute: Author dateTime - the time the recommendation is authored (i.e., provided to the patient)

7. **MAY** contain zero or one [0..1] [Facility Location \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.100:2017-08-01) (CONF:3343-29137).
Note: QDM Attribute: Facility Locations
8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-11929) 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:3343-11930).
 - b. **SHALL** contain exactly one [1..1] [Reason \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:3343-27065).
9. This template **SHALL** be contained by an Encounter Recommended Act (V2) (CONF:3343-28813).

Figure 81: Encounter Recommended (V4) Example

```

<!-- Must be contained in the Encounter Recommended Act (V2) 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 (V4) template -->
  <templateId root="2.16.840.1.113883.10.20.24.3.24" extension="2017-08-01"/>
  <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"/>
  <text>Encounter for check-up (procedure)</text>
  <statusCode code="active"/>
  <author>
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="201504081130"/>
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </assignedAuthor>
  </author>
  ...
</encounter>

```

3.49 Planned Immunization Activity

[substanceAdministration: identifier urn:oid:2.16.840.1.113883.10.20.22.4.120 (open)]

Table 142: Planned Immunization Activity Contexts

Contained By:	Contains:
	Indication (V2) (optional) Priority Preference (optional) Instruction (V2) (optional) Author Participation (optional) Immunization Medication Information (V2) (required) Precondition for Substance Administration (V2)

Contained By:	Contains:
	(optional)

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 143: 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 (HL7ActStatus) = active
effectiveTime	1..1	SHALL		1098-32103	
repeatNumber	0..1	MAY		1098-32126	
routeCode	0..1	MAY		1098-32127	urn:oid:2.16.840.1.113762.1.4.1099.12 (Medication Route)
approachSiteCode	0..*	MAY		1098-32128	urn:oid:2.16.840.1.113883.3.88.12.3221.8.9 (Body Site)
doseQuantity	0..1	MAY		1098-32129	
@unit	0..1	SHOULD		1098-32130	urn:oid:2.16.840.1.113883.1.11.12839 (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		1098-32109	urn:oid:2.16.840.1.113883.5.1002 (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: HL7ActStatus 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 urn:oid:2.16.840.1.113762.1.4.1099.12 **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).

Figure 82: 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>
```

3.49.1 Immunization Order (V2)

[substanceAdministration: identifier
urn:hl7ii:2.16.840.1.113883.10.20.24.3.143:2017-08-01 (open)]

Table 144: Immunization Order (V2) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Reason (V3) (optional)
	Author (required)

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 Attribute: Author dateTime corresponds to when the order was signed.

QDM Attribute: Active dateTime is the date and time at which an order becomes active (intended to take place), this is represented by effectiveTime. In most cases, this is the same as the author (signed) dateTime, but with advance orders it may be after the signed dateTime. This is represented by effectiveTime.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V3) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

Table 145: Immunization Order (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
substanceAdministration (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.143:2017-08-01)					
@classCode	1..1	SHALL		3343-28645	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SBADM
@moodCode	1..1	SHALL		3343-28644	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = RQO
@negationInd	0..1	MAY		3343-28647	
templateId	1..1	SHALL		3343-28627	
@root	1..1	SHALL		3343-28634	2.16.840.1.113883.10.20.24.3.1 43
@extension	1..1	SHALL		3343-28923	2017-08-01
effectiveTime	1..1	SHALL	IVL_TS	3343-28924	
low	1..1	SHALL		3343-28925	
routeCode	0..1	MAY		3343-28628	
author	1..1	SHALL		3343-28646	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
entryRelationship	0..1	MAY		3343-28626	
@typeCode	1..1	SHALL		3343-28641	RSN
observation	1..1	SHALL		3343-28633	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)

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:3343-28645).
3. **SHALL** contain exactly one [1..1] **@moodCode**="RQO" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-28644).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3343-28647).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-28627) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.143" (CONF:3343-28634).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-28923).
6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:3343-28924).
Note: QDM Attribute: Active dateTime - the date and time at which an order becomes active
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:3343-28925).
7. **MAY** contain zero or one [0..1] **routeCode** (CONF:3343-28628).
Note: QDM Attribute: Route
8. **SHALL** contain exactly one [1..1] [Author](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-28646).
Note: QDM Attribute: Author dateTime – the time the order was signed
9. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-28626) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="RSON" Has reason (CONF:3343-28641).
 - b. **SHALL** contain exactly one [1..1] [Reason \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:3343-28633).

Figure 83: Immunization Order (V2) 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 (V2) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.143" extension="2017-08-01"/>
  <id root="9a5f4d94-ccad-4d57-80ea-27737545c7bb"/>
  <statusCode code="active"/>
  <!-- Active dateTime: the date and time at which an order becomes active (intended to
take place)-->
  <effectiveTime xsi:type="IVL_TS">
    <low value="20170708"/>
  </effectiveTime>
  <!-- QDM Attribute: Route -->
  <routeCode code="IM" codeSystem="2.16.840.1.113883.5.112"
codeSystemName="RouteOfAdministration" displayName="Intramuscular injection"/>
  <!-- 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"/>
        <lotNumberText>1</lotNumberText>
      </manufacturedMaterial>
    </manufacturedProduct>
  </consumable>
  <author>
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="201504081130"/>
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </assignedAuthor>
  </author>
</substanceAdministration>
```

3.50 Planned Medication Activity (V2)

[substanceAdministration: identifier
urn:hl7ii:2.16.840.1.113883.10.20.22.4.42:2014-06-09 (open)]

Table 146: Planned Medication Activity (V2) Contexts

Contained By:	Contains:
	Indication (V2) (optional) Medication Information (V2) (required) Priority Preference (optional) Instruction (V2) (optional) Author Participation (optional) Precondition for Substance Administration (V2) (optional)

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 147: 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:2.16.840.1.113883.11.2 0.9.24 (Planned moodCode (SubstanceAdministration/Supply))
templateId	1..1	SHALL		1098-30465	
@root	1..1	SHALL		1098-30466	2.16.840.1.113883.10.20.22.4.4 2
@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 (HL7ActStatus) = active
effectiveTime	1..1	SHALL	IVL_TS	1098-30468	
@value	0..1	SHOULD		1098-32944	
low	0..1	SHOULD		1098-32948	
high	0..1	MAY		1098-32949	
effectiveTime	0..1	SHOULD		1098-32943	
@operator	1..1	SHALL		1098-32945	A
repeatNumber	0..1	MAY		1098-32066	
routeCode	0..1	MAY		1098-32067	urn:oid:2.16.840.1.113762.1.4.1 099.12 (Medication Route)
approachSiteCode	0..*	MAY		1098-32078	urn:oid:2.16.840.1.113883.3.88. 12.3221.8.9 (Body Site)
doseQuantity	0..1	MAY		1098-32068	
@unit	0..1	SHOULD		1098-32133	urn:oid:2.16.840.1.113883.1.11. 12839 (UnitsOfMeasureCaseSensitive)
rateQuantity	0..1	MAY		1098-32079	

@unit	0..1	SHOULD		1098-32134	urn:oid:2.16.840.1.113883.1.11.12839 (UnitsOfMeasureCaseSensitive)
maxDoseQuantity	0..1	MAY		1098-32080	
administrationUnitCode	0..1	MAY		1098-32081	urn:oid:2.16.840.1.113762.1.4.1021.30 (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-	Precondition for Substance

				32086	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: HL7ActStatus 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) such that it
 Note: This effectiveTime represents either the medication duration (i.e., the time the medication should be started and stopped) or the timestamp when the single-administration should occur.
 - a. **SHOULD** contain zero or one [0..1] **@value** (CONF:1098-32944).
 Note: indicates a single-administration timestamp
 - b. **SHOULD** contain zero or one [0..1] **low** (CONF:1098-32948).
 Note: indicates when medication started
 - c. **MAY** contain zero or one [0..1] **high** (CONF:1098-32949).
 Note: indicates when medication stopped
 - d. This effectiveTime **SHALL** contain either a low or a @value but not both (CONF:1098-32947).

The effectiveTime in a planned medication activity represents medication frequency.

7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:1098-32943) such that it
 - a. **SHALL** contain exactly one [1..1] **@operator**="A" (CONF:1098-32945).
 - b. **SHALL** contain exactly one [1..1] **@xsi:type**="PIVL_TS" or "EIVL_TS" (CONF:1098-32946).

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.

8. **MAY** contain zero or one [0..1] **repeatNumber** (CONF:1098-32066).

9. **MAY** contain zero or one [0..1] **routeCode**, which **SHALL** be selected from ValueSet Medication Route urn:oid:2.16.840.1.113762.1.4.1099.12 **DYNAMIC** (CONF:1098-32067).
10. **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).
11. **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).
12. **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).
13. **MAY** contain zero or one [0..1] **maxDoseQuantity** (CONF:1098-32080).
14. **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).
15. **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.

16. **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.

17. **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.

18. **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.

19. **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:hl7ii: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.

- 20. **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:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09) (CONF:1098-32074).
- 21. **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:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09) (CONF:1098-32086).

Figure 84: 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="cdbc33f0-6cde-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>
```

3.50.1 Medication Order (V5)

```
[substanceAdministration: identifier
urn:hl7ii:2.16.840.1.113883.10.20.24.3.47:2018-10-01 (open)]
```

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Table 148: Medication Order (V5) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Medication Supply Request (V2) (optional) Reason (V3) (optional) Author (required) Days Supplied (optional)

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 Attribute: Author dateTime corresponds to when the order was signed.

QDM Attribute: Relevant Period. Relevant Period startTime is when the first administration of the medication is expected. The first administration may be expected at the time of the order or at a specified future date (i.e., the active time for the order); such information should be identified in the medication order. If the startTime is not specified in the order, the startTime defaults to the Author dateTime (the time the order is signed). The stopTime is when the medication supply provided by the medication order is expected to be completed, including all fulfillments covered by the number of refills.

QDM Attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V3) template.

Table 149: Medication Order (V5) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
substanceAdministration (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.47:2018-10-01)					
@classCode	1..1	SHALL		4388-27377	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SBADM
@moodCode	1..1	SHALL		4388-12639	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@negationInd	0..1	MAY		4388-28084	
templateId	1..1	SHALL		4388-12585	
@root	1..1	SHALL		4388-12586	2.16.840.1.113883.10.20.24.3.47
@extension	1..1	SHALL		4388-27089	2018-10-01
effectiveTime	1..1	SHALL	IVL_TS	4388-27740	
low	1..1	SHALL		4388-27742	
high	1..1	SHALL		4388-29225	
effectiveTime	0..1	MAY		4388-27741	
@operator	1..1	SHALL		4388-28914	A
author	1..1	SHALL		4388-27745	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
participant	0..1	MAY		4388-29226	
@typeCode	1..1	SHALL		4388-29232	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC
participantRole	1..1	SHALL		4388-29227	
code	1..1	SHALL		4388-29233	
entryRelationship	0..1	MAY		4388-28008	
@typeCode	1..1	SHALL		4388-28009	RSON
observation	1..1	SHALL		4388-28010	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)
entryRelationship	0..1	MAY		4388-29228	

XPath	Card.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4388-29234	REFR
supply	1..1	SHALL		4388-29229	Days Supplied (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.157:2018-10-01)
entryRelationship	0..1	MAY		4388-29230	
@typeCode	1..1	SHALL		4388-29235	COMP
supply	1..1	SHALL		4388-29231	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:4388-27377).
3. **SHALL** contain exactly one [1..1] @moodCode="RQO" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4388-12639).
4. **MAY** contain zero or one [0..1] @negationInd (CONF:4388-28084).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] templateId (CONF:4388-12585) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.47" (CONF:4388-12586).
 - b. **SHALL** contain exactly one [1..1] @extension="2018-10-01" (CONF:4388-27089).
6. **SHALL** contain exactly one [1..1] effectiveTime (CONF:4388-27740) such that it
Note: QDM Attribute: Relevant Period
 - a. **SHALL** contain exactly one [1..1] low (CONF:4388-27742).
Note: startTime = when the first administration of the medication is expected. The first administration may be expected at the time of the order or at a specified future date (i.e., the active time for the order); such information should be identified in the medication order. If the startTime is not specified in the order, the startTime defaults to the Author dateTime (the time the order is signed).
 - b. **SHALL** contain exactly one [1..1] high (CONF:4388-29225).
Note: stopTime = when the medication supply provided by the medication order is expected to be completed, including all fulfillments covered by the number of refills.
7. **MAY** contain zero or one [0..1] effectiveTime (CONF:4388-27741) such that it
Note: QDM Attribute: Frequency - e.g., administration times per day
 - a. **SHALL** contain exactly one [1..1] @operator="A" (CONF:4388-28914).
 - b. **SHALL** contain exactly one [1..1] @xsi:type="PIVL_TS" or "EIVL_TS" (CONF:4388-28915).
8. **SHALL** contain exactly one [1..1] [Author](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:4388-27745).

Note: QDM Attribute: Author dateTime – the time the order was signed; QDM Attribute: prescriberId is represented using author/assignedAuthor/id

9. **MAY** contain zero or one [0..1] **participant** (CONF:4388-29226) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="LOC"** location (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4388-29232).
 - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:4388-29227).
 - i. This participantRole **SHALL** contain exactly one [1..1] **code** (CONF:4388-29233).

Note: QDM Attribute: Setting - Where the medication is expected to be consumed or administered.
10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:4388-28008) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** Has reason (CONF:4388-28009).
 - b. **SHALL** contain exactly one [1..1] [Reason \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:4388-28010).
11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:4388-29228) such that it
Note: QDM Attribute: Days Supplied
 - a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers to (CONF:4388-29234).
 - b. **SHALL** contain exactly one [1..1] [Days Supplied](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.157:2018-10-01) (CONF:4388-29229).
12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:4388-29230) such that it
Note: QDM Attribute: Supply
 - a. **SHALL** contain exactly one [1..1] **@typeCode="COMP"** Component of (CONF:4388-29235).
 - b. **SHALL** contain exactly one [1..1] [Medication Supply Request \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.99:2015-04-05) (CONF:4388-29231).

Figure 85: Medication Order (V5) 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 (V5) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.47" extension="2018-10-01"/>
  <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">
    <low value="201804081130"/>
    <high value="201804081130"/>
  </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)"/>
  <!-- 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="329498" codeSystem="2.16.840.1.113883.6.88"
codeSystemName="RxNorm" displayName="Albuterol 0.09 MG/ACTUAT inhalant solution"/>
      </manufacturedMaterial>
    </manufacturedProduct>
  </consumable>
  <author>
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="201704081130"/>
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </assignedAuthor>
  </author>
</substanceAdministration>

```


3.50.2 Substance Recommended (V4)

```
[substanceAdministration: identifier
urn:hl7ii:2.16.840.1.113883.10.20.24.3.75:2017-08-01 (open)]
```

Table 150: Substance Recommended (V4) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Reason (V3) (optional) Author (required)

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 Attribute: Author dateTime corresponds 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 (V3) template.

Table 151: Substance Recommended (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
substanceAdministration (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.75:2017-08-01)					
@classCode	1..1	SHALL		3343-27495	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SBADM
@moodCode	1..1	SHALL		3343-13784	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = INT
@negationInd	0..1	MAY		3343-28112	
templateId	1..1	SHALL		3343-13785	
@root	1..1	SHALL		3343-13786	2.16.840.1.113883.10.20.24.3.7 5
@extension	1..1	SHALL		3343-27152	2017-08-01
effectiveTime	0..1	MAY		3343-28942	
@operator	1..1	SHALL		3343-29145	A
consumable	1..1	SHALL		3343-27988	
manufacturedProduct	1..1	SHALL		3343-27989	
manufacturedMaterial	1..1	SHALL		3343-27990	
code	1..1	SHALL		3343-27991	
author	1..1	SHALL		3343-27720	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
entryRelationship	0..1	MAY		3343-13867	
@typeCode	1..1	SHALL		3343-13868	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		3343-13869	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)

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:3343-27495).
3. **SHALL** contain exactly one [1..1] @moodCode="INT" intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-13784).

4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3343-28112).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-13785) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.75" (CONF:3343-13786).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-27152).
6. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3343-28942) such that it
Note: QDM Attribute: Frequency - e.g., administration times per day
 - a. **SHALL** contain exactly one [1..1] **@operator**="A" (CONF:3343-29145).
 - b. **SHALL** contain exactly one [1..1] **@xsi:type**="PIVL_TS" or "EIVL_TS" (CONF:3343-28944).
7. **SHALL** contain exactly one [1..1] **consumable** (CONF:3343-27988).
 - a. This consumable **SHALL** contain exactly one [1..1] **manufacturedProduct** (CONF:3343-27989).
 - i. This manufacturedProduct **SHALL** contain exactly one [1..1] **manufacturedMaterial** (CONF:3343-27990).
 1. This manufacturedMaterial **SHALL** contain exactly one [1..1] **code** (CONF:3343-27991).
Note: QDM Attribute: Code
8. **SHALL** contain exactly one [1..1] **Author** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-27720).
Note: QDM Attribute: Author dateTime - the time the recommendation was authored
9. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-13867) 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:3343-13868).
 - b. **SHALL** contain exactly one [1..1] **Reason (V3)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:3343-13869).

Figure 86: Substance Recommended (V4) Example

```
<substanceAdministration classCode="SBADM" moodCode="INT">
  <!-- 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"/>
  <!-- Substance Recommended (V4) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.75" extension="2017-08-01"/>
  <id root="df154906-9aaa-4651-a244-412cef74b8d5"/>
  <text>Substance Recommended: Dietary fiber</text>
  <statusCode code="active"/>
  <effectiveTime xsi:type="PIVL_TS" operator="A">
    <period value="8" unit="h"/>
  </effectiveTime>
  <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="39e2bc57-295f-4c81-82dd-38ede1463830"/>
      <manufacturedMaterial>
        <code code="116272000" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED" displayName="Dietary Fiber" />
      </manufacturedMaterial>
      <manufacturerOrganization>
        <name>Medication Factory Inc.</name>
      </manufacturerOrganization>
    </manufacturedProduct>
  </consumable>
  <author>
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="201704081130"/>
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </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="2017-08-01"/>
      ...
    </observation>
  </entryRelationship>
</substanceAdministration>
```

3.51 Planned Observation (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.44:2014-06-09 (open)]

Table 152: Planned Observation (V2) Contexts

Contained By:	Contains:
	Indication (V2) (optional) Priority Preference (optional)

Contained By:	Contains:
	Instruction (V2) (optional) Author Participation (optional) Planned Coverage (optional)

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 153: 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:2.16.840.1.113883.11.2 0.9.25 (Planned moodCode (Observation))
templateId	1..1	SHALL		1098-30451	
@root	1..1	SHALL		1098-30452	2.16.840.1.113883.10.20.22.4.4 4
@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 (HL7ActStatus) = 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:2.16.840.1.113883.10.2 0.22.4.119)
entryRelationship	0..*	MAY		1098-31073	
@typeCode	1..1	SHALL		1098-31074	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		1098-31075	Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.2 0.22.4.143)
entryRelationship	0..*	MAY		1098-32034	
@typeCode	1..1	SHALL		1098-	urn:oid:2.16.840.1.113883.5.10

				32035	02 (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:2.16.840.1.113883.5.10 02 (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:2.16.840.1.113883.5.10 02 (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: HL7ActStatus 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).

Note: QDM Attribute: Anatomical Location Site (for Physical Exam Ordered and Physical Exam Recommended)

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
- SHALL** contain exactly one [1..1] **@typeCode="COMP"** Has Component (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1098-32041).
 - SHALL** contain exactly one [1..1] Planned Coverage (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.129) (CONF:1098-32042).

Figure 87: 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>
```

3.51.1 Assessment Order

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.158:2018-10-01 (open)]

Draft as part of Quality Reporting Document Architecture Category I (QRDA I), Release 1, STU Release 5.1, US Realm

Table 154: Assessment Order Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Reason (V3) (optional) Author (required)

This template represents the QDM datatype: Assessment, Order.

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.

Data elements that meet these criteria using the Assessment, Order data type should document an order by a clinician or appropriately licensed care provider to a patient or an appropriate provider or organization to perform an assessment indicated by the Assessment category and its corresponding value set.

Timing: The time the recommendation is authored (i.e., provided to the patient).

QDM attribute: Author dateTime is represented by author/time and correspond to when the order was authored (i.e., provided to the patient). Orders address the time that the order is authored, a single point in time. Some assessment orders will be addressed as components of a care plan which incorporates the period (or timing) when the order is to be carried out.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V3) template.

Table 155: Assessment Order Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.158:2018-10-01)					
@classCode	1..1	SHALL		4388-29249	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		4388-29248	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@negationInd	0..1	MAY		4388-29250	
templateId	1..1	SHALL		4388-29241	
@root	1..1	SHALL		4388-29244	2.16.840.1.113883.10.20.24.3.158
@extension	1..1	SHALL		4388-29245	2018-10-01
code	1..1	SHALL		4388-29246	
author	1..1	SHALL		4388-29242	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
entryRelationship	0..1	MAY		4388-29239	
@typeCode	1..1	SHALL		4388-29243	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		4388-29240	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)

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:4388-29249).
3. **SHALL** contain exactly one [1..1] **@moodCode**="RQO" request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4388-29248).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:4388-29250).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:4388-29241) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.158" (CONF:4388-29244).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2018-10-01" (CONF:4388-29245).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4388-29246).
Note: QDM Attribute: Code
7. **SHALL** contain exactly one [1..1] [Author](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:4388-29242).

Note: QDM Attribute: Author dateTime - the time the order is authored (i.e., provided to the patient)

8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:4388-29239) 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:4388-29243).
- b. **SHALL** contain exactly one [1..1] **Reason (V3)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:4388-29240).

Figure 88: Assessment Order 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" />
  <!-- Assessment Order -->
  <templateId root="2.16.840.1.113883.10.20.24.3.158" extension="2018-10-01"/>
  <id root="f07d6d5e-cbb3-4306-b572-5d79069ec165" />
  <code code="72195-1" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
  displayName="Physical limitation score [KCCQ]" />
  <text>Assessment Order: Physical limitation score [KCCQ]</text>
  <statusCode code="active" />
  <author>
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="201804081130" />
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </assignedAuthor>
  </author>
</observation>
```

3.51.2 Assessment Recommended (V2) – PUBLISHED

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.145:2017-08-01 (open)]

Table 156: Assessment Recommended (V2) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Reason (V3) (optional)
	Author (required)

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 attribute: Author dateTime is represented by author/time and correspond to when the recommendation was authored (i.e., provided to the patient). 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 (V3) template.

