



**HL7 Version 3 Implementation Guide:
Clinical Quality Language (CQL) – based
Health Quality Measure Format (HQMF)
Release 1 – US Realm**

HL7 Standard for Trial Use (STU)

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Volume 3 – QDM Templates for CQL-based HQMF

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International Classification of Diseases (ICD) codes	World Health Organization (WHO)
NUCC Health Care Provider Taxonomy code set	American Medical Association. Please see http://www.nucc.org . AMA licensing contact: 312-464-5022 (AMA IP services)

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1 STRUCTURE OF THIS GUIDE

Three volumes comprise this *HL7 Version 3 Implementation Guide: Clinical Quality Language (CQL)-based Health Quality Measure Format (HQMF), Release 1 STU4 (US Realm), Standard for Trial Use*:

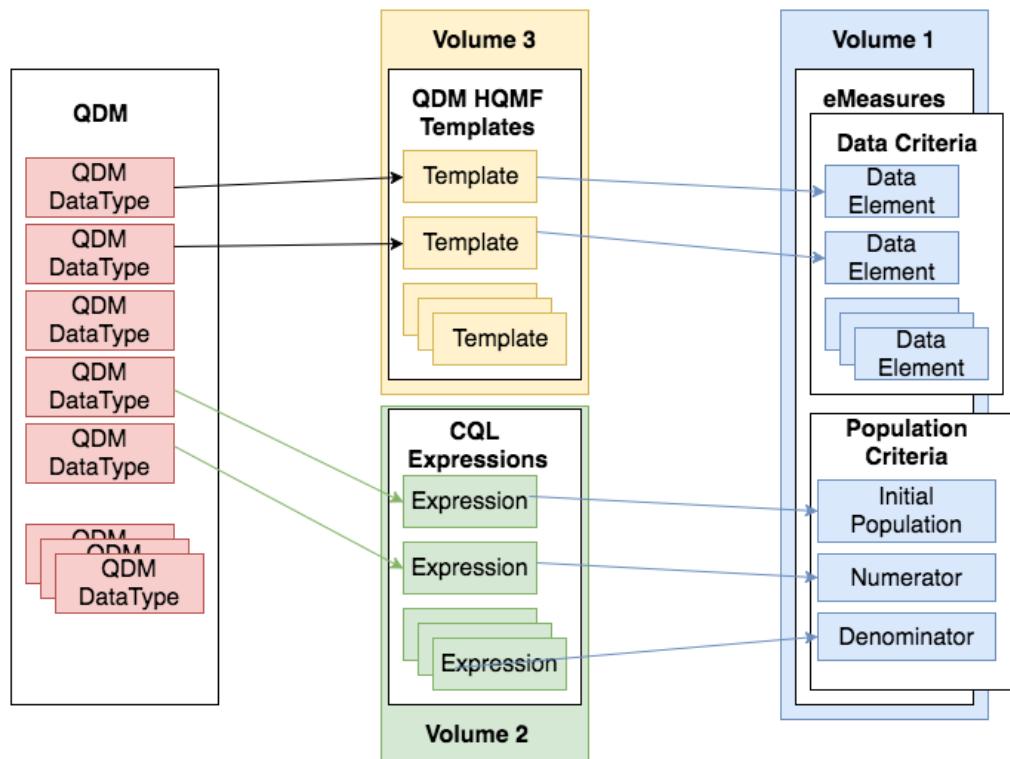


Figure 1: Relationship between QDM, CQL, eCQM, and the volumes of this IG.

Volume 1 : Provides narrative introduction, background material, and conformance requirements for representing CQL-based eCQMs in HQMF.

Volume 2 : Describes how to incorporate version 5.5 of the Quality Data Model into a CQL- based eCQM in accordance with accepted formatting and usage conventions.

Volume 3 : Contains the HQMF templates for the QDM data elements, necessary for constructing QDM+CQL-based HQMF measures.

2 CONFORMANCE CONVENTIONS

2.1 Templates and Conformance Statements

Conformance statements within this IG are presented as constraints from the Trifolia Workbench, a template repository. An algorithm converts constraints recorded in Trifolia to a printable presentation. Each constraint is uniquely identified by conformance number at or near the end of the constraint (e.g., CONF:3335-31306). The digits in the conformance number before the hyphen identify which implementation guide the template belongs to and the number after the hyphen is unique to the owning implementation guide. Together, these two numbers uniquely identify each constraint. These identifiers are persistent but not sequential. Conformance numbers in this guide associated with a conformance statement that is carried forward from a previous version of this guide will carry the same conformance number from the previous version. This is true even if the previous conformance statement has been edited. If a conformance statement is entirely new it will have a new conformance number.

Bracketed information following each template title indicates the template type (dataCriteriaSection, populationCriteriaSection, actCriteria, observationCriteria, etc.), the object identifier (OID) or uniform resource name (URN), and whether the template is open or closed. The identifier `OID` is the `templateId/@root` value; all `templateIds` have an `@root` value. Updated templates also have an `@extension` value, which is a date identifying the version of this template; such templates are identified by URN and the HL7 version (`urn:hl7ii`). The URN identifier includes both the `@root` and `@extension` value for the `templateId` (for example, identifier `urn:hl7ii:2.16.840.1.113883.10.20.28.1.2:2018-05-01`).

Each section and entry template in the guide includes a context table. The "Contained By" column indicates which documents or sections use this template and if the template is optional or required in the containing template. The "Contains" column indicates templates contained within this template. Each template also includes a constraint overview table to summarize the constraints in the template. Value set tables, where applicable, and brief XML example figures are included with most explanations.

2.2 Template Versioning

A new version of an existing implementation guide reuses templates from the previous version. During the ballot phase or update phase, templates carry the designation "Published" to indicate the template is unchanged from the previous version or "Draft" to indicate a new or revised template. Substantial revisions to previously published templates are indicated by the version number (V2, V3, etc.) in all phases: ballot, update, and published guides.

If there are no substantive changes to a template that has been successfully published, the template will carry the same `templateId/@root` (identifier `oid`) and `templateId/@extension` as in the previous implementation guide. (In the case of older templates, the `@extension` attribute will not be present.) During a new ballot or update phase, "Published" is appended to the main heading for the template to indicate that the

template cannot be commented on in the ballot or update. The “Published” designation is removed in the final publication versions.

2.3 Open and Closed Templates

In open templates, all of the features of the HQMF Release 1 Normative base specification are allowed except as constrained by the templates. By contrast, a closed template specifies what is allowed and nothing further may be included. Templates in an HQMF Release 1 Normative document are open. However measure developers should be cautioned that only the elements described in these templates are supported by the Measure Authoring Tool (MAT)¹.

2.4 Conformance Verbs

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

- **SHALL**: an absolute requirement for the particular element. Where a **SHALL** constraint is applied to an XML element, that element must be present in an instance, but may have an exceptional value (i.e., may have a nullFlavor), unless explicitly precluded. Where a **SHALL** constraint is applied to an XML attribute, that attribute must be present, and must contain a conformant value.
- **SHALL NOT**: an absolute prohibition against inclusion
- **SHOULD/SHOULD NOT**: best practice or recommendation. There may be valid reasons to ignore an item, but the full implications must be understood and carefully weighed before choosing a different course
- **MAY/NEED NOT**: truly optional; can be included or omitted as the author decides with no implications

2.5 Cardinality

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

- 0..1 : zero to one
- 1..1 : exactly one
- 1..* : at least one
- 0..* : zero or more
- 1..n : at least one and not more than n

¹Measure Authoring Tool. <https://www.emesuretool.cms.gov/>

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

2.6 Vocabulary Conformance

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

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

In a QDM-based HQMF document, a QDM data type is coupled with a single value set, a grouping value set, or a directly referenced code to become a QDM element. This guide uses the notation “{\$QDMElementValueSetOID}” in lieu of a real value set OID to indicate that this is where the value set binding should occur during creation of a QDM element.

A full discussion of the representation of vocabulary is outside the scope of this document; for more information, see the *HL7 Version 3*, Normative Edition sections on Abstract Data Types and XML Data Types R2.

2.7 Data Types

HQMF Normative uses the HL7 Version 3 Data Types, Release 2 abstract and Release 2 XML-specific specification. All attributes of a data type are allowed unless explicitly prohibited by this specification.

2.8 QDM Attribute Mappings

In a QDM-HQMF template, the QDM data type is mapped to the template, and QDM attributes of the QDM data type are mapped to attributes of the QDM-HQMF template. Attribute-level mapping is indicated within the template via a note.

2.9 Asserting an ActCriteria Not Met with a Reason

To specify a QDM element as not done, such as to say a patient was not prescribed with antithrombotic therapy because of contraindication (“Medication, Not Ordered”), this is done through the use of the `actionNegationInd` attribute (The QDM attribute negation rationale is represented using the `actionNegationInd`).

The `actionNegationInd` if true, specifies that the `actCriteria` indicated was not met. A nested reason for the `actCriteria` not being met can be represented through an `outboundRelationship` type of “RSON” to the Reason entry QDM-HQMF template.

2.10 XPath Notation

Instead of the traditional dotted notation used by HL7 to represent RIM classes, this document uses XML Path Language (XPath) notation in conformance statements and elsewhere to identify the XML elements and attributes within the HQMF Release 1 Normative document instance to which various constraints are applied. The implicit context of these expressions is the root of the document. This notation provides a mechanism that will be familiar to developers for identifying parts of an XML document.

XPath statements appear in this document in a monospace font.

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

2.11 XML Examples and Sample Documents

XML examples appear in figures in this document in this monospace font. Portions of the XML content may be omitted from the content for brevity, marked by an ellipsis (...).

Within the narrative, XML element (code, measureAttribute, etc.) and attribute (SNOMED CT, 282291009, etc.) names also appear in this monospace font.

3 DOCUMENT

3.1 QDM Templates for CQL-Based HQMF Header (V4)

[QualityMeasureDocument: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.1.2:2019-05-01 (open)]

Table 1: QDM Templates for CQL-Based HQMF Header (V4) Contexts

Contained By:	Contains:
	Measure Description Section (optional) Population Criteria Section (V2) (required) Measure Observations Section (V2) (optional) Data Criteria Section (V4) (required)

This is the document header template for a CQL-based HQMF document that contains QDM-based entry templates (QDM Version 5.5).

Table 2: QDM Templates for CQL-Based HQMF Header (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
QualityMeasureDocument (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.1.2;2019-05-01)					
typeId	1..1	SHALL		4423-18786	
@root	1..1	SHALL		4423-18787	2.16.840.1.113883.1.3
@extension	1..1	SHALL		4423-18788	POQM_HD000001UV02
templateId	1..1	SHALL		4423-18771	
item	1..1	SHALL		4423-18772	
@root	1..1	SHALL		4423-18773	2.16.840.1.113883.10.20.28.1.2
@extension	0..1	SHALL		4423-33755	2019-05-01
id	1..1	SHALL		4423-18542	
code	1..1	SHALL		4423-18575	
@code	1..1	SHALL		4423-18576	57024-2
@codeSystem	1..1	SHALL		4423-33757	urn:oid:2.16.840.1.113883.6.1 (LOINC)
title	1..1	SHALL		4423-18541	
text	0..1	SHOULD		4423-18578	
statusCode	1..1	SHALL		4423-18579	
@code	1..1	SHALL		4423-32666	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY		4423-18789	
availabilityTime	0..1	MAY		4423-18790	
languageCode	0..1	MAY		4423-18791	
setId	1..1	SHALL		4423-18543	
versionNumber	0..1	SHOULD		4423-18544	
author	0..*	SHOULD		4423-18563	

XPath	Card.	Verb	Data Type	CONF#	Value
responsibleParty	1..1	SHALL		4423-18564	
representedResponsibleOrganization	1..1	SHALL		4423-18565	
id	1..1	SHALL		4423-18566	
item	1..1	SHALL		4423-18567	
name	1..1	SHALL		4423-18568	
custodian	1..1	SHALL		4423-18555	
responsibleParty	1..1	SHALL		4423-18556	
@classCode	1..1	SHALL		4423-29933	ASSIGNED
representedResponsibleOrganization	1..1	SHALL		4423-18557	
id	1..1	SHALL		4423-18558	
item	1..1	SHALL		4423-18559	
name	1..1	SHALL		4423-18560	
verifier	0..1	SHOULD		4423-18754	
responsibleParty	1..1	SHALL		4423-18755	
representedResponsibleOrganization	1..1	SHALL		4423-18756	
id	1..1	SHALL		4423-18757	
item	1..1	SHALL		4423-18758	
name	1..1	SHALL		4423-18759	
relatedDocument	1..*	SHALL		4423-34627	
expressionDocument	1..1	SHALL		4423-34628	
text	1..1	SHALL		4423-34629	

XPath	Card.	Verb	Data Type	CONF#	Value
@mediaType	1..1	SHALL		4423-34631	text/cql
reference	1..1	SHALL		4423-34630	
@value	1..1	SHALL		4423-34632	
setId	1..1	SHALL		4423-34903	
@root	1..1	SHALL		4423-34908	
@extension	1..1	SHALL		4423-34909	
relatedDocument	1..*	MAY		4423-34898	
@typeCode	1..1	SHALL		4423-34902	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = XCRPT
componentQualityMeasureDocument	1..1	SHALL		4423-34904	
id	1..1	SHALL		4423-34905	
@root	1..1	SHALL		4423-34910	
@identifierName	0..1	SHOULD		4423-34911	
setId	0..1	SHOULD		4423-34906	
@root	1..1	SHALL		4423-34912	
versionNumber	0..1	SHOULD		4423-34907	
controlVariable	1..1	SHALL		4423-18545	
measurePeriod	1..1	SHALL		4423-18546	
code	1..1	SHALL		4423-18547	
@code	1..1	SHALL		4423-18548	MS RTP
@codeSystem	1..1	SHALL		4423-30056	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL		4423-18550	
subjectOf	1..1	SHALL		4423-	

XPath	Card.	Verb	Data Type	CONF#	Value
				18580	
measureAttribute	1..1	SHALL		4423-18581	
code	1..1	SHALL		4423-18582	
@code	1..1	SHALL		4423-18583	MSRSCORE
@codeSystem	1..1	SHALL		4423-30057	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	CD	4423-29935	
@code	1..1	SHALL		4423-29936	urn:oid:2.16.840.1.113883.1.1 1.20367 (ObservationMeasureScoring)
subjectOf	1..*	SHALL		4423-18588	
measureAttribute	1..1	SHALL		4423-18590	
code	1..1	SHALL		4423-18591	
@code	1..1	SHALL		4423-29934	MSRTYPE
@codeSystem	1..1	SHALL		4423-30058	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	CD	4423-29938	
@code	1..1	SHALL		4423-29939	urn:oid:2.16.840.1.113883.1.1 1.20368 (ObservationMeasureType)
subjectOf	0..1	SHOULD		4423-18603	
measureAttribute	1..1	SHALL		4423-18604	
code	1..1	SHALL		4423-18605	
@code	1..1	SHALL		4423-29941	COPY
@codeSystem	1..1	SHALL		4423-30060	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	4423-18609	
subjectOf	0..1	SHOULD		4423-18610	
measureAttribute	1..1	SHALL		4423-18611	

XPath	Card.	Verb	Data Type	CONF#	Value
code	1..1	SHALL		4423-18612	
@code	1..1	SHALL		4423-18613	CRS
@codeSystem	1..1	SHALL		4423-30061	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	4423-29942	
subjectOf	0..1	SHOULD		4423-18617	
measureAttribute	1..1	SHALL		4423-18618	
code	1..1	SHALL		4423-18619	
@code	1..1	SHALL		4423-18620	GUIDE
@codeSystem	1..1	SHALL		4423-30062	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	4423-29943	
subjectOf	0..1	SHOULD		4423-18624	
measureAttribute	1..1	SHALL		4423-18625	
code	1..1	SHALL		4423-18626	
@code	1..1	SHALL		4423-18627	DEF
@codeSystem	1..1	SHALL		4423-30063	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	4423-18690	
subjectOf	0..1	SHOULD		4423-18630	
measureAttribute	1..1	SHALL		4423-18631	
code	1..1	SHALL		4423-18632	
@code	1..1	SHALL		4423-18633	IDUR
@codeSystem	1..1	SHALL		4423-30064	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	4423-18636	
subjectOf	0..1	SHOULD		4423-	

XPath	Card.	Verb	Data Type	CONF#	Value
				18637	
measureAttribute	1..1	SHALL		4423-18638	
code	1..1	SHALL		4423-18639	
@code	1..1	SHALL		4423-18640	KEY
@codeSystem	1..1	SHALL		4423-30065	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
subjectOf	0..1	SHOULD		4423-18644	
measureAttribute	1..1	SHALL		4423-18645	
code	1..1	SHALL		4423-18646	
@code	1..1	SHALL		4423-18647	MSRAGG
@codeSystem	1..1	SHALL		4423-30066	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	4423-18649	
subjectOf	0..1	SHOULD		4423-18650	
measureAttribute	1..1	SHALL		4423-18651	
code	1..1	SHALL		4423-18652	
@code	1..1	SHALL		4423-18653	MSRADJ
@codeSystem	1..1	SHALL		4423-30067	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	4423-18656	
subjectOf	0..1	SHOULD		4423-18657	
measureAttribute	1..1	SHALL		4423-18658	
code	1..1	SHALL		4423-18659	
@code	1..1	SHALL		4423-18663	RAT
@codeSystem	1..1	SHALL		4423-30068	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	4423-18662	

XPath	Card.	Verb	Data Type	CONF#	Value
subjectOf	0..*	SHOULD		4423-18664	
measureAttribute	1..1	SHALL		4423-18665	
code	1..1	SHALL		4423-18666	
@code	1..1	SHALL		4423-18667	REF
@codeSystem	1..1	SHALL		4423-30069	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	4423-18668	
subjectOf	0..*	SHOULD		4423-18669	
measureAttribute	1..1	SHALL		4423-18670	
code	1..1	SHALL		4423-18671	
@code	1..1	SHALL		4423-18672	MSRSET
@codeSystem	1..1	SHALL		4423-30070	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	CD	4423-29950	urn:oid:2.16.840.1.113883.1.1 1.16927 (RoleClassServiceDeliveryLocation)
subjectOf	0..1	SHOULD		4423-18674	
measureAttribute	1..1	SHALL		4423-18675	
code	1..1	SHALL		4423-18676	
@code	1..1	SHALL		4423-18677	MSRJUR
@codeSystem	1..1	SHALL		4423-30071	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	CD	4423-29951	
subjectOf	0..1	SHOULD		4423-18679	
measureAttribute	1..1	SHALL		4423-18680	
code	1..1	SHALL		4423-18681	
@code	1..1	SHALL		4423-	MSRTOPIC

XPath	Card.	Verb	Data Type	CONF#	Value
				29952	
@codeSystem	1..1	SHALL		4423-30072	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	CD	4423-29953	
subjectOf	0..1	SHOULD		4423-18691	
measureAttribute	1..1	SHALL		4423-18692	
code	1..1	SHALL		4423-18693	
@code	1..1	SHALL		4423-18694	MSRRPTR
@codeSystem	1..1	SHALL		4423-30073	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	CD	4423-29954	
subjectOf	0..1	SHOULD		4423-18698	
measureAttribute	1..1	SHALL		4423-18699	
code	1..1	SHALL		4423-18700	
@code	1..1	SHALL		4423-18701	MSRRPTTIME
@codeSystem	1..1	SHALL		4423-30074	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	PQ	4423-29955	
subjectOf	0..1	SHOULD		4423-18705	
measureAttribute	1..1	SHALL		4423-18706	
code	1..1	SHALL		4423-18707	
@code	1..1	SHALL		4423-30075	USE
@codeSystem	1..1	SHALL		4423-30076	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	4423-18711	
subjectOf	0..1	SHOULD		4423-18712	
measureAttribute	1..1	SHALL		4423-18713	

XPath	Card.	Verb	Data Type	CONF#	Value
code	1..1	SHALL		4423-18714	
@code	1..1	SHALL		4423-18715	SDE
@codeSystem	1..1	SHALL		4423-30077	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	4423-18718	
subjectOf	0..1	SHOULD		4423-18719	
measureAttribute	1..1	SHALL		4423-18720	
code	1..1	SHALL		4423-18721	
@code	1..1	SHALL		4423-29956	TRANF
@codeSystem	1..1	SHALL		4423-30078	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	4423-18725	
subjectOf	0..1	SHOULD		4423-18726	
measureAttribute	1..1	SHALL		4423-18727	
code	1..1	SHALL		4423-18728	
@code	1..1	SHALL		4423-18729	STRAT
@codeSystem	1..1	SHALL		4423-30079	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	4423-18732	
subjectOf	0..1	SHOULD		4423-18733	
measureAttribute	1..1	SHALL		4423-18734	
code	1..1	SHALL		4423-18735	
@code	1..1	SHALL		4423-18736	IPOP
@codeSystem	1..1	SHALL		4423-30080	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	4423-18739	
subjectOf	0..1	SHOULD		4423-	

XPath	Card.	Verb	Data Type	CONF#	Value
				18740	
measureAttribute	1..1	SHALL		4423-18741	
code	1..1	SHALL		4423-18742	
@code	1..1	SHALL		4423-29957	DENOM
@codeSystem	1..1	SHALL		4423-30081	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	4423-18746	
subjectOf	0..1	SHOULD		4423-18747	
measureAttribute	1..1	SHALL		4423-18748	
code	1..1	SHALL		4423-18749	
@code	1..1	SHALL		4423-29958	DENEX
@codeSystem	1..1	SHALL		4423-30082	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	4423-18753	
subjectOf	0..1	SHOULD		4423-29959	
measureAttribute	1..1	SHALL		4423-29960	
code	1..1	SHALL		4423-30083	
@code	1..1	SHALL		4423-30084	NUMER
@codeSystem	1..1	SHALL		4423-30085	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	4423-29962	
subjectOf	0..1	SHOULD		4423-29963	
measureAttribute	1..1	SHALL		4423-29964	
code	1..1	SHALL		4423-29965	
@code	1..1	SHALL		4423-29967	NUMEX
@codeSystem	1..1	SHALL		4423-30086	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)

XPath	Card.	Verb	Data Type	CONF#	Value
value	1..1	SHALL	ED	4423-29966	
subjectOf	0..1	SHOULD		4423-29968	
measureAttribute	1..1	SHALL		4423-29969	
code	1..1	SHALL		4423-29970	
@code	1..1	SHALL		4423-29971	DENEXCEP
@codeSystem	1..1	SHALL		4423-30087	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	4423-29972	
subjectOf	0..1	SHOULD		4423-29973	
measureAttribute	1..1	SHALL		4423-29974	
code	1..1	SHALL		4423-29975	
@code	1..1	SHALL		4423-29976	MSRPOPL
@codeSystem	1..1	SHALL		4423-30088	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	4423-29977	
subjectOf	0..1	SHOULD		4423-29978	
measureAttribute	1..1	SHALL		4423-29979	
code	1..1	SHALL		4423-29980	
@code	1..1	SHALL		4423-29981	MSRPOPLEX
@codeSystem	1..1	SHALL		4423-30089	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	4423-29982	
subjectOf	0..1	SHOULD		4423-29984	
measureAttribute	1..1	SHALL		4423-29985	
code	1..1	SHALL		4423-29986	
@code	1..1	SHALL		4423-	DISC

XPath	Card.	Verb	Data Type	CONF#	Value
				29987	
@codeSystem	1..1	SHALL		4423-30090	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	4423-29988	
subjectOf	0..1	MAY		4423-34637	
measureAttribute	1..1	SHALL		4423-34638	
code	1..1	SHALL		4423-34639	
@code	1..1	SHALL		4423-34640	CMPMSRMTH
@codeSystem	1..1	SHALL		4423-34641	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
value	1..1	SHALL	CD	4423-34642	
@code	1..1	SHALL		4423-34643	
component	1..*	SHALL		4423-18813	
component	1..1	SHALL		4423-18815	
dataCriteriaSection	1..1	SHALL		4423-35955	Data Criteria Section (V4) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.2.6:2019-05-01
component	1..*	SHALL		4423-19057	
populationCriteriaSection	1..1	SHALL		4423-19058	Population Criteria Section (V2) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.2.7:2017-08-01
component	0..1	MAY		4423-29989	
measureDescriptionSection	1..1	SHALL		4423-29990	Measure Description Section (identifier: urn:oid:2.16.840.1.113883.10. 20.28.2.3
component	0..1	MAY		4423-29991	
measureObservationsSection	1..1	SHALL		4423-29992	Measure Observations Section (V2) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.2.4:2018-05-01

1. **SHALL** contain exactly one [1..1] **typeId** (CONF:4423-18786).
 - a. This typeId **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.1.3"** (CONF:4423-18787).
 - b. This typeId **SHALL** contain exactly one [1..1] **@extension="POQM_HD000001UV02"** (CONF:4423-18788).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-18771).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-18772) such that it
 - i. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.28.1.2"** (CONF:4423-18773).
 - ii. **SHALL** contain zero or one [0..1] **@extension="2019-05-01"** (CONF:4423-33755).
3. **SHALL** contain exactly one [1..1] **id** (CONF:4423-18542).
4. **SHALL** contain exactly one [1..1] **code** (CONF:4423-18575).
 - a. This code **SHALL** contain exactly one [1..1] **@code="57024-2"** Health Quality Measure Document (CONF:4423-18576).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:4423-33757).
5. **SHALL** contain exactly one [1..1] **title** (CONF:4423-18541).
6. **SHOULD** contain zero or one [0..1] **text** (CONF:4423-18578).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-18579).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-32666).
8. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-18789).
9. **MAY** contain zero or one [0..1] **availabilityTime** (CONF:4423-18790).
10. **MAY** contain zero or one [0..1] **languageCode** (CONF:4423-18791).
11. **SHALL** contain exactly one [1..1] **setId** (CONF:4423-18543).
12. **SHOULD** contain zero or one [0..1] **versionNumber** (CONF:4423-18544).
13. **SHOULD** contain zero or more [0..*] **author** (CONF:4423-18563).
 - a. The author, if present, **SHALL** contain exactly one [1..1] **responsibleParty** (CONF:4423-18564).
 - i. This responsibleParty **SHALL** contain exactly one [1..1] **representedResponsibleOrganization** (CONF:4423-18565).
 1. This representedResponsibleOrganization **SHALL** contain exactly one [1..1] **id** (CONF:4423-18566).
 - a. This id **SHALL** contain exactly one [1..1] **item** (CONF:4423-18567).
 2. This representedResponsibleOrganization **SHALL** contain exactly one [1..1] **name** (CONF:4423-18568).
14. **SHALL** contain exactly one [1..1] **custodian** (CONF:4423-18555).
 - a. This custodian **SHALL** contain exactly one [1..1] **responsibleParty** (CONF:4423-18556).

- i. This responsibleParty **SHALL** contain exactly one [1..1] **@classCode="ASSIGNED"** (CONF:4423-29933).
 - ii. This responsibleParty **SHALL** contain exactly one [1..1] **representedResponsibleOrganization** (CONF:4423-18557).
 - 1. This representedResponsibleOrganization **SHALL** contain exactly one [1..1] **id** (CONF:4423-18558).
 - a. This id **SHALL** contain exactly one [1..1] **item** (CONF:4423-18559).
 - 2. This representedResponsibleOrganization **SHALL** contain exactly one [1..1] **name** (CONF:4423-18560).
15. **SHOULD** contain zero or one [0..1] **verifier** (CONF:4423-18754).
- a. The verifier, if present, **SHALL** contain exactly one [1..1] **responsibleParty** (CONF:4423-18755).
 - i. This responsibleParty **SHALL** contain exactly one [1..1] **representedResponsibleOrganization** (CONF:4423-18756).
 - 1. This representedResponsibleOrganization **SHALL** contain exactly one [1..1] **id** (CONF:4423-18757).
 - a. This id **SHALL** contain exactly one [1..1] **item** (CONF:4423-18758).
 - 2. This representedResponsibleOrganization **SHALL** contain exactly one [1..1] **name** (CONF:4423-18759).
16. **SHALL** contain at least one [1..*] **relatedDocument** (CONF:4423-34627) such that it
- a. **SHALL** contain exactly one [1..1] **expressionDocument** (CONF:4423-34628).
 - i. This expressionDocument **SHALL** contain exactly one [1..1] **text** (CONF:4423-34629).
 - 1. This text **SHALL** contain exactly one [1..1] **@mediaType="text/cql"** (CONF:4423-34631).
 - 2. This text **SHALL** contain exactly one [1..1] **reference** (CONF:4423-34630).
 - a. This reference **SHALL** contain exactly one [1..1] **@value** (CONF:4423-34632).

Note: This value contains a URI (relative or absolute) that identifies the CQL expression document.
 - ii. This expressionDocument **SHALL** contain exactly one [1..1] **setId** (CONF:4423-34903).
 - 1. This setId **SHALL** contain exactly one [1..1] **@root** (CONF:4423-34908).
 - 2. This setId **SHALL** contain exactly one [1..1] **@extension** (CONF:4423-34909).
17. **MAY** contain at least one [1..*] **relatedDocument** (CONF:4423-34898) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="XCRPT"** Excerpts (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-34902).
 - b. **SHALL** contain exactly one [1..1] **componentQualityMeasureDocument** (CONF:4423-34904).

- i. This componentQualityMeasureDocument **SHALL** contain exactly one [1..1] **id** (CONF:4423-34905).
 - 1. This id **SHALL** contain exactly one [1..1] **@root** (CONF:4423-34910).
Note: The id of the component eCQM
 - 2. This id **SHOULD** contain zero or one [0..1] **@identifierName** (CONF:4423-34911).
Note: The title of the component eCQM
 - ii. This componentQualityMeasureDocument **SHOULD** contain zero or one [0..1] **setId** (CONF:4423-34906).
 - 1. The setId, if present, **SHALL** contain exactly one [1..1] **@root** (CONF:4423-34912).
Note: The setId of the component eCQM
 - iii. This componentQualityMeasureDocument **SHOULD** contain zero or one [0..1] **versionNumber** (CONF:4423-34907).
 - 1. VersionNumber **SHALL** be present if the setId element is present and if present, it **SHALL** have a value attribute that is the versionNumber of the component eCQM (CONF:4423-34913).
18. **SHALL** contain exactly one [1..1] **controlVariable** (CONF:4423-18545).
- a. This controlVariable **SHALL** contain exactly one [1..1] **measurePeriod** (CONF:4423-18546).
 - i. This measurePeriod **SHALL** contain exactly one [1..1] **code** (CONF:4423-18547).
 - 1. This code **SHALL** contain exactly one [1..1] **@code= "MSRTP"** Measurement Period (CONF:4423-18548).
 - 2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30056).
 - ii. This measurePeriod **SHALL** contain exactly one [1..1] **value** (CONF:4423-18550).
Note: Measure period could be either an IVL_TS or a PIVL_TS data type. Refer to the HQMF Normative Release 1 standard for details.
19. **SHALL** contain exactly one [1..1] **subjectOf** (CONF:4423-18580) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18581).
 - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18582).
 - 1. This code **SHALL** contain exactly one [1..1] **@code= "MSRSCORE"** Measure Scoring (CONF:4423-18583).
 - 2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30057).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:4423-29935).
 - 1. This value **SHALL** contain exactly one [1..1] **@code** (ValueSet: ObservationMeasureScoring urn:oid:2.16.840.1.113883.1.11.20367) (CONF:4423-29936).

20. **SHALL** contain at least one [1..*] **subjectOf** (CONF:4423-18588) such that it
- SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18590).
 - This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18591).
 - This code **SHALL** contain exactly one [1..1] @code= "MSRTYPE" Measure Type (CONF:4423-29934).
 - This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30058).
 - This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:4423-29938).
 - This value **SHALL** contain exactly one [1..1] @code (ValueSet: ObservationMeasureType urn:oid:2.16.840.1.113883.1.11.20368) (CONF:4423-29939).
21. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-18603) such that it
- SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18604).
 - This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18605).
 - This code **SHALL** contain exactly one [1..1] @code= "COPY" Copyright (CONF:4423-29941).
 - This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30060).
 - This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="ED" (CONF:4423-18609).
22. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-18610) such that it
- SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18611).
 - This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18612).
 - This code **SHALL** contain exactly one [1..1] @code= "CRS" Clinical Recommendation Statement (CONF:4423-18613).
 - This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30061).
 - This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="ED" (CONF:4423-29942).
23. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-18617) such that it
- SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18618).
 - This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18619).
 - This code **SHALL** contain exactly one [1..1] @code= "GUIDE" Guide (CONF:4423-18620).
 - This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30062).

- ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="ED" (CONF:4423-29943).
24. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-18624) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18625).
 - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18626).
 - 1. This code **SHALL** contain exactly one [1..1] @code="DEF" Definition (CONF:4423-18627).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30063).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="ED" (CONF:4423-18690).
25. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-18630) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18631).
 - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18632).
 - 1. This code **SHALL** contain exactly one [1..1] @code="IDUR" Improvement Notation (CONF:4423-18633).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30064).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="ED" (CONF:4423-18636).
26. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-18637) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18638).
 - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18639).
 - 1. This code **SHALL** contain exactly one [1..1] @code="KEY" Keyword (CONF:4423-18640).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30065).
27. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-18644) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18645).
 - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18646).
 - 1. This code **SHALL** contain exactly one [1..1] @code="MSRAGG" Rate Aggregation (CONF:4423-18647).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30066).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="ED" (CONF:4423-18649).
28. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-18650) such that it

- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18651).
 - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18652).
 - 1. This code **SHALL** contain exactly one [1..1] @code= "MSRADJ" Risk Adjustment (CONF:4423-18653).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30067).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="ED" (CONF:4423-18656).
- 29. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-18657) such that it
 - a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18658).
 - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18659).
 - 1. This code **SHALL** contain exactly one [1..1] @code= "RAT" Rationale (CONF:4423-18663).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30068).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="ED" (CONF:4423-18662).
- 30. **SHOULD** contain zero or more [0..*] **subjectOf** (CONF:4423-18664) such that it
 - a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18665).
 - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18666).
 - 1. This code **SHALL** contain exactly one [1..1] @code= "REF" Reference (CONF:4423-18667).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30069).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="ED" (CONF:4423-18668).
- 31. **SHOULD** contain zero or more [0..*] **subjectOf** (CONF:4423-18669) such that it
 - a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18670).
 - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18671).
 - 1. This code **SHALL** contain exactly one [1..1] @code= "MSRSET" Care Setting (CONF:4423-18672).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30070).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (ValueSet: RoleClassServiceDeliveryLocation urn:oid:2.16.840.1.113883.1.11.16927) (CONF:4423-29950).
- 32. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-18674) such that it

- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18675).
 - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18676).
 - 1. This code **SHALL** contain exactly one [1..1] @code= "MSRJUR" Jurisdiction (CONF:4423-18677).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30071).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:4423-29951).
- 33. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-18679) such that it
 - a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18680).
 - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18681).
 - 1. This code **SHALL** contain exactly one [1..1] @code= "MSRTOPIC" Topic Type (CONF:4423-29952).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30072).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:4423-29953).
- 34. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-18691) such that it
 - a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18692).
 - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18693).
 - 1. This code **SHALL** contain exactly one [1..1] @code= "MSRRPTR" Reporter Type (CONF:4423-18694).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30073).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:4423-29954).
- 35. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-18698) such that it
 - a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18699).
 - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18700).
 - 1. This code **SHALL** contain exactly one [1..1] @code= "MSRRPTTIME" Timeframe for Reporting (CONF:4423-18701).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30074).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="PQ" (CONF:4423-29955).
- 36. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-18705) such that it
 - a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18706).

- i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18707).
 - 1. This code **SHALL** contain exactly one [1..1] @code="USE" Notice of Use (CONF:4423-30075).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30076).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="ED" (CONF:4423-18711).
37. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-18712) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18713).
 - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18714).
 - 1. This code **SHALL** contain exactly one [1..1] @code="SDE" Supplemental Data Elements (CONF:4423-18715).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30077).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="ED" (CONF:4423-18718).
38. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-18719) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18720).
 - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18721).
 - 1. This code **SHALL** contain exactly one [1..1] @code="TRANF" Transmission Format (CONF:4423-29956).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30078).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="ED" (CONF:4423-18725).
39. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-18726) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18727).
 - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18728).
 - 1. This code **SHALL** contain exactly one [1..1] @code="STRAT" Stratification (CONF:4423-18729).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30079).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="ED" (CONF:4423-18732).
40. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-18733) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18734).

- i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18735).
 - 1. This code **SHALL** contain exactly one [1..1] @code="IPOP" Initial Population (CONF:4423-18736).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30080).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="ED" (CONF:4423-18739).
41. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-18740) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18741).
 - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18742).
 - 1. This code **SHALL** contain exactly one [1..1] @code="DENOM" Denominator (CONF:4423-29957).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30081).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="ED" (CONF:4423-18746).
42. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-18747) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-18748).
 - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-18749).
 - 1. This code **SHALL** contain exactly one [1..1] @code="DENEX" Denominator Exclusion (CONF:4423-29958).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30082).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="ED" (CONF:4423-18753).
43. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-29959) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-29960).
 - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-30083).
 - 1. This code **SHALL** contain exactly one [1..1] @code="NUMER" Numerator (CONF:4423-30084).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30085).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="ED" (CONF:4423-29962).
44. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-29963) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-29964).

- i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-29965).
 - 1. This code **SHALL** contain exactly one [1..1] @code= "NUMEX" Numerator Exclusion (CONF:4423-29967).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30086).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="ED" (CONF:4423-29966).
45. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-29968) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-29969).
 - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-29970).
 - 1. This code **SHALL** contain exactly one [1..1] @code= "DENEXCEP" Denominator Exception (CONF:4423-29971).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30087).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="ED" (CONF:4423-29972).
46. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-29973) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-29974).
 - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-29975).
 - 1. This code **SHALL** contain exactly one [1..1] @code= "MSRPOPL" Measure Population (CONF:4423-29976).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30088).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="ED" (CONF:4423-29977).
47. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-29978) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-29979).
 - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-29980).
 - 1. This code **SHALL** contain exactly one [1..1] @code= "MSRPOPLEX" Measure Population Exclusions (CONF:4423-29981).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30089).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="ED" (CONF:4423-29982).
48. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:4423-29984) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-29985).

- i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-29986).
 - 1. This code **SHALL** contain exactly one [1..1] @code="DISC" Disclaimer (CONF:4423-29987).
 - 2. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30090).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="ED" (CONF:4423-29988).
49. **MAY** contain zero or one [0..1] **subjectof** (CONF:4423-34637) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:4423-34638).
 - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:4423-34639).
 - 1. This code **SHALL** contain exactly one [1..1] @code="CMPMSRMTH" composite measure method (CONF:4423-34640).
 - 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:4423-34641).
 - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:4423-34642).
 - 1. This value **SHALL** contain exactly one [1..1] @code (CONF:4423-34643).

Note: Will add a valueset that contain the following codes:
"OPPORSCR", "ALLORNONESCR", "LINEARSCR", "WEIGHTSCR"
50. **SHALL** contain at least one [1..*] **component** (CONF:4423-18813).
51. **SHALL** contain exactly one [1..1] **component** (CONF:4423-18815) such that it
- a. **SHALL** contain exactly one [1..1] [Data Criteria Section \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.2.6:2019-05-01) (CONF:4423-35955).
52. **SHALL** contain at least one [1..*] **component** (CONF:4423-19057) such that it
- a. **SHALL** contain exactly one [1..1] [Population Criteria Section \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.2.7:2017-08-01) (CONF:4423-19058).
53. **MAY** contain zero or one [0..1] **component** (CONF:4423-29989) such that it
- a. **SHALL** contain exactly one [1..1] [Measure Description Section](#) (identifier: urn:oid:2.16.840.1.113883.10.20.28.2.3) (CONF:4423-29990).
54. **MAY** contain zero or one [0..1] **component** (CONF:4423-29991) such that it
- a. **SHALL** contain exactly one [1..1] [Measure Observations Section \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.2.4:2018-05-01) (CONF:4423-29992).

4 SECTION

4.1 Data Criteria Section (V4)

[dataCriteriaSection: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.2.6:2019-05-01 (open)]

Table 3: Data Criteria Section (V4) Contexts

Contained By:	Contains:
	Patient Characteristic Clinical Trial Participant (optional) Patient Characteristic Birth Date (optional) Patient Characteristic Ethnicity (optional) Patient Characteristic Expired (optional) Patient Characteristic Payer (optional) Patient Characteristic Race (optional) Patient Characteristic Sex (optional) Patient Characteristic (V2) (optional) Adverse Event (V3) (optional) Allergy Intolerance (V3) (optional) Assessment, Order (V2) (optional) Assessment, Performed (V3) (optional) Assessment, Recommended (V3) (optional) Care Goal (V3) (optional) Communication, Performed (V2) (optional) Device, Applied (V3) (optional) Device, Order (V2) (optional) Device, Recommended (V2) (optional) Diagnostic Study, Order (V4) (optional) Diagnostic Study, Performed (V3) (optional) Diagnosis (V3) (optional) Diagnostic Study, Recommended (V4) (optional) Encounter, Order (V2) (optional) Encounter, Performed (V3) (optional) Encounter, Recommended (V2) (optional) Family History (V2) (optional) Immunization, Administered (V4) (optional) Immunization, Order (V3) (optional) Intervention, Order (V2) (optional) Intervention, Performed (V3) (optional) Intervention, Recommended (V2) (optional) Laboratory Test, Order (V3) (optional) Laboratory Test, Performed (V3) (optional) Laboratory Test, Recommended (V3) (optional) Medication, Active (V4) (optional) Medication, Administered (V4) (optional)

Contained By:	Contains:
	<p>Medication, Discharge (V3) (optional) Medication, Dispensed (V3) (optional) Medication, Order (V4) (optional) Patient Care Experience (V2) (optional) Provider Care Experience (V2) (optional) Physical Exam, Performed (V3) (optional) Physical Exam, Order (V3) (optional) Symptom (V3) (optional) Substance, Recommended (V4) (optional) Substance, Order (V4) (optional) Substance, Administered (V4) (optional) Program Participation (V3) (optional) Procedure, Recommended (V3) (optional) Procedure, Performed (V4) (optional) Procedure, Order (V4) (optional) Physical Exam, Recommended (V3) (optional) Related Person (optional)</p>

The Data Criteria Section contains the criteria describing the data of interest to a measure.

Table 4: Data Criteria Section (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
dataCriteriaSection (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.2.6:2019-05-01)					
templateId	1..1	SHALL		4423-18804	
item	1..1	SHALL		4423-18805	
@root	1..1	SHALL		4423-18806	2.16.840.1.113883.10.20.28.2.6
@extension	1..1	SHALL		4423-33440	2019-05-01
id	0..1	MAY		4423-18856	
code	1..1	SHALL		4423-18807	
@code	1..1	SHALL		4423-18808	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 57025-9
@codeSystem	1..1	SHALL		4423-30091	urn:oid:2.16.840.1.113883.6.1 (LOINC)
title	1..1	SHALL		4423-18857	
@value	1..1	SHALL		4423-18964	Data Criteria Section
text	1..1	SHALL		4423-18858	
entry	1..*	SHALL		4423-18853	
entry	0..*	MAY		4423-34258	
@typeCode	1..1	SHALL		4423-34259	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423-34260	Adverse Event (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.120:2019-05-01)
entry	0..*	MAY		4423-34261	
@typeCode	1..1	SHALL		4423-34262	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423-34263	Allergy Intolerance (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.119:2019-05-01)
entry	0..*	MAY		4423-34176	

XPath	Card.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4423-34177	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423-34178	Assessment, Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.117:2019-05-01
entry	0..*	MAY		4423-34179	
typeId	1..1	SHALL		4423-34180	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423-34181	Assessment, Recommended (V3) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.118:2019-05-01
entry	0..*	MAY		4423-34678	
typeId	1..1	SHALL		4423-34680	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423-34679	Assessment, Order (V2) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.131:2019-05-01
entry	0..*	MAY		4423-32667	
@typeCode	1..1	SHALL		4423-32668	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423-32669	Care Goal (V3) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.7:2019-05-01
entry	0..*	MAY		4423-34850	
@typeCode	1..1	SHALL		4423-34852	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
actCriteria	1..1	SHALL		4423-34851	Communication, Performed (V2) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.132:2019-05-01
entry	0..*	MAY		4423-32685	
@typeCode	1..1	SHALL		4423-32686	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
procedureCriteria	1..1	SHALL		4423-	Device, Applied (V3) (identifier:

XPath	Card.	Verb	Data Type	CONF#	Value
				32687	urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.13:2019-05-01
entry	0..*	MAY		4423-32691	
@typeCode	1..1	SHALL		4423-32692	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
supplyCriteria	1..1	SHALL		4423-32693	Device, Order (V2) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.15:2019-05-01
entry	0..*	MAY		4423-32694	
@typeCode	1..1	SHALL		4423-32695	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
supplyCriteria	1..1	SHALL		4423-32696	Device, Recommended (V2) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.16:2019-05-01
entry	0..*	MAY		4423-34055	
@typeCode	1..1	SHALL		4423-34056	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423-34057	Diagnosis (V3) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.110:2019-05-01
entry	0..*	MAY		4423-34038	
@typeCode	1..1	SHALL		4423-34039	DRIV
observationCriteria	1..1	SHALL		4423-34040	Family History (V2) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.111:2019-05-01
entry	0..*	MAY		4423-32715	
@typeCode	1..1	SHALL		4423-32716	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423-32717	Diagnostic Study, Order (V4) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.22:2019-05-01
entry	0..*	MAY		4423-32718	
@typeCode	1..1	SHALL		4423-32719	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType)

XPath	Card.	Verb	Data Type	CONF#	Value
					= DRIV
observationCriteria	1..1	SHALL		4423-32720	Diagnostic Study, Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.23:2019-05-01
entry	0..*	MAY		4423-32721	
@typeCode	1..1	SHALL		4423-32722	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423-32723	Diagnostic Study, Recommended (V4) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.24:2019-05-01
entry	0..*	MAY		4423-32730	
@typeCode	1..1	SHALL		4423-32731	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
encounterCriteria	1..1	SHALL		4423-32732	Encounter, Order (V2) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.27:2019-05-01
entry	0..*	MAY		4423-32733	
@typeCode	1..1	SHALL		4423-32734	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
encounterCriteria	1..1	SHALL		4423-32735	Encounter, Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.5:2019-05-01
entry	0..*	MAY		4423-32736	
@typeCode	1..1	SHALL		4423-32737	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
encounterCriteria	1..1	SHALL		4423-32738	Encounter, Recommended (V2) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.28:2019-05-01
entry	0..*	MAY		4423-32757	
@typeCode	1..1	SHALL		4423-32758	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
actCriteria	1..1	SHALL		4423-32759	Intervention, Order (V2) (identifier:

XPath	Card.	Verb	Data Type	CONF#	Value
					urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.35:2019-05-01
entry	0..*	MAY		4423-32760	
@typeCode	1..1	SHALL		4423-32761	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
actCriteria	1..1	SHALL		4423-32762	Intervention, Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.36:2019-05-01
entry	0..*	MAY		4423-32763	
@typeCode	1..1	SHALL		4423-32764	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
actCriteria	1..1	SHALL		4423-32765	Intervention, Recommended (V2) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.37:2019-05-01
entry	0..*	MAY		4423-32775	
@typeCode	1..1	SHALL		4423-32776	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
procedureCriteria	1..1	SHALL		4423-32777	Laboratory Test, Order (V3) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.41:2019-05-01
entry	0..*	MAY		4423-32778	
@typeCode	1..1	SHALL		4423-32779	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423-32780	Laboratory Test, Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.42:2019-05-01
entry	0..*	MAY		4423-32781	
@typeCode	1..1	SHALL		4423-32782	DRIV
observationCriteria	1..1	SHALL		4423-32783	Laboratory Test, Recommended (V3) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.43:2019-05-01
entry	0..*	MAY		4423-32787	

XPath	Card.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4423-32788	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
substanceAdministrationCriteria	1..1	SHALL		4423-32789	Medication, Active (V4) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.44:2019-05-01
entry	0..*	MAY		4423-32790	
@typeCode	1..1	SHALL		4423-32791	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
substanceAdministrationCriteria	1..1	SHALL		4423-32792	Medication, Administered (V4) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.45:2019-05-01
entry	0..*	MAY		4423-32797	
@typeCode	1..1	SHALL		4423-32803	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
substanceAdministrationCriteria	1..1	SHALL		4423-32804	Medication, Discharge (V3) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.48:2019-05-01
entry	0..*	MAY		4423-32798	
@typeCode	1..1	SHALL		4423-32805	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
substanceAdministrationCriteria	1..1	SHALL		4423-32806	Medication, Order (V4) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.51:2019-05-01
entry	0..*	MAY		4423-32799	
@typeCode	1..1	SHALL		4423-32807	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
supplyCriteria	1..1	SHALL		4423-32808	Medication, Dispensed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.49:2019-05-01
entry	0..*	MAY		4423-33949	
@typeCode	1..1	SHALL		4423-33950	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV

XPath	Card.	Verb	Data Type	CONF#	Value
substanceAdministrationCriteria	1..1	SHALL		4423-33951	Immunization, Administered (V4) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.112:2019-05-01
entry	0..*	MAY		4423-33955	
@typeCode	1..1	SHALL		4423-33956	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
substanceAdministrationCriteria	1..1	SHALL		4423-34037	Immunization, Order (V3) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.113:2019-05-01
entry	0..*	MAY		4423-32811	
@typeCode	1..1	SHALL		4423-32821	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423-32822	Patient Care Experience (V2) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.52:2019-05-01
entry	0..*	MAY		4423-32812	
@typeCode	1..1	SHALL		4423-32823	DRIV
observationCriteria	1..1	SHALL		4423-32824	Patient Characteristic (V2) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.53:2017-08-01
entry	0..*	MAY		4423-32813	
@typeCode	1..1	SHALL		4423-32825	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423-32826	Patient Characteristic Clinical Trial Participant (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.6:2017-05-01
entry	0..*	MAY		4423-32814	
@typeCode	1..1	SHALL		4423-32827	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423-32828	Patient Characteristic Birth Date (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.54:2017-05-01

XPath	Card.	Verb	Data Type	CONF#	Value
entry	0..*	MAY		4423-32815	
@typeCode	1..1	SHALL		4423-32829	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423-32830	Patient Characteristic Ethnicity (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.56:2017-05-01)
entry	0..*	MAY		4423-32816	
@typeCode	1..1	SHALL		4423-32831	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423-32832	Patient Characteristic Expired (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.57:2017-05-01)
entry	0..*	MAY		4423-32817	
@typeCode	1..1	SHALL		4423-32833	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423-32834	Patient Characteristic Payer (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.58:2017-05-01)
entry	0..*	MAY		4423-32818	
@typeCode	1..1	SHALL		4423-32835	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423-32836	Patient Characteristic Race (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.59:2017-05-01)
entry	0..*	MAY		4423-32819	
@typeCode	1..1	SHALL		4423-32837	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423-32838	Patient Characteristic Sex (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.55:2017-05-01)
entry	0..*	MAY		4423-32844	
@typeCode	1..1	SHALL		4423-	urn:oid:2.16.840.1.113883.5.1

XPath	Card.	Verb	Data Type	CONF#	Value
				32845	002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423-32846	Physical Exam, Order (V3) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.61:2019-05-01
entry	0..*	MAY		4423-32847	
@typeCode	1..1	SHALL		4423-32848	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423-32849	Physical Exam, Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.62:2019-05-01
entry	0..*	MAY		4423-32850	
@typeCode	1..1	SHALL		4423-32851	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423-32852	Physical Exam, Recommended (V3) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.63:2019-05-01
entry	0..*	MAY		4423-32856	
@typeCode	1..1	SHALL		4423-32857	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
procedureCriteria	1..1	SHALL		4423-32858	Procedure, Performed (V4) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.67:2019-05-01
entry	0..*	MAY		4423-32859	
@typeCode	1..1	SHALL		4423-32860	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
procedureCriteria	1..1	SHALL		4423-32861	Procedure, Recommended (V3) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.68:2019-05-01
entry	0..*	MAY		4423-32862	
@typeCode	1..1	SHALL		4423-32863	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
procedureCriteria	1..1	SHALL		4423-	Procedure, Order (V4)

XPath	Card.	Verb	Data Type	CONF#	Value
				32864	(identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.66:2019-05-01)
entry	0..*	MAY		4423- 32868	
@typeCode	1..1	SHALL		4423- 32869	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423- 32870	Provider Care Experience (V2) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.70:2019-05-01)
entry	0..*	MAY		4423- 32996	
@typeCode	1..1	SHALL		4423- 32997	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
substanceAdministrationCriteria	1..1	SHALL		4423- 32998	Substance, Administered (V4) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.73:2019-05-01)
entry	0..*	MAY		4423- 33005	
@typeCode	1..1	SHALL		4423- 33006	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
substanceAdministrationCriteria	1..1	SHALL		4423- 33007	Substance, Order (V4) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.77:2019-05-01)
entry	0..*	MAY		4423- 33011	
@typeCode	1..1	SHALL		4423- 33012	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
substanceAdministrationCriteria	1..1	SHALL		4423- 33013	Substance, Recommended (V4) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.78:2019-05-01)
entry	0..*	MAY		4423- 34058	
@typeCode	1..1	SHALL		4423- 34059	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423- 34113	Symptom (V3) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.116:2019-05-01)
entry	0..*	MAY		4423-	

XPath	Card.	Verb	Data Type	CONF#	Value
				34878	
@typeCode	1..1	SHALL		4423-34880	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423-34879	Program Participation (V3) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.130:2019-05-01
entry	0..*	MAY		4423-35739	
@typeCode	1..1	SHALL		4423-35741	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		4423-35740	Related Person (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.141:2019-05-01

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-18804) such that it
 - a. **SHALL** contain exactly one [1..1] **item** (CONF:4423-18805) such that it
 - i. **SHALL** contain exactly one [1..1]
`@root="2.16.840.1.113883.10.20.28.2.6"` (CONF:4423-18806).
 - ii. **SHALL** contain exactly one [1..1] `@extension="2019-05-01"` (CONF:4423-33440).
2. **MAY** contain zero or one [0..1] **id** (CONF:4423-18856).
3. **SHALL** contain exactly one [1..1] **code** (CONF:4423-18807).
 - a. This code **SHALL** contain exactly one [1..1] `@code="57025-9"` Data Criteria (CodeSystem: LOINC `urn:oid:2.16.840.1.113883.6.1 STATIC`) (CONF:4423-18808).
 - b. This code **SHALL** contain exactly one [1..1] `@codeSystem` (CodeSystem: LOINC `urn:oid:2.16.840.1.113883.6.1`) (CONF:4423-30091).
4. **SHALL** contain exactly one [1..1] **title** (CONF:4423-18857).
 - a. This title **SHALL** contain exactly one [1..1] `@value="Data Criteria Section"` (CONF:4423-18964).
5. **SHALL** contain exactly one [1..1] **text** (CONF:4423-18858).
6. **SHALL** contain at least one [1..*] **entry** (CONF:4423-18853).
7. **MAY** contain zero or more [0..*] **entry** (CONF:4423-34258) 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:4423-34259).
 - b. **SHALL** contain exactly one [1..1] [Adverse Event \(V3\)](#) ([identifier:](#) `urn:hl7ii:2.16.840.1.113883.10.20.28.4.120:2019-05-01`) (CONF:4423-34260).
8. **MAY** contain zero or more [0..*] **entry** (CONF:4423-34261) 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:4423-34262).
 - b. **SHALL** contain exactly one [1..1] **Allergy Intolerance (V3)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.119:2019-05-01) (CONF:4423-34263).
9. **MAY** contain zero or more [0..*] **entry** (CONF:4423-34176) 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:4423-34177).
 - b. **SHALL** contain exactly one [1..1] **Assessment, Performed (V3)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.117:2019-05-01) (CONF:4423-34178).
10. **MAY** contain zero or more [0..*] **entry** (CONF:4423-34179) such that it
- a. **SHALL** contain exactly one [1..1] **typeId**= "DRIV" Is Derived From (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-34180).
 - b. **SHALL** contain exactly one [1..1] **Assessment, Recommended (V3)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.118:2019-05-01) (CONF:4423-34181).
11. **MAY** contain zero or more [0..*] **entry** (CONF:4423-34678) such that it
- a. **SHALL** contain exactly one [1..1] **typeId**= "DRIV" Is Derived From (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-34680).
 - b. **SHALL** contain exactly one [1..1] **Assessment, Order (v2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.131:2019-05-01) (CONF:4423-34679).
12. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32667) 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:4423-32668).
 - b. **SHALL** contain exactly one [1..1] **Care Goal (V3)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.7:2019-05-01) (CONF:4423-32669).
13. **MAY** contain zero or more [0..*] **entry** (CONF:4423-34850) 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:4423-34852).
 - b. **SHALL** contain exactly one [1..1] **Communication, Performed (v2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.132:2019-05-01) (CONF:4423-34851).
14. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32685) 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:4423-32686).

- b. **SHALL** contain exactly one [1..1] [Device, Applied \(v3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.13:2019-05-01) (CONF:4423-32687).
- 15. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32691) 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:4423-32692).
 - b. **SHALL** contain exactly one [1..1] [Device, Order \(v2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.15:2019-05-01) (CONF:4423-32693).
- 16. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32694) 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:4423-32695).
 - b. **SHALL** contain exactly one [1..1] [Device, Recommended \(v2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.16:2019-05-01) (CONF:4423-32696).
- 17. **MAY** contain zero or more [0..*] **entry** (CONF:4423-34055) 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:4423-34056).
 - b. **SHALL** contain exactly one [1..1] [Diagnosis \(v3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.110:2019-05-01) (CONF:4423-34057).
- 18. **MAY** contain zero or more [0..*] **entry** (CONF:4423-34038) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" Is Derived From (CONF:4423-34039).
 - b. **SHALL** contain exactly one [1..1] [Family History \(v2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.111:2019-05-01) (CONF:4423-34040).
- 19. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32715) 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:4423-32716).
 - b. **SHALL** contain exactly one [1..1] [Diagnostic Study, Order \(v4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.22:2019-05-01) (CONF:4423-32717).
- 20. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32718) 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:4423-32719).
 - b. **SHALL** contain exactly one [1..1] [Diagnostic Study, Performed \(v3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.23:2019-05-01) (CONF:4423-32720).
- 21. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32721) 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:4423-32722).
 - b. **SHALL** contain exactly one [1..1] [Diagnostic Study, Recommended \(V4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.24:2019-05-01) (CONF:4423-32723).
22. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32730) 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:4423-32731](#)).
 - b. **SHALL** contain exactly one [1..1] [Encounter, Order \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.27:2019-05-01) (CONF:4423-32732).
23. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32733) 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:4423-32734).
 - b. **SHALL** contain exactly one [1..1] [Encounter, Performed \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.5:2019-05-01) (CONF:4423-32735).
24. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32736) 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:4423-32737).
 - b. **SHALL** contain exactly one [1..1] [Encounter, Recommended \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.28:2019-05-01) (CONF:4423-32738).
25. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32757) 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:4423-32758).
 - b. **SHALL** contain exactly one [1..1] [Intervention, Order \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.35:2019-05-01) (CONF:4423-32759).
26. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32760) 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:4423-32761).
 - b. **SHALL** contain exactly one [1..1] [Intervention, Performed \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.36:2019-05-01) (CONF:4423-32762).
27. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32763) 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:4423-32764).

- b. **SHALL** contain exactly one [1..1] [Intervention, Recommended \(v2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.37:2019-05-01) (CONF:4423-32765).
- 28. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32775) 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:4423-32776).
 - b. **SHALL** contain exactly one [1..1] [Laboratory Test, Order \(v3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.41:2019-05-01) (CONF:4423-32777).
- 29. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32778) 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:4423-32779).
 - b. **SHALL** contain exactly one [1..1] [Laboratory Test, Performed \(v3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.42:2019-05-01) (CONF:4423-32780).
- 30. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32781) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" Is Derived From (CONF:4423-32782).
 - b. **SHALL** contain exactly one [1..1] [Laboratory Test, Recommended \(v3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.43:2019-05-01) (CONF:4423-32783).
- 31. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32787) 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:4423-32788).
 - b. **SHALL** contain exactly one [1..1] [Medication, Active \(v4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.44:2019-05-01) (CONF:4423-32789).
- 32. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32790) 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:4423-32791).
 - b. **SHALL** contain exactly one [1..1] [Medication, Administered \(v4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.45:2019-05-01) (CONF:4423-32792).
- 33. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32797) 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:4423-32803).
 - b. **SHALL** contain exactly one [1..1] [Medication, Discharge \(v3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.48:2019-05-01) (CONF:4423-32804).
- 34. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32798) 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:4423-32805).
 - b. **SHALL** contain exactly one [1..1] Medication, Order (v4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.51:2019-05-01) (CONF:4423-32806).
35. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32799) 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:4423-32807).
 - b. **SHALL** contain exactly one [1..1] Medication, Dispensed (v3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.49:2019-05-01) (CONF:4423-32808).
36. **MAY** contain zero or more [0..*] **entry** (CONF:4423-33949) 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:4423-33950).
 - b. **SHALL** contain exactly one [1..1] Immunization, Administered (v4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.112:2019-05-01) (CONF:4423-33951).
37. **MAY** contain zero or more [0..*] **entry** (CONF:4423-33955) 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:4423-33956).
 - b. **SHALL** contain exactly one [1..1] Immunization, Order (v3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.113:2019-05-01) (CONF:4423-34037).
38. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32811) 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:4423-32821).
 - b. **SHALL** contain exactly one [1..1] Patient Care Experience (v2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.52:2019-05-01) (CONF:4423-32822).
39. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32812) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" Is Derived From (CONF:4423-32823).
 - b. **SHALL** contain exactly one [1..1] Patient Characteristic (v2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.53:2017-08-01) (CONF:4423-32824).
40. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32813) 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:4423-32825).

- b. **SHALL** contain exactly one [1..1] [Patient Characteristic Clinical Trial Participant](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.6:2017-05-01) (CONF:4423-32826).
41. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32814) 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:4423-32827).
 - b. **SHALL** contain exactly one [1..1] [Patient Characteristic Birth Date](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.54:2017-05-01) (CONF:4423-32828).
42. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32815) 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:4423-32829).
 - b. **SHALL** contain exactly one [1..1] [Patient Characteristic Ethnicity](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.56:2017-05-01) (CONF:4423-32830).
43. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32816) 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:4423-32831).
 - b. **SHALL** contain exactly one [1..1] [Patient Characteristic Expired](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.57:2017-05-01) (CONF:4423-32832).
44. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32817) 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:4423-32833).
 - b. **SHALL** contain exactly one [1..1] [Patient Characteristic Payer](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.58:2017-05-01) (CONF:4423-32834).
45. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32818) 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:4423-32835).
 - b. **SHALL** contain exactly one [1..1] [Patient Characteristic Race](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.59:2017-05-01) (CONF:4423-32836).
46. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32819) 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:4423-32837).

- b. **SHALL** contain exactly one [1..1] [Patient Characteristic Sex](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.55:2017-05-01) (CONF:4423-32838).
47. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32844) 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:4423-32845).
 - b. **SHALL** contain exactly one [1..1] [Physical Exam, Order \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.61:2019-05-01) (CONF:4423-32846).
48. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32847) 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:4423-32848).
 - b. **SHALL** contain exactly one [1..1] [Physical Exam, Performed \(v3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.62:2019-05-01) (CONF:4423-32849).
49. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32850) 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:4423-32851).
 - b. **SHALL** contain exactly one [1..1] [Physical Exam, Recommended \(v3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.63:2019-05-01) (CONF:4423-32852).
50. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32856) 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:4423-32857).
 - b. **SHALL** contain exactly one [1..1] [Procedure, Performed \(v4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.67:2019-05-01) (CONF:4423-32858).
51. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32859) 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:4423-32860).
 - b. **SHALL** contain exactly one [1..1] [Procedure, Recommended \(v3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.68:2019-05-01) (CONF:4423-32861).
52. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32862) 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:4423-32863).
 - b. **SHALL** contain exactly one [1..1] [Procedure, Order \(v4\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.66:2019-05-01) (CONF:4423-32864).

53. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32868) such that it
- SHALL** contain exactly one [1..1] @typeCode="DRIV" Is Derived From (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-32869).
 - SHALL** contain exactly one [1..1] Provider Care Experience (v2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.70:2019-05-01) (CONF:4423-32870).
54. **MAY** contain zero or more [0..*] **entry** (CONF:4423-32996) such that it
- SHALL** contain exactly one [1..1] @typeCode="DRIV" Is Derived From (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-32997).
 - SHALL** contain exactly one [1..1] Substance, Administered (v4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.73:2019-05-01) (CONF:4423-32998).
55. **MAY** contain zero or more [0..*] **entry** (CONF:4423-33005) such that it
- SHALL** contain exactly one [1..1] @typeCode="DRIV" Is Derived From (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-33006).
 - SHALL** contain exactly one [1..1] Substance, Order (v4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.77:2019-05-01) (CONF:4423-33007).
56. **MAY** contain zero or more [0..*] **entry** (CONF:4423-33011) such that it
- SHALL** contain exactly one [1..1] @typeCode="DRIV" Is Derived From (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-33012).
 - SHALL** contain exactly one [1..1] Substance, Recommended (v4) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.78:2019-05-01) (CONF:4423-33013).
57. **MAY** contain zero or more [0..*] **entry** (CONF:4423-34058) such that it
- SHALL** contain exactly one [1..1] @typeCode="DRIV" Is Derived From (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-34059).
 - SHALL** contain exactly one [1..1] Symptom (v3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.116:2019-05-01) (CONF:4423-34113).
58. **MAY** contain zero or more [0..*] **entry** (CONF:4423-34878) such that it
- SHALL** contain exactly one [1..1] @typeCode="DRIV" Is Derived From (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-34880).
 - SHALL** contain exactly one [1..1] Program Participation (v3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.130:2019-05-01) (CONF:4423-34879).
59. **MAY** contain zero or more [0..*] **entry** (CONF:4423-35739) 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:4423-35741).
- b. **SHALL** contain exactly one [1..1] Related Person (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.141:2019-05-01) (CONF:4423-35740).