Table 157: Assessment Recommended (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.145:2017-08-01)					
@classCode	1..1	SHALL		3343-28682	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3343-28681	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = INT
@negationInd	0..1	MAY		3343-28683	
templateId	1..1	SHALL		3343-28673	
@root	1..1	SHALL		3343-28676	2.16.840.1.113883.10.20.24.3.1 45
@extension	1..1	SHALL		3343-28702	2017-08-01
code	1..1	SHALL		3343-28674	
author	1..1	SHALL		3343-28680	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
entryRelationship	0..1	MAY		3343-28672	
@typeCode	1..1	SHALL		3343-28678	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		3343-28675	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)

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:3343-28682).
3. **SHALL** contain exactly one [1..1] **@moodCode**="INT" Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-28681).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3343-28683).
Note: QDM Attribute: Negation Rationale

5. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-28673) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.145" (CONF:3343-28676).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-28702).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3343-28674).
Note: QDM Attribute: Code
7. **SHALL** contain exactly one [1..1] **Author** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-28680).
Note: QDM Attribute: Author dateTime - the time the recommendation is authored (i.e.,
provided to the patient)
8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-28672) 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:3343-28678).
 - b. **SHALL** contain exactly one [1..1] **Reason (V3)** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:3343-28675).

Figure 89: Assessment Recommended (V2) 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 (V2) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.145" extension="2017-08-01"/>
  <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]" />
  <text>Assessment Recommended: Physical limitation score [KCCQ]</text>
  <statusCode code="active" />
  <author>
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="201704081130" />
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </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="2017-08-01" />
      ...
    </observation>
  </entryRelationship>
</observation>
```

3.51.3 Diagnostic Study Order (V4)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.17:2017-08-01
(open)]

Table 158: Diagnostic Study Order (V4) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Reason (V3) (optional) Author (required)

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 attribute: Author dateTime corresponds 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 (V3) template.

Table 159: Diagnostic Study Order (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.17:2017-08-01)					
@classCode	1..1	SHALL		3343-27408	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3343-13411	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@negationInd	0..1	MAY		3343-28062	
templateId	1..1	SHALL		3343-13412	
@root	1..1	SHALL		3343-13413	2.16.840.1.113883.10.20.24.3.17
@extension	1..1	SHALL		3343-27069	2017-08-01
code	1..1	SHALL		3343-27615	
author	1..1	SHALL		3343-27340	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
entryRelationship	0..1	MAY		3343-13430	
@typeCode	1..1	SHALL		3343-13431	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		3343-13432	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)

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:3343-27408).
3. **SHALL** contain exactly one [1..1] **@moodCode**="RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-13411).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3343-28062).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-13412) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.17" (CONF:3343-13413).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-27069).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3343-27615).
Note: QDM Attribute: Code

7. **SHALL** contain exactly one [1..1] [Author](#) (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-27340).
Note: QDM Attribute: Author dateTime - the time the order is signed
8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-13430) 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:3343-13431).
 - b. **SHALL** contain exactly one [1..1] [Reason \(V3\)](#) (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:3343-13432).

Figure 90: Diagnostic Study Order (V4) 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 (V4) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.17" extension="2017-08-01"/>
  <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"/>
  <text>Diagnostic Study, Order: Breast Mammogram Diagnostic</text>
  <statusCode code="active"/>
  <value xsi:type="CD" nullFlavor="NA"/>
  <!-- author/time indicates the time the diagnostic order was signed -->
  <author>
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="201706081130"/>
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </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="2017-08-01"/>
      <code code="77301-0" codeSystem="2.16.840.1.113883.6.1"
        displayName="Reason care action performed or not"
        codeSystemName="LOINC"/>
      <value xsi:type="CD" code="254838004" codeSystem="2.16.840.1.113883.6.96"
        codeSystemName="SNOMED CT" displayName="Carcinoma of breast"/>
    </observation>
  </entryRelationship>
</observation>
```

3.51.4 Diagnostic Study Recommended (V4)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.19:2017-08-01
(open)]

Table 160: Diagnostic Study Recommended (V4) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Author (required)

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 attribute: Author dateTime is represented by author/time and correspond to when the recommendation was authored (i.e., provided to the patient). 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 (V3) template. Although Reason (V3) is not explicitly contained in every template, it is available for use in any template.

Table 161: Diagnostic Study Recommended (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.19:2017-08-01)					
@classCode	1..1	SHALL		3343-27406	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3343-13392	urn:oid:2.16.840.1.113883.5.10.01 (HL7ActMood) = INT
@negationInd	0..1	MAY		3343-28064	
templateId	1..1	SHALL		3343-13393	
@root	1..1	SHALL		3343-13394	2.16.840.1.113883.10.20.24.3.19
@extension	1..1	SHALL		3343-27070	2017-08-01
code	1..1	SHALL		3343-27619	
author	1..1	SHALL		3343-13400	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)

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:3343-27406).
3. **SHALL** contain exactly one [1..1] **@moodCode="INT"** Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-13392).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3343-28064).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-13393) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.19"** (CONF:3343-13394).
 - b. **SHALL** contain exactly one [1..1] **@extension="2017-08-01"** (CONF:3343-27070).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3343-27619).
Note: QDM Attribute: Code
7. **SHALL** contain exactly one [1..1] [Author](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-13400).
Note: Autor dateTime - the time the diagnostic recommendation was authored (i.e., provided to the patient)

Figure 91: Diagnostic Study Recommended (V4) 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 (V4) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.19" extension="2017-08-01"/>
  <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"/>
  <text>Diagnostic Study, Recommended: Breast Mammogram Diagnostic</text>
  <statusCode code="active"/>
  <value xsi:type="CD" nullFlavor="NA"/>
  <author>
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="201706181130"/>
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </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="2017-08-01"/>
      <code code="77301-0" codeSystem="2.16.840.1.113883.6.1" displayName="Reason
care action performed or not" codeSystemName="LOINC"/>
      <value xsi:type="CD" code="254838004" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Carcinoma of breast"/>
    </observation>
  </entryRelationship>
</observation>
```

3.51.5 Laboratory Test Order (V4)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.37:2017-08-01
(open)]

Table 162: Laboratory Test Order (V4) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Reason (V3) (optional) Author (required)

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 Attribute: Author dateTime corresponds 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 (V3) template.

Table 163: Laboratory Test Order (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.37:2017-08-01)					
@classCode	1..1	SHALL		3343-27417	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3343-11953	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@negationInd	0..1	MAY		3343-28076	
templateId	1..1	SHALL		3343-11954	
@root	1..1	SHALL		3343-11955	2.16.840.1.113883.10.20.24.3.37
@extension	1..1	SHALL		3343-27075	2017-08-01
code	1..1	SHALL		3343-11957	
author	1..1	SHALL		3343-27344	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
entryRelationship	0..1	MAY		3343-11969	
@typeCode	1..1	SHALL		3343-11970	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		3343-27074	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)

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:3343-27417).
3. **SHALL** contain exactly one [1..1] **@moodCode**="RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-11953).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3343-28076).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-11954) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.37" (CONF:3343-11955).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-27075).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3343-11957).
Note: QDM Attribute: Code

7. **SHALL** contain exactly one [1..1] [Author](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-27344).
Note: QDM Attribute: Author dateTime – time the diagnostic order was signed
8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-11969) 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:3343-11970).
 - b. **SHALL** contain exactly one [1..1] [Reason \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:3343-27074).

Figure 92: Laboratory Test Order (V4) 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 (V4) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.37" extension="2017-08-01"/>
  <id root="1fad091f-7b4e-4661-b61c-53f9a82515b6"/>
  <!-- Laboratory Test -->
  <code code="4544-3" displayName="Hematocrit" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC"/>
  <statusCode code="active"/>
  <author>
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="201708031130"/>
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </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="2017-08-01"/>
      <code code="77301-0" codeSystem="2.16.840.1.113883.6.1"
displayName="Reason care action performed or not" codeSystemName="LOINC"/>
      <value xsi:type="CD" code="254838004" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Carcinoma of breast"/>
    </observation>
  </entryRelationship>
</observation>
```

3.51.6 Laboratory Test Recommended (V4)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.39:2017-08-01
(open)]

Table 164: Laboratory Test Recommended (V4) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Reason (V3) (optional) Author (required)

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: Author dateTime corresponds 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 (V3) template.

Table 165: Laboratory Test Recommended (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.39:2017-08-01)					
@classCode	1..1	SHALL		3343-27416	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3343-11793	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = INT
@negationInd	0..1	MAY		3343-28078	
templateId	1..1	SHALL		3343-11794	
@root	1..1	SHALL		3343-11795	2.16.840.1.113883.10.20.24.3.39
@extension	1..1	SHALL		3343-27077	2017-08-01
code	1..1	SHALL		3343-27639	
author	1..1	SHALL		3343-27350	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
entryRelationship	0..1	MAY		3343-11811	
@typeCode	1..1	SHALL		3343-11812	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		3343-11813	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)

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:3343-27416).
3. **SHALL** contain exactly one [1..1] **@moodCode**="INT" Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-11793).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3343-28078).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-11794) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.39" (CONF:3343-11795).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-27077).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3343-27639).
Note: QDM Attribute: Code

7. **SHALL** contain exactly one [1..1] [Author](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-27350).
Note: QDM Attribute: Author dateTime - the time the recommendation was signed
8. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-11811) 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:3343-11812).
 - b. **SHALL** contain exactly one [1..1] [Reason \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:3343-11813).

Figure 93: Laboratory Test Recommended (V4) 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 (V4) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.39" extension="2017-08-01"/>
  <id root="1fad091f-7b4e-4661-b61c-53f9a82515b4"/>
  <!-- Laboratory Test -->
  <code code="4544-3" displayName="Hematocrit" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC"/>
  <statusCode code="active"/>
  <author>
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="201703211130"/>
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </assignedAuthor>
  </author>
</observation>
```

3.51.7 Physical Exam Order (V4)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.58:2017-08-01 (open)]

Table 166: Physical Exam Order (V4) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Reason (V3) (optional) Author (required)

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 Attribute: Author dateTime corresponds 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 (V3) template.

Table 167: Physical Exam Order (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.58:2017-08-01)					
@classCode	1..1	SHALL		3343-27550	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3343-12685	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = RQO
@negationInd	0..1	MAY		3343-28092	
templateId	1..1	SHALL		3343-12686	
@root	1..1	SHALL		3343-12687	2.16.840.1.113883.10.20.24.3.5 8
@extension	1..1	SHALL		3343-27078	2017-08-01
code	1..1	SHALL		3343-12689	
@code	1..1	SHALL		3343-13242	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 29545-1
value	1..1	SHALL	CD	3343-13254	
author	1..1	SHALL		3343-27345	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
entryRelationship	0..1	MAY		3343-12701	
@typeCode	1..1	SHALL		3343-12702	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		3343-12703	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)

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:3343-27550).
3. **SHALL** contain exactly one [1..1] @moodCode="RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-12685).

4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3343-28092).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-12686) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.58" (CONF:3343-12687).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-27078).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3343-12689).
 - 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:3343-13242).
7. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:3343-13254).
Note: QDM Attribute: Code
8. **SHALL** contain exactly one [1..1] **Author** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-27345).
Note: QDM Attribute: Author dateTime – the time the physical exam order was signed
9. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-12701) 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:3343-12702).
 - b. **SHALL** contain exactly one [1..1] **Reason (V3)** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:3343-12703).

Figure 94: Physical Exam Order (V4) 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 (V4) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.58" extension="2017-08-01"/>
  <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"/>
  <effectiveTime value="20170412"/>
  <value xsi:type="CD" code="29463-7" codeSystem="2.16.840.1.113883.6.1"/>
  <author>
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="201204081130"/>
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </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="2017-08-01"/>
      <code code="77301-0" codeSystem="2.16.840.1.113883.6.1"
displayName="Reason care action performed or not" codeSystemName="LOINC"/>
      <value xsi:type="CD" code="238131007" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Overweight (finding)"/>
    </observation>
  </entryRelationship>
</observation>
```

3.51.8 Physical Exam Recommended (V4)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.60:2017-08-01
(open)]

Table 168: Physical Exam Recommended (V4) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Reason (V3) (optional) Author (required)

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 Attribute: Author dateTime corresponds 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 (V3) template.

Table 169: Physical Exam Recommended (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.60:2017-08-01)					
@classCode	1..1	SHALL		3343-27556	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3343-12665	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = INT
@negationInd	0..1	MAY		3343-28094	
templateId	1..1	SHALL		3343-12666	
@root	1..1	SHALL		3343-12667	2.16.840.1.113883.10.20.24.3.6 0
@extension	1..1	SHALL		3343-27082	2017-08-01
code	1..1	SHALL		3343-12669	
@code	1..1	SHALL		3343-13274	29545-1
@codeSystem	1..1	SHALL		3343-28132	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
value	1..1	SHALL	CD	3343-13275	
author	1..1	SHALL		3343-27351	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
entryRelationship	0..1	MAY		3343-12679	
@typeCode	1..1	SHALL		3343-12680	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		3343-12681	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)

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:3343-27556).
3. **SHALL** contain exactly one [1..1] **@moodCode**="INT" Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-12665).

4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3343-28094).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-12666) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.60" (CONF:3343-12667).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-27082).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3343-12669).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="29545-1" physical examination (CONF:3343-13274).
 - 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:3343-28132).
7. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:3343-13275).
Note: QDM Attribute: Code
8. **SHALL** contain exactly one [1..1] **Author** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-27351).
Note: QDM Attribute: Author dateTime – the time the recommendation is authored (i.e., provided to the patient)
9. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-12679) 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:3343-12680).
 - b. **SHALL** contain exactly one [1..1] **Reason (V3)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:3343-12681).

Figure 95: Physical Exam Recommended (V4) 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"/>
  <!-- Physical Exam Recommended (V4) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.60" extension="2017-08-01"/>
  <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"/>
  <effectiveTime value="20170412"/>
  <value xsi:type="CD" code="29463-7" codeSystem="2.16.840.1.113883.6.1"
displayName="Body weight" codeSystemName="LOINC"/>
  <author>
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="201707281130"/>
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </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="2017-08-01"/>
      <code code="77301-0" codeSystem="2.16.840.1.113883.6.1"
displayName="Reason care action performed or not" codeSystemName="LOINC"/>
      <value xsi:type="CD" code="238131007" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Overweight (finding)"/>
    </observation>
  </entryRelationship>
</observation>
```

3.52 Planned Procedure (V2)

[procedure: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.41:2014-06-09
(open)]

Table 170: Planned Procedure (V2) Contexts

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

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 171: 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:2.16.840.1.113883.11.2 0.9.23 (Planned moodCode (Act/Encounter/Procedure))
templateId	1..1	SHALL		1098-30444	
@root	1..1	SHALL		1098-30445	2.16.840.1.113883.10.20.22.4.4 1
@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 (HL7ActStatus) = 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. 12.3221.8.9 (Body Site)
performer	0..*	MAY		1098-30449	
author	0..1	SHOULD		1098-31979	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.2 0.22.4.119)
entryRelationship	0..*	MAY		1098-31079	
@typeCode	1..1	SHALL		1098-31080	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		1098-31081	Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.2 0.22.4.143)
entryRelationship	0..*	MAY		1098-31982	
@typeCode	1..1	SHALL		1098-31983	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = RSON

observation	1..1	SHALL		1098-31984	Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09)
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:2.16.840.1.113883.10.20.22.4.20:2014-06-09)
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: HL7ActStatus 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

- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1098-31080).
- b. **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

- a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** Has Reason (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1098-31983).
- 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:1098-31984).

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

- a. **SHALL** contain exactly one [1..1] **@typeCode="SUBJ"** Has Subject (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1098-31986).
- b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** True (CONF:1098-31987).
- 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:1098-31989).

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 96: 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>
```

3.52.1 Procedure Order (V5)

[procedure: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.63:2018-10-01
(open)]

Draft as part of Quality Reporting Document Architecture Category I (QRDA I),
Release 1, STU Release 5.1, US Realm

Table 172: Procedure Order (V5) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Reason (V3) (optional) Author (required)

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 Attribute: Author dateTime corresponds 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 (V3) template.

Table 173: Procedure Order (V5) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
procedure (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.63:2018-10-01)					
@classCode	1..1	SHALL		4388-27323	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		4388-11097	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@negationInd	0..1	MAY		4388-28097	
templateId	1..1	SHALL		4388-11098	
@root	1..1	SHALL		4388-11099	2.16.840.1.113883.10.20.24.3.63
@extension	1..1	SHALL		4388-27083	2018-10-01
code	1..1	SHALL		4388-27324	
priorityCode	0..1	MAY		4388-14551	
targetSiteCode	0..1	MAY		4388-27328	
author	1..1	SHALL		4388-27346	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
entryRelationship	0..1	MAY		4388-11616	
@typeCode	1..1	SHALL		4388-11617	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		4388-11618	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)

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:4388-27323).
3. **SHALL** contain exactly one [1..1] **@moodCode**="RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4388-11097).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:4388-28097).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:4388-11098) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.63" (CONF:4388-11099).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2018-10-01" (CONF:4388-27083).

6. **SHALL** contain exactly one [1..1] **code** (CONF:4388-27324).
Note: QDM Attribute: Code
7. **MAY** contain zero or one [0..1] **priorityCode** (CONF:4388-14551).
Note: QDM Attribute: Ordinality
8. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:4388-27328).
Note: QDM Attribute: Anatomical Location Site
9. **SHALL** contain exactly one [1..1] **Author** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:4388-27346).
Note: QDM Attribute: Author dateTime – the time the order is signed
10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:4388-11616) 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:4388-11617).
 - b. **SHALL** contain exactly one [1..1] **Reason (V3)** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:4388-11618).

Figure 97: Procedure Order (V5) Example

```
<procedure classCode="PROC" moodCode="RQO">
  <!-- Conforms to C-CDA R2 Planned Procedure (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.41" extension="2014-06-09"/>
  <!-- Procedure Order (V5) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.63" extension="2018-10-01"/>
  <id root="5bc8cc9d-d59a-4dda-99d8-1463b2e71d06"/>
  <code code="235326000" displayName="Right hemicolectomy"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"/>
  <text>Procedure, Order: Right hemicolectomy </text>
  <statusCode code="active"/>
  <!-- QDM Attribute: Ordinality -->
  <priorityCode code="63161005" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Principal"/>
  <!-- QDM Attribute: Anatomical Location Site -->
  <targetSiteCode code="71854001" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="colon"/>
  <author>
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="20180329090000"/>
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </assignedAuthor>
  </author>
</procedure>
```

3.52.2 Procedure Recommended (V5)

[procedure: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.65:2018-10-01
(open)]

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Release 1, STU Release 5.1, US Realm

Table 174: Procedure Recommended (V5) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Reason (V3) (optional) Author (required)

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: Author dateTime corresponds 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 (V3) template.

Table 175: Procedure Recommended (V5) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
procedure (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.65:2018-10-01)					
@classCode	1..1	SHALL		4388-27337	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		4388-11103	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = INT
@negationInd	0..1	MAY		4388-28099	
templateId	1..1	SHALL		4388-11104	
@root	1..1	SHALL		4388-11105	2.16.840.1.113883.10.20.24.3.65
@extension	1..1	SHALL		4388-27086	208-10-01
code	1..1	SHALL		4388-11107	
priorityCode	0..1	MAY		4388-14553	
targetSiteCode	0..1	MAY		4388-27726	
translation	0..*	MAY		4388-28940	
author	1..1	SHALL		4388-27352	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
entryRelationship	0..1	MAY		4388-11592	
@typeCode	1..1	SHALL		4388-11593	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		4388-27085	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)

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:4388-27337).
3. **SHALL** contain exactly one [1..1] **@moodCode**="INT" Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4388-11103).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:4388-28099).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:4388-11104) such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.65" (CONF:4388-11105).
 - b. **SHALL** contain exactly one [1..1] **@extension**="208-10-01" (CONF:4388-27086).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4388-11107).
Note: QDM Attribute: Code
7. **MAY** contain zero or one [0..1] **priorityCode** (CONF:4388-14553).
Note: QDM Attribute: Ordinality
8. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:4388-27726).
Note: QDM Attribute: Anatomical Location Site
 - a. The targetSiteCode, if present, **MAY** contain zero or more [0..*] **translation** (CONF:4388-28940).
9. **SHALL** contain exactly one [1..1] **Author** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:4388-27352).
Note: QDM Attribute: Author dateTime - the time the recommendation was signed
10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:4388-11592) 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:4388-11593).
 - b. **SHALL** contain exactly one [1..1] **Reason (V3)** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:4388-27085).

Figure 98: Procedure Recommended (V5) 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 (V5) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.65" extension="2018-10-01"/>
  <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"/>
  <text>Procedure, Recommended: Right hemicolectomy </text>
  <statusCode code="active"/>
  <!-- QDM Attribute: Ordinality -->
  <priorityCode code="63161005" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Principal"/>
  <!-- QDM Attribute: Anatomical Location Site -->
  <targetSiteCode code="71854001" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="colon"/>
  <author>
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="20180329090000"/>
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </assignedAuthor>
  </author>
</procedure>
```

3.53 Planned Supply (V2)

[supply: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.43:2014-06-09
(open)]

Table 176: Planned Supply (V2) Contexts

Contained By:	Contains:
	Product Instance (optional) Indication (V2) (optional) Medication Information (V2) (optional) Priority Preference (optional) Instruction (V2) (optional) Author Participation (optional) Immunization Medication Information (V2) (optional) Planned Coverage (optional)

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 177: 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:2.16.840.1.113883.11.2 0.9.24 (Planned moodCode (SubstanceAdministration/Supply))
templateId	1..1	SHALL		1098-30463	
@root	1..1	SHALL		1098-30464	2.16.840.1.113883.10.20.22.4.4 3
@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 (HL7ActStatus) = 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:2.16.840.1.113883.10.2 0.22.4.119)
participant	0..1	MAY		1098-	

				32094	
participantRole	1..1	SHALL		1098-32095	Product Instance (identifier: urn:oid:2.16.840.1.113883.10.2.0.22.4.37)
entryRelationship	0..*	MAY		1098-31110	
@typeCode	1..1	SHALL		1098-31111	urn:oid:2.16.840.1.113883.5.10.02 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		1098-31112	Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.2.0.22.4.143)
entryRelationship	0..*	MAY		1098-32054	
@typeCode	1..1	SHALL		1098-32055	urn:oid:2.16.840.1.113883.5.10.02 (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:2.16.840.1.113883.5.10.02 (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:2.16.840.1.113883.5.10.02 (HL7ActRelationshipType) = COMP
act	1..1	SHALL		1098-32062	Planned Coverage (identifier: urn:oid:2.16.840.1.113883.10.2.0.22.4.129)

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: HL7ActStatus 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:hl7ii: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:hl7ii: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 99: 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>

```

3.53.1 Device Order (V4)

[supply: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.9:2017-08-01
(open)]

Table 178: Device Order (V4) Contexts

Contained By:	Contains:
Device Order Act (V2) (required)	Reason (V3) (optional) Author (required)

This template, along with the Device Order Act (V2) template, represents the QDM datatype: Device, Order. This template must be contained by a Device Order Act (V2) 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 Attribute: Author dateTime corresponds to when the order was signed. The time the activity is intended to take place is represented by effectiveTime.