4.2 Measure Description Section

[measureDescriptionSection: identifier
urn:oid:2.16.840.1.113883.10.20.28.2.3 (open)]

Table 5: Measure Description Section Contexts

Contained By:	Contains:
ODM Templates for CQL-Based HQMF Header (V4) (optional)	

The Measure Description Section is used to provide a more detailed or embellished description, such as one containing images and/or flow diagrams, than that provided in QualityMeasureDocument.text.

Table 6: Measure Description Section Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
measureDescriptionSection (identifier: urn:oid:2.16.840.1.113883.10.20.28.2.3)					
templateId	1..1	SHALL		87-18897	
item	1..1	SHALL		87-18898	
@root	1..1	SHALL		87-18899	2.16.840.1.113883.10.20.28.2.3
id	0..1	MAY		87-18913	
code	1..1	SHALL		87-18914	
@code	1..1	SHALL		87-19064	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 74045-6
@codeSystem	1..1	SHALL		87-30102	urn:oid:2.16.840.1.113883.6.1 (LOINC)
title	1..1	SHALL		87-18918	
@value	1..1	SHALL		87-18919	Measure Description Section
text	1..1	SHALL		87-18920	

1. **SHALL** contain exactly one [1..1] templateId (CONF:87-18897).
 - a. This templateId **SHALL** contain exactly one [1..1] item (CONF:87-18898) such that it
 - i. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.2.3" (CONF:87-18899).

2. **MAY** contain zero or one [0..1] **id** (CONF:87-18913).
3. **SHALL** contain exactly one [1..1] **code** (CONF:87-18914).
 - a. This code **SHALL** contain exactly one [1..1] @code="74045-6" Measure Description (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1 **STATIC**) (CONF:87-19064).
 - b. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:87-30102).
4. **SHALL** contain exactly one [1..1] **title** (CONF:87-18918).
 - a. This title **SHALL** contain exactly one [1..1] @value="Measure Description Section" (CONF:87-18919).
5. **SHALL** contain exactly one [1..1] **text** (CONF:87-18920).

Figure 2: Measure Description Section Example

```
<component>
  <measureDescriptionSection>
    <templateId>
      <item root="2.16.840.1.113883.10.20.28.2.3"/>
    </templateId>
    <code code="74045-6" codeSystem="2.16.840.1.113883.6.1">
      <displayName value="Measure Description"/>
    </code>
    <title value="Measure Description Section"/>
    <text value="...."/>
  </measureDescriptionSection>
</component>
```

4.3 Measure Observations Section (V2)

[measureObservationsSection: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.2.4:2018-05-01 (open)]

Table 7: Measure Observations Section (V2) Contexts

Contained By:	Contains:
QDM Templates for CQL-Based HQMF Header (V4) (optional)	

The Measure Observations section defines computations (e.g., time from check in to antibiotic administration) used to score particular aspects of performance. Measure observations are used in ratio and continuous variable eCQM.

Table 8: Measure Observations Section (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
measureObservationsSection (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.2.4:2018-05-01)					
templateId	1..1	SHALL		3372-18901	
item	1..1	SHALL		3372-18902	
@root	1..1	SHALL		3372-18903	2.16.840.1.113883.10.20.28.2.4
@extension	1..1	SHALL		3372-30104	2018-05-01
id	0..1	MAY		3372-18904	
code	1..1	SHALL		3372-18905	
@code	1..1	SHALL		3372-18906	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 57027-5
@codeSystem	1..1	SHALL		3372-30103	urn:oid:2.16.840.1.113883.6.1 (LOINC)
title	1..1	SHALL		3372-18910	
@value	1..1	SHALL		3372-18965	Measure Observations Section
text	1..1	SHALL		3372-18911	
definition	1..*	SHALL		3372-30105	
measureObservationDefinition	1..1	SHALL		3372-34644	
code	1..1	SHALL		3372-34650	
value	1..1	SHALL		3372-34651	
methodCode	1..1	SHALL		3372-34649	

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:3372-18901).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:3372-18902) such that it
 - i. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.28.2.4"** (CONF:3372-18903).
 - ii. **SHALL** contain exactly one [1..1] **@extension="2018-05-01"** (CONF:3372-30104).
2. **MAY** contain zero or one [0..1] **id** (CONF:3372-18904).
3. **SHALL** contain exactly one [1..1] **code** (CONF:3372-18905).

- a. This code **SHALL** contain exactly one [1..1] @code="57027-5" Measure Observation (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1 **STATIC**) (CONF:3372-18906).
- b. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:3372-30103).
- 4. **SHALL** contain exactly one [1..1] **title** (CONF:3372-18910).
 - a. This title **SHALL** contain exactly one [1..1] @value="Measure Observations Section" (CONF:3372-18965).
- 5. **SHALL** contain exactly one [1..1] **text** (CONF:3372-18911).
- 6. **SHALL** contain at least one [1..*] **definition** (CONF:3372-30105).
 - a. Such definitions **SHALL** contain exactly one [1..1] **measureObservationDefinition** (CONF:3372-34644).
 - i. This measureObservationDefinition **SHALL** contain exactly one [1..1] **code** (CONF:3372-34650).
 - ii. This measureObservationDefinition **SHALL** contain exactly one [1..1] **value** (CONF:3372-34651).
 - iii. This measureObservationDefinition **SHALL** contain exactly one [1..1] **methodCode** (CONF:3372-34649).

Figure 3: Measure Observations Section (V2) Example

```

<component>
  <measureObservationSection>
    <templateId>
      <item root="2.16.840.1.113883.10.20.28.2.4" extension="2018-05-01"/>
    </templateId>
    <code code="57027-5" codeSystem="2.16.840.1.113883.6.1">
      <displayName value="Measure Observation"/>
    </code>
    <title value="Measure Observation Section"/>
    <text value="...."/>
    <definition>
      <measureObservationDefinition classCode="OBS" moodCode="DEF">
        <id extension="Measure Observation"
root="8A9A47CF-45A4-4385-923C-5A045D8EA9F8">
          <code code="AGGREGATE" codeSystem="2.16.840.1.113883.5.4"/>
          <value nullFlavor="DER" xsi:type="INT">
            <expression value="TestCMS55v5.&quot;Measure Observation&quot; "/>
          </value>
        </measureObservationDefinition>
      </definition>
    </measureObservationSection>
  </component>

```

4.4 Population Criteria Section (V2)

[populationCriteriaSection: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.2.7:2017-08-01 (open)]

Table 9: Population Criteria Section (V2) Contexts

Contained By:	Contains:
QDM Templates for CQL-Based HQMF Header (V4) (required)	

The Population Criteria Section is used to formalize a measure's population types (e.g., initial population, numerator, denominator).

Table 10: Population Criteria Section (V2) Constraints Overview

XPath	Car d.	Verb	Data Type	CONF#	Value
populationCriteriaSection (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.2.7:2017-08-01)					
templateId	1..1	SHALL		3346-18774	
item	1..1	SHALL		3346-18775	
@root	1..1	SHALL		3346-18776	2.16.840.1.113883.10.20.28.2.7
@extension	1..1	SHALL		3346-34633	2017-08-01
id	0..1	MAY		3346-18960	
code	1..1	SHALL		3346-19059	
@code	1..1	SHALL		3346-19060	57026-7
@codeSystem	1..1	SHALL		3346-30092	urn:oid:2.16.840.1.113883.6.1 (LOINC)
title	1..1	SHALL		3346-18781	
@value	1..1	SHALL		3346-18782	Population Criteria Section
text	1..1	SHALL		3346-18961	
component	1..*	SHALL		3346-29995	
initialPopulationCriteria	1..1	SHALL		3346-29996	
code	1..1	SHALL		3346-30022	
@code	1..1	SHALL		3346-30023	IPOP
@codeSystem	1..1	SHALL		3346-30093	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
precondition	1..*	SHALL		3346-34868	
criteriaReference	1..1	SHALL		3346-34869	
id	1..1	SHALL		3346-34870	
@root	1..1	SHALL		3346-34886	
@extension	1..1	SHALL		3346-34887	

XPath	Car d.	Verb	Data Type	CONF#	Value
component	0..*	MAY		3346-30024	
numeratorCriteria	1..1	SHALL		3346-30025	
code	1..1	SHALL		3346-30028	
@code	1..1	SHALL		3346-30029	NUMER
@codeSystem	1..1	SHALL		3346-30094	urn:oid:2.16.840.1.113883.5 .4 (HL7ActCode)
precondition	1..*	SHALL		3346-34871	
criteriaReference	1..1	SHALL		3346-34872	
id	1..1	SHALL		3346-34873	
@root	1..1	SHALL		3346-34888	
@extension	1..1	SHALL		3346-34889	
component	0..*	MAY		3346-30026	
denominatorCriteria	1..1	SHALL		3346-30027	
code	1..1	SHALL		3346-30030	
@code	1..1	SHALL		3346-30031	DENOM
@codeSystem	1..1	SHALL		3346-30095	urn:oid:2.16.840.1.113883.5 .4 (HL7ActCode)
precondition	1..*	SHALL		3346-34874	
criteriaReference	1..1	SHALL		3346-34875	
id	1..1	SHALL		3346-34876	
@root	1..1	SHALL		3346-34890	
@extension	1..1	SHALL		3346-34891	
component	0..*	MAY		3346-30032	
measurePopulationCriteria	1..1	SHALL		3346-30033	
code	1..1	SHALL		3346-	

XPath	Car d.	Verb	Data Type	CONF#	Value
				30034	
@code	1..1	SHALL		3346-30035	MSRPOPL
@codeSystem	1..1	SHALL		3346-30096	urn:oid:2.16.840.1.113883.5 .4 (HL7ActCode)
precondition	1..*	SHALL		3346-34877	
criteriaReference	1..1	SHALL		3346-34878	
id	1..1	SHALL		3346-34879	
@root	1..1	SHALL		3346-34892	
@extension	1..1	SHALL		3346-34893	
component	0..*	MAY		3346-30036	
denominatorExceptionCriteria	1..1	SHALL		3346-30037	
code	1..1	SHALL		3346-30038	
@code	1..1	SHALL		3346-30039	DENEXCEP
@codeSystem	1..1	SHALL		3346-30097	urn:oid:2.16.840.1.113883.5 .4 (HL7ActCode)
precondition	1..*	SHALL		3346-34880	
criteriaReference	1..1	SHALL		3346-34881	
id	1..1	SHALL		3346-34882	
@root	1..1	SHALL		3346-34894	
@extension	1..1	SHALL		3346-34895	
component	0..*	MAY		3346-30040	
denominatorExclusionCriteria	1..1	SHALL		3346-30041	
code	1..1	SHALL		3346-30042	
@code	1..1	SHALL		3346-30043	DENEX
@codeSystem	1..1	SHALL		3346-30098	urn:oid:2.16.840.1.113883.5 .4 (HL7ActCode)

XPath	Car d.	Verb	Data Type	CONF#	Value
precondition	1..*	SHALL		3346-34883	
criteriaReference	1..1	SHALL		3346-34884	
id	1..1	SHALL		3346-34885	
@root	1..1	SHALL		3346-34896	
@extension	1..1	SHALL		3346-34897	
component	0..*	MAY		3346-30044	
numeratorExclusionCriteria	1..1	SHALL		3346-30045	
code	1..1	SHALL		3346-30046	
@code	1..1	SHALL		3346-30047	NUMEX
@codeSystem	1..1	SHALL		3346-30099	urn:oid:2.16.840.1.113883.5 .4 (HL7ActCode)
precondition	1..*	SHALL		3346-34898	
criteriaReference	1..1	SHALL		3346-34899	
id	1..1	SHALL		3346-34900	
@root	1..1	SHALL		3346-34904	
@extension	1..1	SHALL		3346-34905	
component	0..*	MAY		3346-30048	
measurePopulationExclusionCriteria	1..1	SHALL		3346-30049	
code	1..1	SHALL		3346-30050	
@code	1..1	SHALL		3346-30051	MSRPOPLEX
@codeSystem	1..1	SHALL		3346-30100	urn:oid:2.16.840.1.113883.5 .4 (HL7ActCode)
precondition	1..*	SHALL		3346-34901	
criteriaReference	1..1	SHALL		3346-34902	

XPath	Car d.	Verb	Data Type	CONF#	Value
id	1..1	SHALL		3346-34903	
@root	1..1	SHALL		3346-34906	
@extension	1..1	SHALL		3346-34907	
component	0..*	MAY		3346-30052	
stratifierCriteria	1..1	SHALL		3346-30053	
code	0..1	MAY		3346-30054	
@code	1..1	SHALL		3346-30055	STRAT
@codeSystem	1..1	SHALL		3346-30101	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
precondition	1..*	SHALL		3346-34634	
criteriaReference	1..1	SHALL		3346-34635	
id	1..1	SHALL		3346-34644	
@root	1..1	SHALL		3346-34645	
@extension	1..1	SHALL		3346-34646	

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:3346-18774).

a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:3346-18775) such that it

i. **SHALL** contain exactly one [1..1]

`@root="2.16.840.1.113883.10.20.28.2.7"` (CONF:3346-18776).

ii. **SHALL** contain exactly one [1..1] **@extension="2017-08-01"** (CONF:3346-34633).

2. **MAY** contain zero or one [0..1] **id** (CONF:3346-18960).

3. **SHALL** contain exactly one [1..1] **code** (CONF:3346-19059).

a. This code **SHALL** contain exactly one [1..1] **@code="57026-7"** Population Criteria (CONF:3346-19060).

b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:3346-30092).

4. **SHALL** contain exactly one [1..1] **title** (CONF:3346-18781).

a. This title **SHALL** contain exactly one [1..1] **@value="Population Criteria Section"** (CONF:3346-18782).

5. **SHALL** contain exactly one [1..1] **text** (CONF:3346-18961).

6. **SHALL** contain at least one [1..*] **component** (CONF:3346-29995) such that it
- SHALL** contain exactly one [1..1] **initialPopulationCriteria** (CONF:3346-29996).
 - This initialPopulationCriteria **SHALL** contain exactly one [1..1] **code** (CONF:3346-30022).
 - This code **SHALL** contain exactly one [1..1] @code="IPOP" Initial Population (CONF:3346-30023).
 - This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3346-30093).
 - This initialPopulationCriteria **SHALL** contain at least one [1..*] **precondition** (CONF:3346-34868).
 - Such preconditions **SHALL** contain exactly one [1..1] **criteriaReference** (CONF:3346-34869).
 - This criteriaReference **SHALL** contain exactly one [1..1] **id** (CONF:3346-34870).
 - This id **SHALL** contain exactly one [1..1] @root (CONF:3346-34886).
 - This id **SHALL** contain exactly one [1..1] @extension (CONF:3346-34887).
 - MAY** contain zero or more [0..*] **component** (CONF:3346-30024) such that it
 - SHALL** contain exactly one [1..1] **numeratorCriteria** (CONF:3346-30025).
 - This numeratorCriteria **SHALL** contain exactly one [1..1] **code** (CONF:3346-30028).
 - This code **SHALL** contain exactly one [1..1] @code="NUMER" Numerator (CONF:3346-30029).
 - This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3346-30094).
 - This numeratorCriteria **SHALL** contain at least one [1..*] **precondition** (CONF:3346-34871).
 - Such preconditions **SHALL** contain exactly one [1..1] **criteriaReference** (CONF:3346-34872).
 - This criteriaReference **SHALL** contain exactly one [1..1] **id** (CONF:3346-34873).
 - This id **SHALL** contain exactly one [1..1] @root (CONF:3346-34888).
 - This id **SHALL** contain exactly one [1..1] @extension (CONF:3346-34889).
 - MAY** contain zero or more [0..*] **component** (CONF:3346-30026) such that it
 - SHALL** contain exactly one [1..1] **denominatorCriteria** (CONF:3346-30027).
 - This denominatorCriteria **SHALL** contain exactly one [1..1] **code** (CONF:3346-30030).
 - This code **SHALL** contain exactly one [1..1] @code="DENOM" Denominator (CONF:3346-30031).

2. This code **SHALL** contain exactly one [1..1] **@codeSystem**
 (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4)
 (CONF:3346-30095).
- ii. This denominatorCriteria **SHALL** contain at least one [1..*] **precondition**
 (CONF:3346-34874).
1. Such preconditions **SHALL** contain exactly one [1..1]
criteriaReference (CONF:3346-34875).
 - a. This criteriaReference **SHALL** contain exactly one [1..1] **id**
 (CONF:3346-34876).
 - i. This id **SHALL** contain exactly one [1..1] **@root**
 (CONF:3346-34890).
 - ii. This id **SHALL** contain exactly one [1..1] **@extension**
 (CONF:3346-34891).
9. **MAY** contain zero or more [0..*] **component** (CONF:3346-30032) such that it
- a. **SHALL** contain exactly one [1..1] **measurePopulationCriteria** (CONF:3346-30033).
 - i. This measurePopulationCriteria **SHALL** contain exactly one [1..1] **code**
 (CONF:3346-30034).
 1. This code **SHALL** contain exactly one [1..1] **@code=** "MSRPOPL"
 Measure Population (CONF:3346-30035).
 2. This code **SHALL** contain exactly one [1..1] **@codeSystem**
 (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4)
 (CONF:3346-30096).
 - ii. This measurePopulationCriteria **SHALL** contain at least one [1..*]
precondition (CONF:3346-34877).
 1. Such preconditions **SHALL** contain exactly one [1..1]
criteriaReference (CONF:3346-34878).
 - a. This criteriaReference **SHALL** contain exactly one [1..1] **id**
 (CONF:3346-34879).
 - i. This id **SHALL** contain exactly one [1..1] **@root**
 (CONF:3346-34892).
 - ii. This id **SHALL** contain exactly one [1..1] **@extension**
 (CONF:3346-34893).

10. **MAY** contain zero or more [0..*] **component** (CONF:3346-30036) such that it

 - a. **SHALL** contain exactly one [1..1] **denominatorExceptionCriteria** (CONF:3346-30037).
 - i. This denominatorExceptionCriteria **SHALL** contain exactly one [1..1] **code**
 (CONF:3346-30038).
 1. This code **SHALL** contain exactly one [1..1] **@code=** "DENEXCEP"
 Denominator Exception (CONF:3346-30039).
 2. This code **SHALL** contain exactly one [1..1] **@codeSystem**
 (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4)
 (CONF:3346-30097).
 - ii. This denominatorExceptionCriteria **SHALL** contain at least one [1..*]
precondition (CONF:3346-34880).

1. Such preconditions **SHALL** contain exactly one [1..1] **criteriaReference** (CONF:3346-34881).
 - a. This criteriaReference **SHALL** contain exactly one [1..1] **id** (CONF:3346-34882).
 - i. This id **SHALL** contain exactly one [1..1] **@root** (CONF:3346-34894).
 - ii. This id **SHALL** contain exactly one [1..1] **@extension** (CONF:3346-34895).
11. **MAY** contain zero or more [0..*] **component** (CONF:3346-30040) such that it
 - a. **SHALL** contain exactly one [1..1] **denominatorExclusionCriteria** (CONF:3346-30041).
 - i. This denominatorExclusionCriteria **SHALL** contain exactly one [1..1] **code** (CONF:3346-30042).
 1. This code **SHALL** contain exactly one [1..1] **@code="DENEX"** Denominator Exclusion (CONF:3346-30043).
 2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3346-30098).
 - ii. This denominatorExclusionCriteria **SHALL** contain at least one [1..*] **precondition** (CONF:3346-34883).
 1. Such preconditions **SHALL** contain exactly one [1..1] **criteriaReference** (CONF:3346-34884).
 - a. This criteriaReference **SHALL** contain exactly one [1..1] **id** (CONF:3346-34885).
 - i. This id **SHALL** contain exactly one [1..1] **@root** (CONF:3346-34896).
 - ii. This id **SHALL** contain exactly one [1..1] **@extension** (CONF:3346-34897).
 12. **MAY** contain zero or more [0..*] **component** (CONF:3346-30044) such that it
 - a. **SHALL** contain exactly one [1..1] **numeratorExclusionCriteria** (CONF:3346-30045).
 - i. This numeratorExclusionCriteria **SHALL** contain exactly one [1..1] **code** (CONF:3346-30046).
 1. This code **SHALL** contain exactly one [1..1] **@code="NUMEX"** Numerator Exclusion (CONF:3346-30047).
 2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3346-30099).
 - ii. This numeratorExclusionCriteria **SHALL** contain at least one [1..*] **precondition** (CONF:3346-34898).
 1. Such preconditions **SHALL** contain exactly one [1..1] **criteriaReference** (CONF:3346-34899).
 - a. This criteriaReference **SHALL** contain exactly one [1..1] **id** (CONF:3346-34900).

- i. This id **SHALL** contain exactly one [1..1] **@root** (CONF:3346-34904).
 - ii. This id **SHALL** contain exactly one [1..1] **@extension** (CONF:3346-34905).
13. **MAY** contain zero or more [0..*] **component** (CONF:3346-30048) such that it
- a. **SHALL** contain exactly one [1..1] **measurePopulationExclusionCriteria** (CONF:3346-30049).
 - i. This **measurePopulationExclusionCriteria** **SHALL** contain exactly one [1..1] **code** (CONF:3346-30050).
 - 1. This code **SHALL** contain exactly one [1..1] **@code= "MSRPOPLEX"** Measure Population Exclusions (CONF:3346-30051).
 - 2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3346-30100).
 - ii. This **measurePopulationExclusionCriteria** **SHALL** contain at least one [1..*] **precondition** (CONF:3346-34901).
 - 1. Such preconditions **SHALL** contain exactly one [1..1] **criteriaReference** (CONF:3346-34902).
 - a. This **criteriaReference** **SHALL** contain exactly one [1..1] **id** (CONF:3346-34903).
 - i. This id **SHALL** contain exactly one [1..1] **@root** (CONF:3346-34906).
 - ii. This id **SHALL** contain exactly one [1..1] **@extension** (CONF:3346-34907).
14. **MAY** contain zero or more [0..*] **component** (CONF:3346-30052) such that it
- a. **SHALL** contain exactly one [1..1] **stratifierCriteria** (CONF:3346-30053).
 - i. This **stratifierCriteria** **MAY** contain zero or one [0..1] **code** (CONF:3346-30054).
 - 1. The code, if present, **SHALL** contain exactly one [1..1] **@code= "STRAT"** Stratification (CONF:3346-30055).
 - 2. The code, if present, **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3346-30101).
 - ii. This **stratifierCriteria** **SHALL** contain at least one [1..*] **precondition** (CONF:3346-34634).
 - 1. Such preconditions **SHALL** contain exactly one [1..1] **criteriaReference** (CONF:3346-34635).
 - a. This **criteriaReference** **SHALL** contain exactly one [1..1] **id** (CONF:3346-34644).
 - i. This id **SHALL** contain exactly one [1..1] **@root** (CONF:3346-34645).
 - ii. This id **SHALL** contain exactly one [1..1] **@extension** (CONF:3346-34646).

5 ENTRY

5.1 Admission Source

[Role: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.123:2017-05-01
(open)]

Table 11: Admission Source Contexts

Contained By:	Contains:
Encounter, Performed (V3) (optional)	

This template represents the QDM attribute: Admission Source

The location from which the patient was admitted (e.g., physician referral, facility from which the patient was transferred).

Table 12: Admission Source Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
Role (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.123:2017-05-01)					
@classCode	1..1	SHALL		3335-34344	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = SDLOC
templateId	1..1	SHALL		3335-34340	
item	1..1	SHALL		3335-34341	
@root	1..1	SHALL		3335-34345	2.16.840.1.113883.10.20.28.3.123
@extension	1..1	SHALL		3335-34530	2017-05-01
code	1..1	SHALL		3335-34342	
@valueSet	0..1	SHOULD		3335-34346	

1. **SHALL** contain exactly one [1..1] **@classCode**="SDLOC" Service Delivery Location (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3335-34344).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:3335-34340).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:3335-34341) such that it
 - i. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.3.123" (CONF:3335-34345).
 - ii. **SHALL** contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-34530).

3. **SHALL** contain exactly one [1..1] **code** (CONF:3335-34342).

a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3335-34346).

Figure 4: Admission Source Example

```
<role classCode="SDLOC">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.123" extension="2017-05-01"/>
  </templateId>
  <code valueSet="{$QDMElementValueSetOID}" />
</role>
```

5.2 Adverse Event (V3)

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.120:2019-05-01 (open)]

Table 13: Adverse Event (V3) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Facility Location (optional) Severity Observation (V2) (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the 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.

Timing: The Relevant dateTime references the adverse event occurred. The Author dateTime references the time the adverse event was recorded.

Table 14: Adverse Event (V3) Constraints Overview

XPath	Car d.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.120:2019-05-01)					
@classCode	1..1	SHALL		4423-34210	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		4423-34211	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		4423-34758	
templateId	1..1	SHALL		4423-34183	
item	1..1	SHALL		4423-34184	
@root	1..1	SHALL		4423-34194	2.16.840.1.113883.10.20.28.4.120
@extension	1..1	SHALL		4423-34531	2019-05-01
id	1..1	SHALL		4423-34212	
code	1..1	SHALL		4423-34185	
@code	1..1	SHALL		4423-34196	ASSERTION
@codeSystem	1..1	SHALL		4423-34197	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
title	1..1	SHALL		4423-34213	
statusCode	1..1	SHALL		4423-34186	
@code	1..1	SHALL		4423-34198	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	4423-34187	
low	1..1	SHALL		4423-34199	
value	1..1	SHALL	CD	4423-34188	
@code	1..1	SHALL		4423-34201	281647001
@codeSystem	1..1	SHALL		4423-34202	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
participation	1..1	SHALL		4423-34189	

XPath	Car d.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4423-34207	urn:oid:2.16.840.1.113883.5 .90 (HL7ParticipationType) = CSM
role	1..1	SHALL		4423-34190	
@classCode	1..1	SHALL		4423-34206	urn:oid:2.16.840.1.113883.5 .110 (HL7RoleClass) = MANU
playingEntity	1..1	SHALL		4423-34191	
@classCode	1..1	SHALL		4423-34204	urn:oid:2.16.840.1.113883.5 .41 (HL7EntityClass) = MMAT
@determinerCode	1..1	SHALL		4423-34205	urn:oid:2.16.840.1.113883.5 .30 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		4423-34192	
@valueSet	0..1	SHOULD		4423-34203	
participation	0..1	MAY		4423-34692	
@typeCode	1..1	SHALL		4423-34694	urn:oid:2.16.840.1.113883.5 .90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-34695	
role	1..1	SHALL		4423-34693	
@classCode	1..1	SHALL		4423-34696	urn:oid:2.16.840.1.113883.5 .110 (HL7RoleClass) = ROL
id	0..1	MAY		4423-34697	
participation	0..*	MAY		4423-34500	
@typeCode	1..1	SHALL		4423-34501	urn:oid:2.16.840.1.113883.5 .90 (HL7ParticipationType) = LOC
role	1..1	SHALL		4423-34502	Facility Location (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01)
participation	0..1	MAY		4423-34966	
@typeCode	1..1	SHALL		4423-34970	urn:oid:2.16.840.1.113883.5 .90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-	Entity - Practitioner

XPath	Car d.	Verb	Data Type	CONF#	Value
				34967	(identifier: urn:hl7ii:2.16.840.1.113883. 10.20.28.4.137:2019-05-01)
participation	0..1	MAY		4423- 34968	
@typeCode	1..1	SHALL		4423- 34971	urn:oid:2.16.840.1.113883.5 .90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423- 34969	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883. 10.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423- 34972	
@typeCode	1..1	SHALL		4423- 34974	urn:oid:2.16.840.1.113883.5 .90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423- 34973	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883. 10.20.28.4.136:2019-05-01)
participation	0..1	MAY		4423- 35795	
@typeCode	1..1	SHALL		4423- 35797	urn:oid:2.16.840.1.113883.5 .90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423- 35796	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883. 10.20.28.4.134:2019-05-01)
outboundRelationship	0..1	MAY		4423- 34497	
@typeCode	1..1	SHALL		4423- 34498	urn:oid:2.16.840.1.113883.5 .1002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		4423- 34499	Severity Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883. 10.20.28.4.93:2017-08-01)
outboundRelationship	0..1	MAY		4423- 34682	
@typeCode	1..1	SHALL		4423- 34686	urn:oid:2.16.840.1.113883.5 .1002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		4423- 34683	
@classCode	1..1	SHALL		4423-	urn:oid:2.16.840.1.113883.5

XPath	Car d.	Verb	Data Type	CONF#	Value
				34687	.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		4423-34688	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
code	1..1	SHALL		4423-34684	
@code	1..1	SHALL		4423-34689	ASSERTION
@codeSystem	1..1	SHALL		4423-34690	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
value	1..1	SHALL	CD	4423-34685	
@valueSet	0..1	SHOULD		4423-34691	

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:4423-34210).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-34211).
3. **SHALL NOT** contain [0..0] **@actionNegationInd** (CONF:4423-34758).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-34183).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-34184) such that it
 - i. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.28.4.120"** (CONF:4423-34194).
 - ii. **SHALL** contain exactly one [1..1] **@extension="2019-05-01"** (CONF:4423-34531).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-34212).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-34185).
 - a. This code **SHALL** contain exactly one [1..1] **@code="ASSERTION"** Assertion (CONF:4423-34196).
 - 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:4423-34197).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-34213).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-34186).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-34198).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-34187) such that it
 - a. **SHALL** contain exactly one [1..1] **low** (CONF:4423-34199).

Note: QDM Attribute: Relevant date/Time (references the adverse event occurred)
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:4423-34188).

- a. This value **SHALL** contain exactly one [1..1] @code="281647001" Adverse Reaction (CONF:4423-34201).
 - 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:4423-34202).
11. **SHALL** contain exactly one [1..1] **participation** (CONF:4423-34189) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="CSM" Consumable (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34207).
 - b. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34190).
 - i. This role **SHALL** contain exactly one [1..1] @classCode="MANU" Manufactured (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-34206).
 - ii. This role **SHALL** contain exactly one [1..1] **playingEntity** (CONF:4423-34191).
 - 1. This playingEntity **SHALL** contain exactly one [1..1] @classCode="MMAT" Manufactured Material (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:4423-34204).
 - 2. This playingEntity **SHALL** contain exactly one [1..1] @determinerCode="KIND" Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:4423-34205).
 - 3. This playingEntity **SHALL** contain exactly one [1..1] **code** (CONF:4423-34192).

Note: QDM Attribute: Code

 - a. This code **SHOULD** contain zero or one [0..1] @valueSet (CONF:4423-34203).

12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34692) such that it

 - a. **SHALL** contain exactly one [1..1] @typeCode="AUT" Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34694).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34695).
Note: QDM Attribute: Author dateTime
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34693).
 - i. This role **SHALL** contain exactly one [1..1] @classCode="ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-34696).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-34697).

13. **MAY** contain zero or more [0..*] **participation** (CONF:4423-34500) such that it
Note: QDM Attribute: Facility Location

 - a. **SHALL** contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34501).

- b. **SHALL** contain exactly one [1..1] Facility Location (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01) (CONF:4423-34502).
14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34966) such that it
Note: QDM Attribute: Recorder
- SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34970).
 - SHALL** contain exactly one [1..1] Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-34967).
15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34968) such that it
Note: QDM Attribute: Recorder
- SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34971).
 - SHALL** contain exactly one [1..1] Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-34969).
16. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34972) such that it
Note: QDM Attribute: Recorder
- SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34974).
 - SHALL** contain exactly one [1..1] Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-34973).
17. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35795) such that it
Note: QDM Attribute: Recorder
- SHALL** contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35797).
 - SHALL** contain exactly one [1..1] Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35796).
18. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-34497) such that it
Note: QDM Attribute: Severity
- SHALL** contain exactly one [1..1] @typeCode="REFR" Refers To (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-34498).
 - SHALL** contain exactly one [1..1] Severity Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.93:2017-08-01) (CONF:4423-34499).
19. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-34682) such that it
Note: QDM Attribute: Type (The characterization of the reaction (e.g., hypersensitivity, rash, gastroenteric symptoms, etc.)

- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers To (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-34686).
- b. **SHALL** contain exactly one [1..1] **observationCriteria** (CONF:4423-34683).
 - i. This observationCriteria **SHALL** contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:4423-34687).
 - ii. This observationCriteria **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-34688).
 - iii. This observationCriteria **SHALL** contain exactly one [1..1] **code** (CONF:4423-34684).
 - 1. This code **SHALL** contain exactly one [1..1] @code="ASSERTION" Assertion (CONF:4423-34689).
 - 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:4423-34690).
 - iv. This observationCriteria **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:4423-34685).
 - 1. This value **SHOULD** contain zero or one [0..1] @valueSet (CONF:4423-34691).

Figure 5: Adverse Event (V3) Example

```

<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.120" extension="2019-05-01"/>
  </templateId>
  <id root="69da3f12-e963-4f6f-baed-3e59cf9b58c8"/>
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" codeSystemName="ActCode"/>
  <title value="Adverse Event"/>
  <statusCode code="completed"/>
  <value xsi:type="CD" code="281647001" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED-CT">
    <displayName value="Adverse Reaction"/>
  </value>
  <participation typeCode="CSM">
    <role classCode="MANU">
      <playingEntity classCode="MMAT" determinerCode="KIND">
        <code valueSet="{$QDMElementValueSetOID}"/>
      </playingEntity>
    </role>
  </participation>
</observationCriteria>

```

5.3 Allergy Intolerance (V3)

[observationCriteria: identifier

urn:hl7ii:2.16.840.1.113883.10.20.28.4.119:2019-05-01 (open)]

Table 15: Allergy Intolerance (V3) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Severity Observation (V2) (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the 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.