Table 179: Device Order (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
supply (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.9:2017-08-01)					
@classCode	1..1	SHALL		3343-27723	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SPLY
@moodCode	1..1	SHALL		3343-12343	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
templateId	1..1	SHALL		3343-12344	
@root	1..1	SHALL		3343-12345	2.16.840.1.113883.10.20.24.3.9
@extension	1..1	SHALL		3343-27091	2017-08-01
author	1..1	SHALL		3343-27721	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
participant	1..1	SHALL		3343-12349	
@typeCode	1..1	SHALL		3343-12350	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV
participantRole	1..1	SHALL		3343-12351	
@classCode	1..1	SHALL		3343-12352	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = MANU
playingDevice	1..1	SHALL		3343-12353	
@classCode	1..1	SHALL		3343-12354	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV
code	1..1	SHALL		3343-12355	
entryRelationship	0..1	MAY		3343-12356	
@typeCode	1..1	SHALL		3343-12359	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		3343-12360	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)

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:3343-27723).
3. **SHALL** contain exactly one [1..1] @moodCode="RQO" Request, which **SHALL** be selected from CodeSystem HL7ActMood (urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-12343).

4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-12344) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.9" (CONF:3343-12345).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-27091).
5. **SHALL** contain exactly one [1..1] **Author** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-27721).
 Note: QDM Attribute: Author dateTime - the device order was signed
6. **SHALL** contain exactly one [1..1] **participant** (CONF:3343-12349) 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:3343-12350).
 - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:3343-12351).
 - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode**="MANU" manufactured product, which **SHALL** be selected from CodeSystem HL7RoleClass (urn:oid:2.16.840.1.113883.5.110) (CONF:3343-12352).
 - ii. This participantRole **SHALL** contain exactly one [1..1] **playingDevice** (CONF:3343-12353).
 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:3343-12354).
 2. This playingDevice **SHALL** contain exactly one [1..1] **code** (CONF:3343-12355).
 Note: QDM Attribute: Code
7. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-12356) 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:3343-12359).
 - b. **SHALL** contain exactly one [1..1] **Reason (V3)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:3343-12360).
8. This template **SHALL** be contained by a Device Order Act (V2) (CONF:3343-28665).

Figure 100: Device Order (V4) Example

```

<!-- Must be contained in the Device Order Act (V2) 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 (V4) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.9" extension="2017-08-01"/>
  <id root="6a8d037d-f144-4071-9d1f-8a92a11dedc6"/>
  <statusCode code="active"/>
  <author>
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="201710101030"/>
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </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)"/>
        </playingDevice>
      </participantRole>
    </participant>
    ...
  </supply>

```

3.53.2 Device Recommended (V4)

```

[supply: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.10:2017-08-01
(open) ]

```

Table 180: Device Recommended (V4) Contexts

Contained By:	Contains:
Device Recommended Act (V2) (required)	Reason (V3) (optional) Author (required)

This template along with the Device Recommended Act (V2) represents the QDM datatype: Device, Recommended. This template must be contained by a Device Recommended Act (V2) 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 Attribute: Author dateTime corresponds to when the recommendation was signed. The time the activity is recommended to take place is represented by effectiveTime.

Table 181: Device Recommended (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
supply (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.10:2017-08-01)					
@classCode	1..1	SHALL		3343-27722	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = SPLY
@moodCode	1..1	SHALL		3343-12368	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = INT
templateId	1..1	SHALL		3343-12369	
@root	1..1	SHALL		3343-12370	2.16.840.1.113883.10.20.24.3.10
@extension	1..1	SHALL		3343-27094	2017-08-01
author	1..1	SHALL		3343-27719	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
participant	1..1	SHALL		3343-12374	
@typeCode	1..1	SHALL		3343-12375	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV
participantRole	1..1	SHALL		3343-12376	
@classCode	1..1	SHALL		3343-12377	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = MANU
playingDevice	1..1	SHALL		3343-12378	
@classCode	1..1	SHALL		3343-12379	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV
code	1..1	SHALL		3343-12380	
entryRelationship	0..1	MAY		3343-12381	
@typeCode	1..1	SHALL		3343-12382	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		3343-27093	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)

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:3343-27722).
3. **SHALL** contain exactly one [1..1] @moodCode="INT" Intent, which **SHALL** be selected from CodeSystem HL7ActMood (urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-12368).

4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-12369) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.10" (CONF:3343-12370).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-27094).
5. **SHALL** contain exactly one [1..1] **Author** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-27719).
Note: QDM Attribute: Author dateTime – the time the device recommendation is authored (i.e., provided to the patient)
6. **SHALL** contain exactly one [1..1] **participant** (CONF:3343-12374) 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:3343-12375).
 - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:3343-12376).
 - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode**="MANU" manufactured product, which **SHALL** be selected from CodeSystem HL7RoleClass (urn:oid:2.16.840.1.113883.5.110) (CONF:3343-12377).
 - ii. This participantRole **SHALL** contain exactly one [1..1] **playingDevice** (CONF:3343-12378).
 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:3343-12379).
 2. This playingDevice **SHALL** contain exactly one [1..1] **code** (CONF:3343-12380).
Note: QDM Attribute: Code
7. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-12381) 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:3343-12382).
 - b. **SHALL** contain exactly one [1..1] **Reason (V3)** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:3343-27093).
8. This template **SHALL** be contained by a Device Recommended Act (V2) (CONF:3343-28666).

Figure 101: Device Recommended (V4) Example

```
<!-- Must be contained in the Device Recommended Act (V2) 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 (V4) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.10" extension="2017-08-01"/>
  <id root="6a8d037d-f144-4071-9d1f-8a92a11dedc6"/>
  <statusCode code="active"/>
  <author>
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="201705101030"/>
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </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)"/>
        </playingDevice>
      </participantRole>
    </participant>
    ...
  </supply>
```

3.53.3 Medication Supply Request (V2)

[supply: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.99:2015-04-05
(open)]

Table 182: Medication Supply Request (V2) Contexts

Contained By:	Contains:
Medication Order (V5) (optional)	

This template represents a request to a pharmacy to supply a medication. An effectiveTime is required.

Table 183: 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 (HL7ActMood) = 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: HL7ActMood 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 102: 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"/>
      </manufacturedMaterial>
      <manufacturerOrganization>
        <name>Medication Factory Inc.</name>
      </manufacturerOrganization>
    </manufacturedProduct>
  </product>
</supply>
```

3.54 Precondition for Substance Administration (V2)

[criterion: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09 (open)]

Table 184: 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 185: 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 (HL7ActCode) = 2.16.840.1.113883.5.4
value	1..1	SHALL	CD	1098-7369	urn:oid:2.16.840.1.113883.3.88.12.3221.7.4 (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: HL7ActCode 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 103: Precondition for Substance Administration (V2) Example

```
<criterion>
  <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" />
</criterion>
```

3.55 Principal Diagnosis

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.152:2017-08-01 (open)]

Table 186: Principal Diagnosis Contexts

Contained By:	Contains:
Encounter Performed (V4) (optional)	

This template represents the Principal Diagnosis QDM Attribute.

The coded diagnosis/problem established after study to be chiefly responsible for occasioning the admission of the patient to the hospital for care.

Table 187: Principal Diagnosis Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.152:2017-08-01)					
@classCode	1..1	SHALL		3343-29004	OBS
@moodCode	1..1	SHALL		3343-29005	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = EVN
@negationInd	0..0	SHALL NOT		3343-29006	
templateId	1..1	SHALL		3343-28998	
@root	1..1	SHALL		3343-29001	2.16.840.1.113883.10.20.24.3.152
@extension	1..1	SHALL		3343-29002	2017-08-01
code	1..1	SHALL		3343-28997	
@code	1..1	SHALL		3343-28999	8319008
@codeSystem	1..1	SHALL		3343-29000	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
value	1..1	SHALL	CD	3343-29003	

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CONF:3343-29004).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3343-29005).
3. **SHALL NOT** contain [0..0] **@negationInd** (CONF:3343-29006).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-28998) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.152" (CONF:3343-29001).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-29002).
5. **SHALL** contain exactly one [1..1] **code** (CONF:3343-28997).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="8319008" Principal Diagnosis (CONF:3343-28999).
 - 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:3343-29000).
6. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:3343-29003).

Figure 104: Principal Diagnosis Example

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.24.3.152" extension="2017-08-01"/>
  <id root="92587992-6147-467e-8ce7-b080ef569df4"/>
  <code code="8319008" codeSystem="2.16.840.1.113883.6.96"
displayName="Principal Diagnosis" codeSystemName="SNOMED"/>
  <value xsi:type="CD" code="194809007" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Acute atrial infarction (disorder)"/>
</observation>
```

3.56 Priority Preference

[observation: identifier urn:oid:2.16.840.1.113883.10.20.22.4.143 (open)]

Table 188: 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 (V2) (optional)

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 189: 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 (HL7ActMood) = 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: HL7ActMood 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).

Figure 105: 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>
```

3.57 Problem Concern Act (V3)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.3:2015-08-01 (open)]

Table 190: Problem Concern Act (V3) Contexts

Contained By:	Contains:
	Priority Preference (optional) Author Participation (optional) Problem Observation (V3) (required)

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. 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 191: 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:2.16.840.1.113883.5.10 01 (HL7ActMood) = 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:2.16.840.1.113883.11.2 0.9.19 (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:2.16.840.1.113883.10.2 0.22.4.119)
entryRelationship	1..*	SHALL		1198-9034	
@typeCode	1..1	SHALL		1198-9035	urn:oid:2.16.840.1.113883.5.10 02 (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: HL7ActMood 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 of the Problem Concern Act asserts when the concern became active.
 - 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:hl7ii: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).

Figure 106: Problem Concern Act (V3) Example

```
<act classCode="ACT" moodCode="EVN">
  <!-- ** Problem Concern Act (V3) ** -->
  <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 (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="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>

```

3.57.1 Diagnosis Concern Act (V3)

```

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.137:2017-08-01
(open)]

```

Table 192: Diagnosis Concern Act (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Diagnosis (V2) (required)

This template, along with its contained template Diagnosis (V2), represents the QDM datatype: Diagnosis.

The effectiveTime/low of the Diagnosis Concern Act (V2) 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 (V2) 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 193: Diagnosis Concern Act (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.137:2017-08-01)					
@classCode	1..1	SHALL		3343-28148	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		3343-28149	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		3343-28143	
@root	1..1	SHALL		3343-28146	2.16.840.1.113883.10.20.24.3.137
@extension	1..1	SHALL		3343-28692	2017-08-01
statusCode	1..1	SHALL		3343-28144	
@code	1..1	SHALL		3343-28150	urn:oid:2.16.840.1.113762.1.4.1021.35 (QDM Diagnosis Status)
entryRelationship	1..1	SHALL		3343-28142	
@typeCode	1..1	SHALL		3343-28151	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
observation	1..1	SHALL		3343-28145	Diagnosis (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.135:2017-08-01)

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:3343-28148).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-28149).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-28143) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.137" (CONF:3343-28146).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-28692).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3343-28144).
 - 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:3343-28150).
6. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:3343-28142) 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:3343-28151).

- b. **SHALL** contain exactly one [1..1] Diagnosis (V2) (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.135:2017-08-01) (CONF:3343-
28145).

Figure 107: Diagnosis Concern Act (V3) 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"/>
  <!-- Diagnosis Concern Act (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.137" extension="2017-08-01"/>
  <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">
    <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 (V2) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.135" extension="2017-08-01"/>
      <id root="e5d9e01e-d778-40ba-9bd0-351d0222b26c"/>
      <code code="29308-4" displayName="diagnosis" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC"/>
      <translation code="282291009" displayName="diagnosis"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"/>
      </code>
      <statusCode code="completed"/>
      <effectiveTime>
        <!-- Onset Datetime -->
        <low value="20170101090000"/>
        <!-- Abatement Datetime -->
        <high value="20170801090000"/>
      </effectiveTime>
      <value xsi:type="CD" code="25907005" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED-CT" displayName="Diabetic gangrene (disorder)"/>
      <!-- QDM Attribute Anatomical Location Site -->
      <targetSiteCode code="56459004" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="foot"/>
      <!-- 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"/>
          <value xsi:type="CD" code="24484000" displayName="Severe"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"/>
        </observation>
      </entryRelationship>
    </observation>
  </entryRelationship>
</act>
```

3.57.2 Symptom Concern Act (V3)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.138:2017-08-01
(open)]

Table 194: Symptom Concern Act (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Symptom (V2) (required)

This template, along with its contained template Symptom (V2), represents the QDM datatype: Symptom.

The effectiveTime/low of the Symptom Concern Act (V3) asserts when the problem concern became active. This equates to the time the problem concern was authored in the patient's chart.

Table 195: Symptom Concern Act (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.138:2017-08-01)					
@classCode	1..1	SHALL		3343-28547	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		3343-28548	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = EVN
templateId	1..1	SHALL		3343-28539	
@root	1..1	SHALL		3343-28544	2.16.840.1.113883.10.20.24.3.1 38
@extension	1..1	SHALL		3343-28694	2017-08-01
statusCode	1..1	SHALL		3343-28540	
@code	1..1	SHALL		3343-28545	urn:oid:2.16.840.1.113762.1.4.1 021.35 (QDM Diagnosis Status)
entryRelationship	1..1	SHALL		3343-28538	
@typeCode	1..1	SHALL		3343-28543	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = SUBJ
observation	1..1	SHALL		3343-28542	Symptom (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.136:2017-08-01)

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:3343-28547).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-28548).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-28539) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.138"** (CONF:3343-28544).
 - b. **SHALL** contain exactly one [1..1] **@extension="2017-08-01"** (CONF:3343-28694).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3343-28540).
 - 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:3343-28545).
6. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:3343-28538) 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:3343-28543).
 - b. **SHALL** contain exactly one [1..1] Symptom (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.136:2017-08-01) (CONF:3343-28542).

Figure 108: Symptom Concern Act (V3) 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 (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.138" extension="2017-08-01"/>
  <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) symptom -->
  <statusCode code="completed"/>
  <!-- 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="201704081130"/>
  </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 (V2) -->
      <templateId root="2.16.840.1.113883.10.20.24.3.136" extension="2017-08-01"/>
      <id root="e5d9e01e-d778-40ba-9bd0-351d0222b299"/>
      <code code="75325-1" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
displayName="Symptom">
        <translation code="418799008" displayName="Symptom"
codeSystemName="SNOMED" codeSystem="2.16.840.1.113883.6.96"/>
      </code>
      <statusCode code="completed"/>
      <effectiveTime>
        <!-- Onset Datetime -->
        <low value="201704041129"/>
        <!-- Abatement Datetime -->
        <high value="201704081129"/>
      </effectiveTime>
      <value xsi:type="CD" code="233604007" codeSystem="2.16.840.1.113883.6.96"
displayName="Shortness of breath"/>
    </observation>
  </entryRelationship>
</act>
```

3.58 Problem Observation (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.4:2015-08-01
(open)]

Table 196: Problem Observation (V3) Contexts

Contained By:	Contains:
Deceased Observation (V3) (optional) Encounter Diagnosis (V3) (required) Problem Concern Act (V3) (required)	Problem Status (DEPRECATED) (optional) Age Observation (optional) Prognosis Observation (optional) Priority Preference (optional) Author Participation (optional)

This template reflects a discrete observation about a patient's problem. Because it is a discrete observation, it will have a statusCode of "completed". The effectiveTime, also referred to as the “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 197: 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:2.16.840.1.113883.5.10.01 (HL7ActMood) = 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:hl7ii:2.16.840.1.113883.3.8.8.12.3221.7.2:2012-06-01 (Problem Type (SNOMED CT))
statusCode	1..1	SHALL		1198-9049	
@code	1..1	SHALL		1198-19112	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = 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)
@code	0..1	MAY		1198-31871	
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)
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-	urn:oid:2.16.840.1.113883.5.10

				9060	02 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		1198-9069	true
observation	1..1	SHALL		1198-15590	Age Observation (identifier: urn:oid:2.16.840.1.113883.10.2.0.22.4.31)
entryRelationship	0..1	MAY		1198-29951	
@typeCode	1..1	SHALL		1198-31531	urn:oid:2.16.840.1.113883.5.10.02 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		1198-29952	Prognosis Observation (identifier: urn:oid:2.16.840.1.113883.10.2.0.22.4.113)
entryRelationship	0..*	MAY		1198-31063	
@typeCode	1..1	SHALL		1198-31532	urn:oid:2.16.840.1.113883.5.10.02 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		1198-31064	Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.2.0.22.4.143)
entryRelationship	0..1	MAY		1198-9063	
@typeCode	1..1	SHALL		1198-9068	urn:oid:2.16.840.1.113883.5.10.02 (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: HL7ActMood 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 (SNOMED CT) urn:hl7ii:2.16.840.1.113883.3.88.12.3221.7.2:2012-06-01 **STATIC** 2012-06-01 (CONF:1198-9045).
 - a. If code is selected from ValueSet Problem Type (SNOMED CT) urn:hl7ii:2.16.840.1.113883.3.88.12.3221.7.2:2012-06-01 **STATIC** 2012-06-01, then it **SHALL** have at least one [1..*] translation, which **SHOULD** be selected from ValueSet Problem Type (LOINC) urn:hl7ii:2.16.840.1.113883.3.88.12.3221.7.2:2014-09-02 **STATIC** 2014-09-02 (CONF:1198-32950).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1198-9049).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF: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).

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

- a. This value **MAY** contain zero or one [0..1] **@code** (CONF:1198-31871).

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.

- b. This value **MAY** contain zero or more [0..*] **qualifier** (CONF:1198-31870).

- c. 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).
- 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:hl7ii:2.16.840.1.113883.10.20.22.4.6:2014-06-09) (CONF:1198-15591).

Figure 109: 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>
```

3.58.1 Diagnosis (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.135:2017-08-01 (open)]

Table 198: Diagnosis (V2) Contexts

Contained By:	Contains:
Diagnosis Concern Act (V3) (required)	Severity Observation (V2) (optional)
	Author (optional)

This template represents the QDM datatype: Diagnosis. This template must be contained by a Diagnosis Concern Act (V3) template.

Condition/Diagnosis/Problem represents a practitioner's identification of a patient's disease, illness, injury, or condition. This 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).

The onset dateTtime corresponds to the implicit start dateTtime of the diagnosis and the abatement dateTtime corresponds to the implicit stop dateTtime of the diagnosis. If the abatement dateTtime is not present, then the diagnosis is considered to still be active. When this is used with timing relationships, the criterion is looking for an active diagnosis for the time frame indicated by the timing relationships.

QDM Attribute: Prevalence Period references the time from the onset date (observation/effectiveTime/low) to the abatement date (observation/effectiveTime/high). If effectiveTime/high is null, then the diagnosis is considered to still be active.

Table 199: Diagnosis (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.135:2017-08-01)					
@classCode	1..1	SHALL		3343-28510	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3343-28511	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = EVN
@negationInd	0..0	SHALL NOT		3343-28512	
templateId	1..1	SHALL		3343-28498	
@root	1..1	SHALL		3343-28503	2.16.840.1.113883.10.20.24.3.1 35
@extension	1..1	SHALL		3343-28887	2017-08-01
code	1..1	SHALL		3343-28499	
@code	1..1	SHALL		3343-28505	29308-4
@codeSystem	1..1	SHALL		3343-28506	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
translation	1..1	SHALL		3343-28886	
@code	1..1	SHALL		3343-28888	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 282291009
targetSiteCode	0..1	MAY		3343-28501	
author	0..1	MAY		3343-28889	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
entryRelationship	0..1	MAY		3343-28497	
@typeCode	1..1	SHALL		3343-28507	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		3343-28502	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:3343-28510).

3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-28511).
4. **SHALL NOT** contain [0..0] **@negationInd** (CONF:3343-28512).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-28498) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.135" (CONF:3343-28503).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-28887).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3343-28499).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="29308-4" diagnosis (CONF:3343-28505).
 - 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:3343-28506).
 - c. This code **SHALL** contain exactly one [1..1] **translation** (CONF:3343-28886).
 - i. This translation **SHALL** contain exactly one [1..1] **@code**="282291009" 2.16.840.1.113883.6.96 (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:3343-28888).
7. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:3343-28501).
Note: QDM Attribute: Anatomical Location Site - the location where the diagnosis/problem manifests itself
8. **MAY** contain zero or one [0..1] **Author** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-28889).
Note: QDM Attribute: Author dateTime - time the diagnosis is entered into the clinical software
9. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-28497) 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:3343-28507).
 - b. **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:3343-28502).
10. This template **SHALL** be contained by a Diagnosis Concern Act (V3) (CONF:3343-28885).

Figure 110: Diagnosis (V2) Example

```
<!-- Must be contained in the Diagnosis Concern Act (V2) 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 (V2) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.135" extension="2017-08-01"/>
  <id root="e5d9e01e-d778-40ba-9bd0-351d0222b26c"/>
  <code code="29308-4" displayName="diagnosis" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC">
    <translation code="282291009" displayName="diagnosis"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"/>
  </code>
  <statusCode code="completed"/>
  <effectiveTime>
    <!-- Onset Datetime -->
    <low value="20170101090000"/>
    <!-- Abatement Datetime -->
    <high value="20170801090000"/>
  </effectiveTime>
  <value xsi:type="CD" code="25907005" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED-CT" displayName="Diabetic gangrene (disorder)"/>
  <!-- QDM Attribute Anatomical Location Site -->
  <targetSiteCode code="56459004" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="foot"/>
  ...
</observation>
```

3.58.2 Symptom (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.136:2017-08-01 (open)]

Table 200: Symptom (V2) Contexts

Contained By:	Contains:
Symptom Concern Act (V3) (required)	Severity Observation (V2) (optional)

This template represents the QDM datatype: Symptom. This template must be contained by a Symptom Concern Act template.

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: Prevalence Period references the time from the onset date (effectiveTime/low) to the abatement date (effectiveTime/high). If effectiveTime/high is null, then the symptom is considered to still be active.