Timing: The Prevalence Period references the time from the onset date to the abatement date.

Table 16: Allergy Intolerance (V3) Constraints Overview

XPath	Car d.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.119:2019-05-01)					
@classCode	1..1	SHALL		4423-34241	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		4423-34242	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		4423-34759	
templateId	1..1	SHALL		4423-34215	
item	1..1	SHALL		4423-34216	
@root	1..1	SHALL		4423-34228	2.16.840.1.113883.10.20.28.4.119
@extension	1..1	SHALL		4423-34532	2019-05-01
id	1..1	SHALL		4423-34243	
code	1..1	SHALL		4423-34217	
@code	1..1	SHALL		4423-34229	ASSERTION
@codeSystem	1..1	SHALL		4423-34230	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
title	1..1	SHALL		4423-34244	
statusCode	1..1	SHALL		4423-34218	
@code	1..1	SHALL		4423-34231	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	4423-34219	
low	0..1	MAY		4423-34232	
high	0..1	MAY		4423-34233	
value	1..1	SHALL	CD	4423-34220	
@code	1..1	SHALL		4423-34234	106190000
@codeSystem	1..1	SHALL		4423-34235	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96

XPath	Car d.	Verb	Data Type	CONF#	Value
participation	1..1	SHALL		4423-34221	
@typeCode	1..1	SHALL		4423-34240	urn:oid:2.16.840.1.113883.5 .90 (HL7ParticipationType) = CSM
role	1..1	SHALL		4423-34222	
@classCode	1..1	SHALL		4423-34239	urn:oid:2.16.840.1.113883.5 .110 (HL7RoleClass) = MANU
playingEntity	1..1	SHALL		4423-34223	
@classCode	1..1	SHALL		4423-34237	urn:oid:2.16.840.1.113883.5 .41 (HL7EntityClass) = MMAT
@determinerCode	1..1	SHALL		4423-34238	urn:oid:2.16.840.1.113883.5 .30 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		4423-34224	
@valueSet	0..1	SHOUL D		4423-34236	
participation	0..1	MAY		4423-34710	
@typeCode	1..1	SHALL		4423-34713	urn:oid:2.16.840.1.113883.5 .90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-34711	
low	1..1	SHALL		4423-34714	
role	1..1	SHALL		4423-34712	
@classCode	1..1	SHALL		4423-34715	urn:oid:2.16.840.1.113883.5 .110 (HL7RoleClass) = ROL
id	0..1	MAY		4423-34716	
participation	0..1	MAY		4423-34979	
@typeCode	1..1	SHALL		4423-34985	urn:oid:2.16.840.1.113883.5 .90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-34980	<u>Entity - Practitioner</u> <u>(identifier:</u> <u>urn:hl7ii:2.16.840.1.113883.</u> <u>10.20.28.4.137:2019-05-01</u>
participation	0..1	MAY		4423-	

XPath	Car d.	Verb	Data Type	CONF#	Value
				34983	
@typeCode	1..1	SHALL		4423-34987	urn:oid:2.16.840.1.113883.5 .90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-34984	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35798	
@typeCode	1..1	SHALL		4423-35800	urn:oid:2.16.840.1.113883.5 .90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35799	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-34981	
@typeCode	1..1	SHALL		4423-34986	urn:oid:2.16.840.1.113883.5 .90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-34982	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01)
outboundRelationship	0..1	MAY		4423-34214	
@typeCode	1..1	SHALL		4423-34226	urn:oid:2.16.840.1.113883.5 .1002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		4423-34225	Severity Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.93:2017-08-01)
outboundRelationship	0..1	MAY		4423-34704	
@typeCode	1..1	SHALL		4423-34709	REFR
observationCriteria	1..1	SHALL		4423-34705	
@classCode	1..1	SHALL		4423-34707	OBS
@moodCode	1..1	SHALL		4423-34708	EVN
code	1..1	SHALL		4423-34706	

XPath	Car d.	Verb	Data Type	CONF#	Value
@code	1..1	SHALL		4423-34698	ASSERTION
@codeSystem	1..1	SHALL		4423-34699	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
value	1..1	SHALL	CD	4423-34700	
@valueSet	0..1	SHOULD		4423-34701	

1. **SHALL** contain exactly one [1..1] **@classCode**= "OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:4423-34241).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-34242).
3. **SHALL NOT** contain [0..0] **@actionNegationInd** (CONF:4423-34759).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-34215).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-34216) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.119" (CONF:4423-34228).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-34532).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-34243).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-34217).
 - a. This code **SHALL** contain exactly one [1..1] **@code**= "ASSERTION" Assertion (CONF:4423-34229).
 - 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:4423-34230).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-34244).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-34218).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**= "completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-34231).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-34219) such that it

Note: QDM Attribute: Prevalence Period (The Prevalence Period references the time from the onset date to the abatement date)

 - a. **MAY** contain zero or one [0..1] **low** (CONF:4423-34232).

Note: Onset Date
 - b. **MAY** contain zero or one [0..1] **high** (CONF:4423-34233).

Note: Abatement Date
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**= "CD" (CONF:4423-34220).

- a. This value **SHALL** contain exactly one [1..1] @code="106190000" Allergy (CONF:4423-34234).
 - 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:4423-34235).
11. **SHALL** contain exactly one [1..1] **participation** (CONF:4423-34221) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="CSM" Consumable (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34240).
 - b. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34222).
 - i. This role **SHALL** contain exactly one [1..1] @classCode="MANU" Manufactured (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-34239).
 - ii. This role **SHALL** contain exactly one [1..1] **playingEntity** (CONF:4423-34223).
 - 1. This playingEntity **SHALL** contain exactly one [1..1] @classCode="MMAT" Manufactured Material (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:4423-34237).
 - 2. This playingEntity **SHALL** contain exactly one [1..1] @determinerCode="KIND" Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:4423-34238).
 - 3. This playingEntity **SHALL** contain exactly one [1..1] **code** (CONF:4423-34224).
- Note: QDM Attribute: Code
- a. This code **SHOULD** contain zero or one [0..1] @valueSet (CONF:4423-34236).
12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34710) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="AUT" Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34713).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34711).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-34714).

Note: QDM Attribute: Author dateTime
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34712).
 - i. This role **SHALL** contain exactly one [1..1] @classCode="ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-34715).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-34716).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34979) such that it
- Note: QDM Attribute: Recorder
- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34985).

- b. **SHALL** contain exactly one [1..1] [Entity - Practitioner](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-34980).
14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34983) such that it
Note: QDM Attribute: Recorder
- SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34987).
 - SHALL** contain exactly one [1..1] [Entity - Organization](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-34984).
15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35798) such that it
Note: QDM Attribute: Recorder
- SHALL** contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35800).
 - SHALL** contain exactly one [1..1] [Entity - Care Partner](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35799).
16. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34981) such that it
Note: QDM Attribute: Recorder
- SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34986).
 - SHALL** contain exactly one [1..1] [Entity - Patient](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-34982).
17. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-34214) such that it
Note: QDM Attribute: Severity
- SHALL** contain exactly one [1..1] @typeCode="REFR" Refers To (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-34226).
 - SHALL** contain exactly one [1..1] [Severity Observation \(v2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.93:2017-08-01) (CONF:4423-34225).
18. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-34704) such that it
Note: QDM Attribute: Type (The characterization of the reaction (e.g., hypersensitivity, rash, gastroenteric symptoms, etc.)
- SHALL** contain exactly one [1..1] @typeCode="REFR" Refers To (CONF:4423-34709).
 - SHALL** contain exactly one [1..1] **observationCriteria** (CONF:4423-34705).
 - This observationCriteria **SHALL** contain exactly one [1..1] @classCode="OBS" (CONF:4423-34707).
 - This observationCriteria **SHALL** contain exactly one [1..1] @moodCode="EVN" (CONF:4423-34708).

- iii. This observationCriteria **SHALL** contain exactly one [1..1] **code** (CONF:4423-34706).
 - 1. This code **SHALL** contain exactly one [1..1] **@code="ASSERTION"** Assertion (CONF:4423-34698).
 - 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:4423-34699).
- iv. This observationCriteria **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:4423-34700).
 - 1. This value **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-34701).

Figure 6: Allergy Intolerance (V3) Example

```

<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.119" extension="2019-05-01"/>
  </templateId>
  <id root="dd055113-6d52-4b3f-928e-235f8e52c4c0"/>
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" codeSystemName="ActCode"/>
  <title value="Allergy Intolerance"/>
  <statusCode code="completed"/>
  <value xsi:type="CD" code="106190000" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED-CT">
    <displayName value="Allergy"/>
  </value>
  <participation typeCode="CSM">
    <role classCode="MANU">
      <playingEntity classCode="MMAT" determinerCode="KIND">
        <code valueSet="{$QDMElementValueSetOID}"/>
      </playingEntity>
    </role>
  </participation>
</observationCriteria>

```

5.4 Assessment, Order (V2)

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.131:2019-05-01 (open)]

Table 17: Assessment, Order (V2) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Assessment, Order.

Data elements that meet these criteria using this datatype 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 QDM category and its corresponding value set.

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

NOTE: 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. Measure developers should address feasibility of clinical workflow to capture Assessment, Order when evaluating measures.

Table 18: Assessment, Order (V2) Constraints Overview

XPath	Car d.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.131:2019-05-01)					
@classCode	1..1	SHALL		4423-34673	OBS
@moodCode	1..1	SHALL		4423-34674	urn:oid:2.16.840.1.113883.5 .1001 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		4423-34675	
templateId	1..1	SHALL		4423-34654	
item	1..1	SHALL		4423-34655	
@root	1..1	SHALL		4423-34664	2.16.840.1.113883.10.20.28.4.131
@extension	1..1	SHALL		4423-34665	2019-05-01
id	1..1	SHALL		4423-34676	
code	1..1	SHALL		4423-34656	
@valueSet	0..1	SHOULD		4423-34666	
title	1..1	SHALL		4423-34677	
statusCode	1..1	SHALL		4423-34657	
@code	1..1	SHALL		4423-34667	urn:oid:2.16.840.1.113883.5 .14 (HL7ActStatus) = active
participation	0..1	MAY		4423-34660	
@typeCode	1..1	SHALL		4423-34672	urn:oid:2.16.840.1.113883.5 .90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-34661	
low	1..1	SHALL		4423-34669	
role	1..1	SHALL		4423-34662	
@classCode	1..1	SHALL		4423-34670	ROL
id	0..1	MAY		4423-34671	
participation	0..1	MAY		4423-34988	

XPath	Car d.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4423-34994	urn:oid:2.16.840.1.113883.5 .90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-34989	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01)
participation	0..1	MAY		4423-34992	
@typeCode	1..1	SHALL		4423-34996	urn:oid:2.16.840.1.113883.5 .90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-34993	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35801	
@typeCode	1..1	SHALL		4423-35803	urn:oid:2.16.840.1.113883.5 .90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35802	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-34990	
@typeCode	1..1	SHALL		4423-34995	urn:oid:2.16.840.1.113883.5 .90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-34991	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01)
outboundRelationship	0..1	MAY		4423-34652	
@typeCode	1..1	SHALL		4423-34663	urn:oid:2.16.840.1.113883.5 .1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-34653	Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01)

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:4423-34673).
2. **SHALL** contain exactly one [1..1] @moodCode="RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-34674).

3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:4423-34675).

Note: QDM Attribute: Negation Rationale

4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-34654).

a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-34655) such that it

i. **SHALL** contain exactly one [1..1]

@root="2.16.840.1.113883.10.20.28.4.131" (CONF:4423-34664).

ii. **SHALL** contain exactly one [1..1] **@extension**="2019-05-01" (CONF:4423-34665).

5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-34676).

6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-34656).

Note: QDM Attribute: Code

a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-34666).

7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-34677).

8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-34657).

a. This statusCode **SHALL** contain exactly one [1..1] **@code**="active" Active
(CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-34667).

9. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34660) such that it

a. **SHALL** contain exactly one [1..1] **@typeCode**="AUT" Author (CodeSystem:
HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34672).

b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34661).

i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-34669).

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

c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34662).

i. This role **SHALL** contain exactly one [1..1] **@classCode**="ROL" Role
(CONF:4423-34670).

ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-34671).

10. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34988) such that it

Note: QDM Attribute: Requester

a. **SHALL** contain exactly one [1..1] **@typeCode**="PART" participation (CodeSystem:
HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34994).

b. **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier:
urn:hl7:ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-34989).

11. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34992) such that it

Note: QDM Attribute: Requester

a. **SHALL** contain exactly one [1..1] **@typeCode**="PART" participation (CodeSystem:
HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34996).

- b. **SHALL** contain exactly one [1..1] [Entity - Organization](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-34993).
12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35801) such that it
 Note: QDM Attribute: Requester
 - a. **SHALL** contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35803).
 - b. **SHALL** contain exactly one [1..1] [Entity - Care Partner](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35802).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34990) such that it
 Note: QDM Attribute: Requester
 - a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34995).
 - b. **SHALL** contain exactly one [1..1] [Entity - Patient](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-34991).
14. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-34652) 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:4423-34663).
 - b. **SHALL** contain exactly one [1..1] [Reason](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-34653).

Figure 7: Assessment, Order (V2) Example

```

<observationCriteria classCode="OBS" moodCode="INT">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.131" extension="2019-05-01"/>
  </templateId>
  <id root="904c1629-8a5d-4a33-846e-994a97a3caf0"/>
  <code valueSet="{$QDMElementValueSetOID}"/>
  <title value="Assessment, Order"/>
  <statusCode code="active"/>
</observationCriteria>

```

5.5 Assessment, Performed (V3)

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.117:2019-05-01 (open)]

Table 19: Assessment, Performed (V3) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Component (optional) Related To (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Assessment, Performed.

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

Timing: The time the assessment is performed; Relevant dateTime references timing for an assessment that occurs at a single point in time. Relevant Period references a start and stop time for an assessment that occurs over a time interval. author time. Author dateTime references the time the assessment was recorded and applies only when the record has no reference to the time the assessment was performed and only the recorded time is available.

Negation of QDM datatype-related actions for a reason always use the author dateTime attribute to reference timing and must not use Relevant Period.

Table 20: Assessment, Performed (V3) Constraints Overview

XPath	Car d.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.117:2019-05-01)					
@classCode	1..1	SHALL		4423-34142	OBS
@moodCode	1..1	SHALL		4423-34143	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		4423-34144	
templateId	1..1	SHALL		4423-34126	
item	1..1	SHALL		4423-34127	
@root	1..1	SHALL		4423-34134	2.16.840.1.113883.10.20.28.4.117
@extension	1..1	SHALL		4423-34254	2019-05-01
id	1..1	SHALL		4423-34145	
code	1..1	SHALL		4423-34128	
@valueSet	0..1	SHOULD		4423-34136	
title	1..1	SHALL		4423-34146	
statusCode	1..1	SHALL		4423-34129	
@code	1..1	SHALL		4423-34137	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	4423-35956	
low	0..1	MAY		4423-35957	

XPath	Car d.	Verb	Data Type	CONF#	Value
high	0..1	MAY		4423-35958	
value	0..1	MAY		4423-34147	
methodCode	0..1	MAY		4423-34246	
item	0..1	SHOUL D		4423-34247	
@valueSet	0..1	SHOUL D		4423-34249	
participation	0..1	MAY		4423-34735	
@typeCode	1..1	SHALL		4423-34738	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-34736	
low	1..1	SHALL		4423-34739	
role	1..1	SHALL		4423-34737	
@classCode	1..1	SHALL		4423-34741	ROL
id	0..1	MAY		4423-34740	
participation	0..1	MAY		4423-34997	
@typeCode	1..1	SHALL		4423-35003	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-34998	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883 .10.20.28.4.137:2019-05-01
participation	0..1	MAY		4423-35001	
@typeCode	1..1	SHALL		4423-35005	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35002	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883 .10.20.28.4.135:2019-05-01
participation	0..1	MAY		4423-35804	
@typeCode	1..1	SHALL		4423-	urn:oid:2.16.840.1.113883.

XPath	Car d.	Verb	Data Type	CONF#	Value
				35806	5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35805	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-34999	
@typeCode	1..1	SHALL		4423-35004	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35000	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.136:2019-05-01)
outboundRelationship	0..1	MAY		4423-34245	
@typeCode	1..1	SHALL		4423-34250	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-34248	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.88:2017-05-01)
outboundRelationship	0..*	MAY		4423-34608	
@typeCode	1..1	SHALL		4423-34609	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		4423-34610	Component (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.121:2017-05-01)
outboundRelationship	0..*	MAY		4423-34732	
@typeCode	1..1	SHALL		4423-34733	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		4423-34734	Related To (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.127:2017-08-01)

1. **SHALL** contain exactly one [1..1] @classCode= "OBS" Observation (CONF:4423-34142).
2. **SHALL** contain exactly one [1..1] @moodCode= "EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-34143).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:4423-34144).
Note: QDM Attribute: Negation Rationale

4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-34126).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-34127) such that it
 - i. **SHALL** contain exactly one [1..1]
`@root="2.16.840.1.113883.10.20.28.4.117"` (CONF:4423-34134).
 - ii. **SHALL** contain exactly one [1..1] `@extension="2019-05-01"` (CONF:4423-34254).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-34145).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-34128).

Note: QDM Attribute: Code

 - a. This code **SHOULD** contain zero or one [0..1] `@valueSet` (CONF:4423-34136).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-34146).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-34129).
 - a. This statusCode **SHALL** contain exactly one [1..1] `@code="completed"` Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-34137).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-35956) such that it

Note: QDM Attribute: Relevant Period (The Relevant Period references the time from the onset date to the abatement date)

 - a. **MAY** contain zero or one [0..1] **low** (CONF:4423-35957).

Note: start time of Relevant Period. QDM Attribute: Relevant dateTime.
 - b. **MAY** contain zero or one [0..1] **high** (CONF:4423-35958).

Note: stop time of Relevant Period
10. **MAY** contain zero or one [0..1] **value** (CONF:4423-34147).

Note: QDM Attribute: Result
11. **MAY** contain zero or one [0..1] **methodCode** (CONF:4423-34246).

Note: QDM Attribute: Method

 - a. The methodCode, if present, **SHOULD** contain zero or one [0..1] **item** (CONF:4423-34247).
 - i. The item, if present, **SHOULD** contain zero or one [0..1] `@valueSet` (CONF:4423-34249).
12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34735) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="AUT"` Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34738).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34736).

Note: QDM Attribute: Author dateTime (The time the assessment is completed)

 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-34739).
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34737).
 - i. This role **SHALL** contain exactly one [1..1] `@classCode="ROL"` Role (CONF:4423-34741).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-34740).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34997) such that it

Note: QDM Attribute: Performer

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35003).
 - b. **SHALL** contain exactly one [1..1] Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-34998).
14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35001) such that it
Note: QDM Attribute: Performer
 - a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35005).
 - b. **SHALL** contain exactly one [1..1] Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35002).
15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35804) such that it
Note: QDM Attribute: Performer
 - a. **SHALL** contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35806).
 - b. **SHALL** contain exactly one [1..1] Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35805).
16. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34999) such that it
Note: QDM Attribute: Performer
 - a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35004).
 - b. **SHALL** contain exactly one [1..1] Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35000).
17. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-34245) 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:4423-34250).
 - b. **SHALL** contain exactly one [1..1] Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-34248).
18. **MAY** contain zero or more [0..*] **outboundRelationship** (CONF:4423-34608) such that it
Note: QDM Attribute: Component
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers To (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-34609).
 - b. **SHALL** contain exactly one [1..1] Component (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.121:2017-05-01) (CONF:4423-34610).
19. **MAY** contain zero or more [0..*] **outboundRelationship** (CONF:4423-34732) such that it
Note: QDM Attribute: Related To

- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-34733).
- b. **SHALL** contain exactly one [1..1] [Related To](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.127:2017-08-01) (CONF:4423-34734).

Figure 8: Assessment, Performed (V3) Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.117" extension="2019-05-01"/>
  </templateId>
  <id root="08f25bc3-5eff-49a5-b2ec-f66f1027574c"/>
  <code valueSet="{$QDMElementValueSetOID}"/>
  <title value="Assessment, Performed"/>
  <statusCode code="completed"/>
</observationCriteria>
```

5.6 Assessment, Recommended (V3)

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.118:2019-05-01 (open)]

Table 21: Assessment, Recommended (V3) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: 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. This template represents a recommendation to perform an assessment.

All QDM datatypes referring to recommendations address the time that the recommendation occurs, a single point in time. Vendors have expressed concerns that recommendations are not necessarily captured or managed in a standard manner as part of structured data capture in clinical workflow; many are documented as part of assessments in narrative text. Measure developers should address feasibility of clinical workflow to capture recommendations when evaluating measures.

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

Table 22: Assessment, Recommended (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.118:2019-05-01)					
@classCode	1..1	SHALL		4423-34165	OBS
@moodCode	1..1	SHALL		4423-34166	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = INT
@actionNegationInd	0..1	MAY		4423-34167	
templateId	1..1	SHALL		4423-34149	
item	1..1	SHALL		4423-34150	
@root	1..1	SHALL		4423-34157	2.16.840.1.113883.10.20.28.4.118
@extension	1..1	SHALL		4423-34273	2019-05-01
id	1..1	SHALL		4423-34168	
code	1..1	SHALL		4423-34151	
@valueSet	0..1	SHOULD		4423-34159	
title	1..1	SHALL		4423-34169	
statusCode	1..1	SHALL		4423-34152	
@code	1..1	SHALL		4423-34160	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
participation	0..1	MAY		4423-34270	
@typeCode	1..1	SHALL		4423-34274	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-34271	
low	1..1	SHALL		4423-34275	
role	1..1	SHALL		4423-34272	
@classCode	1..1	SHALL		4423-34276	ROL
participation	0..1	MAY		4423-35006	
@typeCode	1..1	SHALL		4423-35012	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) =

XPath	Card.	Verb	Data Type	CONF#	Value
					PART
role	1..1	SHALL		4423-35007	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.137:2019-05-01)
participation	0..1	MAY		4423-35010	
@typeCode	1..1	SHALL		4423-35014	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35011	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35807	
@typeCode	1..1	SHALL		4423-35809	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35808	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35008	
@typeCode	1..1	SHALL		4423-35013	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35009	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.136:2019-05-01)
outboundRelationship	0..1	MAY		4423-34264	
@typeCode	1..1	SHALL		4423-34269	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-34267	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.88:2017-05-01)

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:4423-34165).
2. **SHALL** contain exactly one [1..1] @moodCode="INT" intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-34166).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:4423-34167).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:4423-34149).

- a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-34150) such that it
 - i. **SHALL** contain exactly one [1..1]
`@root="2.16.840.1.113883.10.20.28.4.118"` (CONF:4423-34157).
 - ii. **SHALL** contain exactly one [1..1] `@extension="2019-05-01"` (CONF:4423-34273).
- 5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-34168).
- 6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-34151).
Note: QDM Attribute: Code
 - a. This code **SHOULD** contain zero or one [0..1] `@valueSet` (CONF:4423-34159).
- 7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-34169).
- 8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-34152).
 - a. This statusCode **SHALL** contain exactly one [1..1] `@code="active"` Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-34160).
- 9. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34270) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="AUT"` Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34274).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34271).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-34275).
Note: QDM Attribute: Author Time - the time the recommendation is authored (i.e., provided to the patient)
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34272).
 - i. This role **SHALL** contain exactly one [1..1] `@classCode="ROL"` Role (CONF:4423-34276).
- 10. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35006) such that it
Note: QDM Attribute: Requester
 - a. **SHALL** contain exactly one [1..1] `@typeCode="PART"` participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35012).
 - b. **SHALL** contain exactly one [1..1] Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35007).
- 11. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35010) such that it
Note: QDM Attribute: Requester
 - a. **SHALL** contain exactly one [1..1] `@typeCode="PART"` participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35014).
 - b. **SHALL** contain exactly one [1..1] Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35011).
- 12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35807) such that it
Note: QDM Attribute: Requester
 - a. **SHALL** contain exactly one [1..1] `@typeCode="PART"` (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35809).

- b. **SHALL** contain exactly one [1..1] [Entity - Care Partner](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35808).
13. **MAY** contain zero or one [0..1] [participation](#) (CONF:4423-35008) such that it
 Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35013).
 - b. **SHALL** contain exactly one [1..1] [Entity - Patient](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35009).
14. **MAY** contain zero or one [0..1] [outboundRelationship](#) (CONF:4423-34264) 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:4423-34269).
 - b. **SHALL** contain exactly one [1..1] [Reason](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-34267).

Figure 9: Assessment, Recommended (V3) Example

```
<observationCriteria classCode="OBS" moodCode="INT">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.118" extension="2019-05-01"/>
  </templateId>
  <id root="904c1629-8a5d-4a33-846e-994a97a3caf0"/>
  <code valueSet="{$QDMElementValueSetOID}"/>
  <title value="Assessment, Recommended"/>
  <statusCode code="active"/>
</observationCriteria>
```

5.7 Care Goal (V3)

[observationCriteria: identifier
 urn:hl7ii:2.16.840.1.113883.10.20.28.4.7:2019-05-01 (open)]

Table 23: Care Goal (V3) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Related To (optional) Target Outcome (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Care Goal.

Care Goal represents 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. Specifically, a care plan is composed of the following elements:

- Problem, which is managed by other QDM standard categories (condition/diagnosis/ problem) and their related data elements.
- Procedure, which is managed by other standard categories and their related data elements. Note that procedures are a continuum of interventions ranging from actions patients can do for themselves to those that can be performed by others (caregivers or clinical professionals), including detailed complex surgical procedures requiring highly trained physicians, nurses, and state-of-the-art facilities.
- Goal, which is what is expected to happen.
- Outcome, which is what happened. An outcome can be shown by other QDM standard categories and their related data elements.

Table 24: Care Goal (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.7:2019-05-01)					
@classCode	1..1	SHALL		4423-27869	OBS
@moodCode	1..1	SHALL		4423-27870	urn:oid:2.16.840.1.113883.5.1 001 (HL7ActMood) = GOL
@actionNegationInd	0..0	SHALL NOT		4423-34760	
templateId	1..1	SHALL		4423-27872	
item	1..1	SHALL		4423-28447	
@root	1..1	SHALL		4423-28448	2.16.840.1.113883.10.20.28.4 .7
@extension	1..1	SHALL		4423-33051	2019-05-01
id	1..1	SHALL		4423-32479	
code	1..1	SHALL		4423-27873	
@code	1..1	SHALL		4423-27874	ASSERTION
@codeSystem	1..1	SHALL		4423-27875	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
title	1..1	SHALL		4423-32480	
statusCode	1..1	SHALL		4423-32481	
@code	1..1	SHALL		4423-32482	urn:oid:2.16.840.1.113883.5.1 4 (HL7ActStatus) = active
effectiveTime	0..1	MAY	IVL_TS	4423-32488	
low	0..1	MAY		4423-32489	
high	0..1	MAY		4423-32490	
activityTime	0..1	MAY	IVL_TS	4423-35959	
low	1..1	SHALL		4423-35960	
value	1..1	SHALL	CD	4423-27876	
@valueSet	0..1	SHOULD		4423-32483	

XPath	Card.	Verb	Data Type	CONF#	Value
participation	0..1	MAY		4423-35015	
@typeCode	1..1	SHALL		4423-35021	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35016	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.137:2019-05-01)
participation	0..1	MAY		4423-35017	
@typeCode	1..1	SHALL		4423-35022	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35018	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35810	
@typeCode	1..1	SHALL		4423-35812	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35811	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35019	
@typeCode	1..1	SHALL		4423-35023	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35020	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.136:2019-05-01)
outboundRelationship	0..*	MAY		4423-33032	
@typeCode	1..1	SHALL		4423-34743	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		4423-34744	Related To (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.127:2017-08-01)
outboundRelationship	0..1	MAY		4423-34742	
@typeCode	1..1	SHALL		4423-34745	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria	1..1	SHALL		4423-34746	Target Outcome (identifier: urn:hl7ii:2.16.840.1.113883.1_0.20.28.4.128:2017-08-01)

1. **SHALL** contain exactly one [1..1] **@classCode**= "OBS" Observation (CONF:4423-27869).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "GOL" Goal (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-27870).
3. **SHALL NOT** contain [0..0] **@actionNegationInd** (CONF:4423-34760).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-27872).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-28447) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.7" (CONF:4423-28448).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-33051).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-32479).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-27873).
 - a. This code **SHALL** contain exactly one [1..1] **@code**= "ASSERTION" (CONF:4423-27874).
 - 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:4423-27875).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-32480).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-32481).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**= "active" (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-32482).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-32488) such that it
 Note: QDM Attribute: Relevant Period (The Relevant Period references the period between Start Time and Stop Time)
 - a. **MAY** contain zero or one [0..1] **low** (CONF:4423-32489).
 Note: Start dateTIme (when the goal is recorded, and therefore should be considered effective)
 - b. **MAY** contain zero or one [0..1] **high** (CONF:4423-32490).
 Note: Stop dateTIme (when the target outcome is expected to be met)
10. **MAY** contain zero or one [0..1] **activityTime** (CONF:4423-35959).
 - a. The activityTime, if present, **SHALL** contain exactly one [1..1] **low** (CONF:4423-35960).
 Note: QDM Attribute: statusDate (when the goal took effect)
11. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**= "CD" (CONF:4423-27876).
 Note: QDM Attribute: Code
 - a. This value **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-32483).
12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35015).
 Note: QDM Attribute: Performer

- a. The participation, if present, **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35021).
 - b. The participation, if present, **SHALL** contain exactly one [1..1] Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35016).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35017).
Note: QDM Attribute: Performer
- a. The participation, if present, **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35022).
 - b. The participation, if present, **SHALL** contain exactly one [1..1] Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35018).
14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35810).
Note: QDM Attribute: Performer
- a. The participation, if present, **SHALL** contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35812).
 - b. The participation, if present, **SHALL** contain exactly one [1..1] Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35811).
15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35019).
Note: QDM Attribute: Performer
- a. The participation, if present, **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35023).
 - b. The participation, if present, **SHALL** contain exactly one [1..1] Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35020).
16. **MAY** contain zero or more [0..*] **outboundRelationship** (CONF:4423-33032) such that it
Note: QDM Attribute: Related To
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-34743).
 - b. **SHALL** contain exactly one [1..1] Related To (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.127:2017-08-01) (CONF:4423-34744).
17. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-34742) such that it
Note: QDM Attribute: Target Outcome
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-34745).

- b. **SHALL** contain exactly one [1..1] **Target Outcome** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.128:2017-08-01) (CONF:4423-34746).

Figure 10: Care Goal (V3) Example

```
<observationCriteria classCode="OBS" moodCode="GOL">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.7" extension="2019-05-01"/>
  </templateId>
  <id root="f0a729a3-6fe8-4e79-acee-b4dd16b3e755"/>
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>
  <title value="Care Goal"/>
  <statusCode code="active"/>
  <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.8 Cause

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.105:2017-05-01 (open)]

Table 25: Cause Contexts

Contained By:	Contains:
Patient Characteristic Expired (optional)	

This template represents the QDM attribute: Cause.
This represents the recorded cause of death.

Table 26: Cause Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.105:2017-05-01)					
@classCode	1..1	SHALL		3335-33456	OBS
@moodCode	1..1	SHALL		3335-33457	EVN
templateId	1..1	SHALL		3335-33453	
item	1..1	SHALL		3335-33454	
@root	1..1	SHALL		3335-33458	2.16.840.1.113883.10.20.28.4.105
@extension	1..1	SHALL		3335-34647	2017-05-01
code	1..1	SHALL		3335-33455	
@code	1..1	SHALL		3335-33460	42752001
@codeSystem	1..1	SHALL		3335-33461	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
value	1..1	SHALL	CD	3335-33462	
@valueSet	0..1	SHOULD		3335-34663	

1. **SHALL** contain exactly one [1..1] **@classCode**= "OBS" Observation (CONF:3335-33456).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "EVN" Event (CONF:3335-33457).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:3335-33453).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:3335-33454) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.105" (CONF:3335-33458).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2017-05-01" (CONF:3335-34647).
4. **SHALL** contain exactly one [1..1] **code** (CONF:3335-33455).
 - a. This code **SHALL** contain exactly one [1..1] **@code**= "42752001" Due to (CONF:3335-33460).
 - 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:3335-33461).
5. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:3335-33462).
 - a. This value **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3335-34663).

Figure 11: Cause Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.105" extension="2017-05-01"/>
  </templateId>
  <id root="302625d2-e41a-4d51-ba11-af0dfc81a11b"/>
  <code code="42752001" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT">
    <displayName value="Due to"/>
  </code>
  <title value="Cause"/>
  <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.9 Communication, Performed (V2)

[actCriteria: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.132:2019-05-01 (open)]

Table 27: Communication, Performed (V2) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (required) Related To (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Communication, Performed

Communication is a conveyance of information from one entity (e.g., person, organization, or device) to another.

Timing: sent dateTime – when the communication was sent; received dateTime – when the communication was received.

Author dateTime the time the communication is documented (specifically significant for negation rationale, i.e., Communication Not Performed).

Table 28: Communication, Performed (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
actCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.132;2019-05-01)					
@classCode	1..1	SHALL		4423-35042	ACT
@moodCode	1..1	SHALL		4423-35043	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		4423-35044	
templateId	1..1	SHALL		4423-35025	
item	1..1	SHALL		4423-35026	
@root	1..1	SHALL		4423-35035	2.16.840.1.113883.10.20.28.4.132
@extension	1..1	SHALL		4423-35036	2019-05-01
id	1..1	SHALL		4423-35045	
code	0..1	MAY		4423-35028	
@valueSet	0..1	SHOULD		4423-35038	
title	1..1	SHALL		4423-35046	
statusCode	1..1	SHALL		4423-35027	
@code	1..1	SHALL		4423-35037	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	4423-35031	
low	0..1	MAY		4423-35040	
high	0..1	MAY		4423-35041	
participation	0..1	MAY		4423-35032	
@typeCode	1..1	SHALL		4423-35047	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-34717	
role	1..1	SHALL		4423-35033	
@classCode	1..1	SHALL		4423-34718	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL

XPath	Card.	Verb	Data Type	CONF#	Value
id	0..1	MAY		4423-34719	
participation	0..1	MAY		4423-34865	
@typeCode	1..1	SHALL		4423-34866	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = VIA
modeCode	1..1	SHALL		4423-34867	
role	1..1	SHALL		4423-34868	
@classCode	1..1	SHALL		4423-34870	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ASSIGNED
participation	0..1	MAY		4423-34720	
@typeCode	1..1	SHALL		4423-34854	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = DIST
role	1..1	SHALL		4423-34721	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01)
participation	0..1	MAY		4423-35055	
@typeCode	1..1	SHALL		4423-35059	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = DIST
role	1..1	SHALL		4423-35056	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35057	
@typeCode	1..1	SHALL		4423-35060	DIST
patient	1..1	SHALL		4423-35058	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01)
participation	0..1	MAY		4423-34722	
@typeCode	1..1	SHALL		4423-34857	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = IRCP
role	1..1	SHALL		4423-34853	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01)
participation	0..1	MAY		4423-35048	

XPath	Card.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4423-35050	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = IRCP
role	1..1	SHALL		4423-35049	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35813	
@typeCode	1..1	SHALL		4423-35815	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35814	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35052	
@typeCode	1..1	SHALL		4423-35054	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = IRCP
patient	1..1	SHALL		4423-35053	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.136:2019-05-01)
outboundRelationship	1..1	SHALL		4423-34681	
@typeCode	1..1	SHALL		4423-35034	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-35024	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.88:2017-05-01)
outboundRelationship	0..*	MAY		4423-35029	
@typeCode	1..1	SHALL		4423-35039	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		4423-35030	Related To (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.127:2017-08-01)

1. **SHALL** contain exactly one [1..1] @classCode="ACT" Act (CONF:4423-35042).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-35043).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:4423-35044).
Note: QDM Attribute: Negation Rationale

4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-35025).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-35026) such that it
 - i. **SHALL** contain exactly one [1..1]
`@root="2.16.840.1.113883.10.20.28.4.132"` (CONF:4423-35035).
 - ii. **SHALL** contain exactly one [1..1] `@extension="2019-05-01"` (CONF:4423-35036).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-35045).
6. **MAY** contain zero or one [0..1] **code** (CONF:4423-35028).

Note: QDM Attribute: Category - The type of message conveyed by a communication (e.g., notification, alert, reminder, instruction, etc.).

 - a. The code, if present, **SHOULD** contain zero or one [0..1] `@valueSet` (CONF:4423-35038).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-35046).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-35027).
 - a. This statusCode **SHALL** contain exactly one [1..1] `@code="completed"` Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-35037).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-35031) such that it
 - a. **MAY** contain zero or one [0..1] **low** (CONF:4423-35040).

Note: QDM Attribute: sent dateTime – The time the communication is sent
 - b. **MAY** contain zero or one [0..1] **high** (CONF:4423-35041).

Note: QDM Attribute: received dateTime – The time the communication is received
10. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35032) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="AUT"` Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35047).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34717).

Note: QDM Attribute: Author dateTime
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-35033).
 - i. This role **SHALL** contain exactly one [1..1] `@classCode="ROL"` Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-34718).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-34719).
11. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34865) 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:4423-34866).
 - b. **SHALL** contain exactly one [1..1] **modeCode** (CONF:4423-34867).

Note: QDM Attribute: Medium - A channel used for a communication (e.g., fax, email, etc.)
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34868).
 - i. This role **SHALL** contain exactly one [1..1] `@classCode="ASSIGNED"` Assigned (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-34870).
12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34720) such that it

Note: QDM Attribute: Sender

- a. **SHALL** contain exactly one [1..1] @typeCode="DIST" distributor (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34854).
 - b. **SHALL** contain exactly one [1..1] Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-34721).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35055) such that it
Note: QDM Attribute: Sender
- a. **SHALL** contain exactly one [1..1] @typeCode="DIST" distributor (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35059).
 - b. **SHALL** contain exactly one [1..1] Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35056).
14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35057) such that it
Note: QDM Attribute: Sender
- a. **SHALL** contain exactly one [1..1] @typeCode="DIST" distributor (CONF:4423-35060).
 - b. **SHALL** contain exactly one [1..1] Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35058).
15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34722) such that it
Note: QDM Attribute: Recipient
- a. **SHALL** contain exactly one [1..1] @typeCode="IRCP" Information Recipient (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34857).
 - b. **SHALL** contain exactly one [1..1] Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-34853).
16. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35048) such that it
Note: QDM Attribute: Recipient
- a. **SHALL** contain exactly one [1..1] @typeCode="IRCP" Information Recipient (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35050).
 - b. **SHALL** contain exactly one [1..1] Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35049).
17. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35813) such that it
Note: QDM Attribute: Recipient
- a. **SHALL** contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35815).
 - b. **SHALL** contain exactly one [1..1] Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35814).
18. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35052) such that it
Note: QDM Attribute: Recipient

- a. **SHALL** contain exactly one [1..1] @typeCode="IRCP" Information Recipient (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35054).
 - b. **SHALL** contain exactly one [1..1] Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35053).
19. **SHALL** contain exactly one [1..1] **outboundRelationship** (CONF:4423-34681) such that it
- Note: QDM Attribute: Code - The reason for the communication
- a. **SHALL** contain exactly one [1..1] @typeCode="RSON" Has Reason (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-35034).
 - b. **SHALL** contain exactly one [1..1] Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-35024).
20. **MAY** contain zero or more [0..*] **outboundRelationship** (CONF:4423-35029) such that it
- Note: QDM Attribute: Related To
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-35039).
 - b. **SHALL** contain exactly one [1..1] Related To (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.127:2017-08-01) (CONF:4423-35030).

Figure 12: Communication, Performed (V2) Example

```

<actCriteria classCode="ACT" moodCode="EVN">
    <templateId>
        <item root="2.16.840.1.113883.10.20.28.4.132" extension="2019-05-01"/>
    </templateId>
    <id root="6bf11fc2-78f9-4517-bafa-7988b350e188"/>
    <title value="Communication, Performed"/>
    <statusCode code="completed"/>
    <outboundRelationship>
        <observationCriteria classCode="OBS" moodCode="EVN">
            <templateId>
                <item root="2.16.840.1.113883.10.20.28.4.88" extension="2017-05-01"/>
            </templateId>
            <id root="05c07740-1f8d-417e-a9f2-fc769b1d342d"/>
            <code code="410666004" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT">
                <displayName value="Reason"/>
            </code>
            <title value="Reason"/>
            <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
        </observationCriteria>
    </outboundRelationship>
</actCriteria>

```

5.10 Component

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.121:2017-05-01 (open)]

Table 29: Component Contexts

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

This template represents the QDM attribute: Component

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.

Table 30: Component Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.121:2017-05-01)					
@classCode	1..1	SHALL		3335-34576	OBS
@moodCode	1..1	SHALL		3335-34577	EVN
templateId	1..1	SHALL		3335-34570	
item	1..1	SHALL		3335-34571	
@root	1..1	SHALL		3335-34573	2.16.840.1.113883.10.20.28.4.121
@extension	1..1	SHALL		3335-34580	2017-05-01
code	0..1	MAY		3335-34572	
value	0..1	MAY		3335-34579	

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:3335-34576).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CONF:3335-34577).
3. **SHALL** contain exactly one [1..1] templateId (CONF:3335-34570) such that it
 - a. **SHALL** contain exactly one [1..1] item (CONF:3335-34571) such that it
 - i. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.121" (CONF:3335-34573).
 - ii. **SHALL** contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-34580).

4. **MAY** contain zero or one [0..1] **code** (CONF:3335-34572).
Note: Code
5. **MAY** contain zero or one [0..1] **value** (CONF:3335-34579).
Note: Result

Figure 13: Component Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.121" extension="2017-05-01"/>
  </templateId>
  <code code="32412-9" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">
    <displayName value="5 minute Apgar Heart rate"/>
  </code>
  <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.10.1 Laboratory Test Component

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.126:2017-05-01 (open)]

Table 31: Laboratory Test Component Contexts

Contained By:	Contains:
Laboratory Test, Performed (V3) (optional)	Laboratory Test Reference Range (optional)

This template represents the QDM attribute: Component (for Laboratory Test, Performed)

Table 32: Laboratory Test Component Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.126:2017-05-01)					
@classCode	1..1	SHALL		3335-34588	OBS
@moodCode	1..1	SHALL		3335-34589	EVN
templateId	1..1	SHALL		3335-34581	
item	1..1	SHALL		3335-34582	
@root	1..1	SHALL		3335-34584	2.16.840.1.113883.10.20.28.4.126
@extension	1..1	SHALL		3335-34585	2017-05-01
outboundRelationship	0..1	MAY		3335-34604	
@typeCode	1..1	SHALL		3335-34605	REFR
observationCriteria	1..1	SHALL		3335-34616	Laboratory Test Reference Range (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.124:2017-05-01)

1. Conforms to [Component](#) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.121:2017-05-01).
 2. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:3335-34588).
 3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CONF:3335-34589).
 4. **SHALL** contain exactly one [1..1] templateId (CONF:3335-34581) such that it
 - a. **SHALL** contain exactly one [1..1] item (CONF:3335-34582) such that it
 - i. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.126" (CONF:3335-34584).
 - ii. **SHALL** contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-34585).
 5. **MAY** contain zero or one [0..1] outboundRelationship (CONF:3335-34604) such that it
- Note: Reference Range
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers To (CONF:3335-34605).
 - b. **SHALL** contain exactly one [1..1] [Laboratory Test Reference Range](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.124:2017-05-01) (CONF:3335-34616).

Figure 14: Laboratory Test Component Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
    <templateId>
        <item root="2.16.840.1.113883.10.20.28.4.121" extension="2017-05-01"/>
        <item root="2.16.840.1.113883.10.20.28.4.126" extension="2017-05-01"/>
    </templateId>
    <id root="edd94e15-dc95-49d6-8a65-74cb2b87c93b"/>
    <code code="2339-0" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">
        <displayName value="Glucose [Mass/?volume] in Blood"/>
    </code>
    <title value="Cause"/>
    <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.11 Days Supplied

[supplyCriteria: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.133:2018-05-01 (open)]

Table 33: Days Supplied Contexts

Contained By:	Contains:
Medication, Discharge (V3) (optional) Medication, Dispensed (V3) (optional) Medication, Order (V4) (optional)	

This template represents the QDM Attribute: Days Supplied, which is number of days supplied.

Without this attribute, number of days could be calculated using two options:

[supply / frequency] = # days supplied

[60 doses / 1 every 12 hours] = 30 days supplied

[relevant period stop – relevant period start] = # days

[September 30 – August 31] = 30 days supplied

The challenge of these two options are that frequency is a text field, which requires conversion to a code indicating number of days, for example, 1 every 12 hours = 2 (per day), and 1 every 6 hours = 4 (per day). Relevant period is not often available (i.e., anticipated start and stop dates).

The daysSupplied attribute allows number of days supplied be specified directly

Table 34: Days Supplied Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
supplyCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.133:2018-05-01)					
@classCode	1..1	SHALL		3372-34889	SPLY
@moodCode	1..1	SHALL		3372-34890	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		3372-34885	
item	1..1	SHALL		3372-34886	
@root	1..1	SHALL		3372-34887	2.16.840.1.113883.10.20.28.4.133
@extension	1..1	SHALL		3372-34888	2018-05-01
quantity	1..1	SHALL		3372-34893	
@unit	1..1	SHALL		3372-34894	urn:oid:2.16.840.1.113883.6.8 (UCUM) = d

1. **SHALL** contain exactly one [1..1] **@classCode**="SPLY" Supply (CONF:3372-34889).
 2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3372-34890).
 3. **SHALL** contain exactly one [1..1] **templateId** (CONF:3372-34885).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:3372-34886) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.133" (CONF:3372-34887).
 - ii. **SHALL** contain exactly one [1..1] **@extension**="2018-05-01" (CONF:3372-34888).
 4. **SHALL** contain exactly one [1..1] **quantity** (CONF:3372-34893).
- Note: QDM Attribute: daysSupplied
- a. This quantity **SHALL** contain exactly one [1..1] **@unit**="d" Day (CodeSystem: UCUM urn:oid:2.16.840.1.113883.6.8) (CONF:3372-34894).

Figure 15: Days Supplied Example

```
<supplyCriteria classCode="SPLY" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.133" extension="2018-05-01" />
  </templateId>
  <id root="a8da5449-2a1b-43e4-94b5-51cfb346c074" />
  <title value="Days Supplied"/>
  <quantity xsi:type="PQ" value="10" unit="d" />
</supplyCriteria>
```

5.12 Device, Applied (V3)

[procedureCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.13:2019-05-01 (open)]

Table 35: Device, Applied (V3) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Device, Applied.

This represents the application of an instrument, apparatus, implement, machine, contrivance, implant, in-vitro reagent, or other similar or related article, including a component part or accessory, intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease and that is not dependent on being metabolized to achieve any of its primary intended purposes.

Timing: Relevant date**Time** addresses The time the device is applied if it was used at a single point in time; Relevant Period references a start and stop time for a device if the application occurred over a time interval. Author date**Time** references the time the device application was recorded and applies only when the record has no reference to the actual time the device was applied and only the recorded time is available.

Table 36: Device, Applied (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
procedureCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.13:2019-05-01)					
@classCode	1..1	SHALL		4423-31302	PROC
@moodCode	1..1	SHALL		4423-31303	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		4423-31304	
templateId	1..1	SHALL		4423-31305	
item	1..1	SHALL		4423-31306	
@root	1..1	SHALL		4423-31307	2.16.840.1.113883.10.20.28.4.13
@extension	1..1	SHALL		4423-33361	2019-05-01
id	1..1	SHALL		4423-35818	
code	1..1	SHALL		4423-31517	
@code	1..1	SHALL		4423-33062	360030002
@codeSystem	1..1	SHALL		4423-33063	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
title	1..1	SHALL		4423-31309	
statusCode	1..1	SHALL		4423-31310	
@code	1..1	SHALL		4423-31311	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	4423-31312	
low	0..1	MAY		4423-31313	
high	0..1	MAY		4423-31314	
targetSiteCode	0..1	MAY		4423-31485	
item	1..1	SHALL		4423-33060	
@valueSet	0..1	SHOULD		4423-33061	
participation	1..1	SHALL		4423-31315	

XPath	Card.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4423-31316	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV
role	1..1	SHALL		4423-31317	
@classCode	1..1	SHALL		4423-31318	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = MANU
playingDevice	1..1	SHALL		4423-31319	
@classCode	1..1	SHALL		4423-31320	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = DEV
@determinerCode	1..1	SHALL		4423-31321	urn:oid:2.16.840.1.113883.5.30 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		4423-31322	
@valueSet	0..1	SHOULD		4423-31323	
participation	0..1	MAY		4423-34503	
@typeCode	1..1	SHALL		4423-34506	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-34504	
low	1..1	SHALL		4423-34507	
role	1..1	SHALL		4423-34505	
@classCode	1..1	SHALL		4423-34508	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		4423-34509	
participation	0..1	MAY		4423-35061	
@typeCode	1..1	SHALL		4423-35067	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35062	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01)
participation	0..1	MAY		4423-35065	
@typeCode	1..1	SHALL		4423-35069	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART

XPath	Card.	Verb	Data Type	CONF#	Value
role	1..1	SHALL		4423-35066	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35816	
@typeCode	1..1	SHALL		4423-35817	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35819	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35063	
@typeCode	1..1	SHALL		4423-35068	PART
patient	1..1	SHALL		4423-35064	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01)
outboundRelationship	0..1	MAY		4423-31330	
@typeCode	1..1	SHALL		4423-31331	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-31332	Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01)

1. **SHALL** contain exactly one [1..1] **@classCode**= "PROC" Procedure (CONF:4423-31302).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-31303).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:4423-31304).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-31305) such that it
 - a. **SHALL** contain exactly one [1..1] **item** (CONF:4423-31306) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.13" (CONF:4423-31307).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-33361).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-35818).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-31517).
 - a. This code **SHALL** contain exactly one [1..1] **@code**= "360030002" Application of Device (CONF:4423-33062).

- 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:4423-33063).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-31309).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-31310).
- a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-31311).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-31312) such that it
 Note: QDM Attribute: Relevant Period
 - a. **MAY** contain zero or one [0..1] **low** (CONF:4423-31313).
 Note: startTime of Relevant Period (When the device is inserted or first used) or QDM Attribute: Relevant date**Time** (The time the device is applied if it was used at a single point in time.)
 - b. **MAY** contain zero or one [0..1] **high** (CONF:4423-31314).
 Note: stopTime of Relevant Period (When the device is removed or last used)
10. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:4423-31485).
 Note: QDM Attribute: Anatomical Location Site
 - a. The targetSiteCode, if present, **SHALL** contain exactly one [1..1] **item** (CONF:4423-33060).
 - i. This item **SHOULD** contain zero or one [0..1] @valueSet (CONF:4423-33061).
11. **SHALL** contain exactly one [1..1] **participation** (CONF:4423-31315) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="DEV" Device (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-31316).
 - b. **SHALL** contain exactly one [1..1] **role** (CONF:4423-31317).
 - i. This role **SHALL** contain exactly one [1..1] @classCode="MANU" Manufactured Product (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-31318).
 - ii. This role **SHALL** contain exactly one [1..1] **playingDevice** (CONF:4423-31319).
 - 1. This playingDevice **SHALL** contain exactly one [1..1] @classCode="DEV" Device (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:4423-31320).
 - 2. This playingDevice **SHALL** contain exactly one [1..1] @determinerCode="KIND" Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:4423-31321).
 - 3. This playingDevice **SHALL** contain exactly one [1..1] **code** (CONF:4423-31322).
 Note: QDM Attribute: Code
 - a. This code **SHOULD** contain zero or one [0..1] @valueSet (CONF:4423-31323).
12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34503) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="AUT" Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34506).

- b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34504).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-34507).
Note: QDM Attribute: Author dateTime
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34505).
 - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-34508).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-34509).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35061) such that it
Note: QDM Attribute: Performer
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35067).
 - b. **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35062).
14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35065) such that it
Note: QDM Attribute: Performer
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35069).
 - b. **SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35066).
15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35816) such that it
Note: QDM Attribute: Performer
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35817).
 - b. **SHALL** contain exactly one [1..1] **Entity - Care Partner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35819).
16. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35063) such that it
Note: QDM Attribute: Performer
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CONF:4423-35068).
 - b. **SHALL** contain exactly one [1..1] **Entity - Patient** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35064).
17. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-31330) 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:4423-31331).
 - b. **SHALL** contain exactly one [1..1] **Reason** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-31332).

Figure 16: Device, Applied (V3) Example

```
<procedureCriteria classCode="PROC" moodCode="EVN">
    <templateId>
        <item root="2.16.840.1.113883.10.20.28.4.13" extension="2019-05-01"/>
    </templateId>
    <id root="0dd19511-ce93-4490-9b9a-8cf3d967cf94"/>
    <code code="360030002" codeSystem="2.16.840.1.113883.6.96">
        <displayName value="Application of Device"/>
    </code>
    <title value="Device, Applied"/>
    <statusCode code="completed"/>
    <participation typeCode="DEV">
        <role classCode="MANU">
            <playingDevice classCode="DEV" determinerCode="KIND">
                <code valueSet="{$QDMElementValueSetOID}"/>
            </playingDevice>
        </role>
    </participation>
</procedureCriteria>
```

5.13 Device, Order (V2)

[supplyCriteria: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.15:2019-05-01 (open)]

Table 37: Device, Order (V2) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Device, Order.

Device represents an order for an instrument, apparatus, implement, machine, contrivance, implant, in-vitro reagent, or other similar or related article, including a component part or accessory, intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease and that is not dependent on being metabolized to achieve any of its primary intended purposes.

Timing: The time the order is signed; author time

Table 38: Device, Order (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
supplyCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.15:2019-05-01)					
@classCode	1..1	SHALL		4423-29840	SPLY
@moodCode	1..1	SHALL		4423-29841	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		4423-31002	
templateId	1..1	SHALL		4423-29842	
item	1..1	SHALL		4423-29843	
@root	1..1	SHALL		4423-29844	2.16.840.1.113883.10.20.28.4.15
@extension	1..1	SHALL		4423-33642	2019-05-01
id	1..1	SHALL		4423-29845	
title	1..1	SHALL		4423-29846	
statusCode	1..1	SHALL		4423-31003	
@code	1..1	SHALL		4423-31004	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
participation	1..1	SHALL		4423-29847	
@typeCode	1..1	SHALL		4423-29848	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV
role	1..1	SHALL		4423-29849	
@classCode	1..1	SHALL		4423-29850	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = MANU
playingDevice	1..1	SHALL		4423-29851	
@classCode	1..1	SHALL		4423-29852	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = DEV
@determinerCode	1..1	SHALL		4423-29853	urn:oid:2.16.840.1.113883.5.30 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		4423-29854	
@valueSet	0..1	SHOULD		4423-29855	
participation	0..1	MAY		4423-	

XPath	Card.	Verb	Data Type	CONF#	Value
				33475	
@typeCode	1..1	SHALL		4423-33477	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-33476	
low	1..1	SHALL		4423-33478	
role	1..1	SHALL		4423-33569	
@classCode	1..1	SHALL		4423-33570	urn:oid:2.16.840.1.113883.5.10 (HL7RoleClass) = ROL
id	0..1	MAY		4423-33571	
participation	0..1	MAY		4423-35070	
@typeCode	1..1	SHALL		4423-35072	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35071	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
participation	0..1	MAY		4423-35073	
@typeCode	1..1	SHALL		4423-35077	PART
role	1..1	SHALL		4423-35074	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
participation	0..1	MAY		4423-35820	
@typeCode	1..1	SHALL		4423-35822	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35821	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
participation	0..1	MAY		4423-35075	
@typeCode	1..1	SHALL		4423-35078	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35076	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01

XPath	Card.	Verb	Data Type	CONF#	Value
outboundRelationship	0..1	MAY		4423-29888	
@typeCode	1..1	SHALL		4423-29892	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-29889	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.88:2017-05-01)

1. **SHALL** contain exactly one [1..1] **@classCode**= "SPLY" Supply (CONF:4423-29840).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-29841).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:4423-31002).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-29842).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-29843) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.15" (CONF:4423-29844).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-33642).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-29845).
6. **SHALL** contain exactly one [1..1] **title** (CONF:4423-29846).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-31003).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**= "active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-31004).
8. **SHALL** contain exactly one [1..1] **participation** (CONF:4423-29847) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**= "DEV" Device (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-29848).
 - b. **SHALL** contain exactly one [1..1] **role** (CONF:4423-29849).
 - i. This role **SHALL** contain exactly one [1..1] **@classCode**= "MANU" Manufactured Product (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-29850).
 - ii. This role **SHALL** contain exactly one [1..1] **playingDevice** (CONF:4423-29851).
 1. This playingDevice **SHALL** contain exactly one [1..1] **@classCode**= "DEV" Device (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:4423-29852).
 2. This playingDevice **SHALL** contain exactly one [1..1] **@determinerCode**= "KIND" Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:4423-29853).

3. This playingDevice **SHALL** contain exactly one [1..1] **code** (CONF:4423-29854).
Note: QDM Attribute: Code
 - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-29855).
9. **MAY** contain zero or one [0..1] **participation** (CONF:4423-33475) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="AUT"** Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-33477).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-33476).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-33478).
Note: QDM Attribute: Author dateTime (The time the order is signed)
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-33569).
 - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-33570).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-33571).
10. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35070) such that it
Note: QDM Attribute: Requester
 - a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35072).
 - b. **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35071).
11. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35073) such that it
Note: QDM Attribute: Requester
 - a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CONF:4423-35077).
 - b. **SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35074).
12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35820) such that it
Note: QDM Attribute: Requester
 - a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35822).
 - b. **SHALL** contain exactly one [1..1] **Entity - Care Partner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35821).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35075) such that it
Note: QDM Attribute: Requester
 - a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35078).
 - b. **SHALL** contain exactly one [1..1] **Entity - Patient** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35076).

14. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-29888) 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:4423-29892).
- b. **SHALL** contain exactly one [1..1] **Reason** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-29889).

Figure 17: Device, Order (V2) Example

```
<supplyCriteria classCode="SPLY" moodCode="RQO">
    <templateId>
        <item root="2.16.840.1.113883.10.20.28.4.15" extension="2019-05-01"/>
    </templateId>
    <id root="5ab17ed3-166c-4265-9c61-d254e30c8e83"/>
    <title value="Device, Order"/>
    <statusCode code="active"/>
    <participation typeCode="DEV">
        <role classCode="MANU">
            <playingDevice classCode="DEV" determinerCode="KIND">
                <code valueSet="{$QDMElementValueSetOID}"/>
            </playingDevice>
        </role>
    </participation>
</supplyCriteria>
```

5.14 Device, Recommended (V2)

[supplyCriteria: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.16:2019-05-01 (open)]

Table 39: Device, Recommended (V2) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Device, Recommended.

Device represents a recommendation for an instrument, apparatus, implement, machine, contrivance, implant, in-vitro reagent, or other similar or related article, including a component part or accessory, intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease and that is not dependent on being metabolized to achieve any of its primary intended purposes.

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

All QDM datatypes referring to recommendations address the time that the recommendation occurs, a single point in time. Vendors have expressed concerns that recommendations are not necessarily

captured or managed in a standard manner as part of structured data capture in clinical workflow; many are documented as part of assessments in narrative text. Measure developers should address feasibility of clinical workflow to capture recommendations when evaluating measures.

Table 40: Device, Recommended (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
supplyCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.16:2019-05-01)					
@classCode	1..1	SHALL		4423-31708	SPLY
@moodCode	1..1	SHALL		4423-31709	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = INT
@actionNegationInd	0..1	MAY		4423-31710	
templateId	1..1	SHALL		4423-31711	
item	1..1	SHALL		4423-31712	
@root	1..1	SHALL		4423-31713	2.16.840.1.113883.10.20.28.4.16
@extension	1..1	SHALL		4423-33699	2019-05-01
id	1..1	SHALL		4423-31714	
title	1..1	SHALL		4423-31715	
statusCode	1..1	SHALL		4423-31716	
@code	1..1	SHALL		4423-31717	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
participation	1..1	SHALL		4423-31721	
@typeCode	1..1	SHALL		4423-31722	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV
role	1..1	SHALL		4423-31723	
@classCode	1..1	SHALL		4423-31724	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = MANU
playingDevice	1..1	SHALL		4423-31725	
@classCode	1..1	SHALL		4423-31726	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = DEV
@determinerCode	1..1	SHALL		4423-31727	urn:oid:2.16.840.1.113883.5.30 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		4423-31728	
@valueSet	0..1	SHOULD		4423-31729	
participation	0..1	MAY		4423-	

XPath	Card.	Verb	Data Type	CONF#	Value
				34322	
@typeCode	1..1	SHALL		4423-34325	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-34323	
low	1..1	SHALL		4423-34326	
role	1..1	SHALL		4423-34324	
@classCode	1..1	SHALL		4423-34327	ROL
id	0..1	MAY		4423-34328	
participation	0..1	MAY		4423-35079	
@typeCode	1..1	SHALL		4423-35085	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35080	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
participation	0..1	MAY		4423-35083	
@typeCode	1..1	SHALL		4423-35087	PART
role	1..1	SHALL		4423-35084	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
participation	0..1	MAY		4423-35823	
@typeCode	1..1	SHALL		4423-35825	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = PART
role	1..1	SHALL		4423-35824	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
participation	0..1	MAY		4423-35081	
@typeCode	1..1	SHALL		4423-35086	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35082	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01

XPath	Card.	Verb	Data Type	CONF#	Value
outboundRelationship	0..1	MAY		4423-31736	
@typeCode	1..1	SHALL		4423-31737	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-31738	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.88:2017-05-01)

1. **SHALL** contain exactly one [1..1] **@classCode**= "SPLY" Supply (CONF:4423-31708).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "INT" Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-31709).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:4423-31710).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-31711).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-31712) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.16" (CONF:4423-31713).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-33699).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-31714).
6. **SHALL** contain exactly one [1..1] **title** (CONF:4423-31715).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-31716).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**= "active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-31717).
8. **SHALL** contain exactly one [1..1] **participation** (CONF:4423-31721) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**= "DEV" Device (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-31722).
 - b. **SHALL** contain exactly one [1..1] **role** (CONF:4423-31723).
 - i. This role **SHALL** contain exactly one [1..1] **@classCode**= "MANU" Manufactured Product (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-31724).
 - ii. This role **SHALL** contain exactly one [1..1] **playingDevice** (CONF:4423-31725).
 1. This playingDevice **SHALL** contain exactly one [1..1] **@classCode**= "DEV" Device (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:4423-31726).
 2. This playingDevice **SHALL** contain exactly one [1..1] **@determinerCode**= "KIND" Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:4423-31727).

3. This playingDevice **SHALL** contain exactly one [1..1] **code** (CONF:4423-31728).
Note: QDM Attribute: Code
 - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-31729).
9. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34322) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="AUT"** Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34325).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34323).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-34326).
Note: QDM Attribute: Author dateTime (The time the recommendation is authored (i.e., provided to the patient))
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34324).
 - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CONF:4423-34327).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-34328).
10. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35079) such that it
Note: QDM Attribute: Requester
 - a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35085).
 - b. **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35080).
11. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35083) such that it
Note: QDM Attribute: Requester
 - a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CONF:4423-35087).
 - b. **SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35084).
12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35823) such that it
Note: QDM Attribute: Requester
 - a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-35825).
 - b. **SHALL** contain exactly one [1..1] **Entity - Care Partner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35824).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35081) such that it
Note: QDM Attribute: Requester
 - a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35086).
 - b. **SHALL** contain exactly one [1..1] **Entity - Patient** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35082).

14. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-31736) 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:4423-31737).
- b. **SHALL** contain exactly one [1..1] **Reason** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-31738).

Figure 18: Device, Recommended (V2) Example

```
<supplyCriteria classCode="SPLY" moodCode="INT">
    <templateId>
        <item root="2.16.840.1.113883.10.20.28.4.16" extension="2019-05-01"/>
    </templateId>
    <id root="5ab17ed3-166c-426d-9c61-d254e30c9e87"/>
    <title value="Device, Recommended"/>
    <statusCode code="active"/>
    <participation typeCode="DEV">
        <role classCode="MANU">
            <playingDevice classCode="DEV" determinerCode="KIND">
                <code valueSet="{$QDMElementValueSetOID}"/>
            </playingDevice>
        </role>
    </participation>
</supplyCriteria>
```

5.15 Diagnosis (V3)

[observationCriteria: identifier

urn:hl7ii:2.16.840.1.113883.10.20.28.4.110:2019-05-01 (open)]

Table 41: Diagnosis (V3) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Severity Observation (V2) (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

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 QDM does not prescribe the source of diagnosis data in the EHR. Diagnoses may be found in a patient's problem list, encounter diagnosis list, claims data, or other sources within the EHR. The

preferred terminology for diagnoses is SNOMEDCT, but diagnoses may also be encoded using ICD9/10.

The Diagnosis datatype should not be used for differential diagnoses or rule out diagnoses (neither of which are currently supported by the QDM).

The onset datetime corresponds to the implicit start datetime of the datatype and the abatement datetime corresponds to the implicit stop datetime of the datatype. If the abatement datetime is null, then the diagnosis is considered to still be active. When this datatype is used with timing relationships, the criterion is looking for an active diagnosis for the time frame indicated by the timing relationships.

Timing: The Prevalence Period references the time from the onset date to the abatement date.