Table 201: Symptom (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.136:2017-08-01)					
@classCode	1..1	SHALL		3343-28524	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3343-28525	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = EVN
@negationInd	0..0	SHALL NOT		3343-28526	
templateId	1..1	SHALL		3343-28514	
@root	1..1	SHALL		3343-28518	2.16.840.1.113883.10.20.24.3.1 36
@extension	1..1	SHALL		3343-28855	2017-08-01
code	1..1	SHALL		3343-28515	
@code	1..1	SHALL		3343-28520	75325-1
@codeSystem	1..1	SHALL		3343-28521	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
effectiveTime	1..1	SHALL		3343-28854	
low	1..1	SHALL		3343-28856	
high	0..1	MAY		3343-28857	
value	1..1	SHALL	CD	3343-28516	
entryRelationship	0..1	MAY		3343-28513	
@typeCode	1..1	SHALL		3343-28522	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		3343-28517	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:3343-28524).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-28525).
4. **SHALL NOT** contain [0..0] **@negationInd** (CONF:3343-28526).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-28514) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.136" (CONF:3343-28518).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-28855).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3343-28515).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="75325-1" Symptom (CONF:3343-28520).
 - 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:3343-28521).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:3343-28854).
Note: QDM Attribute: Prevalence Period
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:3343-28856).
Note: Onset dateTime
 - b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:3343-28857).
Note: Abatement dateTime
8. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:3343-28516).
Note: QDM Attribute: Code
9. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-28513) 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:3343-28522).
 - b. **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:3343-28517).
10. This template **SHALL** be contained by a Symptom Concern Act (V3) (CONF:3343-28667).

Figure 111: Symptom (V2) Example

```
<!-- Must be contained in the Symptom Concern 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 (V2) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.136" extension="2017-08-01"/>
  <id root="e5d9e01e-d778-40ba-9bd0-351d0222b299"/>
  <code code="75325-1" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
displayName="Symptom">
    <translation code="418799008" displayName="Symptom" codeSystemName="SNOMED"
codeSystem="2.16.840.1.113883.6.96"/>
  </code>
  <statusCode code="completed"/>
  <effectiveTime>
    <!-- Onset Datetime -->
    <low value="201704041129"/>
    <!-- Abatement Datetime -->
    <high value="201704081129"/>
  </effectiveTime>
  <value xsi:type="CD" code="233604007" codeSystem="2.16.840.1.113883.6.96"
displayName="Shortness of breath"/>
  <!-- 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>
```

3.59 Problem Status (DEPRECATED)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.6:2014-06-09
(open)]

Deprecated as part of Consolidated CDA Templates for Clinical Notes (US
Realm) DSTU R2

Table 202: 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 203: 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 (HL7ActMood) = 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 (HL7ActStatus) = 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: HL7ActMood 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: HL7ActStatus 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).

3.60 Procedure Activity Act (V2)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.12:2014-06-09 (open)]

Table 204: Procedure Activity Act (V2) Contexts

Contained By:	Contains:
	Service Delivery Location (optional) Medication Activity (V2) (optional) Indication (V2) (optional) Instruction (V2) (optional) Author Participation (optional)

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 205: 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:2.16.840.1.113883.5.10.01 (HL7ActMood) = EVN
templateId	1..1	SHALL		1098-8291	
@root	1..1	SHALL		1098-10519	2.16.840.1.113883.10.20.22.4.1.2
@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:2.16.840.1.113883.11.2.0.9.22 (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:2.16.840.1.113883.10.2.0.22.4.119)
participant	0..*	MAY		1098-8311	
@typeCode	1..1	SHALL		1098-8312	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC
participantRole	1..1	SHALL		1098-15599	Service Delivery Location (identifier: urn:oid:2.16.840.1.113883.10.2.0.22.4.32)
entryRelationship	0..*	MAY		1098-8314	
@typeCode	1..1	SHALL		1098-8315	urn:oid:2.16.840.1.113883.5.10 02 (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:2.16.840.1.113883.5.10 01 (HL7ActMood) = EVN
id	1..1	SHALL		1098-8320	
entryRelationship	0..1	MAY		1098-8322	
@typeCode	1..1	SHALL		1098-8323	urn:oid:2.16.840.1.113883.5.10 02 (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:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		1098-	Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.

				15601	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: HL7ActMood 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: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90 **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: HL7ActMood 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).

Figure 112: 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="#Proc1" />
    </originalText>
  </code>
  <statusCode code="completed" />
  <effectiveTime value="20110203" />
  <priorityCode code="CR" codeSystem="2.16.840.1.113883.5.7" codeSystemName="ActPriority"
displayName="Callback results" />
  <performer>
    <assignedEntity>
      <id root="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>
```

3.60.1 Intervention Performed (V4)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.32:2017-08-01 (open)]

Table 206: Intervention Performed (V4) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Status (optional) Result Observation (V3) (optional) Reason (V3) (optional) Author (optional)

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: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V3) template.

Table 207: Intervention Performed (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.32:2017-08-01)					
@classCode	1..1	SHALL		3343-27354	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		3343-13590	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = EVN
@negationInd	0..1	MAY		3343-28072	
templateId	1..1	SHALL		3343-13591	
@root	1..1	SHALL		3343-13592	2.16.840.1.113883.10.20.24.3.3 2
@extension	1..1	SHALL		3343-27144	2017-08-01
code	1..1	SHALL		3343-27633	
statusCode	1..1	SHALL		3343-27362	
@code	1..1	SHALL		3343-27363	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		3343-13611	
low	1..1	SHALL		3343-13612	
high	0..1	MAY		3343-13613	
author	0..1	MAY		3343-29162	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
entryRelationship	0..1	MAY		3343-13604	
@typeCode	1..1	SHALL		3343-13605	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		3343-27143	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)
entryRelationship	0..1	MAY		3343-27356	
@typeCode	1..1	SHALL		3343-27357	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		3343-27358	Result Observation (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01)

entryRelationship	0..1	MAY		3343-27359	
@typeCode	1..1	SHALL		3343-27360	REFR
observation	1..1	SHALL		3343-27361	Status (identifier: urn:oid:2.16.840.1.113883.10.2.0.24.3.93)

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:3343-27354).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-13590).
4. **MAY** contain zero or one [0..1] @negationInd (CONF:3343-28072).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] templateId (CONF:3343-13591) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.32" (CONF:3343-13592).
 - b. **SHALL** contain exactly one [1..1] @extension="2017-08-01" (CONF:3343-27144).
6. **SHALL** contain exactly one [1..1] code (CONF:3343-27633).
7. **SHALL** contain exactly one [1..1] statusCode (CONF:3343-27362).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3343-27363).
8. **SHALL** contain exactly one [1..1] effectiveTime (CONF:3343-13611).
Note: QDM Attribute: Relevant Period
 - a. This effectiveTime **SHALL** contain exactly one [1..1] low (CONF:3343-13612).
Note: Start dateTime - the time the intervention begins
 - b. This effectiveTime **MAY** contain zero or one [0..1] high (CONF:3343-13613).
Note: Stop dateTime - the time the intervention ends
9. **MAY** contain zero or one [0..1] [Author](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-29162).
Note: QDM Attribute: Author dateTime
10. **MAY** contain zero or one [0..1] entryRelationship (CONF:3343-13604) 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:3343-13605).
 - b. **SHALL** contain exactly one [1..1] [Reason \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:3343-27143).
11. **MAY** contain zero or one [0..1] entryRelationship (CONF:3343-27356) 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:3343-27357).
 - b. **SHALL** contain exactly one [1..1] [Result Observation \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01) (CONF:3343-27358).
12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-27359) such that it
Note: QDM Attribute: Status
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CONF:3343-27360).
 - b. **SHALL** contain exactly one [1..1] [Status](#) (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.93) (CONF:3343-27361).

Figure 113: Intervention Performed (V4) Example

```

<act classCode="ACT" moodCode="EVN">
  <!-- Conforms 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 (V4) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.32" extension="2017-08-01"/>
  <id root="db734647-fc99-424c-a864-7e3cda82e703"/>
  <code code="225323000" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CD"
displayName="Smoking cessation education (procedure)"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <!-- QDM Attribute: Relevant Period - Start dateTime -->
    <low value="201703011130"/>
    <!-- QDM Attribute: Relevant Period - Stop dateTime -->
    <high value="201703011330"/>
  </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="2017-08-01"/>
      <code code="77301-0" codeSystem="2.16.840.1.113883.6.1" displayName="Reason
care action performed or not" codeSystemName="LOINC"/>
      <value xsi:type="CD" code="160605003" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Heavy cigarette smoker (20-39 cigs/day)
(finding)"/>
    </observation>
  </entryRelationship>
  <!-- QDM Attribute: Result -->
  <entryRelationship typeCode="REFR">
    <observation classCode="OBS" moodCode="EVN">
      <!-- C-CDA R2 Result Observation (V3) -->
      <templateId root="2.16.840.1.113883.10.20.22.4.2" extension="2015-08-01"/>
      <id root="ed971e73-c060-4258-8838-69c830254b5a"/>
      <code code="225323000" displayName="Smoking cessation education (procedure)"
codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
      <statusCode code="completed"/>
      <effectiveTime nullFlavor="NI"/>
      <value xsi:type="CD" code="394872000" codeSystem="2.16.840.1.113883.6.96"
displayName="Ready to stop smoking (finding)" codeSystemName="SNOMED CT"/>
    </observation>
  </entryRelationship>
</act>

```

3.61 Procedure Activity Observation (V2)

[observation: identifier urn:h17ii:2.16.840.1.113883.10.20.22.4.13:2014-06-09
(open)]

Table 208: Procedure Activity Observation (V2) Contexts

Contained By:	Contains:
	Service Delivery Location (optional)

Contained By:	Contains:
	Medication Activity (V2) (optional) Reaction Observation (V2) (optional) Indication (V2) (optional) Instruction (V2) (optional) Author Participation (optional)

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 209: 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:2.16.840.1.113883.5.10.01 (HL7ActMood) = 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:2.16.840.1.113883.11.2.0.9.22 (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	0..*	SHOULD		1098-32478	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.2.0.22.4.119)
participant	0..*	MAY		1098-8261	
@typeCode	1..1	SHALL		1098-8262	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC
participantRole	1..1	SHALL		1098-15904	Service Delivery Location (identifier: urn:oid:2.16.840.1.113883.10.2.0.22.4.32)
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 (HL7ActMood) = 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-	Instruction (V2) (identifier:

				31394	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
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:2.16.840.1.113883.10.20.22.4.19:2014-06-09)
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:2.16.840.1.113883.10.20.22.4.16:2014-06-09)
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:2.16.840.1.113883.10.20.22.4.9:2014-06-09)

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: HL7ActMood 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).

Note: QDM Attribute: Value

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).

Note: QDM Attribute: Method

- 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).

Note: QDM Attribute: Anatomical Location Site (for Physical Exam Performed)

- 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
 - a. **SHALL** contain exactly one [1..1] **@typeCode="LOC"** Location (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90 **STATIC**) (CONF:1098-8262).
 - b. **SHALL** contain exactly one [1..1] [Service Delivery Location](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.32) (CONF:1098-15904).
15. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-8264) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="COMP"** Component (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1098-8265).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** true (CONF:1098-8266).
 - c. **SHALL** contain exactly one [1..1] **encounter** (CONF:1098-8267).
 - 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:1098-8268).
 - ii. This encounter **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1098-8269).
 - iii. This encounter **SHALL** contain exactly one [1..1] **id** (CONF:1098-8270).
 1. 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
 - a. **SHALL** contain exactly one [1..1] **@typeCode="SUBJ"** Has Subject (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1098-8273).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** true (CONF:1098-8274).
 - 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:1098-31394).
17. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-8276) 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:1098-8277).
 - 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:1098-15906).
18. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-8279) 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:1098-8280).
 - 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:1098-15907).
- 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 114: 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="#Proc1" />
    </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>

```

3.61.1 Diagnostic Study Performed (V4)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.18:2017-08-01 (open)]

Table 210: Diagnostic Study Performed (V4) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Status (optional) Result Observation (V3) (optional) Facility Location (V2) (optional) Reason (V3) (optional) Component (optional) Author (optional)

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

This template indicates that a diagnostic study has been completed. Diagnostic Study represents any kind of medical test performed 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, confirm that a person is free from disease). The QDM defines diagnostic studies as those that are not performed in organizations that perform testing on samples of human blood, tissue, or other substance from the body. Such studies include but are not limited to imaging studies, cardiology studies (electrocardiogram, treadmill stress testing), pulmonary function testing, vascular laboratory testing, and others.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V3) template.

Table 211: Diagnostic Study Performed (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.18:2017-08-01)					
@classCode	1..1	SHALL		3343-27369	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3343-12950	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = EVN
@negationInd	0..1	MAY		3343-28063	
templateId	1..1	SHALL		3343-12951	
@root	1..1	SHALL		3343-12952	2.16.840.1.113883.10.20.24.3.18
@extension	1..1	SHALL		3343-27141	2017-08-01
code	1..1	SHALL		3343-27617	
statusCode	1..1	SHALL		3343-12956	
@code	1..1	SHALL		3343-12957	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		3343-12958	
low	1..1	SHALL		3343-12959	
high	1..1	SHALL		3343-12960	
value	1..1	SHALL		3343-29135	
@nullFlavor	1..1	SHALL		3343-29139	NA
author	0..1	MAY		3343-28873	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
participant	0..1	MAY		3343-13031	Facility Location (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.100:2017-08-01)
entryRelationship	0..1	MAY		3343-12963	
@typeCode	1..1	SHALL		3343-12964	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		3343-27140	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)
entryRelationship	0..1	MAY		3343-	

				27368	
@typeCode	1..1	SHALL		3343-27370	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		3343-27371	Status (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.93)
entryRelationship	0..1	MAY		3343-27746	
@typeCode	1..1	SHALL		3343-28139	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		3343-27747	Result Observation (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01)
entryRelationship	0..*	MAY		3343-28874	
@typeCode	1..1	SHALL		3343-28875	REFR
observation	1..1	SHALL		3343-28876	Component (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.149:2017-08-01)

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:3343-27369).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-12950).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3343-28063).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-12951) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.18" (CONF:3343-12952).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-27141).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3343-27617).
Note: QDM Attribute: Code
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3343-12956).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3343-12957).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:3343-12958).
Note: QDM Attribute: Relevant Period
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:3343-12959).
Note: startTime - when the diagnostic study is initiated

- b. This effectiveTime **SHALL** contain exactly one [1..1] **high** (CONF:3343-12960).
Note: stopTime – when the diagnostic study is completed
- 9. **SHALL** contain exactly one [1..1] **value** (CONF:3343-29135).
Note: Use Result Observation (V3) to represent Result and/or Result dateTime
 - a. This value **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:3343-29139).
- 10. **MAY** contain zero or one [0..1] **Author** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-28873).
Note: QDM Attribute: Author dateTime
- 11. **MAY** contain zero or one [0..1] **Facility Location (V2)** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.100:2017-08-01) (CONF:3343-13031).
Note: QDM Attribute: Facility Location
- 12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-12963) 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:3343-12964).
 - b. **SHALL** contain exactly one [1..1] **Reason (V3)** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:3343-27140).
- 13. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-27368) 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:3343-27370).
 - b. **SHALL** contain exactly one [1..1] **Status** (identifier:
urn:oid:2.16.840.1.113883.10.20.24.3.93) (CONF:3343-27371).
- 14. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-27746) such that it
Note: QDM Attribute: Result, QDM Attribute: Result dateTime
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem:
HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3343-28139).
 - b. **SHALL** contain exactly one [1..1] **Result Observation (V3)** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01) (CONF:3343-27747).
- 15. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:3343-28874) such that it
Note: QDM Attribute: Components
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" refers to (CONF:3343-28875).
 - b. **SHALL** contain exactly one [1..1] **Component** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.149:2017-08-01) (CONF:3343-28876).

Figure 115: Diagnostic Study Performed (V4) 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 (V4) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.18" extension="2017-08-01"/>
  <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"/>
  <text>Diagnostic Study, Performed: Breast Mammogram Diagnostic</text>
  <statusCode code="completed"/>
  <effectiveTime>
    <!-- QDM Attribute: Relevant Period - Start dateTime -->
    <low value="20170329090000"/>
    <!-- QDM Attribute: Relevant Period - Stop dateTime -->
    <high value="20170329103000"/>
  </effectiveTime>
  <value xsi:type="CD" nullFlavor="NA"/>
  <!-- QDM Attribute: Method -->
  <methodCode code="24623002" codeSystem="2.16.840.1.113883.6.96"
displayName="Screening mammography" codeSystemName="SNOMED CT"/>
  <!-- QDM Attribute: Facility Location -->
  <participant typeCode="LOC">
    <!-- Facility Location (V2) -->
    <templateId root="2.16.840.1.113883.10.20.24.3.100" extension="2018-07-01"/>
    <time>
      <low value="20170329"/>
    </time>
    <participantRole classCode="SDLOC">
      <code code="309905000" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Adult Intensive Care Unit"/>
      <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>
</observation>
```

3.61.2 Physical Exam Performed (V4)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.59:2017-08-01
(open)]

Table 212: Physical Exam Performed (V4) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Reason (V3) (optional) Component (optional) Author (optional)

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 (V3) template.

Table 213: Physical Exam Performed (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.59:2017-08-01)					
@classCode	1..1	SHALL		3343-27559	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3343-12643	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = EVN
@negationInd	0..1	MAY		3343-28093	
templateId	1..1	SHALL		3343-12644	
@root	1..1	SHALL		3343-12645	2.16.840.1.113883.10.20.24.3.5 9
@extension	1..1	SHALL		3343-27135	2017-08-01
code	1..1	SHALL		3343-27651	
statusCode	1..1	SHALL		3343-12649	
@code	1..1	SHALL		3343-12650	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		3343-12651	
low	1..1	SHALL		3343-12652	
high	1..1	SHALL		3343-12653	
author	0..1	MAY		3343-29164	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
entryRelationship	0..1	MAY		3343-12656	
@typeCode	1..1	SHALL		3343-12657	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		3343-27134	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)
entryRelationship	0..*	MAY		3343-28933	
@typeCode	1..1	SHALL		3343-28934	REFR
observation	1..1	SHALL		3343-28935	Component (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.149:2017-08-01)

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:3343-27559).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-12643).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3343-28093).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-12644) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.24.3.59"** (CONF:3343-12645).
 - b. **SHALL** contain exactly one [1..1] **@extension="2017-08-01"** (CONF:3343-27135).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3343-27651).
Note: QDM Attribute: Code
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3343-12649).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3343-12650).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:3343-12651).
Note: QDM Attribute: Relevant Period
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:3343-12652).
Note: startTime - the time the physical examination activity begins
 - b. This effectiveTime **SHALL** contain exactly one [1..1] **high** (CONF:3343-12653).
Note: stopTime - the time the physical examination activity ends
9. **MAY** contain zero or one [0..1] [Author](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-29164).
Note: QDM Attribute: Author dateTime
10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:3343-12656) 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:3343-12657).
 - b. **SHALL** contain exactly one [1..1] [Reason \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:3343-27134).
11. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:3343-28933) such that it
Note: QDM Attribute: Components
 - a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** refers to (CONF:3343-28934).
 - b. **SHALL** contain exactly one [1..1] [Component](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.149:2017-08-01) (CONF:3343-28935).

Figure 116: Physical Exam Performed (V4) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Conforms to C-CDA R2 Procedure Activity Observation (V2) -->
  <templateId root="2.16.840.1.113883.10.20.22.4.13" extension="2014-06-09"/>
  <!-- Physical Exam Performed (V4) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.59" extension="2017-08-01"/>
  <id extension="123456789" root="2.16.840.1.113883.19"/>
  <!-- Physical Exam -->
  <code xsi:type="CD" code="29463-7" codeSystem="2.16.840.1.113883.6.1"
displayName="Body weight" codeSystemName="LOINC"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <!-- QDM Attribute: Relevant Period - start Datetime -->
    <low value="20170329090000"/>
    <!-- QDM Attribute: Relevant Period - start Datetime -->
    <high value="20170329103000"/>
  </effectiveTime>
  <!-- QDM Attribute: Result -->
  <value xsi:type="PQ" value="79" unit="kg"/>
  <!-- QDM Attribute: Method -->
  <methodCode code="8350-1" codeSystem="2.16.840.1.113883.6.1"
displayName="Body weight Measured --with clothes" codeSystemName="LOINC"/>
  <!-- QDM Attribute: Reason -->
  <entryRelationship typeCode="RSON">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2017-08-01"/>
      <code code="77301-0" codeSystem="2.16.840.1.113883.6.1"
displayName="Reason care action performed or not" codeSystemName="LOINC"/>
      <value xsi:type="CD" code="238131007" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Overweight (finding)"/>
    </observation>
  </entryRelationship>
</observation>

```

3.62 Procedure Activity Procedure (V2)

[procedure: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.14:2014-06-09
(open)]

Table 214: Procedure Activity Procedure (V2) Contexts

Contained By:	Contains:
Reaction Observation (V2) (optional)	Service Delivery Location (optional) Product Instance (optional) Medication Activity (V2) (optional) Reaction Observation (V2) (optional) Indication (V2) (optional) Instruction (V2) (optional) Author Participation (optional)

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 215: 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:2.16.840.1.113883.5.10.01 (HL7ActMood) = 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:2.16.840.1.113883.11.2.0.9.22 (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	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	0..*	SHOULD		1098-32479	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.2.0.22.4.119)
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:2.16.840.1.113883.10.2.0.22.4.37)
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:2.16.840.1.113883.10.2.0.22.4.32)
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 (HL7ActMood) = 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: HL7ActMood 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).
Note: QDM Attribute: ordinality
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**, which **SHALL** be selected from ValueSet Body Site urn:oid:2.16.840.1.113883.3.88.12.3221.8.9 **DYNAMIC** (CONF:1098-7683).
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 zero or more [0..*] **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: HL7ActMood 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 117: 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>
```

3.62.1 Device Applied (V5)