Table 42: Diagnosis (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.110:2019-05-01)					
@classCode	1..1	SHALL		4423-33768	OBS
@moodCode	1..1	SHALL		4423-33769	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		4423-34702	
templateId	1..1	SHALL		4423-33770	
item	1..1	SHALL		4423-33771	
@root	1..1	SHALL		4423-33776	2.16.840.1.113883.10.20.28.4.110
@extension	1..1	SHALL		4423-34321	2019-05-01
id	1..1	SHALL		4423-33777	
code	1..1	SHALL		4423-33772	
@code	1..1	SHALL		4423-33778	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 282291009
@codeSystem	1..1	SHALL		4423-33779	2.16.840.1.113883.6.96
title	1..1	SHALL		4423-33780	
statusCode	1..1	SHALL		4423-33773	
@code	1..1	SHALL		4423-33781	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	4423-33774	
low	0..1	MAY		4423-33782	
high	0..1	MAY		4423-33783	
value	1..1	SHALL	CD	4423-33775	
@valueSet	0..1	SHOULD		4423-33784	
targetSiteCode	0..1	MAY		4423-33785	
item	1..1	SHALL		4423-33786	

XPath	Card.	Verb	Data Type	CONF#	Value
@valueSet	0..1	SHOULD		4423-33788	
participation	0..1	MAY		4423-35106	
@typeCode	1..1	SHALL		4423-35112	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35107	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01)
participation	0..1	MAY		4423-35108	
@typeCode	1..1	SHALL		4423-35113	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35109	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35826	
@typeCode	1..1	SHALL		4423-35828	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35827	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35110	
@typeCode	1..1	SHALL		4423-35114	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35111	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01)
outboundRelationship	0..1	MAY		4423-33787	
@typeCode	1..1	SHALL		4423-33789	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		4423-33790	Severity Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.93:2017-08-01)

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:4423-33768).

2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-33769).
3. **SHALL NOT** contain [0..0] @actionNegationInd (CONF:4423-34702).
4. **SHALL** contain exactly one [1..1] templateId (CONF:4423-33770).
 - a. This templateId **SHALL** contain exactly one [1..1] item (CONF:4423-33771) such that it
 - i. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.110" (CONF:4423-33776).
 - ii. **SHALL** contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-34321).
5. **SHALL** contain exactly one [1..1] id (CONF:4423-33777).
6. **SHALL** contain exactly one [1..1] code (CONF:4423-33772).
 - a. This code **SHALL** contain exactly one [1..1] @code="282291009" Diagnosis (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:4423-33778).
 - b. This code **SHALL** contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.96" (SNOMED CT) (CONF:4423-33779).
7. **SHALL** contain exactly one [1..1] title (CONF:4423-33780).
8. **SHALL** contain exactly one [1..1] statusCode (CONF:4423-33773).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-33781).
9. **MAY** contain zero or one [0..1] effectiveTime (CONF:4423-33774) such that it
 Note: QDM Attribute: Prevalence Period (The Prevalence Period references the time from the onset date to the abatement date)
 - a. **MAY** contain zero or one [0..1] low (CONF:4423-33782).
 Note: Onset dateTime
 - b. **MAY** contain zero or one [0..1] high (CONF:4423-33783).
 Note: Abatement dateTime
10. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:4423-33775).
 - a. This value **SHOULD** contain zero or one [0..1] @valueSet (CONF:4423-33784).
11. **MAY** contain zero or one [0..1] targetSiteCode (CONF:4423-33785).
 Note: QDM attribute: Anatomical Location Site
 - a. The targetSiteCode, if present, **SHALL** contain exactly one [1..1] item (CONF:4423-33786).
 - i. This item **SHOULD** contain zero or one [0..1] @valueSet (CONF:4423-33788).
12. **MAY** contain zero or one [0..1] participation (CONF:4423-35106).
 Note: QDM Attribute: Recorder
 - a. The participation, if present, **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35112).
 - b. The participation, if present, **SHALL** contain exactly one [1..1] Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35107).

13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35108).

Note: QDM Attribute: Recorder

- a. The participation, if present, **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35113).
- b. The participation, if present, **SHALL** contain exactly one [1..1] [Entity - Organization](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35109).

14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35826).

Note: QDM Attribute: Recorder

- a. The participation, if present, **SHALL** contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35828).
- b. The participation, if present, **SHALL** contain exactly one [1..1] [Entity - Care Partner](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35827).

15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35110).

Note: QDM Attribute: Recorder

- a. The participation, if present, **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35114).
- b. The participation, if present, **SHALL** contain exactly one [1..1] [Entity - Patient](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35111).

16. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-33787) 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:4423-33789).
- b. **SHALL** contain exactly one [1..1] [Severity Observation \(v2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.93:2017-08-01) (CONF:4423-33790).

Figure 19: Diagnosis (V3) Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.110" extension="2019-05-01"/>
  </templateId>
  <id root="9e4e810d-3c3e-461e-86f8-6fe7a0b1ca2b"/>
  <code code="282291009" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT">
    <displayName value="Diagnosis"/>
  </code>
  <title value="Diagnosis"/>
  <statusCode code="completed"/>
  <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.16 Diagnostic Study, Order (V4)

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.22:2019-05-01 (open)]

Table 43: Diagnostic Study, Order (V4) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Diagnostic Study, Order.

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. Diagnostic studies may make use of digital images and textual reports. Such studies include but are not limited to imaging studies, cardiology studies (electrocardiogram, treadmill stress testing), pulmonary-function testing, vascular laboratory testing, and others.

Diagnostic Study, Order represents that a diagnostic study has been ordered.

Timing: The time the order is signed; author time.

Table 44: Diagnostic Study, Order (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.22;2019-05-01)					
@classCode	1..1	SHALL		4423-34723	OBS
@moodCode	1..1	SHALL		4423-30106	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		4423-30485	
templateId	1..1	SHALL		4423-30108	
item	1..1	SHALL		4423-30109	
@root	1..1	SHALL		4423-30117	2.16.840.1.113883.10.20.28.4.22
@extension	1..1	SHALL		4423-33643	2019-05-01
id	1..1	SHALL		4423-30110	
code	1..1	SHALL		4423-30111	
@valueSet	0..1	SHOULD		4423-30126	
title	1..1	SHALL		4423-35938	
statusCode	1..1	SHALL		4423-30232	
@code	1..1	SHALL		4423-30233	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
participation	0..1	MAY		4423-33480	
@typeCode	1..1	SHALL		4423-33482	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-33481	
low	1..1	SHALL		4423-33483	
role	1..1	SHALL		4423-33572	
@classCode	1..1	SHALL		4423-33573	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	1..1	SHALL		4423-33574	
participation	0..1	MAY		4423-35088	

XPath	Card.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4423-35094	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35089	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.137:2019-05-01)
participation	0..1	MAY		4423-35092	
@typeCode	1..1	SHALL		4423-35096	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35093	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35829	
@typeCode	1..1	SHALL		4423-35831	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35830	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35090	
@typeCode	1..1	SHALL		4423-35095	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35091	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.136:2019-05-01)
outboundRelationship	0..1	MAY		4423-30124	
@typeCode	1..1	SHALL		4423-30912	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-30125	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.88:2017-05-01)

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:4423-34723).
2. **SHALL** contain exactly one [1..1] @moodCode="RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4423-30106).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:4423-30485).
Note: QDM Attribute: Negation Rationale

4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-30108).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-30109) such that it
 - i. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.28.4.22"` (CONF:4423-30117).
 - ii. **SHALL** contain exactly one [1..1] `@extension="2019-05-01"` (CONF:4423-33643).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-30110).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-30111).

Note: QDM Attribute: Code

 - a. This code **SHOULD** contain zero or one [0..1] `@valueSet` (CONF:4423-30126).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-35938).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-30232).
 - a. This statusCode **SHALL** contain exactly one [1..1] `@code="active"` Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-30233).
9. **MAY** contain zero or one [0..1] **participation** (CONF:4423-33480) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="AUT"` Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-33482).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-33481).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-33483).

Note: QDM Attribute: Author dateTime (The time the order is signed)
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-33572).
 - i. This role **SHALL** contain exactly one [1..1] `@classCode="ROL"` Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-33573).
 - ii. This role **SHALL** contain exactly one [1..1] **id** (CONF:4423-33574).
10. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35088) such that it

Note: QDM Attribute: Requester

 - a. **SHALL** contain exactly one [1..1] `@typeCode="PART"` participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35094).
 - b. **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35089).
11. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35092) such that it

Note: QDM Attribute: Requester

 - a. **SHALL** contain exactly one [1..1] `@typeCode="PART"` participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35096).
 - b. **SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35093).
12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35829) such that it

Note: QDM Attribute: Requester

 - a. **SHALL** contain exactly one [1..1] `@typeCode="PART"` (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35831).

- b. **SHALL** contain exactly one [1..1] [Entity - Care Partner](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35830).

13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35090) such that it

Note: QDM Attribute: Requester

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35095).
- b. **SHALL** contain exactly one [1..1] [Entity - Patient](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35091).

14. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-30124) 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:4423-30912).
- b. **SHALL** contain exactly one [1..1] [Reason](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-30125).

Figure 20: Diagnostic Study, Order (V4) Example

```
<observationCriteria classCode="OBS" moodCode="RQO">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.22" extension="2019-05-01"/>
  </templateId>
  <id root="628e7169-c8eb-448e-9d74-a59dc02844e9" />
  <code valueSet="{$QDMElementValueSetOID}"/>
  <title value="Diagnostic Study, Order"/>
  <statusCode code="active"/>
</observationCriteria>
```

5.17 Diagnostic Study, Performed (V3)

[observationCriteria: identifier

urn:hl7ii:2.16.840.1.113883.10.20.28.4.23:2019-05-01 (open)]

Table 45: Diagnostic Study, Performed (V3) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Facility Location (optional) Reason (optional) Component (optional) Result (V2) (optional) Status (V2) (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Diagnostic Study, Performed.

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. Diagnostic studies may make use of digital images and textual reports. 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 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. Diagnostic studies may make use of digital images and textual reports. Such studies include but are not limited to imaging studies, cardiology studies (electrocardiogram, treadmill stress testing), pulmonary-function testing, vascular laboratory testing, and others.

Timing: The Relevant Period addresses: startTime – when the diagnostic study is initiated; stopTime – when the diagnostic study is completed.

Relevant dateTime references the time the diagnostic study is performed if it occurs at a single point in time.

Author dateTime references the time the diagnostic study was recorded and applies only when the record has no reference to the time the diagnostic study was performed and only the recorded time is available.

Examples:

- Initiation of a treadmill stress test to the time the treadmill stress test has completed
- Initiation of the ultrasound study until completion of the ultrasound study

QDM Attributes: Result and Result dateTime are represented using the Result (V2) template

Table 46: Diagnostic Study, Performed (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.23:2019-05-01)					
@classCode	1..1	SHALL		4423-30775	OBS
@moodCode	1..1	SHALL		4423-30776	urn:oid:2.16.840.1.113883.5.1 001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		4423-30777	
templateId	1..1	SHALL		4423-30778	
item	1..1	SHALL		4423-30779	
@root	1..1	SHALL		4423-30780	2.16.840.1.113883.10.20.28.4 .23
@extension	1..1	SHALL		4423-33605	2019-05-01
id	1..1	SHALL		4423-30781	
code	1..1	SHALL		4423-30782	
@valueSet	0..1	SHOULD		4423-30783	
title	1..1	SHALL		4423-35939	
statusCode	1..1	SHALL		4423-30785	
@code	1..1	SHALL		4423-30786	urn:oid:2.16.840.1.113883.5.1 4 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	4423-30787	
low	0..1	MAY		4423-30788	
high	0..1	MAY		4423-30789	
value	0..0	SHALL NOT		4423-34764	
methodCode	0..1	MAY		4423-30790	
item	0..1	SHOULD		4423-30791	
@valueSet	0..1	SHOULD		4423-30917	
participation	0..1	MAY		4423-30792	

XPath	Card.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4423-30993	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = LOC
role	1..1	SHALL		4423-30992	Facility Location (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.92:2017-05-01
participation	0..1	MAY		4423-34510	
@typeCode	1..1	SHALL		4423-34513	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-34511	
low	1..1	SHALL		4423-34514	
role	1..1	SHALL		4423-34512	
@classCode	1..1	SHALL		4423-34515	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		4423-34516	
participation	0..1	MAY		4423-35103	
@typeCode	1..1	SHALL		4423-35105	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35104	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.137:2019-05-01
participation	0..1	MAY		4423-35097	
@typeCode	1..1	SHALL		4423-35101	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35098	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.135:2019-05-01
participation	0..1	MAY		4423-35832	
@typeCode	1..1	SHALL		4423-35834	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35833	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.134:2019-05-01
participation	0..1	MAY		4423-	

XPath	Card.	Verb	Data Type	CONF#	Value
				35099	
@typeCode	1..1	SHALL		4423-35102	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35100	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01)
outboundRelationship	0..1	MAY		4423-30799	
@typeCode	1..1	SHALL		4423-30921	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-30800	Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01)
outboundRelationship	0..1	MAY		4423-34763	
@typeCode	1..1	SHALL		4423-34765	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = VALUE
observationCriteria	1..1	SHALL		4423-34766	Result (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01)
outboundRelationship	0..1	MAY		4423-33365	
@typeCode	1..1	SHALL		4423-34614	REFR
observationCriteria	1..1	SHALL		4423-33366	Status (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.94:2017-08-01)
outboundRelationship	0..*	MAY		4423-34611	
@typeCode	1..1	SHALL		4423-34612	REFR
observationCriteria	1..1	SHALL		4423-34613	Component (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.121:2017-05-01)

1. **SHALL** contain exactly one [1..1] @classCode= "OBS" Observation (CONF:4423-30775).
2. **SHALL** contain exactly one [1..1] @moodCode= "EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 STATIC) (CONF:4423-30776).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:4423-30777).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:4423-30778).
 - a. This templateId **SHALL** contain exactly one [1..1] item (CONF:4423-30779) such that it

- i. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.23" (CONF:4423-30780).
 - ii. **SHALL** contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33605).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-30781).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-30782).
- a. This code **SHOULD** contain zero or one [0..1] @valueSet (CONF:4423-30783).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-35939).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-30785).
- a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-30786).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-30787) such that it
- Note: QDM Attribute: Relevant Period
- a. **MAY** contain zero or one [0..1] **low** (CONF:4423-30788).
- Note: startTime of Relevant Period (When the diagnostic study is initiated) or QDM Attribute: Relevant dateTime
- b. **MAY** contain zero or one [0..1] **high** (CONF:4423-30789).
- Note: stopTime of Relevant Period (When the diagnostic study is completed)
10. **SHALL NOT** contain [0..0] **value** (CONF:4423-34764).
- Note: Use the Result (V2) template to represent Result
11. **MAY** contain zero or one [0..1] **methodCode** (CONF:4423-30790).
- Note: QDM Attribute: Method
- a. The methodCode, if present, **SHOULD** contain zero or one [0..1] **item** (CONF:4423-30791).
 - i. The item, if present, **SHOULD** contain zero or one [0..1] @valueSet (CONF:4423-30917).
12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-30792) such that it
- Note: QDM Attribute: Facility Location
- a. **SHALL** contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30993).
 - b. **SHALL** contain exactly one [1..1] **Facility Location** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01) (CONF:4423-30992).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34510) such that it
- Note: QDM Attribute: Facility Location
- a. **SHALL** contain exactly one [1..1] @typeCode="AUT" Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34513).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34511).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-34514).

Note: QDM Attribute: Author Time
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34512).
 - i. This role **SHALL** contain exactly one [1..1] @classCode="ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-34515).

- ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-34516).
14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35103) such that it
Note: QDM Attribute: Requester
- SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35105).
 - SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35104).
15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35097) such that it
Note: QDM Attribute: Requester
- SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35101).
 - SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35098).
16. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35832) such that it
Note: QDM Attribute: Requester
- SHALL** contain exactly one [1..1] **@typeCode="PART"** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35834).
 - SHALL** contain exactly one [1..1] **Entity - Care Partner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35833).
17. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35099) such that it
Note: QDM Attribute: Requester
- SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35102).
 - SHALL** contain exactly one [1..1] **Entity - Patient** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35100).
18. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-30799) such that it
Note: QDM Attribute: Reason
- SHALL** contain exactly one [1..1] **@typeCode="RSON"** Has Reason (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-30921).
 - SHALL** contain exactly one [1..1] **Reason** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-30800).
19. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-34763) such that it
Note: QDM Attribute: Result, QDM Attribute: Result dateTime
- SHALL** contain exactly one [1..1] **@typeCode="VALUE"** has value (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-34765).
 - SHALL** contain exactly one [1..1] **Result (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01) (CONF:4423-34766).

20. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-33365) such that it
Note: QDM Attribute: Status

- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers To (CONF:4423-34614).
- b. **SHALL** contain exactly one [1..1] Status (V2) (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.28.4.94:2017-08-01) (CONF:4423-33366).

21. **MAY** contain zero or more [0..*] **outboundRelationship** (CONF:4423-34611) such that it
Note: QDM Attribute: Component

- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers To (CONF:4423-34612).
- b. **SHALL** contain exactly one [1..1] Component (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.28.4.121:2017-05-01) (CONF:4423-34613).

Figure 21: Diagnostic Study, Performed (V3) Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.23" extension="2019-05-01"/>
  </templateId>
  <id root="f584ead4-808b-43c2-93e3-b8606e156233"/>
  <code valueSet="{$QDMElementValueSetOID}"/>
  <title value="Diagnostic Study, Performed"/>
  <statusCode code="completed"/>
</observationCriteria>
```

5.18 Diagnostic Study, Recommended (V4)

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.24:2019-05-01 (open)]

Table 47: Diagnostic Study, Recommended (V4) Contexts

Contained By:	Contains:
<u>Data Criteria Section (V4)</u> (optional)	<u>Entity - Practitioner</u> (optional) <u>Entity - Organization</u> (optional) <u>Entity - Patient</u> (optional) <u>Entity - Care Partner</u> (optional)

This template represents the QDM data type: Diagnostic Study, Recommended.

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. Diagnostic studies may make use of digital images and textual reports. Such studies include but are not limited to imaging studies, cardiology studies (electrocardiogram, treadmill stress testing), pulmonary-function testing, vascular laboratory testing, and others.

Timing: The time the order is signed; author time.

All QDM datatypes referring to recommendations address the time that the recommendation occurs, a

single point in time. Vendors have expressed concerns that recommendations are not necessarily captured or managed in a standard manner as part of structured data capture in clinical workflow; many are documented as part of assessments in narrative text. Measure developers should address feasibility of clinical workflow to capture recommendations when evaluating measures.

Table 48: Diagnostic Study, Recommended (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.24:2019-05-01)					
@classCode	1..1	SHALL		4423-30572	OBS
@moodCode	1..1	SHALL		4423-30573	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = INT
@actionNegationInd	0..1	MAY		4423-30574	
templateId	1..1	SHALL		4423-30575	
item	1..1	SHALL		4423-30576	
@root	1..1	SHALL		4423-30577	2.16.840.1.113883.10.20.28.4.24
@extension	1..1	SHALL		4423-33751	2019-05-01
id	1..1	SHALL		4423-30578	
code	1..1	SHALL		4423-30579	
@valueSet	0..1	SHOULD		4423-30580	
title	1..1	SHALL		4423-30581	
statusCode	1..1	SHALL		4423-30582	
@code	1..1	SHALL		4423-30583	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
participation	0..1	MAY		4423-34329	
@typeCode	1..1	SHALL		4423-34331	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-34330	
low	1..1	SHALL		4423-34332	
role	1..1	SHALL		4423-34333	
@classCode	1..1	SHALL		4423-34334	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		4423-34335	
participation	0..1	MAY		4423-35115	

XPath	Card.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4423-35121	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35116	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01)
participation	0..1	MAY		4423-35119	
@typeCode	1..1	SHALL		4423-35123	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35120	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35835	
@typeCode	1..1	SHALL		4423-35837	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35836	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35117	
@typeCode	1..1	SHALL		4423-35122	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35118	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01)

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CONF:4423-30572).
2. **SHALL** contain exactly one [1..1] **@moodCode="INT"** Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4423-30573).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:4423-30574).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-30575).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-30576) such that it
 - i. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.28.4.24"** (CONF:4423-30577).
 - ii. **SHALL** contain exactly one [1..1] **@extension="2019-05-01"** (CONF:4423-33751).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-30578).

6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-30579).

Note: QDM Attribute: Code

- a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-30580).

7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-30581).

8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-30582).

- a. This statusCode **SHALL** contain exactly one [1..1] **@code="active"** Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-30583).

9. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34329) such that it

- a. **SHALL** contain exactly one [1..1] **@typeCode="AUT"** Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34331).

- b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34330).

- i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-34332).

Note: QDM Attribute: Author dateTime (The time the recommendation is authored)

- c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34333).

- i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-34334).

- ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-34335).

10. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35115) such that it

Note: QDM Attribute: Requester

- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35121).

- b. **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35116).

11. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35119) such that it

Note: QDM Attribute: Requester

- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35123).

- b. **SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35120).

12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35835) such that it

Note: QDM Attribute: Requester

- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35837).

- b. **SHALL** contain exactly one [1..1] **Entity - Care Partner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35836).

13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35117) such that it

Note: QDM Attribute: Requester

- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35122).

- b. **SHALL** contain exactly one [1..1] [Entity - Patient](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35118).

Figure 22: Diagnostic Study, Recommended (V4) Example

```
<observationCriteria classCode="OBS" moodCode="INT">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.24" extension="2019-05-01"/>
  </templateId>
  <id root="f584ead4-808b-43c2-93e3-b8606e156233"/>
  <code valueSet="{$QDMElementValueSetOID}"/>
  <title value="Diagnostic Study, Recommended"/>
  <statusCode code="active"/>
</observationCriteria>
```

5.19 Dosage

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.125:2017-05-01 (open)]

Table 49: Dosage Contexts

Contained By:	Contains:
Medication, Dispensed (V3) (optional)	

This template represents the QDM attribute: Dosage.

Details of how medication is/is to be taken, i.e., the quantity (mg, cc, tablets) to be taken at a single administration.

Table 50: Dosage Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.125:2017-05-01)					
@classCode	1..1	SHALL		3335-34423	OBS
@moodCode	1..1	SHALL		3335-34424	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		3335-34420	
item	1..1	SHALL		3335-34421	
@root	1..1	SHALL		3335-34425	2.16.840.1.113883.10.20.28.4.125
@extension	1..1	SHALL		3335-34650	2017-05-01
code	1..1	SHALL		3335-34422	
@code	1..1	SHALL		3335-34427	260911001
@codeSystem	1..1	SHALL		3335-34428	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
value	1..1	SHALL	PQ	3335-34430	

1. **SHALL** contain exactly one [1..1] **@classCode**= "OBS" Observation (CONF:3335-34423).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3335-34424).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:3335-34420).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:3335-34421) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.125" (CONF:3335-34425).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2017-05-01" (CONF:3335-34650).
4. **SHALL** contain exactly one [1..1] **code** (CONF:3335-34422).
 - a. This code **SHALL** contain exactly one [1..1] **@code**= "260911001" Dosage (CONF:3335-34427).
 - 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:3335-34428).
5. **SHALL** contain exactly one [1..1] **value** with @xsi:type="PQ" (CONF:3335-34430).

Figure 23: Dosage Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.125" extension="2017-05-01"/>
  </templateId>
  <id root="a77fb848-5778-4948-a3df-cf9ae40997c4"/>
  <code code="260911001" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT">
    <displayName value="Dosage"/>
  </code>
  <title value="Dosage"/>
  <value xsi:type="PQ" value="200" unit="mg"/>
</observationCriteria>
```

5.20 Encounter Diagnosis

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.138:2019-05-01 (open)]

Table 51: Encounter Diagnosis Contexts

Contained By:	Contains:
Encounter, Performed (V3) (optional)	Present On Admission Indicator (optional) Rank (optional)

This template is to represent Diagnoses attribute. Coded diagnoses/problems addressed during the encounter.

Table 52: Encounter Diagnosis Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.138:2019-05-01)					
@classCode	1..1	SHALL		4423-35753	OBS
@moodCode	1..1	SHALL		4423-35754	urn:oid:2.16.840.1.113883.5.1 001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4423-35742	
item	1..1	SHALL		4423-35743	
@root	1..1	SHALL		4423-35747	2.16.840.1.113883.10.20.28.4 .138
@extension	1..1	SHALL		4423-35748	2019-05-01
code	1..1	SHALL		4423-35744	
@code	1..1	SHALL		4423-35749	29308-4
@codeSystem	1..1	SHALL		4423-35750	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
value	0..1	MAY	CD	4423-35755	
@valueSet	0..1	SHOULD		4423-35758	
outboundRelationship	0..1	MAY		4423-35756	
@typeCode	1..1	SHALL		4423-35759	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		4423-35757	Present On Admission Indicator (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.140:2019-05-01)
outboundRelationship	0..1	MAY		4423-35761	
@typeCode	1..1	SHALL		4423-35763	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		4423-35762	Rank (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.139:2019-05-01)

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:4423-35753).

2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-35754).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-35742) such that it
 - a. **SHALL** contain exactly one [1..1] **item** (CONF:4423-35743).
 - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.138" (CONF:4423-35747).
 - ii. This item **SHALL** contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-35748).
4. **SHALL** contain exactly one [1..1] **code** (CONF:4423-35744).
 - a. This code **SHALL** contain exactly one [1..1] @code="29308-4" Diagnosis (CONF:4423-35749).
 - 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:4423-35750).
5. **MAY** contain zero or one [0..1] **value** with @xsi:type="CD" (CONF:4423-35755).
Note: Diagnosis
 - a. The value, if present, **SHOULD** contain zero or one [0..1] @valueSet (CONF:4423-35758).
6. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-35756).
Note: PresentOnAdmissionIndicator
 - a. The outboundRelationship, if present, **SHALL** contain exactly one [1..1] @typeCode="REFR" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-35759).
 - b. The outboundRelationship, if present, **SHALL** contain exactly one [1..1] Present On Admission Indicator (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.140:2019-05-01) (CONF:4423-35757).
7. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-35761).
Note: Rank
 - a. The outboundRelationship, if present, **SHALL** contain exactly one [1..1] @typeCode="REFR" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-35763).
 - b. The outboundRelationship, if present, **SHALL** contain exactly one [1..1] Rank (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.139:2019-05-01) (CONF:4423-35762).

Figure 24: Encounter Diagnosis Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.138" extension="2019-05-01"/>
  </templateId>
  <code code="29308-4" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">
    <displayName value="Diagnosis"/>
  </code>
  <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.21 Encounter, Order (V2)

[`EncounterCriteria: identifier`
`urn:hl7ii:2.16.840.1.113883.10.20.28.4.27:2019-05-01 (open)`]

Table 53: Encounter, Order (V2) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Facility Location (optional) Reason (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Encounter, Order.

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

Timing: The time the order is signed; author time.

Table 54: Encounter, Order (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
EncounterCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.27:2019-05-01)					
@classCode	1..1	SHALL		4423-30860	ENC
@moodCode	1..1	SHALL		4423-30861	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		4423-30862	
templateId	1..1	SHALL		4423-30863	
item	1..1	SHALL		4423-30864	
@root	1..1	SHALL		4423-30865	2.16.840.1.113883.10.20.28.4.27
@extension	1..1	SHALL		4423-33645	2019-05-01
id	1..1	SHALL		4423-30866	
code	1..1	SHALL		4423-30867	
@valueSet	0..1	SHOULD		4423-30868	
title	1..1	SHALL		4423-35940	
statusCode	1..1	SHALL		4423-30870	
@code	1..1	SHALL		4423-30871	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
priorityCode	0..1	MAY		4423-35133	
item	1..1	SHALL		4423-35134	
@valueSet	0..1	SHOULD		4423-35135	
participation	0..1	MAY		4423-30875	
@typeCode	1..1	SHALL		4423-30876	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = LOC
role	1..1	SHALL		4423-30877	Facility Location (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01)
participation	0..1	MAY		4423-33485	
@typeCode	1..1	SHALL		4423-33487	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) =

XPath	Card.	Verb	Data Type	CONF#	Value
					AUT
time	1..1	SHALL		4423-33486	
low	1..1	SHALL		4423-33488	
role	1..1	SHALL		4423-33575	
@classCode	1..1	SHALL		4423-33576	urn:oid:2.16.840.1.113883.5.1 10 (HL7RoleClass) = ROL
id	0..1	MAY		4423-33577	
participation	0..1	MAY		4423-35124	
@typeCode	1..1	SHALL		4423-35128	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35125	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.137:2019-05-01
participation	0..1	MAY		4423-35126	
@typeCode	1..1	SHALL		4423-35129	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35127	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.135:2019-05-01
participation	0..1	MAY		4423-35838	
@typeCode	1..1	SHALL		4423-35840	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35839	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.134:2019-05-01
participation	0..1	MAY		4423-35130	
@typeCode	1..1	SHALL		4423-35132	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35131	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.136:2019-05-01
outboundRelationship	0..1	MAY		4423-30878	

XPath	Card.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4423-30879	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-30880	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.88:2017-05-01)

1. **SHALL** contain exactly one [1..1] **@classCode**= "ENC" Encounter (CONF:4423-30860).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-30861).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:4423-30862).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-30863).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-30864) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.27" (CONF:4423-30865).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-33645).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-30866).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-30867).
Note: QDM Attribute: Code
 - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-30868).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-35940).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-30870).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**= "active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-30871).
9. **MAY** contain zero or one [0..1] **priorityCode** (CONF:4423-35133).
Note: QDM Attribute: Priority
 - a. The priorityCode, if present, **SHALL** contain exactly one [1..1] **item** (CONF:4423-35134).
 - i. This item **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-35135).
10. **MAY** contain zero or one [0..1] **participation** (CONF:4423-30875) such that it
Note: QDM Attribute: Facility Location
 - a. **SHALL** contain exactly one [1..1] **@typeCode**= "LOC" Location (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30876).
 - b. **SHALL** contain exactly one [1..1] **Facility Location** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01) (CONF:4423-30877).
11. **MAY** contain zero or one [0..1] **participation** (CONF:4423-33485) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**= "AUT" Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-33487).

- b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-33486).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-33488).
Note: QDM Attribute: Author dateTime (The time the order is signed)
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-33575).
 - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-33576).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-33577).
12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35124) such that it
Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35128).
 - b. **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35125).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35126) such that it
Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35129).
 - b. **SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35127).
14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35838) such that it
Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35840).
 - b. **SHALL** contain exactly one [1..1] **Entity - Care Partner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35839).
15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35130) such that it
Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35132).
 - b. **SHALL** contain exactly one [1..1] **Entity - Patient** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35131).
16. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-30878) 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:4423-30879).
 - b. **SHALL** contain exactly one [1..1] **Reason** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-30880).

Figure 25: Encounter, Order (V2) Example

```
<encounterCriteria classCode="ENC" moodCode="RQO">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.27" extension="2019-05-01"/>
  </templateId>
  <id root="c4cb3abb-1e2e-4b3a-97c1-de1685b7da02"/>
  <code valueSet="{$QDMElementValueSetOID}"/>
  <title value="Encounter, Order"/>
  <statusCode code="active"/>
</encounterCriteria>
```

5.22 Encounter, Performed (V3)

[EncounterCriteria: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.5:2019-05-01 (open)]

Table 55: Encounter, Performed (V3) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Admission Source (optional) Facility Location (optional) Reason (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Encounter Diagnosis (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Encounter, Performed.

An encounter is an identifiable grouping of healthcare-related activities characterized by the entity relationship between the subject of care and a healthcare provider; such grouping is determined by the healthcare provider. A patient encounter represents interaction between a healthcare provider and a patient with a face-to-face patient visit to a clinician's office, or any electronically remote interaction with a clinician for any form of diagnostic treatment or therapeutic event.

This template represents an encounter that is completed.

Timing: The Relevant Period addresses: startTime – The time the encounter began (admission time); stopTime – The time the encounter ended (discharge time).

Table 56: Encounter, Performed (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
EncounterCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.5:2019-05-01)					
@classCode	1..1	SHALL		4423-31005	ENC
@moodCode	1..1	SHALL		4423-31006	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		4423-31007	
templateId	1..1	SHALL		4423-31008	
item	1..1	SHALL		4423-31009	
@root	1..1	SHALL		4423-31010	2.16.840.1.113883.10.20.28.4.5
@extension	1..1	SHALL		4423-33397	2019-05-01
id	1..1	SHALL		4423-31011	
code	1..1	SHALL		4423-31012	
@valueSet	0..1	SHOULD		4423-31013	
title	1..1	SHALL		4423-35941	
statusCode	1..1	SHALL		4423-31015	
@code	1..1	SHALL		4423-31016	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	4423-31017	
low	0..1	MAY		4423-31018	
high	0..1	MAY		4423-31019	
priorityCode	0..1	MAY		4423-35141	
item	1..1	SHALL		4423-35142	
@valueSet	0..1	SHOULD		4423-35149	
lengthOfStayQuantity	0..1	MAY		4423-31033	
dischargeDispositionCode	0..1	MAY		4423-31034	

XPath	Card.	Verb	Data Type	CONF#	Value
@valueSet	0..1	SHOULD		4423-33105	
participation	0..*	MAY		4423-31021	
@typeCode	1..1	SHALL		4423-31022	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = LOC
role	1..1	SHALL		4423-31023	Facility Location (identifier: urn:hl7ii:2.16.840.1.113883.1_0.20.28.4.92:2017-05-01
participation	0..1	MAY		4423-34371	
@typeCode	1..1	SHALL		4423-34372	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = LOC
role	1..1	SHALL		4423-34373	Admission Source (identifier: urn:hl7ii:2.16.840.1.113883.1_0.20.28.4.123:2017-05-01
participation	0..1	MAY		4423-35136	
@typeCode	1..1	SHALL		4423-34659	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-35137	
low	1..1	SHALL		4423-35138	
role	1..1	SHALL		4423-34658	
@classCode	1..1	SHALL		4423-35139	urn:oid:2.16.840.1.113883.5.1 10 (HL7RoleClass) = ROL
id	0..1	MAY		4423-35140	
participation	0..1	MAY		4423-35143	
@typeCode	1..1	SHALL		4423-35150	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35144	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1_0.20.28.4.137:2019-05-01
participation	0..1	MAY		4423-35147	
@typeCode	1..1	SHALL		4423-35152	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35148	Entity - Organization (identifier:

XPath	Card.	Verb	Data Type	CONF#	Value
					urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.135:2019-05-01
participation	0..1	MAY		4423-35841	
@typeCode	1..1	SHALL		4423-35843	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35842	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.134:2019-05-01
participation	0..1	MAY		4423-35145	
@typeCode	1..1	SHALL		4423-35151	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35146	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.136:2019-05-01
outboundRelationship	0..1	MAY		4423-31024	
@typeCode	1..1	SHALL		4423-31025	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-31026	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.88:2017-05-01
outboundRelationship	0..*	MAY		4423-34041	
@typeCode	1..1	SHALL		4423-34045	REFR
observationCriteria	1..1	SHALL		4423-35760	Encounter Diagnosis (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.138:2019-05-01

1. **SHALL** contain exactly one [1..1] **@classCode**= "ENC" Encounter (CONF:4423-31005).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "EVN" Event (CodeSystem: HL7ActMood
urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-31006).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:4423-31007).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-31008).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-31009) such that it
 - i. **SHALL** contain exactly one [1..1]
@root= "2.16.840.1.113883.10.20.28.4.5" (CONF:4423-31010).

- ii. **SHALL** contain exactly one [1..1] `@extension="2019-05-01"` (CONF:4423-33397).
- 5. **SHALL** contain exactly one [1..1] `id` (CONF:4423-31011).
- 6. **SHALL** contain exactly one [1..1] `code` (CONF:4423-31012).
Note: QDM Attribute: Code
 - a. This code **SHOULD** contain zero or one [0..1] `@valueSet` (CONF:4423-31013).
- 7. **SHALL** contain exactly one [1..1] `title` (CONF:4423-35941).
- 8. **SHALL** contain exactly one [1..1] `statusCode` (CONF:4423-31015).
 - a. This statusCode **SHALL** contain exactly one [1..1] `@code="completed"` Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-31016).
- 9. **MAY** contain zero or one [0..1] `effectiveTime` (CONF:4423-31017) such that it
Note: QDM Attribute: Relevant Period
 - a. **MAY** contain zero or one [0..1] `low` (CONF:4423-31018).
Note: startTime – The time the encounter began (admission time)
 - b. **MAY** contain zero or one [0..1] `high` (CONF:4423-31019).
Note: stopTime – The time the encounter ended (discharge time)
- 10. **MAY** contain zero or one [0..1] `priorityCode` (CONF:4423-35141).
Note: QDM Attribute: Priority
 - a. The priorityCode, if present, **SHALL** contain exactly one [1..1] `item` (CONF:4423-35142).
 - i. This item **SHOULD** contain zero or one [0..1] `@valueSet` (CONF:4423-35149).
- 11. **MAY** contain zero or one [0..1] `lengthOfStayQuantity` (CONF:4423-31033).
Note: QDM Attribute: Length of Stay
- 12. **MAY** contain zero or one [0..1] `dischargeDispositionCode` (CONF:4423-31034).
Note: QDM Attribute: Discharge Disposition
 - a. The dischargeDispositionCode, if present, **SHOULD** contain zero or one [0..1] `@valueSet` (CONF:4423-33105).
- 13. **MAY** contain zero or more [0..*] `participation` (CONF:4423-31021) such that it
Note: QDM Attribute: Facility Locations
 - a. **SHALL** contain exactly one [1..1] `@typeCode="LOC"` Location (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-31022).
 - b. **SHALL** contain exactly one [1..1] **Facility Location** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01) (CONF:4423-31023).
- 14. **MAY** contain zero or one [0..1] `participation` (CONF:4423-34371) such that it
Note: QDM Attribute: Admission Source
 - a. **SHALL** contain exactly one [1..1] `@typeCode="LOC"` Location (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-34372).
 - b. **SHALL** contain exactly one [1..1] **Admission Source** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.123:2017-05-01) (CONF:4423-34373).
- 15. **MAY** contain zero or one [0..1] `participation` (CONF:4423-35136) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="AUT"` Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34659).

- b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-35137).
- This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-35138).
Note: QDM Attribute: Author dateTime (The Author dateTime addresses when an Encounter is documented. Documentation can occur at the beginning, during, at the end or subsequent to the end of an Encounter. The Author dateTime should be used only if the Relevant Period cannot be obtained)
- c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34658).
- This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-35139).
 - This role **MAY** contain zero or one [0..1] **id** (CONF:4423-35140).
16. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35143) such that it
Note: QDM Attribute: Participant
- SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35150).
 - SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35144).
17. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35147) such that it
Note: QDM Attribute: Participant
- SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35152).
 - SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35148).
18. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35841) such that it
Note: QDM Attribute: Participant
- SHALL** contain exactly one [1..1] **@typeCode="PART"** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35843).
 - SHALL** contain exactly one [1..1] **Entity - Care Partner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35842).
19. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35145) such that it
Note: QDM Attribute: Participant
- SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35151).
 - SHALL** contain exactly one [1..1] **Entity - Patient** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35146).
20. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-31024) such that it
Note: QDM Attribute: Reason
- SHALL** contain exactly one [1..1] **@typeCode="RSON"** Has Reason (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-31025).

- b. **SHALL** contain exactly one [1..1] [Reason](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-31026).
21. **MAY** contain zero or more [0..*] [outboundRelationship](#) (CONF:4423-34041) such that it Note: QDM Attribute: Diagnoses
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" (CONF:4423-34045).
 - b. **SHALL** contain exactly one [1..1] [Encounter Diagnosis](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.138:2019-05-01) (CONF:4423-35760).

Figure 26: Encounter, Performed (V3) Example

```
<encounterCriteria classCode="ENC" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.5" extension="2019-05-01"/>
  </templateId>
  <id root="d7fbe089-ff04-4f58-b604-cb6d5ebce4cc"/>
  <code valueSet="{$QDMElementValueSetOID}"/>
  <title value="Encounter, Performed"/>
  <statusCode code="completed"/>
  <outboundRelationship typeCode="REFR">
    <observationCriteria classCode="OBS" moodCode="EVN">
      <templateId>
        <item root="2.16.840.1.113883.10.20.28.4.138" extension="2019-05-01"/>
      </templateId>
      <code code="29308-4" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">
        <displayName value="Diagnosis"/>
      </code>
      <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
    </observationCriteria>
  </outboundRelationship>
</encounterCriteria>
```

5.23 Encounter, Recommended (V2)

[[EncounterCriteria](#): identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.28:2019-05-01 (open)]

Table 57: Encounter, Recommended (V2) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Facility Location (optional) Reason (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Encounter, Recommended.

This template describes a recommendation for an encounter. It describes the recommended

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

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

All QDM datatypes referring to recommendations address the time that the recommendation occurs, a single point in time. Vendors have expressed concerns that recommendations are not necessarily captured or managed in a standard manner as part of structured data capture in clinical workflow; many are documented as part of assessments in narrative text. Measure developers should address feasibility of clinical workflow to capture recommendations when evaluating measures.

Table 58: Encounter, Recommended (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
EncounterCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.28:2019-05-01)					
@classCode	1..1	SHALL		4423-30854	ENC
@moodCode	1..1	SHALL		4423-30518	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = INT
@actionNegationInd	0..1	MAY		4423-30855	
templateId	1..1	SHALL		4423-30519	
item	1..1	SHALL		4423-30520	
@root	1..1	SHALL		4423-30521	2.16.840.1.113883.10.20.28.4.28
@extension	1..1	SHALL		4423-33694	2019-05-01
id	1..1	SHALL		4423-30522	
code	1..1	SHALL		4423-30523	
@valueSet	0..1	SHOULD		4423-30856	
title	1..1	SHALL		4423-35942	
statusCode	1..1	SHALL		4423-30857	
@code	0..1	SHALL		4423-30858	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
participation	0..1	MAY		4423-30532	
@typeCode	1..1	SHALL		4423-30859	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = LOC
role	1..1	SHALL		4423-30533	Facility Location (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01)
participation	0..1	MAY		4423-34377	
@typeCode	1..1	SHALL		4423-34380	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-34378	
low	1..1	SHALL		4423-34381	
role	1..1	SHALL		4423-	

XPath	Card.	Verb	Data Type	CONF#	Value
				34379	
@classCode	1..1	SHALL		4423-35160	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		4423-34382	
participation	0..1	MAY		4423-35161	
@typeCode	1..1	SHALL		4423-35167	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35162	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01)
participation	0..1	MAY		4423-35165	
@typeCode	1..1	SHALL		4423-35169	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35166	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35844	
@typeCode	1..1	SHALL		4423-35846	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35845	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35163	
@typeCode	1..1	SHALL		4423-35168	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35164	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01)
outboundRelationship	0..1	MAY		4423-30534	
@typeCode	1..1	SHALL		4423-30535	urn:oid:2.16.840.1.113883.5.11002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-30536	Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01)

1. **SHALL** contain exactly one [1..1] **@classCode**= "ENC" Encounter (CONF:4423-30854).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "INT" Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-30518).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:4423-30855).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-30519).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-30520) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.28" (CONF:4423-30521).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-33694).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-30522).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-30523).
Note: QDM Attribute: Code
 - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-30856).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-35942).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-30857).
 - a. This statusCode **SHALL** contain zero or one [0..1] **@code**= "active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-30858).
9. **MAY** contain zero or one [0..1] **participation** (CONF:4423-30532) such that it
Note: QDM Attribute: Facility Location
 - a. **SHALL** contain exactly one [1..1] **@typeCode**= "LOC" Location (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-30859).
 - b. **SHALL** contain exactly one [1..1] **Facility Location** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01) (CONF:4423-30533).
10. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34377) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**= "AUT" Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34380).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34378).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-34381).
Note: QDM Attribute: Author Time
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34379).
 - i. This role **SHALL** contain exactly one [1..1] **@classCode**= "ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-35160).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-34382).
11. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35161) such that it
Note: QDM Attribute: Requester
 - a. **SHALL** contain exactly one [1..1] **@typeCode**= "PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35167).

- b. **SHALL** contain exactly one [1..1] [Entity - Practitioner](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35162).
12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35165) such that it
- Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35169).
 - b. **SHALL** contain exactly one [1..1] [Entity - Organization](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35166).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35844) such that it
- Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35846).
 - b. **SHALL** contain exactly one [1..1] [Entity - Care Partner](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35845).
14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35163) such that it
- Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35168).
 - b. **SHALL** contain exactly one [1..1] [Entity - Patient](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35164).
15. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-30534) 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:4423-30535).
 - b. **SHALL** contain exactly one [1..1] [Reason](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-30536).

Figure 27: Encounter, Recommended (V2) Example

```
<encounterCriteria classCode="ENC" moodCode="INT">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.28" extension="2019-05-01"/>
  </templateId>
  <id root="0c2f3978-f615-4138-af4f-59ef78b46c62"/>
  <code valueSet="{$QDMElementValueSetOID}"/>
  <title value="Encounter, Recommended"/>
  <statusCode code="active"/>
</encounterCriteria>
```

5.24 Entity - Care Partner

[Role: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
(open)]

Table 59: Entity - Care Partner Contexts

Contained By:	Contains:
Adverse Event (V3) (optional) Allergy Intolerance (V3) (optional) Assessment, Order (V2) (optional) Assessment, Performed (V3) (optional) Assessment, Recommended (V3) (optional) Care Goal (V3) (optional) Communication, Performed (V2) (optional) Device, Applied (V3) (optional) Device, Order (V2) (optional) Device, Recommended (V2) (optional) Diagnostic Study, Order (V4) (optional) Diagnostic Study, Performed (V3) (optional) Diagnosis (V3) (optional) Diagnostic Study, Recommended (V4) (optional) Encounter, Order (V2) (optional) Encounter, Performed (V3) (optional) Encounter, Recommended (V2) (optional) Family History (V2) (optional) Immunization, Administered (V4) (optional) Immunization, Order (V3) (optional) Intervention, Order (V2) (optional) Intervention, Performed (V3) (optional) Intervention, Recommended (V2) (optional) Laboratory Test, Order (V3) (optional) Laboratory Test, Performed (V3) (optional) Laboratory Test, Recommended (V3) (optional) Medication, Active (V4) (optional) Medication, Administered (V4) (optional) Medication, Discharge (V3) (optional) Medication, Dispensed (V3) (optional) Medication, Order (V4) (optional) Patient Care Experience (V2) (optional) Provider Care Experience (V2) (optional) Physical Exam, Performed (V3) (optional) Symptom (V3) (optional) Substance, Recommended (V4) (optional) Substance, Order (V4) (optional) Substance, Administered (V4) (optional) Program Participation (V3) (optional) Procedure, Recommended (V3) (optional) Procedure, Performed (V4) (optional)	

Contained By:	Contains:
Procedure, Order (V4) (optional)	
Physical Exam, Recommended (V3) (optional)	

This template represents Entity that is care partner - a person that is related to a patient, but who is not the direct target of care.

Table 60: Entity - Care Partner Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
Role (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01)					
@classCode	1..1	SHALL		4423-35784	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = PRS
templateId	1..1	SHALL		4423-35773	
item	1..1	SHALL		4423-35774	
@root	1..1	SHALL		4423-35782	2.16.840.1.113883.10.20.28.4.134
@extension	1..1	SHALL		4423-35783	2019-05-01
id	0..1	MAY		4423-35778	
item	0..1	MAY		4423-35779	
@root	1..1	SHALL		4423-35787	
@extension	1..1	SHALL		4423-35788	
playingEntity	0..1	MAY		4423-35780	
roleScoped	0..1	MAY		4423-35789	
code	1..1	SHALL		4423-35791	
@valueSet	0..1	SHOULD		4423-35792	

1. **SHALL** contain exactly one [1..1] **@classCode="PRS"** personal relationship (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-35784).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-35773).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-35774) such that it
 - i. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.28.4.134"** (CONF:4423-35782).

- ii. **SHALL** contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-35783).
3. **MAY** contain zero or one [0..1] **id** (CONF:4423-35778).
 Note: id
- a. The id, if present, **MAY** contain zero or one [0..1] **item** (CONF:4423-35779).
 - i. The item, if present, **SHALL** contain exactly one [1..1] @root (CONF:4423-35787).
 - ii. The item, if present, **SHALL** contain exactly one [1..1] @extension (CONF:4423-35788).
4. **MAY** contain zero or one [0..1] **playingEntity** (CONF:4423-35780).
 Note: Relationship
- a. The playingEntity, if present, **MAY** contain zero or one [0..1] **roleScoped** (CONF:4423-35789).
 - i. The roleScoped, if present, **SHALL** contain exactly one [1..1] **code** (CONF:4423-35791).
 - 1. This code **SHOULD** contain zero or one [0..1] @valueSet (CONF:4423-35792).

Figure 28: Entity - Care Partner Example

```
<role classCode="PRS">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.134" extension="2019-05-01"/>
  </templateId>
  <playingEntity>
    ...
  </playingEntity>
</role>
```

5.25 Entity – Organization

[Role: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
(open)]

Table 61: Entity - Organization Contexts

Contained By:	Contains:
Adverse Event (V3) (optional) Allergy Intolerance (V3) (optional) Assessment, Order (V2) (optional) Assessment, Performed (V3) (optional) Assessment, Recommended (V3) (optional) Care Goal (V3) (optional) Communication, Performed (V2) (optional) Device, Applied (V3) (optional) Device, Order (V2) (optional) Device, Recommended (V2) (optional) Diagnostic Study, Order (V4) (optional) Diagnostic Study, Performed (V3) (optional) Diagnosis (V3) (optional) Diagnostic Study, Recommended (V4) (optional) Encounter, Order (V2) (optional) Encounter, Performed (V3) (optional) Encounter, Recommended (V2) (optional) Family History (V2) (optional) Immunization, Administered (V4) (optional) Immunization, Order (V3) (optional) Intervention, Order (V2) (optional) Intervention, Performed (V3) (optional) Intervention, Recommended (V2) (optional) Laboratory Test, Order (V3) (optional) Laboratory Test, Performed (V3) (optional) Laboratory Test, Recommended (V3) (optional) Medication, Active (V4) (optional) Medication, Administered (V4) (optional) Medication, Discharge (V3) (optional) Medication, Dispensed (V3) (optional) Medication, Order (V4) (optional) Patient Care Experience (V2) (optional) Provider Care Experience (V2) (optional) Physical Exam, Performed (V3) (optional) Physical Exam, Order (V3) (optional) Symptom (V3) (optional) Substance, Recommended (V4) (optional) Substance, Order (V4) (optional) Substance, Administered (V4) (optional) Program Participation (V3) (optional) Procedure, Recommended (V3) (optional)	

Contained By:	Contains:
Procedure, Performed (V4) (optional) Procedure, Order (V4) (optional) Physical Exam, Recommended (V3) (optional)	

This template represents Entity that is organization - a grouping of people or organizations with a common purpose.

Table 62: Entity - Organization Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
Role (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01)					
@classCode	1..1	SHALL		4423-34935	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = PROV
templateId	1..1	SHALL		4423-34929	
item	1..1	SHALL		4423-34930	
@root	1..1	SHALL		4423-34932	2.16.840.1.113883.10.20.28.4.135
@extension	1..1	SHALL		4423-34933	2019-05-01
scopingOrganization	1..1	SHALL		4423-34936	
id	0..1	MAY		4423-34937	
item	1..1	SHALL		4423-34938	
@root	1..1	SHALL		4423-34954	
@extension	1..1	SHALL		4423-34955	
code	0..1	MAY		4423-34939	
@valueSet	0..1	SHOULD		4423-35793	

1. **SHALL** contain exactly one [1..1] @classCode="PROV" healthcare provider (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-34935).
2. **SHALL** contain exactly one [1..1] templateId (CONF:4423-34929).
 - a. This templateId **SHALL** contain exactly one [1..1] item (CONF:4423-34930) such that it
 - i. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.135" (CONF:4423-34932).

- ii. **SHALL** contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-34933).
3. **SHALL** contain exactly one [1..1] **scopingOrganization** (CONF:4423-34936).
- a. This scopingOrganization **MAY** contain zero or one [0..1] **id** (CONF:4423-34937).
- Note: id
- i. The id, if present, **SHALL** contain exactly one [1..1] **item** (CONF:4423-34938).
- 1. This item **SHALL** contain exactly one [1..1] @root (CONF:4423-34954).
 - 2. This item **SHALL** contain exactly one [1..1] @extension (CONF:4423-34955).
- b. This scopingOrganization **MAY** contain zero or one [0..1] **code** (CONF:4423-34939).
- Note: Attribute: type - kind of organization (e.g., hospital)
- i. The code, if present, **SHOULD** contain zero or one [0..1] @valueSet (CONF:4423-35793).

Figure 29: Entity - Organization Example

```
<role classCode="PROV">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.135" extension="2019-05-01"/>
  </templateId>
  <scopingOrganization>
    <code valueSet="{$QDMElementValueSetOID}"/>
  </scopingOrganization>
</role>
```

5.26 Entity – Patient

```
[patient: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01  
(open)]
```

Table 63: Entity - Patient Contexts

Contained By:	Contains:
Adverse Event (V3) (optional) Allergy Intolerance (V3) (optional) Assessment, Order (V2) (optional) Assessment, Performed (V3) (optional) Assessment, Recommended (V3) (optional) Care Goal (V3) (optional) Communication, Performed (V2) (optional) Device, Applied (V3) (optional) Device, Order (V2) (optional) Device, Recommended (V2) (optional) Diagnostic Study, Order (V4) (optional) Diagnostic Study, Performed (V3) (optional) Diagnosis (V3) (optional) Diagnostic Study, Recommended (V4) (optional) Encounter, Order (V2) (optional) Encounter, Performed (V3) (optional) Encounter, Recommended (V2) (optional) Family History (V2) (optional) Immunization, Administered (V4) (optional) Immunization, Order (V3) (optional) Intervention, Order (V2) (optional) Intervention, Performed (V3) (optional) Intervention, Recommended (V2) (optional) Laboratory Test, Order (V3) (optional) Laboratory Test, Performed (V3) (optional) Laboratory Test, Recommended (V3) (optional) Medication, Active (V4) (optional) Medication, Administered (V4) (optional) Medication, Discharge (V3) (optional) Medication, Dispensed (V3) (optional) Medication, Order (V4) (optional) Patient Care Experience (V2) (optional) Provider Care Experience (V2) (optional) Physical Exam, Performed (V3) (optional) Physical Exam, Order (V3) (optional) Symptom (V3) (optional) Substance, Recommended (V4) (optional) Substance, Order (V4) (optional) Substance, Administered (V4) (optional) Program Participation (V3) (optional) Procedure, Recommended (V3) (optional)	

Contained By:	Contains:
Procedure, Performed (V4) (optional) Procedure, Order (V4) (optional) Physical Exam, Recommended (V3) (optional)	

This template represents Entity that is patient – information about an individual receiving health care services

Table 64: Entity - Patient Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01)					
@classCode	1..1	SHALL		4423-34950	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = PAT
templateId	1..1	SHALL		4423-34943	
item	1..1	SHALL		4423-34944	
@root	1..1	SHALL		4423-34947	2.16.840.1.113883.10.20.28.4.94
@extension	1..1	SHALL		4423-34948	2019-05-01
id	0..1	MAY		4423-34949	
item	1..1	SHALL		4423-34951	
@root	1..1	SHALL		4423-34952	
@extension	0..1	MAY		4423-34953	

1. **SHALL** contain exactly one [1..1] **@classCode**= "PAT" patient (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-34950).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-34943).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-34944) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.94" (CONF:4423-34947).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-34948).
3. **MAY** contain zero or one [0..1] **id** (CONF:4423-34949).

Note: id

 - a. The id, if present, **SHALL** contain exactly one [1..1] **item** (CONF:4423-34951).
 - i. This item **SHALL** contain exactly one [1..1] **@root** (CONF:4423-34952).
 - ii. This item **MAY** contain zero or one [0..1] **@extension** (CONF:4423-34953).

Figure 30: Entity - Patient Example

```
<patient classCode="PAT">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.136" extension="2019-05-01"/>
  </templateId>
  <id>
    ...
  </id>
</patient>
```

5.27 Entity – Practitioner

[Role: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
(open)]

Table 65: Entity - Practitioner Contexts

Contained By:	Contains:
Adverse Event (V3) (optional) Allergy Intolerance (V3) (optional) Assessment, Order (V2) (optional) Assessment, Performed (V3) (optional) Assessment, Recommended (V3) (optional) Care Goal (V3) (optional) Communication, Performed (V2) (optional) Device, Applied (V3) (optional) Device, Order (V2) (optional) Device, Recommended (V2) (optional) Diagnostic Study, Order (V4) (optional) Diagnostic Study, Performed (V3) (optional) Diagnosis (V3) (optional) Diagnostic Study, Recommended (V4) (optional) Encounter, Order (V2) (optional) Encounter, Performed (V3) (optional) Encounter, Recommended (V2) (optional) Family History (V2) (optional) Immunization, Administered (V4) (optional) Immunization, Order (V3) (optional) Intervention, Order (V2) (optional) Intervention, Performed (V3) (optional) Intervention, Recommended (V2) (optional) Laboratory Test, Order (V3) (optional) Laboratory Test, Performed (V3) (optional) Laboratory Test, Recommended (V3) (optional) Medication, Active (V4) (optional) Medication, Administered (V4) (optional) Medication, Discharge (V3) (optional) Medication, Dispensed (V3) (optional) Medication, Order (V4) (optional) Patient Care Experience (V2) (optional) Provider Care Experience (V2) (optional) Physical Exam, Performed (V3) (optional) Physical Exam, Order (V3) (optional) Symptom (V3) (optional) Substance, Recommended (V4) (optional) Substance, Order (V4) (optional) Substance, Administered (V4) (optional) Program Participation (V3) (optional) Procedure, Recommended (V3) (optional)	

Contained By:	Contains:
Procedure, Performed (V4) (optional) Procedure, Order (V4) (optional) Physical Exam, Recommended (V3) (optional)	

This template represents Entity that is practitioner - a person with a formal responsibility in the provisioning of healthcare or related services.

Table 66: Entity - Practitioner Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
Role (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01)					
@classCode	1..1	SHALL		4423-34926	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = PROV
templateId	1..1	SHALL		4423-34917	
item	1..1	SHALL		4423-34918	
@root	1..1	SHALL		4423-34921	2.16.840.1.113883.10.20.28.4.137
@extension	1..1	SHALL		4423-34922	2019-05-01
id	0..1	MAY		4423-34975	
item	1..1	SHALL		4423-34976	
@root	1..1	SHALL		4423-34977	
@extension	1..1	SHALL		4423-34978	
playingEntity	0..1	MAY		4423-35597	
asRolePlayed	0..1	MAY		4423-35598	
code	0..1	MAY		4423-35600	
scopingEntity	0..1	MAY		4423-34940	
asRolePlayed	0..1	MAY		4423-35601	
code	1..1	SHALL		4423-35602	
roleScoped	0..1	MAY		4423-34941	
code	1..1	SHALL		4423-34942	

1. **SHALL** contain exactly one [1..1] **@classCode**="PROV" healthcare provider (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-34926).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-34917).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-34918) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.137" (CONF:4423-34921).

- ii. **SHALL** contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-34922).
3. **MAY** contain zero or one [0..1] **id** (CONF:4423-34975).
- a. The id, if present, **SHALL** contain exactly one [1..1] **item** (CONF:4423-34976).
- Note: id
- i. This item **SHALL** contain exactly one [1..1] @root (CONF:4423-34977).
 - ii. This item **SHALL** contain exactly one [1..1] @extension (CONF:4423-34978).
4. **MAY** contain zero or one [0..1] **playingEntity** (CONF:4423-35597).
- a. The playingEntity, if present, **MAY** contain zero or one [0..1] **asRolePlayed** (CONF:4423-35598).
- i. The asRolePlayed, if present, **MAY** contain zero or one [0..1] **code** (CONF:4423-35600).
- Note: Attribute: role - role this practitioner may perform (e.g., doctor, nurse)
5. **MAY** contain zero or one [0..1] **scopingEntity** (CONF:4423-34940).
- a. The scopingEntity, if present, **MAY** contain zero or one [0..1] **asRolePlayed** (CONF:4423-35601).
- i. The asRolePlayed, if present, **SHALL** contain exactly one [1..1] **code** (CONF:4423-35602).
- Note: Attribute: specialty - specific specialty of the practitioner (e.g., anesthesia, cardiology, gastroenterology, etc.)
- b. The scopingEntity, if present, **MAY** contain zero or one [0..1] **roleScoped** (CONF:4423-34941).
- i. The roleScoped, if present, **SHALL** contain exactly one [1..1] **code** (CONF:4423-34942).
- Note: Attribute: qualification - coded representation of the certification, licenses, or training pertaining to the provision of care (e.g., MD, DO, CRN, CNP, etc.)

Figure 31: Entity - Practitioner Example

```
<role classCode="SDLOC">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.95" extension="2019-05-01"/>
  </templateId>
  <playingEntity>
    ...
  </playingEntity>
  <scopingEntity>
    ...
  </scopingEntity>
</role>
```

5.28 Facility Location

[Role: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01
(open)]

Table 67: Facility Location Contexts

Contained By:	Contains:
Adverse Event (V3) (optional) Diagnostic Study, Performed (V3) (optional) Encounter, Order (V2) (optional) Encounter, Performed (V3) (optional) Encounter, Recommended (V2) (optional)	

This template represents the QDM attribute: Facility Location.

The particular location of a facility in which the 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.

The Location Period addresses: StartTime = the time the patient arrived at the location; StopTime = the time the patient departed from the location.

Table 68: Facility Location Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
Role (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01)					
@classCode	1..1	SHALL		3335-30514	urn:oid:2.16.840.1.113883.5.1 10 (HL7RoleClass) = SDLOC
templateId	1..1	SHALL		3335-30515	
item	1..1	SHALL		3335-30516	
@root	1..1	SHALL		3335-30517	2.16.840.1.113883.10.20.28.4 .92
@extension	1..1	SHALL		3335-34376	2017-05-01
code	0..1	SHOULD		3335-30900	
@valueSet	0..1	SHOULD		3335-30901	
effectiveTime	0..1	MAY		3335-31926	
low	0..1	MAY		3335-31927	
high	0..1	MAY		3335-31928	

1. **SHALL** contain exactly one [1..1] **@classCode**= "SDLOC" Service Delivery Location (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3335-30514).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:3335-30515).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:3335-30516) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.92" (CONF:3335-30517).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2017-05-01" (CONF:3335-34376).
3. **SHOULD** contain zero or one [0..1] **code** (CONF:3335-30900).
 - a. The code, if present, **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3335-30901).
4. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3335-31926) such that it

Note: QDM Attribute: Location Period

 - a. **MAY** contain zero or one [0..1] **low** (CONF:3335-31927).
Note: Facility Location Arrival Datetime (The time the patient arrived at the location)
 - b. **MAY** contain zero or one [0..1] **high** (CONF:3335-31928).
Note: Facility Location Departure Datetime (The time the patient departed from the location)

Figure 32: Facility Location Example

```
<role classCode="SDLOC">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.92" extension="2017-05-01"/>
  </templateId>
  <code valueSet="{{$QDMElementValueSetOID}}"/>
</role>
```

5.29 Family History (V2)

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.111:2019-05-01 (open)]

Table 69: Family History (V2) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

Family History represents a diagnosis or problem experienced by a family member of the patient. Typically, a family history will not contain very much detail, but the simple identification of a diagnosis or problem in the patient's family history may be relevant to the care of the patient.

Timing: The time the family history item is authored (i.e., entered into the record).

Table 70: Family History (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.111:2019-05-01)					
@classCode	1..1	SHALL		4423-33797	OBS
@moodCode	1..1	SHALL		4423-33798	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		4423-34703	
templateId	1..1	SHALL		4423-33791	
item	1..1	SHALL		4423-33792	
@root	1..1	SHALL		4423-33799	2.16.840.1.113883.10.20.28.4.111
@extension	1..1	SHALL		4423-34383	2019-05-01
id	1..1	SHALL		4423-33800	
code	1..1	SHALL		4423-33793	
@code	1..1	SHALL		4423-33801	10157-6
@codeSystem	1..1	SHALL		4423-33802	2.16.840.1.113883.6.1
title	1..1	SHALL		4423-33803	
statusCode	1..1	SHALL		4423-33794	
@code	1..1	SHALL		4423-33804	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
value	1..1	SHALL	CD	4423-33795	
@valueSet	0..1	SHOULD		4423-33805	
participation	0..1	MAY		4423-33796	
@typeCode	1..1	SHALL		4423-33806	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-33807	
low	1..1	SHALL		4423-33815	
role	1..1	SHALL		4423-33808	

XPath	Card.	Verb	Data Type	CONF#	Value
@classCode	1..1	SHALL		4423-33817	ROL
id	0..1	MAY		4423-33818	
participation	0..1	MAY		4423-33809	
@typeCode	1..1	SHALL		4423-33819	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = SUBJ
role	1..1	SHALL		4423-33810	
@classCode	1..1	SHALL		4423-33820	PRS
code	1..1	SHALL		4423-33811	
@valueSet	0..1	SHOULD		4423-33821	
participation	0..1	MAY		4423-35170	
@typeCode	1..1	SHALL		4423-35176	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35171	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.137:2019-05-01)
participation	0..1	MAY		4423-35174	
@typeCode	1..1	SHALL		4423-35178	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35175	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35847	
@typeCode	1..1	SHALL		4423-35849	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35848	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35172	
@typeCode	1..1	SHALL		4423-35177	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) =

XPath	Card.	Verb	Data Type	CONF#	Value
					PART
patient	1..1	SHALL		4423-35173	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1.20.28.4.136:2019-05-01)

1. **SHALL** contain exactly one [1..1] **@classCode**= "OBS" Observation (CONF:4423-33797).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-33798).
3. **SHALL NOT** contain [0..0] **@actionNegationInd** (CONF:4423-34703).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-33791).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-33792) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.111" (CONF:4423-33799).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-34383).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-33800).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-33793).
 - a. This code **SHALL** contain exactly one [1..1] **@code**= "10157-6" Family History (CONF:4423-33801).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**= "2.16.840.1.113883.6.1" (LOINC) (CONF:4423-33802).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-33803).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-33794).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**= "completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-33804).
9. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**= "CD" (CONF:4423-33795).

Note: QDM Attribute: Code

 - a. This value **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-33805).
10. **MAY** contain zero or one [0..1] **participation** (CONF:4423-33796) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**= "AUT" Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-33806).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-33807).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-33815).

Note: QDM Attribute: Author dateTime (The time the family history item is authored (i.e., entered into the record))
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-33808).
 - i. This role **SHALL** contain exactly one [1..1] **@classCode**= "ROL" Role (CONF:4423-33817).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-33818).

11. **MAY** contain zero or one [0..1] **participation** (CONF:4423-33809) such that it

Note: QDM Attribute: Relationship

- a. **SHALL** contain exactly one [1..1] @typeCode="SUBJ" Subject (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-33819).
- b. **SHALL** contain exactly one [1..1] **role** (CONF:4423-33810).
 - i. This role **SHALL** contain exactly one [1..1] @classCode="PRS" Person (CONF:4423-33820).
 - ii. This role **SHALL** contain exactly one [1..1] **code** (CONF:4423-33811).
 1. This code **SHOULD** contain zero or one [0..1] @valueSet (CONF:4423-33821).