```
[procedure: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.7:2018-10-01
(open)]
```

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Table 216: Device Applied (V5) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Reason (V3) (optional) Author (optional)

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 (V3) template.

Table 217: Device Applied (V5) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
procedure (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.7:2018-10-01)					
@classCode	1..1	SHALL		4388-28050	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		4388-28051	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@negationInd	0..1	MAY		4388-28052	
templateId	1..1	SHALL		4388-12391	
@root	1..1	SHALL		4388-12392	2.16.840.1.113883.10.20.24.3.7
@extension	1..1	SHALL		4388-27132	2018-10-01
code	1..1	SHALL		4388-12414	
@code	1..1	SHALL		4388-12415	360030002
@codeSystem	1..1	SHALL		4388-27536	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
statusCode	1..1	SHALL		4388-12394	
@code	1..1	SHALL		4388-29254	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		4388-12395	
low	1..1	SHALL		4388-27537	
high	0..1	MAY		4388-27538	
targetSiteCode	0..1	SHOULD		4388-12416	
author	0..1	MAY		4388-28917	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
participant	1..1	SHALL		4388-12396	
@typeCode	1..1	SHALL		4388-12397	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV
participantRole	1..1	SHALL		4388-12398	
@classCode	1..1	SHALL		4388-12399	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = MANU

XPath	Card.	Verb	Data Type	CONF#	Value
playingDevice	1..1	SHALL		4388-12400	
@classCode	1..1	SHALL		4388-12401	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV
code	1..1	SHALL		4388-12402	
entryRelationship	0..1	MAY		4388-12403	
@typeCode	1..1	SHALL		4388-12404	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		4388-27131	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01

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:4388-28050).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4388-28051).
4. **MAY** contain zero or one [0..1] @negationInd (CONF:4388-28052).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] templateId (CONF:4388-12391) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.7" (CONF:4388-12392).
 - b. **SHALL** contain exactly one [1..1] @extension="2018-10-01" (CONF:4388-27132).
6. **SHALL** contain exactly one [1..1] code (CONF:4388-12414).
 - a. This code **SHALL** contain exactly one [1..1] @code="360030002" application of device (CONF:4388-12415).
 - 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:4388-27536).
7. **SHALL** contain exactly one [1..1] statusCode (CONF:4388-12394).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4388-29254).
8. **SHALL** contain exactly one [1..1] effectiveTime (CONF:4388-12395).
Note: QDM Attribute: Relevant Period
 - a. This effectiveTime **SHALL** contain exactly one [1..1] low (CONF:4388-27537).
Note: startTime - the device is inserted or first used
 - b. This effectiveTime **MAY** contain zero or one [0..1] high (CONF:4388-27538).
Note: Stop dateTime - the device is removed or last used

9. **SHOULD** contain zero or one [0..1] **targetSiteCode** (CONF:4388-12416).
Note: QDM Attribute: Anatomical Location Site
10. **MAY** contain zero or one [0..1] **Author** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:4388-28917).
11. **SHALL** contain exactly one [1..1] **participant** (CONF:4388-12396) 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:4388-12397).
 - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:4388-12398).
 - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode="MANU"** manufactured product, which **SHALL** be selected from CodeSystem HL7RoleClass (urn:oid:2.16.840.1.113883.5.110) (CONF:4388-12399).
 - ii. This participantRole **SHALL** contain exactly one [1..1] **playingDevice** (CONF:4388-12400).
 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:4388-12401).
 2. This playingDevice **SHALL** contain exactly one [1..1] **code** (CONF:4388-12402).
Note: QDM Attribute: Code
12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:4388-12403) 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:4388-12404).
 - b. **SHALL** contain exactly one [1..1] **Reason (V3)** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:4388-27131).

Figure 118: Device Applied (V5) 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 (V5) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.7" extension="2018-10-01"/>
  <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: Relevant Period - Start dateTime -->
    <low value="20180101"/>
    <!-- QDM Attribute: Relevant Period - Stop dateTime -->
    <high value="20180601"/>
  </effectiveTime>
  <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)"/>
      </playingDevice>
    </participantRole>
  </participant>
  ...
</procedure>
```

3.62.2 Procedure Performed (V5)

[procedure: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.64:2018-10-01
(open)]

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Table 218: Procedure Performed (V5) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Incision Datetime (optional) Status (optional) Result Observation (V3) (optional) Reason (V3) (optional) Component (optional) Author (optional)

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 (V3) template.

Table 219: Procedure Performed (V5) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
procedure (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.64:2018-10-01)					
@classCode	1..1	SHALL		4388-27308	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		4388-11261	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@negationInd	0..1	MAY		4388-28098	
templateId	1..1	SHALL		4388-11262	
@root	1..1	SHALL		4388-11263	2.16.840.1.113883.10.20.24.3.64
@extension	1..1	SHALL		4388-27129	2018-10-01
code	1..1	SHALL		4388-27309	
statusCode	1..1	SHALL		4388-27305	
@code	1..1	SHALL		4388-27367	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		4388-11669	
low	1..1	SHALL		4388-11670	
high	1..1	SHALL		4388-11671	
targetSiteCode	0..*	SHOULD		4388-27312	
translation	0..*	MAY		4388-27765	
author	0..1	MAY		4388-28937	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
entryRelationship	0..1	MAY		4388-11371	
@typeCode	1..1	SHALL		4388-11372	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		4388-11498	Reason (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)
entryRelationship	0..1	MAY		4388-11410	
@typeCode	1..1	SHALL		4388-11500	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType)

XPath	Card.	Verb	Data Type	CONF#	Value
					= REFR
procedure	1..1	SHALL		4388-14564	Incision Datetime (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.89)
entryRelationship	0..1	MAY		4388-27315	
@typeCode	1..1	SHALL		4388-27316	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4388-27317	Result Observation (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01)
entryRelationship	0..1	MAY		4388-27364	
@typeCode	1..1	SHALL		4388-27365	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4388-27366	Status (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.93)
value	1..1	SHALL	CD	4388-28608	
entryRelationship	0..*	MAY		4388-28936	
@typeCode	1..1	SHALL		4388-28938	REFR
observation	1..1	SHALL		4388-28939	Component (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.149:2017-08-01)

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:4388-27308).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4388-11261).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:4388-28098).
Note: QDM Attribute: Negation Rationale
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:4388-11262) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.64" (CONF:4388-11263).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2018-10-01" (CONF:4388-27129).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4388-27309).
Note: QDM Attribute: Code

7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4388-27305).
 - a. This **statusCode** **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4388-27367).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:4388-11669).

Note: QDM Attribute: Relevant Period

 - a. This **effectiveTime** **SHALL** contain exactly one [1..1] **low** (CONF:4388-11670).
Note: **startTime** – the time the procedure begins
 - b. This **effectiveTime** **SHALL** contain exactly one [1..1] **high** (CONF:4388-11671).
Note: **stopTime** – the time the procedure is completed
9. **SHOULD** contain zero or more [0..*] **targetSiteCode** (CONF:4388-27312).

Note: QDM Attribute: Anatomical Location Site

 - a. The **targetSiteCode**, if present, **MAY** contain zero or more [0..*] **translation** (CONF:4388-27765).
10. **MAY** contain zero or one [0..1] **Author** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:4388-28937).
Note: QDM Attribute: Author **dateTime**
11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:4388-11371) 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:4388-11372).
 - b. **SHALL** contain exactly one [1..1] **Reason (V3)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01) (CONF:4388-11498).
12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:4388-11410) 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:4388-11500).
 - b. **SHALL** contain exactly one [1..1] **Incision Datetime** (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.89) (CONF:4388-14564).
13. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:4388-27315) 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:4388-27316).
 - b. **SHALL** contain exactly one [1..1] **Result Observation (V3)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01) (CONF:4388-27317).
14. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:4388-27364) 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:4388-27365).

- b. **SHALL** contain exactly one [1..1] Status (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.93) (CONF:4388-27366).
 - i. This observation **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:4388-28608).
- 15. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4388-28936) such that it
 - Note: QDM Attribute: Components
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" refers tp (CONF:4388-28938).
 - b. **SHALL** contain exactly one [1..1] Component (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.149:2017-08-01) (CONF:4388-28939).

Figure 119: Procedure Performed (V5) 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 (V5) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.64" extension="2018-10-01"/>
  <id root="d68b7e32-7810-4f5b-9cc2-acd54b0fd85d"/>
  <code code="235326000" displayName="Right hemicolectomy"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"/>
  <text>Procedure, Performed: Right hemicolectomy </text>
  <statusCode code="completed"/>
  <effectiveTime>
    <!-- QDM Attribute: Relevant Period - start dateTime -->
    <low value="20180329090000"/>
    <!-- QDM Attribute: Relevant Period - stop dateTime -->
    <high value="20180329103000"/>
  </effectiveTime>
  <!-- QDM Attribute: Ordinality -->
  <priorityCode code="63161005" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Principal"/>
  <!-- QDM Attribute: Method -->
  <methodCode code="446223002" codeSystem="2.16.840.1.113883.6.96"
displayName="Hand assisted laparoscopic right colectomy" codeSystemName="SNOMED-CT"/>
  <!-- QDM Attribute Anatomical Location Site -->
  <targetSiteCode code="71854001" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="colon"/>
  <!-- QDM Attribute: Incision Datetime -->
  <entryRelationship typeCode="REFR">
    <procedure classCode="PROC" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.89"/>
      <code code="34896006" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="incision"/>
      <effectiveTime value="20180329103000"/>
    </procedure>
  </entryRelationship>
</procedure>
```


3.63 Product Instance

[participantRole: identifier urn:oid:2.16.840.1.113883.10.20.22.4.37 (open)]

Table 220: 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 221: 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 (HL7RoleClass) = 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: HL7RoleClass 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 120: 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>

```

3.64 Prognosis Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.22.4.113 (open)]

Table 222: 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 223: 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 (HL7ActMood) = 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 (HL7ActStatus) = 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: HL7ActMood 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: HL7ActStatus 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 121: 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 122: 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>
```

3.65 Program Participation

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.154:2017-08-01 (open)]

Table 224: Program Participation Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	

This template represents the QDM Datatype: Participation.

Participation represents the type of plan or program in which the patient is expected to be enrolled. The program is identified as the Issuer (e.g., Aetna, BCBSA, Cigna, etc.). The code attribute indicates the coverage type indicating the program in which the subject of record participates (e.g., health insurance plan policy, disease specific policy, health maintenance organization policy, etc.)

Table 225: Program Participation Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.154:2017-08-01)					
@classCode	1..1	SHALL		3343-28974	OBS
@moodCode	1..1	SHALL		3343-28975	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = EVN
@negationInd	0..0	SHALL NOT		3343-28978	
templateId	1..1	SHALL		3343-28965	
@root	1..1	SHALL		3343-28969	2.16.840.1.113883.10.20.24.3.154
@extension	1..1	SHALL		3343-28970	2017-08-01
id	1..*	SHALL		3343-28976	
code	1..1	SHALL		3343-28964	
@code	1..1	SHALL		3343-28967	ASSERTION
@codeSystem	1..1	SHALL		3343-28968	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		3343-28977	completed
effectiveTime	1..1	SHALL		3343-28966	
low	1..1	SHALL		3343-28971	
high	0..1	MAY		3343-28972	
value	1..1	SHALL	CD	3343-28973	urn:oid:2.16.840.1.113883.1.11.19832 (HL7ActCoverageType)

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CONF:3343-28974).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3343-28975).
3. **SHALL NOT** contain [0..0] **@negationInd** (CONF:3343-28978).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-28965) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.154" (CONF:3343-28969).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-28970).
5. **SHALL** contain at least one [1..*] **id** (CONF:3343-28976).

6. **SHALL** contain exactly one [1..1] **code** (CONF:3343-28964).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" (CONF:3343-28967).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.5.4" (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3343-28968).
7. **SHALL** contain exactly one [1..1] **statusCode**="completed" Completed (CONF:3343-28977).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:3343-28966).

Note: QDM Attribute: Participation Period

 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:3343-28971).

Note: enrollmentStartdate – the time the patient enrolled in the program
 - b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:3343-28972).

Note: enrollmentEnddate – the time the patient enrollment in the program ends
9. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (ValueSet: HL7ActCoverageType urn:oid:2.16.840.1.113883.1.11.19832 **DYNAMIC**) (CONF:3343-28973).

Figure 123: Program Participation Example

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.24.3.154" extension="2017-08-01"/>
  <id root="94de1700-9629-40b4-b56d-a4eac5f48726"/>
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="201706151030"/>
  </effectiveTime>
  <value xsi:type="CD" code="MENTPRG" codeSystem="2.16.840.1.113883.5.4"
codeSystemName="HL7ActCode" displayName="Mental Health Program"/>
</observation>
```

3.66 Provider Care Experience (V4)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.67:2017-08-01 (open)]

Table 226: Provider Care Experience (V4) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Author (required)

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 227: Provider Care Experience (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.67:2017-08-01)					
@classCode	1..1	SHALL		3343-12479	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3343-12480	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@negationInd	0..0	SHALL NOT		3343-28100	
templateId	1..1	SHALL		3343-12481	
@root	1..1	SHALL		3343-12482	2.16.840.1.113883.10.20.24.3.67
@extension	1..1	SHALL		3343-27293	2017-08-01
id	1..*	SHALL		3343-12484	
code	1..1	SHALL		3343-12485	
@code	1..1	SHALL		3343-27562	77219-4
@codeSystem	1..1	SHALL		3343-27563	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		3343-12486	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
value	1..1	SHALL	CD	3343-12572	
author	1..1	SHALL		3343-28941	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01

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:3343-12479).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" event, which **SHALL** be selected from CodeSystem HL7ActMood (urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-12480).
3. **SHALL NOT** contain [0..0] **@negationInd** (CONF:3343-28100).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-12481) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.67" (CONF:3343-12482).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-27293).
5. **SHALL** contain at least one [1..*] **id** (CONF:3343-12484).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3343-12485).

- a. This code **SHALL** contain exactly one [1..1] **@code**="77219-4" Provider satisfaction with healthcare delivery (CONF:3343-27562).
- 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:3343-27563).
7. **SHALL** contain exactly one [1..1] **statusCode**="completed", which **SHALL** be selected from CodeSystem HL7ActStatus (urn:oid:2.16.840.1.113883.5.14) (CONF:3343-12486).
8. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:3343-12572).
Note: QDM Attribute: Code
9. **SHALL** contain exactly one [1..1] **Author** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-28941).
Note: QDM Attribute: Author dateTime - the time the care experience is recorded

Figure 124: Provider Care Experience (V4) Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Provider Care Experience (V4) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.67" extension="2017-08-01"/>
  <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"/>
  <value xsi:type="CD" code="445060000"
  displayName="Left against medical advice (finding)"
  codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"/>
  <author>
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="2017050101030"/>
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </assignedAuthor>
  </author>
</observation>
```

3.67 Provider Characteristic Observation Assertion (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.114:2017-08-01 (open)]

Table 228: Provider Characteristic Observation Assertion (V3) Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	Author (optional)

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 229: Provider Characteristic Observation Assertion (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.114:2017-08-01)					
@classCode	1..1	SHALL		3343-27773	OBS
@moodCode	1..1	SHALL		3343-27774	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = EVN
@negationInd	0..0	SHALL NOT		3343-28101	
templateId	1..1	SHALL		3343-27768	
@root	1..1	SHALL		3343-27772	2.16.840.1.113883.10.20.24.3.114
@extension	1..1	SHALL		3343-27780	2017-08-01
id	1..*	SHALL		3343-27775	
code	1..1	SHALL		3343-27767	
@code	1..1	SHALL		3343-27771	ASSERTION
@codeSystem	1..1	SHALL		3343-28136	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		3343-27776	completed
value	1..1	SHALL	CD	3343-27770	
author	0..1	MAY		3343-28952	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
participant	0..1	MAY		3343-28217	
@typeCode	1..1	SHALL		3343-28219	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = IND
participantRole	1..1	SHALL		3343-28218	
id	0..*	SHOULD		3343-28221	
@root	0..1	SHOULD		3343-28222	2.16.840.1.113883.4.6
@extension	0..1	SHOULD		3343-28223	
code	0..1	SHOULD		3343-28220	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:3343-27773).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3343-27774).
3. **SHALL NOT** contain [0..0] **@negationInd** (CONF:3343-28101).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-27768) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.114" (CONF:3343-27772).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-27780).
5. **SHALL** contain at least one [1..*] **id** (CONF:3343-27775).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3343-27767).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CONF:3343-27771).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.5.4" (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3343-28136).
7. **SHALL** contain exactly one [1..1] **statusCode**="completed" Completed (CONF:3343-27776).
8. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:3343-27770).
9. **MAY** contain zero or one [0..1] **Author** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-28952).
Note: QDM Attribute: Author dateTime
10. **MAY** contain zero or one [0..1] **participant** (CONF:3343-28217).
 - 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:3343-28219).
 - b. The participant, if present, **SHALL** contain exactly one [1..1] **participantRole** (CONF:3343-28218).

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:3343-28221) such that it
 1. **SHOULD** contain zero or one [0..1] **@root**="2.16.840.1.113883.4.6" National Provider ID (CONF:3343-28222).
 2. **SHOULD** contain zero or one [0..1] **@extension** (CONF:3343-28223).
- 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:3343-28220).

Figure 125: Provider Characteristic Observation Assertion (V3) Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Provider Characteristic Observation Assertion (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.114" extension="2017-08-01"/>
  <id root="94de1700-9629-40b4-b56d-a4eac5f48726"/>
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>
  <statusCode code="completed"/>
  <!-- Provider Characteristic -->
  <value xsi:type="CD" code="2135-2" codeSystem="2.16.840.1.113883.6.238"
codeSystemName="CDCREC" displayName="Hispanic or Latino"/>
  <author>
    <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01"/>
    <time value="201704081130"/>
    <assignedAuthor>
      <id nullFlavor="NA"/>
    </assignedAuthor>
  </author>
  <participant typeCode="IND">
    <participantRole>
      <!-- NPI -->
      <id root="2.16.840.1.113883.4.6" extension="123456789"/>
      <code code="207QA0505X" displayName="Adult Medicine"
codeSystemName="Healthcare Provider Taxonomy"/>
    </participantRole>
  </participant>
</observation>
```

3.68 Reaction Observation (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.9:2014-06-09
(open)]

Table 230: Reaction Observation (V2) Contexts

Contained By:	Contains:
Medication Activity (V2) (optional) Procedure Activity Procedure (V2) (optional) Procedure Activity Observation (V2) (optional) Substance or Device Allergy - Intolerance Observation (V2) (optional) Immunization Activity (V2) (optional) Adverse Event (optional)	Medication Activity (V2) (optional) Procedure Activity Procedure (V2) (optional) Severity Observation (V2) (optional)

This clinical statement represents the response to an undesired symptom, finding, etc. due to administered or exposed substance. A reaction can be defined described with respect to its severity, and can have been treated by one or more interventions.

Table 231: 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:2.16.840.1.113883.5.10 01 (HL7ActMood) = 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 (HL7ActCode) = 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 (HL7ActStatus) = 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:2.16.840.1.113883.5.10 02 (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: HL7ActMood 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: HL7ActCode 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: HL7ActStatus 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 126: 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" />
    <high value="200802281205" />
  </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>
```


3.69 Reason (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
(open)]

Table 232: Reason (V3) Contexts

Contained By:	Contains:
Assessment Performed (V2) (optional) Assessment Recommended (V2) (optional) Encounter Order (V4) (optional) Encounter Recommended (V4) (optional) Diagnostic Study Order (V4) (optional) Diagnostic Study Performed (V4) (optional) Device Order (V4) (optional) Device Recommended (V4) (optional) Immunization Order (V2) (optional) Intervention Performed (V4) (optional) Intervention Recommended (V4) (optional) Intervention Order (V4) (optional) Laboratory Test Order (V4) (optional) Laboratory Test Recommended (V4) (optional) Patient Characteristic Clinical Trial Participant (V4) (optional) Physical Exam Order (V4) (optional) Physical Exam Performed (V4) (optional) Physical Exam Recommended (V4) (optional) Substance Recommended (V4) (optional) Immunization Administered (V2) (optional) Medication Administered (V4) (optional) Laboratory Test Performed (V4) (optional) Communication Performed (optional) Medication Order (V5) (optional) Procedure Order (V5) (optional) Procedure Recommended (V5) (optional) Procedure Performed (V5) (optional) Assessment Order (optional) Device Applied (V5) (optional)	

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 233: Reason (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01)					
@classCode	1..1	SHALL		3343-11357	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3343-11358	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		3343-11359	
@root	1..1	SHALL		3343-11360	2.16.840.1.113883.10.20.24.3.88
@extension	1..1	SHALL		3343-27027	2017-08-01
code	1..1	SHALL		3343-11361	
@code	1..1	SHALL		3343-11362	77301-0
@codeSystem	1..1	SHALL		3343-27028	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
effectiveTime	0..1	MAY		3343-11366	
low	1..1	SHALL		3343-27551	
high	0..1	MAY		3343-27552	
value	1..1	SHALL	CD	3343-11367	

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3343-11357).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-11358).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-11359) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.88" (CONF:3343-11360).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-27027).
4. **SHALL** contain exactly one [1..1] **code** (CONF:3343-11361).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="77301-0" Reason care action performed or not (CONF:3343-11362).
 - 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:3343-27028).
5. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3343-11366).

- a. The effectiveTime, if present, **SHALL** contain exactly one [1..1] **low** (CONF:3343-27551).
 - b. The effectiveTime, if present, **MAY** contain zero or one [0..1] **high** (CONF:3343-27552).
6. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:3343-11367).

Figure 127: Reason (V3) Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Reason (V3) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2017-08-01" />
  <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="20170105"/>
  </effectiveTime>
  <value xsi:type="CD" code="57054005" codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT" displayName="Acute myocardial infarction"/>
</observation>
```

3.70 Reporting Parameters Act

[act: identifier urn:oid:2.16.840.1.113883.10.20.17.3.8 (open)]

Table 234: 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 235: 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 (HL7ActMood) = 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: HL7ActMood 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 128: 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>
```

3.71 Result Observation (V3)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01
(open)]

Table 236: Result Observation (V3) Contexts

Contained By:	Contains:
Diagnostic Study Performed (V4) (optional) Intervention Performed (V4) (optional) Laboratory Test Performed (V4) (optional) Procedure Performed (V5) (optional)	Author Participation (optional)

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 237: 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:2.16.840.1.113883.5.10.01 (HL7ActMood) = 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:2.16.840.1.113883.11.2.0.9.39 (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<C E>	1198-7148	
targetSiteCode	0..1	MAY	SET<C D>	1198-7153	
author	0..*	SHOULD		1198-7149	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.2.0.22.4.119)
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: HL7ActMood 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 (**xsi: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 (**xsi: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 **DYNAMIC** (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).

Figure 129: 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" />
    <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>
```


3.72 Service Delivery Location

[participantRole: identifier urn:oid:2.16.840.1.113883.10.20.22.4.32 (open)]

Table 238: 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 239: 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 (HL7RoleCode) = 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 (HL7EntityClass) = PLC
name	0..1	MAY		81-16037	

1. **SHALL** contain exactly one [1..1] **@classCode**="SDLOC" (CodeSystem: HL7RoleCode 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: HL7EntityClass 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).

Figure 130: 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>
```

3.73 Severity Observation (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09
(open)]

Table 240: Severity Observation (V2) Contexts

Contained By:	Contains:
Reaction Observation (V2) (optional) Substance or Device Allergy - Intolerance Observation (V2) (optional) Adverse Event (optional) Symptom (V2) (optional) Diagnosis (V2) (optional)	

This clinical statement represents the gravity of the reaction. The Severity Observation characterizes the Reaction Observation. 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.

Note the severity observation is no longer recommended for use with the Allergy and Intolerance Observation. The Criticality Observation is preferred for characterizing the Allergy and Intolerance.

Table 241: 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 (HL7ActMood) = 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 (HL7ActCode) = 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 (HL7ActStatus) = completed
value	1..1	SHALL	CD	1098-7356	urn:oid:2.16.840.1.113883.3.88.12.3221.6.8 (Reaction 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: HL7ActMood 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: HL7ActCode 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: HL7ActStatus 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 Reaction Severity urn:oid:2.16.840.1.113883.3.88.12.3221.6.8 **DYNAMIC** (CONF:1098-7356).

Figure 131: 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>
```

3.74 Status

[observation: identifier urn:oid:2.16.840.1.113883.10.20.24.3.93 (open)]

Table 242: Status Contexts

Contained By:	Contains:
Diagnostic Study Performed (V4) (optional) Intervention Performed (V4) (optional) Laboratory Test Performed (V4) (optional) Procedure Performed (V5) (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.

This template represents the QDM Attribute: status. It indicates the particular stage of the action represented by the datatype

Table 243: 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:2.16.840.1.113883.5.10 01 (HL7ActMood) = EVN
templateId	1..1	SHALL		67-11881	
@root	1..1	SHALL		67-11882	2.16.840.1.113883.10.20.24.3.9 3
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: HL7ActMood 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 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).
5. **SHALL** contain exactly one [1..1] **value** (CONF:67-11887).

Figure 132: 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"/>
</observation>
```

3.75 Substance Administered Act

[act: identifier urn:oid:2.16.840.1.113883.10.20.22.4.118 (open)]

Table 244: 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 245: 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 (HL7ActMood) = 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 (HL7ActStatus) = 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: HL7ActMood 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: HL7ActStatus 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 133: 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>
```

3.76 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 246: Substance or Device Allergy - Intolerance Observation (V2) Contexts

Contained By:	Contains:
	Allergy Status Observation (DEPRECATED) (optional) Reaction Observation (V2) (optional) Severity Observation (V2) (optional) Author Participation (optional) Criticality Observation (optional)

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 247: 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:2.16.840.1.113883.5.10.01 (HL7ActMood) = 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 (HL7ActCode) = 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 (HL7ActStatus) = 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 (HL7RoleClass) = MANU
playingEntity	1..1	SHALL		1098-16322	
@classCode	1..1	SHALL		1098-16323	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = MMAT
code	1..1	SHALL		1098-16324	urn:oid:2.16.840.1.113762.1.4.1010.1 (Substance-Reactant for Intolerance)
entryRelationship	0..1	MAY		1098-16333	
@typeCode	1..1	SHALL		1098-16335	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		1098-16334	true
observation	1..1	SHALL		1098-16336	Allergy Status Observation (DEPRECATED) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.28:2014-06-09)
entryRelationship	0..*	SHOULD		1098-16337	
@typeCode	1..1	SHALL		1098-16339	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = MFST
@inversionInd	1..1	SHALL		1098-16338	true
observation	1..1	SHALL		1098-16340	Reaction Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.9:2014-06-09)
entryRelationship	0..1	SHOULD NOT		1098-16341	
@typeCode	1..1	SHALL		1098-16342	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		1098-16343	true
observation	1..1	SHALL		1098-16344	Severity Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09)
entryRelationship	0..1	SHOULD		1098-32935	
@typeCode	1..1	SHALL		1098-32936	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		1098-32937	true

observation	1..1	SHALL		1098-32938	Criticality Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.145)
-------------	------	-------	--	----------------------------	--

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: HL7ActMood 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: HL7ActCode 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: HL7ActStatus 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: HL7RoleClass 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: HL7EntityClass 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. **SHOULD NOT** 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).
14. **SHOULD** contain zero or one [0..1] **entryRelationship** (CONF:1098-32935) 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:1098-32936).

- b. **SHALL** contain exactly one [1..1] @inversionInd="true" True (CONF:1098-32937).
- c. **SHALL** contain exactly one [1..1] [Criticality Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.145) (CONF:1098-32938).

3.76.1 Allergy Intolerance

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.147:2017-08-01 (open)]

Table 248: Allergy Intolerance Contexts

Contained By:	Contains:
Patient Data Section QDM (V6) (optional)	

This template is to represent QDM data type: Allergy/Intolerance

Allergy is used to address immune-mediated reactions to a substance such as type 1 hypersensitivity reactions, other allergy-like reactions, including pseudo-allergy.

Intolerance is a record of a clinical assessment of a propensity, or a potential risk to an individual, to have a non-immune mediated adverse reaction on future exposure to the specified substance, or class of substance.

Table 249: Allergy Intolerance Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.147:2017-08-01)					
@classCode	1..1	SHALL		3343-28826	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3343-28827	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = EVN
@negationInd	0..0	SHALL NOT		3343-28848	
templateId	1..1	SHALL		3343-28816	
@root	1..1	SHALL		3343-28828	2.16.840.1.113883.10.20.24.3.1 47
@extension	1..1	SHALL		3343-28829	2017-08-01
code	1..1	SHALL		3343-28817	
@code	1..1	SHALL		3343-28831	ASSERTION
@codeSystem	1..1	SHALL		3343-28832	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
effectiveTime	1..1	SHALL		3343-28819	
low	1..1	SHALL		3343-28834	
high	0..1	MAY		3343-28835	
value	1..1	SHALL	CD	3343-28836	
@code	1..1	SHALL		3343-28849	419199007
@codeSystem	1..1	SHALL		3343-28850	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
author	0..1	MAY		3343-29163	Author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)
participant	1..1	SHALL		3343-28820	
@typeCode	1..1	SHALL		3343-28837	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
participantRole	1..1	SHALL		3343-28821	
@classCode	1..1	SHALL		3343-28838	urn:oid:2.16.840.1.113883.5.11 0 (HL7RoleClass) = MANU

playingEntity	1..1	SHALL		3343-28822	
@classCode	1..1	SHALL		3343-28839	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = MMAT
code	1..1	SHALL		3343-28840	

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:3343-28826).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:3343-28827).
4. **SHALL NOT** contain [0..0] **@negationInd** (CONF:3343-28848).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-28816) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.147" (CONF:3343-28828).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-28829).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3343-28817).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CONF:3343-28831).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.5.4" (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3343-28832).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:3343-28819).
Note: QDM Attribute: PrevalencePeriod
 - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:3343-28834).
Note: onset date: when the allergy/intolerance became biologically active.
 - b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:3343-28835).
Note: abatement date: when the allergy/intolerance became biologically resolved.
8. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:3343-28836).
 - a. This value **SHALL** contain exactly one [1..1] **@code**="419199007" Allergy to substance (CONF:3343-28849).
 - 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:3343-28850).
9. **MAY** contain zero or one [0..1] **Author** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01) (CONF:3343-29163).
Note: QDM Attribute: Author dateTime
10. **SHALL** contain exactly one [1..1] **participant** (CONF:3343-28820) 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:3343-28837).
 - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:3343-28821).

- i. This participantRole **SHALL** contain exactly one [1..1] @classCode="MANU" Manufactured Product (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110 **STATIC**) (CONF:3343-28838).
- ii. This participantRole **SHALL** contain exactly one [1..1] playingEntity (CONF:3343-28822).
 1. This playingEntity **SHALL** contain exactly one [1..1] @classCode="MMAT" Manufactured Material (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41 **STATIC**) (CONF:3343-28839).
 2. This playingEntity **SHALL** contain exactly one [1..1] code (CONF:3343-28840).
Note: QDM Attribute: Code

Figure 134: Allergy Intolerance 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"/>
  <!-- Allergy Intolerance -->
  <templateId root="2.16.840.1.113883.10.20.24.3.147" extension="2017-08-01"/>
  <id root="901db0f8-9355-4794-81cd-fd951efe7817"/>
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <!-- QDM Attribute: Prevalence Period - onset date -->
    <low value="20181101"/>
    <!-- QDM Attribute: Prevalence Period - abatement date -->
    <high nullFlavor="UNK"/>
  </effectiveTime>
  <value xsi:type="CD" code="419199007" displayName="Allergy to substance"
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"/>
      </playingEntity>
    </participantRole>
  </participant>
</observation>

```


3.77 Target Outcome (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.119:2017-08-01 (open)]

Table 250: Target Outcome (V2) Contexts

Contained By:	Contains:
Care Goal (V4) (optional)	

This template represents the QDM attribute: Target Outcome.

The expected outcome that will indicate the care goal is achieved, or met.

Table 251: Target Outcome (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.119:2017-08-01)					
@classCode	1..1	SHALL		3343-28033	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3343-28034	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		3343-28025	
@root	1..1	SHALL		3343-28028	2.16.840.1.113883.10.20.24.3.119
@extension	1..1	SHALL		3343-28029	2017-08-01
code	1..1	SHALL		3343-28026	urn:oid:2.16.840.1.113883.6.1 (LOINC)
value	1..1	SHALL		3343-28027	

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3343-28033).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3343-28034).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-28025) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.119" (CONF:3343-28028).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-28029).
4. **SHALL** contain exactly one [1..1] **code**, which **SHOULD** be selected from CodeSystem LOINC (urn:oid:2.16.840.1.113883.6.1) (CONF:3343-28026).
5. **SHALL** contain exactly one [1..1] **value** (CONF:3343-28027).

Figure 135: Target Outcome (V2) Example

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.24.3.119" extension="2017-08-01"/>
  <id root="3a4aa411-78b9-484b-a0f1-33f1cf49b4ad"/>
  <code code="29463-7" displayName="Body weight" codeSystemName="LOINC"/>
  <value xsi:type="PQ" unit="kg" value="65"/>
</observation>
```

4 SUBENTRY TEMPLATES

4.1 Facility Location (V2)

[participant: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.100:2017-08-01 (open)]

Table 252: Facility Location (V2) Contexts

Contained By:	Contains:
Adverse Event (optional) Encounter Performed (V4) (optional) Encounter Order (V4) (optional) Encounter Recommended (V4) (optional) Diagnostic Study Performed (V4) (optional)	

This clinical statement represents the location where an act, observation or procedure took place.

The particular location of a facility in which the adverse event, diagnostic study, or encounter occurs or occurred. Examples include, but are not limited to, intensive care units (ICUs), non-ICUs, burn critical-care unit, neonatal ICU, and respiratory-care unit.

Each Encounter, Performed may have 1 or more locations. For example, a patient treated in multiple locations during an individual encounter might be expressed as:

Encounter, Performed: Inpatient Admission

ICU (location period)

Non-ICU Admission (location period)

Rehab (location period)

Table 253: Facility Location (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
participant (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.100:2017-08-01)					
@typeCode	1..1	SHALL		3343-13374	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC
templateId	1..1	SHALL		3343-13375	
@root	1..1	SHALL		3343-13376	2.16.840.1.113883.10.20.24.3.100
@extension	1..1	SHALL		3343-28729	2017-08-01
time	1..1	SHALL		3343-13371	
low	1..1	SHALL		3343-13384	
high	0..1	MAY		3343-13385	
participantRole	1..1	SHALL		3343-13372	
@classCode	1..1	SHALL		3343-13373	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = SDLOC
code	1..1	SHALL		3343-13378	
addr	0..*	SHOULD		3343-13379	
telecom	0..*	SHOULD		3343-13380	
playingEntity	0..1	MAY		3343-13381	
@classCode	1..1	SHALL		3343-13382	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = PLC
name	0..1	MAY		3343-13383	

1. **SHALL** contain exactly one [1..1] **@typeCode**="LOC" location (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90 **STATIC**) (CONF:3343-13374).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-13375) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.100" (CONF:3343-13376).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-28729).
3. **SHALL** contain exactly one [1..1] **time** (CONF:3343-13371).
 Note: QDM Attribute: Location Period
 - a. This time **SHALL** contain exactly one [1..1] **low** (CONF:3343-13384).
 - b. This time **MAY** contain zero or one [0..1] **high** (CONF:3343-13385).

4. **SHALL** contain exactly one [1..1] **participantRole** (CONF:3343-13372).
 - a. This **participantRole** **SHALL** contain exactly one [1..1] **@classCode="SDLOC"** service delivery location (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110 **STATIC**) (CONF:3343-13373).
 - b. This **participantRole** **SHALL** contain exactly one [1..1] **code** (CONF:3343-13378).
Note: QDM Attribute: Code
 - c. This **participantRole** **SHOULD** contain zero or more [0..*] **addr** (CONF:3343-13379).
 - d. This **participantRole** **SHOULD** contain zero or more [0..*] **telecom** (CONF:3343-13380).
 - e. This **participantRole** **MAY** contain zero or one [0..1] **playingEntity** (CONF:3343-13381).
 - i. The **playingEntity**, if present, **SHALL** contain exactly one [1..1] **@classCode="PLC"** place (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41 **STATIC**) (CONF:3343-13382).
 - ii. The **playingEntity**, if present, **MAY** contain zero or one [0..1] **name** (CONF:3343-13383).

Figure 136: Facility Location (V2) Example

```

<participant typeCode="LOC">
  <!-- Facility Location template -->
  <templateId root="2.16.840.1.113883.10.20.24.3.100" extension="2017-08-01"/>
  <time>
    <!-- QDM Attribute: Location Period -->
    <low value="20170203"/>
    <high value="20170206"/>
  </time>
  <participantRole classCode="SDLOC">
    <code code="GACH"
      codeSystem="2.16.840.1.113883.5.111"
      codeSystemName="HL7RoleCode"
      displayName="General Acute Care Hospital"
    />
    <addr>
      <streetAddressLine>17 Daws Rd.</streetAddressLine>
      <city>Blue Bell</city>
      <state>MA</state>
      <postalCode>02368</postalCode>
      <country>US</country>
    </addr>
    <telecom nullFlavor="UNK"/>
    <playingEntity classCode="PLC">
      <name>Good Health Clinic</name>
    </playingEntity>
  </participantRole>
</participant>

```

4.2 Related To

[sdtc:inFulfillmentOf1: identifier
urn:hl7ii:2.16.840.1.113883.10.20.24.3.150:2017-08-01 (open)]

Table 254: Related To Contexts

Contained By:	Contains:
Assessment Performed (V2) (optional) Care Goal (V4) (optional) Communication Performed (optional)	

This template represents the QDM Attribute: relatedTo

Something to which the QDM element instance is related to.

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. This template will reference (using sdtc:actReference) an already existing QDM element instance in the QRDA document. The id of the existing QDM element 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.

Table 255: Related To Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
sdtc:inFulfillmentOf1 (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.150:2017-08-01)					
@typeCode	1..1	SHALL		3343-29113	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = FLFS
sdtc:templateId	1..1	SHALL		3343-29104	
@root	1..1	SHALL		3343-29107	2.16.840.1.113883.10.20.24.3.150
@extension	1..1	SHALL		3343-29108	2017-08-01
sdtc:actReference	1..1	SHALL		3343-29105	
@classCode	1..1	SHALL		3343-29114	
@moodCode	1..1	SHALL		3343-29110	
sdtc:id	1..*	SHALL		3343-29106	
@root	1..1	SHALL		3343-29111	
@extension	0..1	MAY		3343-29112	

1. **SHALL** contain exactly one [1..1] **@typeCode**="FLFS" Fulfills (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3343-29113).
2. **SHALL** contain exactly one [1..1] **sdtc:templateId** (CONF:3343-29104) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.150" (CONF:3343-29107).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-29108).
3. **SHALL** contain exactly one [1..1] **sdtc:actReference** (CONF:3343-29105).
 - a. This sdtc:actReference **SHALL** contain exactly one [1..1] **@classCode** (CONF:3343-29114).
Note: @classCode must be the same as the entry/classCode of the entry being referenced.
 - b. This sdtc:actReference **SHALL** contain exactly one [1..1] **@moodCode** (CONF:3343-29110).
Note: @moodCode must be the same as the entry/moodCode of the entry being referenced.
 - c. This sdtc:actReference **SHALL** contain at least one [1..*] **sdtc:id** (CONF:3343-29106).
Note: The ID must equal another entry/id in the same document instance.
 - i. Such sdtc:ids **SHALL** contain exactly one [1..1] **@root** (CONF:3343-29111).

- ii. Such `sdct:ids` **MAY** contain zero or one `[0..1]` `@extension` (CONF:3343-29112).

Figure 137: Related To 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 related to a Device, Order
    defined elsewhere in the QRDA XML -->
  <sdct:inFulfillmentOf1 typeCode="FLFS">
    <sdct:templateId root="2.16.840.1.113883.10.20.24.3.150"
      extension="2017-08-01"/>
    <!-- The classCode and moodCode are the same as the classCode and moodCode
      of the Device, Order being referenced -->
    <sdct:actReference classCode="SPLY" moodCode="RQO">
      <!-- The id is the same as the id of the Device, Order being referenced -->
      <sdct:id root="6a8d037d-f144-4071-9d1f-8a92a11dedc6" />
    </sdct:actReference>
  </sdct:inFulfillmentOf1>
</procedure>
```


5 PARTICIPATION AND OTHER TEMPLATES

5.1 Author

[author: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
(open)]

Table 256: Author Contexts

Contained By:	Contains:
Adverse Event (optional) Assessment Performed (V2) (optional) Assessment Recommended (V2) (required) Encounter Performed (V4) (optional) Encounter Order (V4) (required) Encounter Recommended (V4) (required) Allergy Intolerance (optional) Diagnostic Study Order (V4) (required) Diagnostic Study Performed (V4) (optional) Diagnosis (V2) (optional) Family History Observation QDM (V3) (optional) Device Order (V4) (required) Device Recommended (V4) (required) Immunization Order (V2) (required) Intervention Performed (V4) (optional) Intervention Recommended (V4) (required) Intervention Order (V4) (required) Laboratory Test Order (V4) (required) Laboratory Test Recommended (V4) (required) Patient Care Experience (V4) (required) Physical Exam Order (V4) (required) Physical Exam Performed (V4) (optional) Physical Exam Recommended (V4) (required) Provider Care Experience (V4) (required) Substance Recommended (V4) (required) Provider Characteristic Observation Assertion (V3) (optional) Diagnostic Study Recommended (V4) (required) Laboratory Test Performed (V4) (optional) Communication Performed (required) Communication from Patient to Provider (RETIRED) (required) Communication from Provider to Patient (RETIRED) (required) Communication from Provider to Provider (RETIRED) (required) Medication Dispensed (V5) (required) Medication Order (V5) (required)	

Contained By:	Contains:
Procedure Order (V5) (required) Procedure Recommended (V5) (required) Procedure Performed (V5) (optional) Assessment Order (required) Device Applied (V5) (optional)	

This template is intended to represent Author Datetime QDM attribute.

Table 257: Author Constraints Overview

XPath	Card.	Verb	Data Type	CONF #	Value
author (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01)					
templateId	1..1	SHALL		3343-29151	
@root	1..1	SHALL		3343-29160	2.16.840.1.113883.10.20.24.3.155
@extension	1..1	SHALL		3343-29161	2017-08-01
time	1..1	SHALL		3343-29152	
assignedAuthor	1..1	SHALL		3343-29146	
id	1..*	SHALL		3343-29147	

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:3343-29151) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.155" (CONF:3343-29160).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3343-29161).
2. **SHALL** contain exactly one [1..1] **time** (CONF:3343-29152).
Note: QDM Attribute: Author dateTime
3. **SHALL** contain exactly one [1..1] **assignedAuthor** (CONF:3343-29146).
 - a. This assignedAuthor **SHALL** contain at least one [1..*] **id** (CONF:3343-29147).
Note: nullFlavor is allowed for assignedAuthor/id

Figure 138: Author Example

<pre> <author> <templateId root="2.16.840.1.113883.10.20.24.3.155" extension="2017-08-01" /> <time value="201708111235" /> <assignedAuthor> <id nullFlavor="NA" /> </assignedAuthor> </author> </pre>

5.2 Author Participation

[author: identifier urn:oid:2.16.840.1.113883.10.20.22.4.119 (open)]

Table 258: Author Participation Contexts

Contained By:	Contains:
Medication Activity (V2) (optional) Procedure Activity Act (V2) (optional) Procedure Activity Procedure (V2) (optional) Procedure Activity Observation (V2) (optional) Goal Observation (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)	

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 259: 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 139: 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 140: 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>
```

5.3 US Realm Address (AD.US.FIELDDED)

[addr: identifier urn:oid:2.16.840.1.113883.10.20.22.5.2 (open)]

Table 260: US Realm Address (AD.US.FIELDDED) Contexts

Contained By:	Contains:
Medication Dispense (V2) (optional) US Realm Header (V3) (optional) US Realm Header (V3) (required)	

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

Table 261: 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..4	SHALL		81-7291	

If addr/@nullFlavor is present, the remaining conformance statements **SHALL NOT** be enforced

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. If the country is US, the state element is required but **SHOULD** have @nullFlavor if the state is unknown. 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. If the country is US, the postalCode element is required but **SHOULD** have @nullFlavor if the postalCode is unknown. 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 at least one and not more than 4 **streetAddressLine** (CONF:81-7291).
7. **SHALL NOT** have mixed content except for white space (CONF:81-7296).

Figure 141: 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>
```

5.4 US Realm Date and Time (DTM.US.FIELDDED)

[effectiveTime: identifier urn:oid:2.16.840.1.113883.10.20.22.5.4 (open)]

Table 262: US Realm Date and Time (DTM.US.FIELDDED) Contexts

Contained By:	Contains:
US Realm Header [V3] (optional)	
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.

Table 263: US Realm Date and Time (DTM.US.FIELDDED) 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).

Note: Use of datetime without a UTC offset may be used in a QRDA Category I document (even if the datetime value is more precise than day) unless one or more of the datetime fields are coming from different time zone. In such case, a UTC offset must be specified everywhere a time component in a datetime field is provided, with the following two exceptions: the effectiveTime element of the [Reporting Parameter Act](#) template and birthTime/value.

Figure 142: 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. Note that newborn
birthtime may be precise to minute. -->
<birthTime 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>
```

5.5 US Realm Patient Name (PTN.US.FIELDDED)

[name: identifier urn:oid:2.16.840.1.113883.10.20.22.5.1 (open)]

Table 264: US Realm Patient Name (PTN.US.FIELDDED) Contexts

Contained By:	Contains:
US Realm Header (V3) (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 265: 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)

If name/@nullFlavor is present, the remaining conformance statements **SHALL NOT** be enforced

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).

Figure 143: 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>
```

5.6 US Realm Person Name (PN.US.FIELDED)

[name: identifier urn:oid:2.16.840.1.113883.10.20.22.5.1.1 (open)]

Table 266: US Realm Person Name (PN.US.FIELDED) Contexts

Contained By:	Contains:
Drug Monitoring Act (required) US Realm Header (V3) (optional)	

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

Table 267: 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 268: Template List

Template Title	Template Type	templateId
QDM-Based QRDA (V6)	document	urn:hl7ii:2.16.840.1.113883.10.20.24.1.2:2018-10-01
QRDA Category I Framework (V4)	document	urn:hl7ii:2.16.840.1.113883.10.20.24.1.1:2017-08-01
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 (V6)	section	urn:hl7ii:2.16.840.1.113883.10.20.24.2.1:2018-10-01
Reporting Parameters Section	section	urn:oid:2.16.840.1.113883.10.20.17.2.1
Admission Source	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.151:2017-08-01
Adverse Event	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.146:2017-08-01
Adverse Event Cause Observation Assertion	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.148:2017-08-01
Age Observation	entry	urn:oid:2.16.840.1.113883.10.20.24.4.31
Allergy Intolerance	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.147:2017-08-01
Allergy Status Observation	entry	urn:oid:2.16.840.1.113883.10.20.24.4.28
Assessment Order	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.158:2018-10-01
Assessment Performed (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.144:2017-08-01
Assessment Recommended (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.145:2017-08-01
Care Goal (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.1:2017-08-01
Communication from Patient to Provider (RETIRED)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.2:2018-10-01
Communication from Provider to Patient (RETIRED)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.3:2018-10-01
Communication from Provider to	entry	urn:hl7ii:2.16.840.1.113883.10.20.

Template Title	Template Type	templateId
Provider (RETIRED)		24.3.4:2018-10-01
Communication Performed	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.156:2018-10-01
Component	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.149:2017-08-01
Criticality Observation	entry	urn:oid:2.16.840.1.113883.10.20.2.4.145
Days Supplied	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.157:2018-10-01
Deceased Observation (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.79:2015-08-01
Device Applied (V5)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.7:2018-10-01
Device Order (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.9:2017-08-01
Device Order Act (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.130:2017-08-01
Device Recommended (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.10:2017-08-01
Device Recommended Act (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.131:2017-08-01
Diagnosis (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.135:2017-08-01
Diagnosis Concern Act (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.137:2017-08-01
Diagnostic Study Order (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.17:2017-08-01
Diagnostic Study Performed (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.18:2017-08-01
Diagnostic Study Recommended (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.19:2017-08-01
Discharge Medication (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.105:2018-10-01
Drug Monitoring Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.123
Drug Vehicle	entry	urn:oid:2.16.840.1.113883.10.20.2.4.24
eMeasure Reference QDM	entry	urn:oid:2.16.840.1.113883.10.20.2.4.3.97
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 (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.22:2017-08-01
Encounter Order Act (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.

Template Title	Template Type	templateId
		24.3.132:2017-08-01
Encounter Performed (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.23:2017-08-01
Encounter Performed Act (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.133:2017-08-01
Encounter Recommended (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.24:2017-08-01
Encounter Recommended Act (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.134:2017-08-01
Entry Reference	entry	urn:oid:2.16.840.1.113883.10.20.2.4.122
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:2.16.840.1.113883.10.20.2.4.47
Family History Observation (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.46:2015-08-01
Family History Observation QDM (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.112:2017-08-01
Family History Organizer (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.45:2015-08-01
Family History Organizer QDM (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.12:2017-08-01
Goal Observation	entry	urn:oid:2.16.840.1.113883.10.20.2.4.121
Immunization Activity (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.52:2014-06-09
Immunization Administered (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.140:2017-08-01
Immunization Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09
Immunization Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.143:2017-08-01
Immunization Refusal Reason	entry	urn:oid:2.16.840.1.113883.10.20.2.4.53
Incision Datetime	entry	urn:oid:2.16.840.1.113883.10.20.2.4.3.89
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 Order (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.31:2017-08-01
Intervention Performed (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.32:2017-08-01
Intervention Recommended (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.

Template Title	Template Type	templateId
		24.3.33:2017-08-01
Laboratory Test Order (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.37:2017-08-01
Laboratory Test Performed (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.38:2017-08-01
Laboratory Test Recommended (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.39:2017-08-01
Measure Reference	entry	urn:oid:2.16.840.1.113883.10.20.24.3.98
Medication Active (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.41:2017-08-01
Medication Activity (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09
Medication Administered (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.42:2017-08-01
Medication Dispense (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09
Medication Dispensed (V5)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.45:2018-10-01
Medication Dispensed Act (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.139:2018-10-01
Medication Free Text Sig	entry	urn:oid:2.16.840.1.113883.10.20.24.147
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Medication Order (V5)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.47:2018-10-01
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 (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.48:2017-08-01
Patient Characteristic Clinical Trial Participant (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.51:2017-08-01
Patient Characteristic Expired (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.54:2016-02-01
Patient Characteristic Observation Assertion (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.103:2017-08-01
Patient Characteristic Payer	entry	urn:oid:2.16.840.1.113883.10.20.24.3.55
Physical Exam Order (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.58:2017-08-01
Physical Exam Performed (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.59:2017-08-01
Physical Exam Recommended (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.

Template Title	Template Type	templateId
		24.3.60:2017-08-01
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
Principal Diagnosis	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.152:2017-08-01
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	entry	urn:oid:2.16.840.1.113883.10.20.22.4.6
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:2.16.840.1.113883.10.20.22.4.14:2014-06-09
Procedure Order (V5)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.63:2018-10-01
Procedure Performed (V5)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.64:2018-10-01
Procedure Recommended (V5)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.65:2018-10-01
Product Instance	entry	urn:oid:2.16.840.1.113883.10.20.22.4.37
Prognosis Observation	entry	urn:oid:2.16.840.1.113883.10.20.22.4.113
Program Participation	entry	urn:hl7ii:2.16.840.1.113883.10.20.

Template Title	Template Type	templateId
		24.3.154:2017-08-01
Provider Care Experience (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.67:2017-08-01
Provider Characteristic Observation Assertion (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.114:2017-08-01
Reaction Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.9:2014-06-09
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Reporting Parameters Act	entry	urn:oid:2.16.840.1.113883.10.20.17.3.8
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:2.16.840.1.113883.10.20.22.4.32
Severity Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09
Status	entry	urn:oid:2.16.840.1.113883.10.20.24.3.93
Substance Administered Act	entry	urn:oid:2.16.840.1.113883.10.20.22.4.118
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 (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.75:2017-08-01
Symptom (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.136:2017-08-01
Symptom Concern Act (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.138:2017-08-01
Target Outcome (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.119:2017-08-01
Facility Location (V2)	subentry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.100:2017-08-01
Related To	subentry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.150:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
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	unspecified	urn:oid:2.16.840.1.113883.10.20.2

Template Title	Template Type	templateId
(PN.US.FIELDDED)		2.5.1.1

Table 269: Template Containments

Template Title	Template Type	templateId
QDM-Based QRDA (V6)	document	urn:hl7ii:2.16.840.1.113883.10.20.24.1.2:2018-10-01
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
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 (V6)	section	urn:hl7ii:2.16.840.1.113883.10.20.24.2.1:2018-10-01
Patient Characteristic Payer	entry	urn:oid:2.16.840.1.113883.10.20.24.3.55
Patient Characteristic Expired (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.54:2016-02-01
Adverse Event	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.146:2017-08-01
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
Drug Vehicle	entry	urn:oid:2.16.840.1.113883.10.20.22.4.24
Drug Monitoring Act	entry	urn:oid:2.16.840.1.113883.10.20.22.4.123
US Realm Person Name (PN.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.22.5.1.1
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
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 Dispense (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.

Template Title	Template Type	templateId
		22.4.18:2014-06-09
US Realm Address (AD.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.2
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
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
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
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Substance Administered Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.118
Precondition for Substance Administration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09
Medication Free Text Sig	entry	urn:oid:2.16.840.1.113883.10.20.2.4.147
Procedure Activity Procedure (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.14:2014-06-09
Service Delivery Location	entry	urn:oid:2.16.840.1.113883.10.20.2.4.32
Product Instance	entry	urn:oid:2.16.840.1.113883.10.20.2.4.37
Medication Activity (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09
Drug Vehicle	entry	urn:oid:2.16.840.1.113883.10.20.2.4.24
Drug Monitoring Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.123
US Realm Person Name (PN.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.1.1
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09

Template Title	Template Type	templateId
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
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 Dispense (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09
US Realm Address (AD.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.2
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
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
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
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Substance Administered Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.118
Precondition for Substance Administration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09
Medication Free Text Sig	entry	urn:oid:2.16.840.1.113883.10.20.2.4.147
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
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Severity Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09
Severity Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09

Template Title	Template Type	templateId
Facility Location (V2)	subentry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.100:2017-08-01
Adverse Event Cause Observation Assertion	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.148:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Assessment Performed (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.144:2017-08-01
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Component	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.149:2017-08-01
Related To	subentry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.150:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Assessment Recommended (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.145:2017-08-01
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Encounter Performed Act (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.133:2017-08-01
Encounter Performed (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.23:2017-08-01
Facility Location (V2)	subentry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.100:2017-08-01
Principal Diagnosis	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.152:2017-08-01
Admission Source	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.151:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Encounter Order Act (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.132:2017-08-01
Encounter Order (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.22:2017-08-01
Facility Location (V2)	subentry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.100:2017-08-01
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Encounter Recommended Act (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.134:2017-08-01

Template Title	Template Type	templateId
Encounter Recommended (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.24:2017-08-01
Facility Location (V2)	subentry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.100:2017-08-01
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Allergy Intolerance	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.147:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Symptom Concern Act (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.138:2017-08-01
Symptom (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.136:2017-08-01
Severity Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09
Medication Active (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.41:2017-08-01
Diagnostic Study Order (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.17:2017-08-01
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Diagnostic Study Performed (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.18:2017-08-01
Status	entry	urn:oid:2.16.840.1.113883.10.20.24.3.93
Result Observation (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.24.3.119
Facility Location (V2)	subentry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.100:2017-08-01
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Component	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.149:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Diagnosis Concern Act (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.137:2017-08-01
Diagnosis (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.135:2017-08-01

Template Title	Template Type	templateId
Severity Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Family History Organizer QDM (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.12:2017-08-01
Family History Observation QDM (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.112:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Device Order Act (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.130:2017-08-01
Device Order (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.9:2017-08-01
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Device Recommended Act (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.131:2017-08-01
Device Recommended (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.10:2017-08-01
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Immunization Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.143:2017-08-01
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Intervention Performed (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.32:2017-08-01
Status	entry	urn:oid:2.16.840.1.113883.10.20.24.3.93
Result Observation (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.24.119
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Intervention Recommended (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.33:2017-08-01

Template Title	Template Type	templateId
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Intervention Order (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.31:2017-08-01
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Laboratory Test Order (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.37:2017-08-01
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Laboratory Test Recommended (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.39:2017-08-01
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Patient Care Experience (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.48:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Patient Characteristic Clinical Trial Participant (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.51:2017-08-01
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Physical Exam Order (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.58:2017-08-01
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Physical Exam Performed (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.59:2017-08-01
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Component	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.149:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Physical Exam Recommended (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.60:2017-08-01

Template Title	Template Type	templateId
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Provider Care Experience (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.67:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Substance Recommended (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.75:2017-08-01
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Care Goal (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.1:2017-08-01
Target Outcome (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.119:2017-08-01
Related To	subentry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.150:2017-08-01
Provider Characteristic Observation Assertion (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.114:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Patient Characteristic Observation Assertion (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.103:2017-08-01
Diagnostic Study Recommended (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.19:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Immunization Administered (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.140:2017-08-01
Immunization Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Medication Administered (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.42:2017-08-01
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Program Participation	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.154:2017-08-01
Laboratory Test Performed (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.38:2017-08-01
Status	entry	urn:oid:2.16.840.1.113883.10.20.24.3.93

Template Title	Template Type	templateId
Result Observation (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.22.4.119
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Component	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.149:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Communication Performed	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.156:2018-10-01
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Related To	subentry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.150:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Discharge Medication (V4)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.105:2018-10-01
Medication Activity (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09
Drug Vehicle	entry	urn:oid:2.16.840.1.113883.10.20.22.4.24
Drug Monitoring Act	entry	urn:oid:2.16.840.1.113883.10.20.22.4.123
US Realm Person Name (PN.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.22.5.1.1
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
Service Delivery Location	entry	urn:oid:2.16.840.1.113883.10.20.22.4.32
Product Instance	entry	urn:oid:2.16.840.1.113883.10.20.22.4.37
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
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.22.4.119
Severity Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09

Template Title	Template Type	templateId
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
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 Dispense (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09
US Realm Address (AD.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.2
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
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
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
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Substance Administered Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.118
Precondition for Substance Administration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09
Medication Free Text Sig	entry	urn:oid:2.16.840.1.113883.10.20.2.4.147
Days Supplied	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.157:2018-10-01
Medication Dispensed Act (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.139:2018-10-01
Medication Dispensed (V5)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.45:2018-10-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Days Supplied	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.157:2018-10-01

Template Title	Template Type	templateId
Medication Order (V5)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.47:2018-10-01
Medication Supply Request (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.99:2015-04-05
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Days Supplied	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.157:2018-10-01
Procedure Order (V5)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.63:2018-10-01
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Procedure Recommended (V5)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.65:2018-10-01
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Procedure Performed (V5)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.64:2018-10-01
Incision Datetime	entry	urn:oid:2.16.840.1.113883.10.20.24.3.89
Status	entry	urn:oid:2.16.840.1.113883.10.20.24.3.93
Result Observation (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.24.4.119
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Component	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.149:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Assessment Order	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.158:2018-10-01
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Device Applied (V5)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.7:2018-10-01

Template Title	Template Type	templateId
Reason (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
QRDA Category I Framework (V4)	document	urn:hl7ii:2.16.840.1.113883.10.20.24.1.1:2017-08-01
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
Patient Data Section	section	urn:oid:2.16.840.1.113883.10.20.17.2.4
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
US Realm Header (V3)	document	urn:hl7ii:2.16.840.1.113883.10.20.22.1.1:2015-08-01
US Realm Patient Name (PTN.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.22.5.1
US Realm Address (AD.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.22.5.2
US Realm Address (AD.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.22.5.2
US Realm Person Name (PN.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.22.5.1.1
US Realm Date and Time (DTM.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.22.5.4
US Realm Date and Time (DTM.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.22.5.4
Communication from Patient to Provider (RETIRED)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.2:2018-10-01
Related To	subentry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.150:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Communication from Provider to Patient (RETIRED)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.3:2018-10-01
Related To	subentry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.150:2017-08-01
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
Communication from Provider to Provider (RETIRED)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.4:2018-10-01
Related To	subentry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.150:2017-08-01

Template Title	Template Type	templateId
Author	unspecified	urn:hl7ii:2.16.840.1.113883.10.20.24.3.155:2017-08-01
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
Problem Status	entry	urn:oid:2.16.840.1.113883.10.20.2.4.6
Age Observation	entry	urn:oid:2.16.840.1.113883.10.20.2.4.31
Prognosis Observation	entry	urn:oid:2.16.840.1.113883.10.20.2.4.113
Priority Preference	entry	urn:oid:2.16.840.1.113883.10.20.2.4.143
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Encounter Activity (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.49:2015-08-01
Service Delivery Location	entry	urn:oid:2.16.840.1.113883.10.20.2.4.32
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Encounter Diagnosis (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.80:2015-08-01
Problem Observation (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.4:2015-08-01
Problem Status	entry	urn:oid:2.16.840.1.113883.10.20.2.4.6
Age Observation	entry	urn:oid:2.16.840.1.113883.10.20.2.4.31
Prognosis Observation	entry	urn:oid:2.16.840.1.113883.10.20.2.4.113
Priority Preference	entry	urn:oid:2.16.840.1.113883.10.20.2.4.143
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Family History Organizer (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.45:2015-08-01
Family History Observation (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.46:2015-08-01
Age Observation	entry	urn:oid:2.16.840.1.113883.10.20.2.4.31

Template Title	Template Type	templateId
Family History Death Observation	entry	urn:oid:2.16.840.1.113883.10.20.2.4.47
Immunization Activity (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.52:2014-06-09
Drug Vehicle	entry	urn:oid:2.16.840.1.113883.10.20.2.4.24
Immunization Refusal Reason	entry	urn:oid:2.16.840.1.113883.10.20.2.4.53
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
Drug Vehicle	entry	urn:oid:2.16.840.1.113883.10.20.2.4.24
Drug Monitoring Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.123
US Realm Person Name (PN.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.1.1
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
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 Dispense (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09
US Realm Address (AD.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.2
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
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
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
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Substance Administered Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.118
Precondition for Substance Administration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09
Medication Free Text Sig	entry	urn:oid:2.16.840.1.113883.10.20.2.4.147
Procedure Activity Procedure (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.14:2014-06-09
Service Delivery Location	entry	urn:oid:2.16.840.1.113883.10.20.2.4.32
Product Instance	entry	urn:oid:2.16.840.1.113883.10.20.2.4.37
Medication Activity (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09
Drug Vehicle	entry	urn:oid:2.16.840.1.113883.10.20.2.4.24
Drug Monitoring Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.123
US Realm Person Name (PN.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.1.1
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
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 Dispense (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09
US Realm Address (AD.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.2
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09

Template Title	Template Type	templateId
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
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
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Substance Administered Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.118
Precondition for Substance Administration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09
Medication Free Text Sig	entry	urn:oid:2.16.840.1.113883.10.20.2.4.147
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
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Severity Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Immunization Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09
Medication Dispense (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09
US Realm Address (AD.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.2
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
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
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
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Substance Administered Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.118
Immunization Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09
Precondition for Substance Administration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09
Planned Act (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.39:2014-06-09
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Priority Preference	entry	urn:oid:2.16.840.1.113883.10.20.2.4.143
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Planned Encounter (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.40:2014-06-09
Service Delivery Location	entry	urn:oid:2.16.840.1.113883.10.20.2.4.32
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Priority Preference	entry	urn:oid:2.16.840.1.113883.10.20.2.4.143
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Planned Immunization Activity	entry	urn:oid:2.16.840.1.113883.10.20.2.4.120
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Priority Preference	entry	urn:oid:2.16.840.1.113883.10.20.2.4.143
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119

Template Title	Template Type	templateId
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Immunization Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09
Precondition for Substance Administration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09
Planned Medication Activity (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.42:2014-06-09
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Priority Preference	entry	urn:oid:2.16.840.1.113883.10.20.2.4.143
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Precondition for Substance Administration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09
Planned Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.44:2014-06-09
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Priority Preference	entry	urn:oid:2.16.840.1.113883.10.20.2.4.143
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Planned Coverage	entry	urn:oid:2.16.840.1.113883.10.20.2.4.129
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Planned Procedure (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.41:2014-06-09
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Priority Preference	entry	urn:oid:2.16.840.1.113883.10.20.2.4.143

Template Title	Template Type	templateId
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Planned Coverage	entry	urn:oid:2.16.840.1.113883.10.20.2.4.129
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Planned Supply (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.43:2014-06-09
Product Instance	entry	urn:oid:2.16.840.1.113883.10.20.2.4.37
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Priority Preference	entry	urn:oid:2.16.840.1.113883.10.20.2.4.143
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Immunization Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09
Planned Coverage	entry	urn:oid:2.16.840.1.113883.10.20.2.4.129
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Problem Concern Act (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.3:2015-08-01
Priority Preference	entry	urn:oid:2.16.840.1.113883.10.20.2.4.143
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Problem Observation (V3)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.4:2015-08-01
Problem Status	entry	urn:oid:2.16.840.1.113883.10.20.2.4.6
Age Observation	entry	urn:oid:2.16.840.1.113883.10.20.2.4.31

Template Title	Template Type	templateId
Prognosis Observation	entry	urn:oid:2.16.840.1.113883.10.20.2.4.113
Priority Preference	entry	urn:oid:2.16.840.1.113883.10.20.2.4.143
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Procedure Activity Act (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.12:2014-06-09
Service Delivery Location	entry	urn:oid:2.16.840.1.113883.10.20.2.4.32
Medication Activity (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09
Drug Vehicle	entry	urn:oid:2.16.840.1.113883.10.20.2.4.24
Drug Monitoring Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.123
US Realm Person Name (PN.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.1.1
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
Service Delivery Location	entry	urn:oid:2.16.840.1.113883.10.20.2.4.32
Product Instance	entry	urn:oid:2.16.840.1.113883.10.20.2.4.37
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
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Severity Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
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 Dispense (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09
US Realm Address (AD.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.2
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
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
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
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Substance Administered Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.118
Precondition for Substance Administration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09
Medication Free Text Sig	entry	urn:oid:2.16.840.1.113883.10.20.2.4.147
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
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Procedure Activity Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.13:2014-06-09
Service Delivery Location	entry	urn:oid:2.16.840.1.113883.10.20.2.4.32
Medication Activity (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09
Drug Vehicle	entry	urn:oid:2.16.840.1.113883.10.20.2.4.24
Drug Monitoring Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.123
US Realm Person Name (PN.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.1.1

Template Title	Template Type	templateId
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
Service Delivery Location	entry	urn:oid:2.16.840.1.113883.10.20.22.4.32
Product Instance	entry	urn:oid:2.16.840.1.113883.10.20.22.4.37
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
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.22.4.119
Severity Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
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 Dispense (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09
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
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
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
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

Template Title	Template Type	templateId
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Substance Administered Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.118
Precondition for Substance Administration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09
Medication Free Text Sig	entry	urn:oid:2.16.840.1.113883.10.20.2.4.147
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
Drug Vehicle	entry	urn:oid:2.16.840.1.113883.10.20.2.4.24
Drug Monitoring Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.123
US Realm Person Name (PN.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.1.1
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
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 Dispense (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09
US Realm Address (AD.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.2
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
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
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
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Substance Administered Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.118
Precondition for Substance Administration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09
Medication Free Text Sig	entry	urn:oid:2.16.840.1.113883.10.20.2.4.147
Procedure Activity Procedure (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.14:2014-06-09
Service Delivery Location	entry	urn:oid:2.16.840.1.113883.10.20.2.4.32
Product Instance	entry	urn:oid:2.16.840.1.113883.10.20.2.4.37
Medication Activity (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09
Drug Vehicle	entry	urn:oid:2.16.840.1.113883.10.20.2.4.24
Drug Monitoring Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.123
US Realm Person Name (PN.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.1.1
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
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 Dispense (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09
US Realm Address (AD.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.2
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09

Template Title	Template Type	templateId
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
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
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Substance Administered Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.118
Precondition for Substance Administration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09
Medication Free Text Sig	entry	urn:oid:2.16.840.1.113883.10.20.2.4.147
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
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Severity Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09
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
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Substance or Device Allergy - Intolerance Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.90:2014-06-09
Allergy Status Observation	entry	urn:oid:2.16.840.1.113883.10.20.2.4.28
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
Drug Vehicle	entry	urn:oid:2.16.840.1.113883.10.20.2.4.24
Drug Monitoring Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.123
US Realm Person Name (PN.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.1.1
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09

Template Title	Template Type	templateId
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
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 Dispense (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09
US Realm Address (AD.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.2
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
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
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
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Substance Administered Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.118
Precondition for Substance Administration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09
Medication Free Text Sig	entry	urn:oid:2.16.840.1.113883.10.20.2.4.147
Procedure Activity Procedure (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.14:2014-06-09
Service Delivery Location	entry	urn:oid:2.16.840.1.113883.10.20.2.4.32
Product Instance	entry	urn:oid:2.16.840.1.113883.10.20.2.4.37
Medication Activity (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09
Drug Vehicle	entry	urn:oid:2.16.840.1.113883.10.20.2.4.24

Template Title	Template Type	templateId
Drug Monitoring Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.123
US Realm Person Name (PN.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.1.1
Indication (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
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 Dispense (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.18:2014-06-09
US Realm Address (AD.US.FIELDDED)	unspecified	urn:oid:2.16.840.1.113883.10.20.2.5.2
Medication Supply Order (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.17:2014-06-09
Medication Information (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.23:2014-06-09
Instruction (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
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
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
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Substance Administered Act	entry	urn:oid:2.16.840.1.113883.10.20.2.4.118
Precondition for Substance Administration (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09
Medication Free Text Sig	entry	urn:oid:2.16.840.1.113883.10.20.2.4.147
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

Template Title	Template Type	templateId
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Severity Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09
Severity Observation (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.2.4.119
Criticality Observation	entry	urn:oid:2.16.840.1.113883.10.20.2.4.145

7 CODE SYSTEMS IN THIS GUIDE

Table 270: Code Systems

Name	OID
CDC Vaccine Code (CVX)	urn:oid:2.16.840.1.113883.12.292
CPT4	urn:oid:2.16.840.1.113883.6.12
DCM	urn:oid:1.2.840.10008.2.16.4
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
HL7ActClass	urn:oid:2.16.840.1.113883.5.6
HL7ActCode	urn:oid:2.16.840.1.113883.5.4
HL7ActMood	urn:oid:2.16.840.1.113883.5.1001
HL7ActPriority	urn:oid:2.16.840.1.113883.5.7
HL7ActReason	urn:oid:2.16.840.1.113883.5.8
HL7ActRelationshipType	urn:oid:2.16.840.1.113883.5.1002
HL7ActStatus	urn:oid:2.16.840.1.113883.5.14
HL7AddressUse	urn:oid:2.16.840.1.113883.5.1119
HL7AdministrativeGender	urn:oid:2.16.840.1.113883.5.1
HL7Confidentiality	urn:oid:2.16.840.1.113883.5.25
HL7EntityClass	urn:oid:2.16.840.1.113883.5.41
HL7EntityNamePartQualifier	urn:oid:2.16.840.1.113883.5.43
HL7EntityNameUse	urn:oid:2.16.840.1.113883.5.45
HL7LanguageAbilityMode	urn:oid:2.16.840.1.113883.5.60
HL7LanguageAbilityProficiency	urn:oid:2.16.840.1.113883.5.61
HL7MaritalStatus	urn:oid:2.16.840.1.113883.5.2
HL7NullFlavor	urn:oid:2.16.840.1.113883.5.1008
HL7ObservationValue	urn:oid:2.16.840.1.113883.5.1063
HL7ParticipationFunction	urn:oid:2.16.840.1.113883.5.88
HL7ParticipationSignature	urn:oid:2.16.840.1.113883.5.89
HL7ParticipationType	urn:oid:2.16.840.1.113883.5.90
HL7Race	urn:oid:2.16.840.1.113883.5.104
HL7ReligiousAffiliation	urn:oid:2.16.840.1.113883.5.1076
HL7RoleClass	urn:oid:2.16.840.1.113883.5.110
HL7RoleCode	urn:oid:2.16.840.1.113883.5.111
HL7VocabularyDomainQualifier	urn:oid:2.16.840.1.113883.5.147
ICD-10-CM	urn:oid:2.16.840.1.113883.6.90
Insurance Type Code	urn:oid:2.16.840.1.113883.3.88.12.3221.5.2

Name	OID
ISO 3166 Part 1 Country Codes, 2nd Edition, Alpha-2	urn:oid:1.0.3166.1.2.2
Language	urn:oid:2.16.840.1.113883.6.121
LOINC	urn:oid:2.16.840.1.113883.6.1
Media Type	urn:oid:2.16.840.1.113883.5.79
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
NUBC UB-04 Patient Discharge Status code set	urn:oid:2.16.840.1.113883.6.301.5
Provider Role (HL7)	urn:oid:2.16.840.1.113883.3.88.12.3221.4
Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238
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

8 RETIRED TEMPLATES

Table 271: Retired Templates

Name	OID	Description
Communication from Patient to Provider (RETIRED)	urn:hl7ii:2.16.840.1.113883.10.20.24.3.2:2018-10-01	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 (V3) template. Although Reason (V3) is not explicitly contained in every template, it is available for use in any template.
Communication from Provider to Patient (RETIRED)	urn:hl7ii:2.16.840.1.113883.10.20.24.3.3:2018-10-01	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 (V3) template. Although Reason (V3) is not explicitly contained in every template, it is available for use in any template.
Communication from Provider to Provider (RETIRED)	urn:hl7ii:2.16.840.1.113883.10.20.24.3.4:2018-10-01	This template represents the QDM datatype: Communication from Provider to Provider. Communication from Provider to Provider is the provision of

Name	OID	Description
		<p>any communication from one clinician to another regarding findings, assessments, plans of care, consultative advice, instructions, educational resources, etc.</p> <p>QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V3) template. Although Reason (V3) is not explicitly contained in every template, it is available for use in any template.</p>

9 CHANGES FROM PREVIOUS VERSION

9.1 QDM-Based QRDA (V6)

QDM-Based QRDA (V6) (urn:hl7ii:2.16.840.1.113883.10.20.24.1.2:2018-10-01)

Change	Old	New
Status	Published	Draft
Name	QDM-Based QRDA (V5)	QDM-Based QRDA (V6)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.24.1.2:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.24.1.2:2018-10-01
CONF #: 4388-28696 Modified	SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3343-28696).	SHALL contain exactly one [1..1] @extension="2018-10-01" (CONF:4388-28696).
CONF #: 4388-17083 Modified	This component SHALL contain exactly one [1..1] section (CONF:3343-17083).	SHALL contain exactly one [1..1] section (CONF:4388-17083).
CONF #: 4388-17092 Modified	This component SHALL contain exactly one [1..1] section (CONF:3343-17092).	SHALL contain exactly one [1..1] section (CONF:4388-17092).
CONF #: 4388-17093 Modified	This component SHALL contain exactly one [1..1] section (CONF:3343-17093).	SHALL contain exactly one [1..1] section (CONF:4388-17093).

9.2 Communication from Patient to Provider (RETIRED)

Communication from Patient to Provider (RETIRED) (urn:hl7ii:2.16.840.1.113883.10.20.24.3.2:2018-10-01)

Change	Old	New
Status	Published	Retired
Name	Communication from Patient to Provider (V4)	Communication from Patient to Provider (RETIRED)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.24.3.2:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.24.3.2:2018-10-01

9.3 *Communication from Provider to Patient (RETIRED)*

Communication from Provider to Patient (RETIRED) (urn:hl7ii:2.16.840.1.113883.10.20.24.3.3:2018-10-01)

Change	Old	New
Status	Published	Retired
Name	Communication from Provider to Patient (V4)	Communication from Provider to Patient (RETIRED)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.24.3.3:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.24.3.3:2018-10-01

9.4 *Communication from Provider to Provider (RETIRED)*

Communication from Provider to Provider (RETIRED) (urn:hl7ii:2.16.840.1.113883.10.20.24.3.4:2018-10-01)

Change	Old	New
Status	Published	Retired
Name	Communication from Provider to Provider (V4)	Communication from Provider to Provider (RETIRED)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.24.3.4:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.24.3.4:2018-10-01

9.5 Device Applied (V5)

Device Applied (V5) (urn:hl7ii:2.16.840.1.113883.10.20.24.3.7:2018-10-01)

Change	Old	New
Status	Published	Draft
Name	Device Applied (V4)	Device Applied (V5)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.24.3.7:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.24.3.7:2018-10-01
CONF #: 4388-29254 Added		This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4388-29254).
CONF #: 3343-27376 Removed	MAY contain zero or one [0..1] approachSiteCode (CONF:3343-27376). Note: QDM Attribute: Anatomical Approach Site	
CONF #: 3343-29140 Removed	This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3343-29140).	
CONF #: 4388-27132 Modified	SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3343-27132).	SHALL contain exactly one [1..1] @extension="2018-10-01" (CONF:4388-27132).

9.6 Discharge Medication (V4)

Discharge Medication (V4) (urn:hl7ii:2.16.840.1.113883.10.20.24.3.105:2018-10-01)

Change	Old	New
Status	Published	Draft
Name	Discharge Medication (V3)	Discharge Medication (V4)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.24.3.105:2016-02-01	urn:hl7ii:2.16.840.1.113883.10.20.24.3.105:2018-10-01
CONF #: 4388-29212 Added		MAY contain zero or one [0..1] entryRelationship (CONF:4388-29212) such that it
CONF #: 4388-29213 Added		SHALL contain exactly one [1..1] supply (CONF:4388-29213). Note: QDM Attribute: Days Supplied
CONF #: 4388-29214 Added		SHALL contain exactly one [1..1] @typeCode="REFR" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4388-29214).
CONF #: 4388-27037 Modified	SHALL contain exactly one [1..1] @extension="2016-02-01" (CONF:2228-27037).	SHALL contain exactly one [1..1] @extension="2018-10-01" (CONF:4388-27037).

9.7 Medication Dispensed (V5)

Medication Dispensed (V5) (urn:hl7ii:2.16.840.1.113883.10.20.24.3.45:2018-10-01)

Change	Old	New
Status	Published	Draft
Name	Medication Dispensed (V4)	Medication Dispensed (V5)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.24.3.45:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.24.3.45:2018-10-01
Description	<p>Together with the Medication Dispensed Act (V2) template, this template represents the QDM datatype: Medication, Dispensed. This template must be contained within the Medication Dispensed Act (V2) template.</p> <p>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.</p> <p>Timing: The time the medication dispensing event occurs; the Author dateTime.</p> <p>Timing: The Relevant Period addresses: startTime is when the first administration of the medication is expected. If not specified, the startTime defaults to the Author dateTime (the time the medication dispensing event occurs). stopTime is when the medication supply provided by the dispensing event is expected to be completed.</p>	<p>Together with the Medication Dispensed Act (V3) template, this template represents the QDM datatype: Medication, Dispensed. This template must be contained within the Medication Dispensed Act (V3) template.</p> <p>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.</p> <p>Timing: The time the medication dispensing event occurs; the Author dateTime.</p> <p>Timing: The Relevant Period addresses: startTime is when the first administration of the medication is expected. If not specified, the startTime defaults to the Author dateTime (the time the medication dispensing event occurs). stopTime is when the medication supply provided by the dispensing event is expected to be completed.</p>
CONF #: 4388-29215 Added		MAY contain zero or one [0..1] effectiveTime (CONF:4388-29215). Note: QDM Attribute: Relevant Period
CONF #: 4388-29216 Added		The effectiveTime, if present, SHALL contain exactly one [1..1] low (CONF:4388-29216).

Change	Old	New
		Note: startTime = when the first administration of the medication is expected. If not specified, the startTime defaults to the Author dateTime (the time the medication dispensing event occurs).
CONF #: 4388-29217 Added		The effectiveTime, if present, SHALL contain exactly one [1..1] high (CONF:4388-29217). Note: stopTime = when the medication supply provided by the dispensing event is expected to be completed.
CONF #: 4388-29218 Added		MAY contain zero or one [0..1] participant (CONF:4388-29218) such that it
CONF #: 4388-29219 Added		SHALL contain exactly one [1..1] participantRole (CONF:4388-29219).
CONF #: 4388-29220 Added		MAY contain zero or one [0..1] entryRelationship (CONF:4388-29220) such that it Note: QDM Attribute: Days Supplied
CONF #: 4388-29221 Added		SHALL contain exactly one [1..1] supply (CONF:4388-29221).
CONF #: 4388-29222 Added		SHALL contain exactly one [1..1] @typeCode="PRF" Performer (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4388-29222).
CONF #: 4388-29223 Added		This participantRole SHALL contain at least one [1..*] id (CONF:4388-29223). Note: QDM Attribute: prescriberId
CONF #: 4388-29224 Added		SHALL contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4388-29224).
CONF #: 3343-29010 Removed	This author SHALL contain exactly one [1..1] assignedAuthor (CONF:3343-29010).	
CONF #: 3343-29011 Removed	This author SHALL contain exactly one [1..1] time (CONF:3343-29011). Note: QDM Attribute: Author dateTime – the time the medication dispensing event occurs	
CONF #: 3343-29012 Removed	This assignedAuthor SHALL	

Change	Old	New
	contain at least one [1..*] id (CONF:3343-29012). Note: nullFlavor is allowed for assignedAuthor/id	
CONF #: 3343-29142 Removed	MAY contain zero or one [0..1] effectiveTime (CONF:3343-29142). Note: QDM Attribute: Relevant Period	
CONF #: 3343-29143 Removed	The effectiveTime, if present, SHALL contain exactly one [1..1] low (CONF:3343-29143). Note: startTime = when the first administration of the medication is expected. If not specified, the startTime defaults to the Author dateTime (the time the medication dispensing event occurs).	
CONF #: 3343-29144 Removed	The effectiveTime, if present, SHALL contain exactly one [1..1] high (CONF:3343-29144). Note: stopTime = when the medication supply provided by the dispensing event is expected to be completed.	
CONF #: 4388-26555 Modified	SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3343-26555).	SHALL contain exactly one [1..1] @extension="2018-10-01" (CONF:4388-26555).
CONF #: 4388-28908 Modified	This template *SHALL* be contained by a Medication Dispensed Act (V2) (CONF:3343-28908).	This template *SHALL* be contained by a Medication Dispensed Act (V3) (CONF:4388-28908).

9.8 Medication Dispensed Act (V3)

[Medication Dispensed Act \(V3\) \(urn:hl7ii:2.16.840.1.113883.10.20.24.3.139:2018-10-01\)](#)

Change	Old	New
Status	Published	Draft
Name	Medication Dispensed Act (V2)	Medication Dispensed Act (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.24.3.139:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.24.3.139:2018-10-01
CONF #: 4388-28907 Modified	SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3343-28907).	SHALL contain exactly one [1..1] @extension="2018-10-01" (CONF:4388-28907).

9.9 Medication Order (V5)

Medication Order (V5) (urn:hl7ii:2.16.840.1.113883.10.20.24.3.47:2018-10-01)

Change	Old	New
Status	Published	Draft
Name	Medication Order (V4)	Medication Order (V5)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.24.3.47:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.24.3.47:2018-10-01
CONF #: 4388-29225 Added		SHALL contain exactly one [1..1] high (CONF:4388-29225). Note: stopTime = when the medication supply provided by the medication order is expected to be completed, including all fulfillments covered by the number of refills.
CONF #: 4388-29226 Added		MAY contain zero or one [0..1] participant (CONF:4388-29226) such that it
CONF #: 4388-29227 Added		SHALL contain exactly one [1..1] participantRole (CONF:4388-29227).
CONF #: 4388-29228 Added		MAY contain zero or one [0..1] entryRelationship (CONF:4388-29228) such that it Note: QDM Attribute: Days Supplied
CONF #: 4388-29229 Added		SHALL contain exactly one [1..1] supply (CONF:4388-29229).
CONF #: 4388-29230 Added		MAY contain zero or one [0..1] entryRelationship (CONF:4388-29230) such that it Note: QDM Attribute: Supply
CONF #: 4388-29231 Added		SHALL contain exactly one [1..1] supply (CONF:4388-29231).
CONF #: 4388-29232 Added		SHALL contain exactly one [1..1] @typeCode="LOC" location (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4388-29232).
CONF #: 4388-29233 Added		This participantRole SHALL contain exactly one [1..1] code (CONF:4388-29233). Note: QDM Attribute:Setting - Where the medication is expected to be consumed or administered.
CONF #: 4388-29234 Added		SHALL contain exactly one [1..1] @typeCode="REFR" Refers to (CONF:4388-29234).

Change	Old	New
CONF #: 4388-29235 Added		SHALL contain exactly one [1..1] @typeCode="COMP" Component of (CONF:4388-29235).
CONF #: 3343-29141 Removed	SHALL contain exactly one [1..1] high (CONF:3343-29141). Note: stopTime = when the medication supply provided by the medication order is expected to be completed, including all fulfillments covered by the number of refills.	
CONF #: 4388-27089 Modified	SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3343-27089).	SHALL contain exactly one [1..1] @extension="2018-10-01" (CONF:4388-27089).

9.10 Procedure Order (V5)

[Procedure Order \(V5\) \(urn:hl7ii:2.16.840.1.113883.10.20.24.3.63:2018-10-01\)](#)

Change	Old	New
Status	Published	Draft
Name	Procedure Order (V4)	Procedure Order (V5)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.24.3.63:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.24.3.63:2018-10-01
CONF #: 3343-11606 Removed	MAY contain zero or one [0..1] methodCode (CONF:3343-11606). Note: QDM Attribute: Method	
CONF #: 3343-27327 Removed	MAY contain zero or one [0..1] approachSiteCode (CONF:3343-27327). Note: QDM Attribute: Anatomical Approach Site	
CONF #: 4388-27083 Modified	SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3343-27083).	SHALL contain exactly one [1..1] @extension="2018-10-01" (CONF:4388-27083).

9.11 Procedure Performed (V5)

[Procedure Performed \(V5\) \(urn:hl7ii:2.16.840.1.113883.10.20.24.3.64:2018-10-01\)](#)

Change	Old	New
Status	Published	Draft
Name	Procedure Performed (V4)	Procedure Performed (V5)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.24.3.64:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.24.3.64:2018-10-01
CONF #: 3343-27311 Removed	MAY contain zero or one [0..1] approachSiteCode (CONF:3343-27311). Note: QDM Attribute: Anatomical Approach Site	
CONF #: 4388-27129 Modified	SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3343-27129).	SHALL contain exactly one [1..1] @extension="2018-10-01" (CONF:4388-27129).

9.12 Procedure Recommended (V5)

[Procedure Recommended \(V5\) \(urn:hl7ii:2.16.840.1.113883.10.20.24.3.65:2018-10-01\)](#)

Change	Old	New
Status	Published	Draft
Name	Procedure Recommended (V4)	Procedure Recommended (V5)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.24.3.65:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.24.3.65:2018-10-01
CONF #: 3343-27338 Removed	MAY contain zero or more [0..*] approachSiteCode (CONF:3343-27338). Note: QDM Attribute: Anatomical Approach Site	
CONF #: 4388-27086 Modified	SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3343-27086).	SHALL contain exactly one [1..1] @extension="208-10-01" (CONF:4388-27086).

9.13 Patient Data Section QDM (V6)

Patient Data Section QDM (V6) (urn:hl7ii:2.16.840.1.113883.10.20.24.2.1:2018-10-01)

Change	Old	New
Status	Published	Draft
Name	Patient Data Section QDM (V5)	Patient Data Section QDM (V6)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.24.2.1:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.24.2.1:2018-10-01
Description	<p>The Patient Data Section QDM (V5) 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 QDM HQMF pattern and QDM attributes. 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 • time/low/@value • time/high/@value 	<p>The Patient Data Section QDM (V6) 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 QDM HQMF pattern and QDM attributes. 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 • time/low/@value • time/high/@value
CONF #: 4388-29176 Added		MAY contain zero or more [0..*] entry (CONF:4388-29176) such that it
CONF #: 4388-29177 Added		SHALL contain exactly one [1..1] act (CONF:4388-29177).
CONF #: 4388-29178 Added		SHALL contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4388-29178).
CONF #: 4388-29236 Added		MAY contain zero or more [0..*] entry (CONF:4388-29236) such

Change	Old	New
		that it
CONF #: 4388-29237 Added		SHALL contain exactly one [1..1] observation (CONF:4388-29237).
CONF #: 4388-29238 Added		MAY contain zero or one [0..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4388-29238).
CONF #: 4388-29251 Added		MAY contain zero or more [0..*] entry (CONF:4388-29251) such that it
CONF #: 4388-29252 Added		SHALL contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4388-29252).
CONF #: 4388-29253 Added		SHALL contain exactly one [1..1] observation (CONF:4388-29253).
CONF #: 3343-12871 Removed	MAY contain zero or more [0..*] entry (CONF:3343-12871) such that it	
CONF #: 3343-13262 Removed	MAY contain zero or more [0..*] entry (CONF:3343-13262) such that it	
CONF #: 3343-13264 Removed	MAY contain zero or more [0..*] entry (CONF:3343-13264) such that it	
CONF #: 3343-27378 Removed	SHALL contain exactly one [1..1] act (CONF:3343-27378).	
CONF #: 3343-16601 Removed	SHALL contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3343-16601).	
CONF #: 3343-27379 Removed	SHALL contain exactly one [1..1] act (CONF:3343-27379).	
CONF #: 3343-16631 Removed	SHALL contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3343-16631).	
CONF #: 3343-27380 Removed	SHALL contain exactly one [1..1] act (CONF:3343-27380).	
CONF #: 3343-16632 Removed	SHALL contain exactly one [1..1] @typeCode="DRIV" is derived from (CodeSystem:	

Change	Old	New
	HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3343-16632).	
CONF #: 4388-28405 Modified	SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3343-28405).	SHALL contain exactly one [1..1] @extension="2018-10-01" (CONF:4388-28405).