12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35170) such that it

Note: QDM Attribute: Recorder

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35176).
- b. **SHALL** contain exactly one [1..1] Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35171).

13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35174) such that it

Note: QDM Attribute: Recorder

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35178).
- b. **SHALL** contain exactly one [1..1] Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35175).

14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35847) such that it

Note: QDM Attribute: Recorder

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35849).
- b. **SHALL** contain exactly one [1..1] Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35848).

15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35172) such that it

Note: QDM Attribute: Recorder

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35177).
- b. **SHALL** contain exactly one [1..1] Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35173).

Figure 33: Family History (V2) Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
    <templateId>
        <item root="2.16.840.1.113883.10.20.28.4.111" extension="2019-05-01"/>
    </templateId>
    <id root="bd4673f9-0da9-4491-98ba-a00c4191d518"/>
    <code code="10157-6" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">
        <displayName value="Family History"/>
    </code>
    <title value="Family History"/>
    <statusCode code="completed"/>
    <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
    <participation typeCode="SBJ">
        <role classCode="PRS">
            <code valueSet="{$RelationshipValueSetOID}"/>
        </role>
    </participation>
</observationCriteria>
```

5.30 Immunization, Administered (V4)

[substanceAdministrationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.112:2019-05-01 (open)]

Table 71: Immunization, Administered (V4) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Immunization, Administered.

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

Timing: The relevant dateTime references the point in time the immunization is administered.

Author dateTime is used only for Negation Rationale, which indicates a one-time documentation of a reason an activity is not performed. Negation of QDM datatype-related actions for a reason always use the author dateTime attribute to reference timing.

Table 72: Immunization, Administered (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
substanceAdministrationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.112:2019-05-01)					
@classCode	1..1	SHALL		4423-33833	SBADM
@moodCode	1..1	SHALL		4423-33834	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		4423-33835	
templateId	1..1	SHALL		4423-33830	
item	1..1	SHALL		4423-33831	
@root	1..1	SHALL		4423-33836	2.16.840.1.113883.10.20.28.4.112
@extension	1..1	SHALL		4423-34384	2019-05-01
id	1..1	SHALL		4423-33837	
code	1..1	SHALL		4423-33832	
@code	1..1	SHALL		4423-33838	416118004
@codeSystem	1..1	SHALL		4423-33839	2.16.840.1.113883.6.96
title	1..1	SHALL		4423-33840	
statusCode	1..1	SHALL		4423-33841	
@code	1..1	SHALL		4423-33847	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	4423-33842	
low	1..1	SHALL		4423-33848	
routeCode	0..1	MAY		4423-33843	
@valueSet	0..1	SHOULD		4423-33850	
doseQuantity	0..1	MAY		4423-33851	
participation	1..1	SHALL		4423-33844	
@typeCode	1..1	SHALL		4423-33852	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM

XPath	Card.	Verb	Data Type	CONF#	Value
role	1..1	SHALL		4423-33845	
@classCode	1..1	SHALL		4423-33853	urn:oid:2.16.840.1.113883.5.10 (HL7RoleClass) = MANU
playingManufacturedMaterial	1..1	SHALL		4423-33846	
@classCode	1..1	SHALL		4423-33854	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = MMAT
@determinerCode	1..1	SHALL		4423-33855	urn:oid:2.16.840.1.113883.5.30 (EntityDeterminer) = KIND
code	1..1	SHALL		4423-33856	
@valueSet	0..1	SHOULD		4423-33858	
participation	0..1	MAY		4423-35560	
@typeCode	1..1	SHALL		4423-35563	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-35561	
low	1..1	SHALL		4423-35564	
role	1..1	SHALL		4423-35562	
@classCode	1..1	SHALL		4423-35565	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
participation	0..1	MAY		4423-35179	
@typeCode	1..1	SHALL		4423-35184	PART
role	1..1	SHALL		4423-35180	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
participation	0..1	MAY		4423-35181	
@typeCode	1..1	SHALL		4423-35185	urn:oid:2.16.840.1.113883.5.91 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35182	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
participation	0..1	MAY		4423-35850	
@typeCode	1..1	SHALL		4423-	urn:oid:2.16.840.1.113883.5.9

XPath	Card.	Verb	Data Type	CONF#	Value
				35852	0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35851	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35186	
@typeCode	1..1	SHALL		4423-35188	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35187	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.136:2019-05-01)
outboundRelationship	0..1	MAY		4423-33857	
@typeCode	1..1	SHALL		4423-33859	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-33860	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.88:2017-05-01)

1. **SHALL** contain exactly one [1..1] **@classCode**= "SBADM" Substance Administration (CONF:4423-33833).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-33834).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:4423-33835).
Note: QDM Attribute: Negation rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-33830).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-33831) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.112" (CONF:4423-33836).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-34384).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-33837).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-33832).
 - a. This code **SHALL** contain exactly one [1..1] **@code**= "416118004" Administration (CONF:4423-33838).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**= "2.16.840.1.113883.6.96" (SNOMED CT) (CONF:4423-33839).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-33840).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-33841).

- a. This statusCode **SHALL** contain exactly one [1..1] `@code="completed"` Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-33847).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-33842) such that it
- a. **SHALL** contain exactly one [1..1] **low** (CONF:4423-33848).
Note: QDM Attribute: Relevant dateTime
10. **MAY** contain zero or one [0..1] **routeCode** (CONF:4423-33843).
Note: QDM Attribute: Route
- a. The routeCode, if present, **SHOULD** contain zero or one [0..1] `@valueSet` (CONF:4423-33850).
11. **MAY** contain zero or one [0..1] **doseQuantity** (CONF:4423-33851).
Note: QDM Attribute: Dosage
12. **SHALL** contain exactly one [1..1] **participation** (CONF:4423-33844) such that it
- a. **SHALL** contain exactly one [1..1] `@typeCode="CSM"` Consumable (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-33852).
 - b. **SHALL** contain exactly one [1..1] **role** (CONF:4423-33845).
 - i. This role **SHALL** contain exactly one [1..1] `@classCode="MANU"` Manufactured (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-33853).
 - ii. This role **SHALL** contain exactly one [1..1] **playingManufacturedMaterial** (CONF:4423-33846).
 - 1. This playingManufacturedMaterial **SHALL** contain exactly one [1..1] `@classCode="MMAT"` Manufactured Material (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:4423-33854).
 - 2. This playingManufacturedMaterial **SHALL** contain exactly one [1..1] `@determinerCode="KIND"` Kind (CodeSystem: EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:4423-33855).
 - 3. This playingManufacturedMaterial **SHALL** contain exactly one [1..1] **code** (CONF:4423-33856).
- Note: QDM Attribute: Code
- a. This code **SHOULD** contain zero or one [0..1] `@valueSet` (CONF:4423-33858).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35560) such that it
- a. **SHALL** contain exactly one [1..1] `@typeCode="AUT"` Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35563).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-35561).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-35564).
Note: QDM Attribute: Author date
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-35562).
 - i. This role **SHALL** contain exactly one [1..1] `@classCode="ROL"` Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-35565).
14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35179) such that it
Note: QDM Attribute: Practitioner

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CONF:4423-35184).
 - b. **SHALL** contain exactly one [1..1] Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35180).
15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35181) such that it
Note: QDM Attribute: Practitioner
- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35185).
 - b. **SHALL** contain exactly one [1..1] Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35182).
16. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35850) such that it
Note: QDM Attribute: Practitioner
- a. **SHALL** contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35852).
 - b. **SHALL** contain exactly one [1..1] Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35851).
17. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35186) such that it
Note: QDM Attribute: Practitioner
- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35188).
 - b. **SHALL** contain exactly one [1..1] Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35187).
18. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-33857) 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:4423-33859).
 - b. **SHALL** contain exactly one [1..1] Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-33860).

Figure 34: Immunization, Administered (V4) Example

```

<substanceAdministrationCriteria classCode="SBADM" moodCode="EVN">
    <templateId>
        <item root="2.16.840.1.113883.10.20.28.4.112" extension="20179-05-01"/>
    </templateId>
    <id root="de28ff02-d2cf-436e-898a-58eb49e15b47"/>
    <code code="416118004" codeSystem="2.16.840.1.113883.6.96">
        <displayName value="Administration"/>
    </code>
    <title value="Immunization, Administered"/>
    <statusCode code="completed"/>
    <participation typeCode="CSM">
        <role classCode="MANU">
            <playingManufacturedMaterial classCode="MMAT" determinerCode="KIND">
                <code valueSet="{$QDMElementValueSetOID}"/>
            </playingManufacturedMaterial>
        </role>
    </participation>
</substanceAdministrationCriteria>

```

5.31 Immunization, Order (V3)

[substanceAdministrationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.113:2019-05-01 (open)]

Table 73: Immunization, Order (V3) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Supply (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Immunization, Order.

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

Timing: The time the order is signed; author time.

Table 74: Immunization, Order (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
substanceAdministrationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.113:2019-05-01)					
@classCode	1..1	SHALL		4423-34025	SBADM
@moodCode	1..1	SHALL		4423-34026	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		4423-34027	
templateId	1..1	SHALL		4423-34003	
item	1..1	SHALL		4423-34004	
@root	1..1	SHALL		4423-34016	2.16.840.1.113883.10.20.28.4.113
@extension	1..1	SHALL		4423-34385	2019-05-01
id	1..1	SHALL		4423-34028	
title	1..1	SHALL		4423-35943	
statusCode	1..1	SHALL		4423-34005	
@code	1..1	SHALL		4423-34017	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
effectiveTime	0..1	MAY	IVL_TS	4423-34006	
low	1..1	SHALL		4423-34018	
routeCode	0..1	MAY		4423-34007	
@valueSet	0..1	SHOULD		4423-34019	
doseQuantity	0..1	MAY		4423-34030	
participation	1..1	SHALL		4423-34008	
@typeCode	1..1	SHALL		4423-34024	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
role	1..1	SHALL		4423-34009	
@classCode	1..1	SHALL		4423-34020	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = MANU
playingManufacturedMaterial	1..1	SHALL		4423-34010	

XPath	Card.	Verb	Data Type	CONF#	Value
@classCode	1..1	SHALL		4423-34022	urn:oid:2.16.840.1.113883.5.4 1 (HL7EntityClass) = MMAT
@determinerCode	1..1	SHALL		4423-34023	urn:oid:2.16.840.1.113883.5.3 0 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		4423-34011	
@valueSet	0..1	SHOULD		4423-34021	
participation	0..1	MAY		4423-34012	
@typeCode	1..1	SHALL		4423-34035	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-34013	
low	1..1	SHALL		4423-34031	
role	1..1	SHALL		4423-34014	
@classCode	1..1	SHALL		4423-34033	urn:oid:2.16.840.1.113883.5.1 10 (HL7RoleClass) = ROL
id	0..1	MAY		4423-34034	
participation	0..1	MAY		4423-35189	
@typeCode	1..1	SHALL		4423-35193	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35190	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.137:2019-05-01
participation	0..1	MAY		4423-35191	
@typeCode	1..1	SHALL		4423-35194	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35192	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.135:2019-05-01
participation	0..1	MAY		4423-35853	
@typeCode	1..1	SHALL		4423-35855	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART

XPath	Card.	Verb	Data Type	CONF#	Value
role	1..1	SHALL		4423-35854	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1_0.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35195	
@typeCode	1..1	SHALL		4423-35197	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35196	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1_0.20.28.4.136:2019-05-01)
outboundRelationship	0..1	MAY		4423-34002	
@typeCode	1..1	SHALL		4423-34036	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-34015	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1_0.20.28.4.88:2017-05-01)
outboundRelationship	0..1	MAY		4423-34494	
@typeCode	1..1	SHALL		4423-34495	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
supplyCriteria	1..1	SHALL		4423-34802	Supply (identifier: urn:hl7ii:2.16.840.1.113883.1_0.20.28.4.129:2017-08-01)

1. **SHALL** contain exactly one [1..1] **@classCode**= "SBADM" Substance Administration (CONF:4423-34025).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-34026).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:4423-34027).
Note: QDM Attribute: Negation rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-34003).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-34004) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.113" (CONF:4423-34016).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-34385).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-34028).
6. **SHALL** contain exactly one [1..1] **title** (CONF:4423-35943).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-34005).

- a. This statusCode **SHALL** contain exactly one [1..1] `@code="active"` Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-34017).
- 8. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-34006) such that it
 - a. **SHALL** contain exactly one [1..1] **low** (CONF:4423-34018).
Note: QDM Attribute: Active dateTime
- 9. **MAY** contain zero or one [0..1] **routeCode** (CONF:4423-34007).
 - a. The routeCode, if present, **SHOULD** contain zero or one [0..1] `@valueSet` (CONF:4423-34019).
Note: QDM Attribute: Route
- 10. **MAY** contain zero or one [0..1] **doseQuantity** (CONF:4423-34030).
Note: QDM Attribute: Dosage
- 11. **SHALL** contain exactly one [1..1] **participation** (CONF:4423-34008) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="CSM"` Consumable (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34024).
 - b. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34009).
 - i. This role **SHALL** contain exactly one [1..1] `@classCode="MANU"` Manufactured (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-34020).
 - ii. This role **SHALL** contain exactly one [1..1] **playingManufacturedMaterial** (CONF:4423-34010).
 - 1. This playingManufacturedMaterial **SHALL** contain exactly one [1..1] `@classCode="MMAT"` Manufactured Material (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:4423-34022).
 - 2. This playingManufacturedMaterial **SHALL** contain exactly one [1..1] `@determinerCode="KIND"` Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:4423-34023).
 - 3. This playingManufacturedMaterial **SHALL** contain exactly one [1..1] **code** (CONF:4423-34011).
Note: QDM Attribute: Code
 - a. This code **SHOULD** contain zero or one [0..1] `@valueSet` (CONF:4423-34021).
- 12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34012) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="AUT"` Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34035).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34013).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-34031).
Note: QDM Attribute: Author dateTime (The time the order is signed)
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34014).
 - i. This role **SHALL** contain exactly one [1..1] `@classCode="ROL"` Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-34033).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-34034).

13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35189) such that it

Note: QDM Attribute: Requester

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35193).
- b. **SHALL** contain exactly one [1..1] Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35190).

14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35191) such that it

Note: QDM Attribute: Requester

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35194).
- b. **SHALL** contain exactly one [1..1] Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35192).

15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35853) such that it

Note: QDM Attribute: Requester

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35855).
- b. **SHALL** contain exactly one [1..1] Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35854).

16. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35195) such that it

Note: QDM Attribute: Requester

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35197).
- b. **SHALL** contain exactly one [1..1] Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35196).

17. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-34002) 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:4423-34036).
- b. **SHALL** contain exactly one [1..1] Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-34015).

18. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-34494) such that it

Note: QDM Attribute: Supply

- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers To (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-34495).
- b. **SHALL** contain exactly one [1..1] Supply (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01) (CONF:4423-34802).

Figure 35: Immunization, Order (V3) Example

```
<substanceAdministrationCriteria classCode="SBADM" moodCode="RQO">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.113" extension="2019-05-01"/>
  </templateId>
  <id root="27beb8e3-7c86-48cf-b430-235b72786dea"/>
  <title value="Immunization, Order"/>
  <statusCode code="active"/>
  <participation typeCode="CSM">
    <role classCode="MANU">
      <playingManufacturedMaterial classCode="MMAT" determinerCode="KIND">
        <code valueSet="{$QDMElementValueSetOID}"/>
      </playingManufacturedMaterial>
    </role>
  </participation>
</substanceAdministrationCriteria>
```

5.32 Incision Datetime

[ProcedureCriteria: identifier
urn:h17ii:2.16.840.1.113883.10.20.28.4.89:2017-05-01 (open)]

Table 75: Incision Datetime Contexts

Contained By:	Contains:
Procedure, Performed (V4) (optional)	

This template represents the QDM attribute: Incision Datetime.

Incision datetime is the time the incision was made.

Table 76: Incision Datetime Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
ProcedureCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.89:2017-05-01)					
@classCode	1..1	SHALL		3335-29907	PROC
@moodCode	1..1	SHALL		3335-29908	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		3335-29909	
item	1..1	SHALL		3335-29910	
@root	1..1	SHALL		3335-29911	2.16.840.1.113883.10.20.28.4.89
@extension	1..1	SHALL		3335-33648	2017-05-01
code	1..1	SHALL		3335-29913	
@code	1..1	SHALL		3335-29914	34896006
@codeSystem	1..1	SHALL		3335-29915	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
effectiveTime	0..1	MAY	IVL_TS	3335-29916	
low	0..1	MAY		3335-29917	

1. **SHALL** contain exactly one [1..1] **@classCode**="PROC" (CONF:3335-29907).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3335-29908).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:3335-29909).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:3335-29910) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.89" (CONF:3335-29911).
 - ii. **SHALL** contain exactly one [1..1] **@extension**="2017-05-01" (CONF:3335-33648).
4. **SHALL** contain exactly one [1..1] **code** (CONF:3335-29913).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="34896006" Incision (CONF:3335-29914).
 - 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:3335-29915).
5. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3335-29916) such that it

- a. **MAY** contain zero or one [0..1] **low** (CONF:3335-29917).

Figure 36: Incision Datetime Example

```
<procedureCriteria classCode="PROC" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.89" extension="2017-05-01"/>
  </templateId>
  <code code="34896006" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT">
    <displayName value="incision"/>
  </code>
  <statusCode code="completed"/>
  <effectiveTime xsi:type="IVL_TS">
    <low value="201301011000"/>
  </effectiveTime>
</procedureCriteria>
```

5.33 Intervention, Order (V2)

[actCriteria: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.35:2019-05-01
(open)]

Table 77: Intervention, Order (V2) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: 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. Examples of this are an order for smoking cessation counseling or physical therapy.

Timing: The time the order is signed; author time

Table 78: Intervention, Order (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
actCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.35:2019-05-01)					
@classCode	1..1	SHALL		4423-30631	ACT
@moodCode	1..1	SHALL		4423-30632	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		4423-30633	
templateId	1..1	SHALL		4423-30643	
item	1..1	SHALL		4423-30644	
@root	1..1	SHALL		4423-30645	2.16.840.1.113883.10.20.28.4.35
@extension	1..1	SHALL		4423-33383	2019-05-01
id	1..1	SHALL		4423-30650	
code	1..1	SHALL		4423-30652	
@valueSet	0..1	SHOULD		4423-30653	
title	1..1	SHALL		4423-35944	
statusCode	1..1	SHALL		4423-30654	
@code	1..1	SHALL		4423-30655	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
participation	0..1	MAY		4423-33490	
@typeCode	1..1	SHALL		4423-33492	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-33491	
low	1..1	SHALL		4423-33493	
role	1..1	SHALL		4423-33586	
@classCode	1..1	SHALL		4423-33587	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		4423-33588	
participation	0..1	MAY		4423-35210	

XPath	Card.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4423-35214	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35211	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.137:2019-05-01)
participation	0..1	MAY		4423-35212	
@typeCode	1..1	SHALL		4423-35215	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35213	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35856	
@typeCode	1..1	SHALL		4423-35858	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35857	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35216	
@typeCode	1..1	SHALL		4423-35218	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35217	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.136:2019-05-01)
outboundRelationship	0..1	MAY		4423-30647	
@typeCode	1..1	SHALL		4423-30648	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-30649	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.88:2017-05-01)

1. **SHALL** contain exactly one [1..1] @classCode="ACT" Act (CONF:4423-30631).
2. **SHALL** contain exactly one [1..1] @moodCode="RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-30632).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:4423-30633).
Note: QDM Attribute: Negation Rationale

4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-30643).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-30644) such that it
 - i. **SHALL** contain exactly one [1..1]
 @root="2.16.840.1.113883.10.20.28.4.35" (CONF:4423-30645).
 - ii. **SHALL** contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33383).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-30650).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-30652).

Note: QDM Attribute: Code

 - a. This code **SHOULD** contain zero or one [0..1] @valueSet (CONF:4423-30653).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-35944).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-30654).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-30655).
9. **MAY** contain zero or one [0..1] **participation** (CONF:4423-33490) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="AUT" Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-33492).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-33491).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-33493).

Note: QDM Attribute: Author dateTime (The time the order is signed)
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-33586).
 - i. This role **SHALL** contain exactly one [1..1] @classCode="ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-33587).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-33588).
10. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35210) such that it

Note: QDM Attribute: Requester

 - a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35214).
 - b. **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35211).
11. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35212) such that it

Note: QDM Attribute: Requester

 - a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35215).
 - b. **SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35213).
12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35856) such that it

Note: QDM Attribute: Requester

 - a. **SHALL** contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35858).

- b. **SHALL** contain exactly one [1..1] [Entity - Care Partner](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35857).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35216) such that it
 Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35218).
 - b. **SHALL** contain exactly one [1..1] [Entity - Patient](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35217).
14. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-30647) 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:4423-30648).
 - b. **SHALL** contain exactly one [1..1] [Reason](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-30649).

Figure 37: Intervention, Order Example

```
<actCriteria classCode="ACT" moodCode="RQO">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.35" extension="2019-05-01"/>
  </templateId>
  <id root="A8951AC3-990F-43E4-970C-1F0F396D203E"/>
  <code valueSet="{$QDMElementValueSetOID}"/>
  <title value="Intervention, Order"/>
  <statusCode code="active"/>
</actCriteria>
```

5.34 Intervention, Performed (V3)

[actCriteria: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.36:2019-05-01 (open)]

Table 79: Intervention, Performed (V3) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Result (V2) (optional) Status (V2) (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Intervention, Performed.

Intervention performed represents an intervention that has been completed. Intervention represents a course of action intended to achieve a result in the care of persons with health problems that does not involve direct physical contact with a patient.

Timing: The Relevant Period addresses: startTime – The time the intervention begins; stopTime – The time the intervention ends. Relevant Period references a start and stop time for an intervention that occurs over a time interval.

Relevant dateTime references the time the intervention is performed when the intervention occurs at a single point in time.

Author dateTime references the time the intervention was recorded and applies only when the record has no reference to the time the intervention was performed and only the recorded time is available.

Table 80: Intervention, Performed (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
actCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.36:2019-05-01)					
@classCode	1..1	SHALL		4423-31150	ACT
@moodCode	1..1	SHALL		4423-31151	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		4423-31152	
templateId	1..1	SHALL		4423-31153	
item	1..1	SHALL		4423-31154	
@root	1..1	SHALL		4423-31155	2.16.840.1.113883.10.20.28.4.36
@extension	1..1	SHALL		4423-33384	2019-05-01
id	1..1	SHALL		4423-31156	
code	1..1	SHALL		4423-31157	
@valueSet	0..1	SHOULD		4423-31158	
title	1..1	SHALL		4423-35945	
statusCode	1..1	SHALL		4423-31160	
@code	1..1	SHALL		4423-31161	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	4423-31162	
low	0..1	MAY		4423-31163	
high	0..1	MAY		4423-31164	
participation	0..1	MAY		4423-34523	
@typeCode	1..1	SHALL		4423-34526	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-34524	
low	1..1	SHALL		4423-34527	
role	1..1	SHALL		4423-34525	

XPath	Card.	Verb	Data Type	CONF#	Value
@classCode	1..1	SHALL		4423-34528	urn:oid:2.16.840.1.113883.5.1 10 (HL7RoleClass) = ROL
id	0..1	MAY		4423-34529	
participation	0..1	MAY		4423-35219	
@typeCode	1..1	SHALL		4423-35223	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35220	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.137:2019-05-01
participation	0..1	MAY		4423-35221	
@typeCode	1..1	SHALL		4423-35224	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35222	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.135:2019-05-01
participation	0..1	MAY		4423-35859	
@typeCode	1..1	SHALL		4423-35861	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35860	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.134:2019-05-01
participation	0..1	MAY		4423-35225	
@typeCode	1..1	SHALL		4423-35227	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35226	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.136:2019-05-01
outboundRelationship	0..1	MAY		4423-31171	
@typeCode	1..1	SHALL		4423-31172	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-31173	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.88:2017-05-01
outboundRelationship	0..1	MAY		4423-	

XPath	Card.	Verb	Data Type	CONF#	Value
				33431	
@typeCode	1..1	SHALL		4423-33433	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = VALUE
observationCriteria	1..1	SHALL		4423-33434	Result (V2) (identifier: urn:hl7ii:2.16.840.1.113883.1_0.20.28.4.101:2017-08-01)
outboundRelationship	0..1	MAY		4423-33432	
@typeCode	1..1	SHALL		4423-33435	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		4423-33436	Status (V2) (identifier: urn:hl7ii:2.16.840.1.113883.1_0.20.28.4.94:2017-08-01)

1. **SHALL** contain exactly one [1..1] **@classCode**= "ACT" Act (CONF:4423-31150).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-31151).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:4423-31152).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-31153).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-31154) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.36" (CONF:4423-31155).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-33384).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-31156).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-31157).
Note: QDM Attribute: Code
 - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-31158).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-35945).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-31160).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**= "completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-31161).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-31162) such that it
Note: QDM Attribute: Relevant Period
 - a. **MAY** contain zero or one [0..1] **low** (CONF:4423-31163).
Note: startTime of Relevant Period (The time the intervention begins) or QDM Attribute: Relevant dateTime
 - b. **MAY** contain zero or one [0..1] **high** (CONF:4423-31164).
Note: stopTime of Relevant Period (The time the intervention ends)

10. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34523) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="AUT"** Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34526).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34524).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-34527).
Note: QDM Attribute: Author date**Time**
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34525).
 - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-34528).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-34529).
11. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35219) such that it
Note: QDM Attribute: Performer
 - a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35223).
 - b. **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35220).
12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35221) such that it
Note: QDM Attribute: Performer
 - a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35224).
 - b. **SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35222).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35859) such that it
Note: QDM Attribute: Performer
 - a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35861).
 - b. **SHALL** contain exactly one [1..1] **Entity - Care Partner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35860).
14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35225) such that it
Note: QDM Attribute: Performer
 - a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35227).
 - b. **SHALL** contain exactly one [1..1] **Entity - Patient** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35226).
15. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-31171) 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:4423-31172).

- b. **SHALL** contain exactly one [1..1] [Reason](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-31173).
16. **MAY** contain zero or one [0..1] [outboundRelationship](#) (CONF:4423-33431) such that it Note: QDM Attribute: Result
- a. **SHALL** contain exactly one [1..1] @typeCode="VALUE" Has value (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-33433).
 - b. **SHALL** contain exactly one [1..1] [Result \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01) (CONF:4423-33434).
17. **MAY** contain zero or one [0..1] [outboundRelationship](#) (CONF:4423-33432) 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:4423-33435).
 - b. **SHALL** contain exactly one [1..1] [Status \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.94:2017-08-01) (CONF:4423-33436).

Figure 38: Intervention, Performed (V3) Example

```
<actCriteria classCode="ACT" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.36" extension="2019-05-01"/>
  </templateId>
  <id root="a2faf205-f9c1-485c-8edc-c9c0021a218c" />
  <code valueSet="{$QDMElementValueSetOID}" />
  <title value="Intervention, Performed"/>
  <statusCode code="completed"/>
</actCriteria>
```

5.35 Intervention, Recommended (V2)

[actCriteria: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.37:2019-05-01 (open)]

Table 81: Intervention, Recommended (V2) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Intervention, Recommended.

Intervention recommended represents a recommendation for an intervention. Intervention represents a course of action intended to achieve a result in the care of persons with health problems that does not involve direct physical contact with a patient. Examples include patient education and therapeutic communication.

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

All QDM datatypes referring to recommendations address the time that the recommendation occurs, a single point in time. Vendors have expressed concerns that recommendations are not necessarily captured or managed in a standard manner as part of structured data capture in clinical workflow; many are documented as part of assessments in narrative text. Measure developers should address feasibility of clinical workflow to capture recommendations when evaluating measures.

Table 82: Intervention, Recommended (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
actCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.37:2019-05-01)					
@classCode	1..1	SHALL		4423-30801	ACT
@moodCode	1..1	SHALL		4423-30802	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = INT
@actionNegationInd	0..1	MAY		4423-30806	
templateId	1..1	SHALL		4423-30803	
item	1..1	SHALL		4423-30804	
@root	1..1	SHALL		4423-30805	2.16.840.1.113883.10.20.28.4.37
@extension	1..1	SHALL		4423-33385	2019-05-01
id	1..1	SHALL		4423-30807	
code	1..1	SHALL		4423-30808	
@valueSet	0..1	SHOULD		4423-30809	
title	1..1	SHALL		4423-35946	
statusCode	1..1	SHALL		4423-30811	
@code	1..1	SHALL		4423-30812	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
participation	0..1	MAY		4423-34392	
@typeCode	1..1	SHALL		4423-34395	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-34393	
low	1..1	SHALL		4423-34396	
role	1..1	SHALL		4423-34394	
@classCode	1..1	SHALL		4423-34534	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		4423-34397	
participation	0..1	MAY		4423-35228	

XPath	Card.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4423-35232	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35229	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.137:2019-05-01)
participation	0..1	MAY		4423-35230	
@typeCode	1..1	SHALL		4423-35233	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35231	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35862	
@typeCode	1..1	SHALL		4423-35864	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35863	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35234	
@typeCode	1..1	SHALL		4423-35236	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35235	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.136:2019-05-01)
outboundRelationship	0..1	MAY		4423-30817	
@typeCode	1..1	SHALL		4423-30818	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-30819	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.88:2017-05-01)

1. **SHALL** contain exactly one [1..1] @classCode="ACT" Act (CONF:4423-30801).
2. **SHALL** contain exactly one [1..1] @moodCode="INT" Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-30802).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:4423-30806).
Note: QDM Attribute: Negation Rationale

4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-30803).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-30804) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.37" (CONF:4423-30805).
 - ii. **SHALL** contain exactly one [1..1] **@extension**="2019-05-01" (CONF:4423-33385).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-30807).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-30808).

Note: QDM Attribute: Code

 - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-30809).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-35946).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-30811).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-30812).
9. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34392) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="AUT" Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34395).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34393).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-34396).

Note: QDM Attribute: Author dateTime (The time the recommendation is authored)
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34394).
 - i. This role **SHALL** contain exactly one [1..1] **@classCode**="ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-34534).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-34397).
10. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35228) such that it

Note: QDM Attribute: Requester

 - a. **SHALL** contain exactly one [1..1] **@typeCode**="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35232).
 - b. **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35229).
11. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35230) such that it

Note: QDM Attribute: Requester

 - a. **SHALL** contain exactly one [1..1] **@typeCode**="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35233).
 - b. **SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35231).
12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35862) such that it

Note: QDM Attribute: Requester

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35864).
 - b. **SHALL** contain exactly one [1..1] Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35863).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35234) such that it
 Note: QDM Attribute: Requester
 - a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35236).
 - b. **SHALL** contain exactly one [1..1] Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35235).
14. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-30817) 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:4423-30818).
 - b. **SHALL** contain exactly one [1..1] Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-30819).

Figure 39: Intervention, Recommended (V2) Example

```
<actCriteria classCode="ACT" moodCode="INT">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.37" extension="2019-05-01"/>
  </templateId>
  <id root="e242b3ae-d300-4038-a039-f9cd511544c5"/>
  <code valueSet="{$QDMElementValueSetOID}"/>
  <title value="Intervention, Recommended" />
  <statusCode code="active"/>
</actCriteria>
```

5.36 Laboratory Test Reference Range

[observationCriteria: identifier
 urn:hl7ii:2.16.840.1.113883.10.20.28.4.124:2017-05-01 (open)]

Table 83: Laboratory Test Reference Range Contexts

Contained By:	Contains:
<u>Laboratory Test Component</u> (optional)	
<u>Laboratory Test, Performed (V3)</u> (optional)	

This template represents the QDM attribute: Reference Range Low and High.

Reference Range High: The high bound (inclusive) of values that are considered normal.

Reference Range Low: The low bound (inclusive) of values that are considered normal.

Table 84: Laboratory Test Reference Range Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.124:2017-05-01)					
@classCode	1..1	SHALL		3335-34406	OBS
@moodCode	1..1	SHALL		3335-34407	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		3335-34398	
item	1..1	SHALL		3335-34399	
@root	1..1	SHALL		3335-34401	2.16.840.1.113883.10.20.28.4.124
@extension	1..1	SHALL		3335-34615	2017-05-01
code	1..1	SHALL		3335-34400	
@code	1..1	SHALL		3335-34403	19147-8
@codeSystem	1..1	SHALL		3335-34404	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
value	1..1	SHALL	IVL_PQ	3335-34405	
low	0..1	MAY		3335-34410	
high	0..1	MAY		3335-34411	

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CONF:3335-34406).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3335-34407).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:3335-34398).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:3335-34399) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.124" (CONF:3335-34401).
 - ii. **SHALL** contain exactly one [1..1] **@extension**="2017-05-01" (CONF:3335-34615).
4. **SHALL** contain exactly one [1..1] **code** (CONF:3335-34400).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="19147-8" Lab Test Reference Range (CONF:3335-34403).

- 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:3335-34404).
5. **SHALL** contain exactly one [1..1] **value** with @xsi:type="IVL_PQ" (CONF:3335-34405).
- a. This value **MAY** contain zero or one [0..1] **low** (CONF:3335-34410).
Note: QDM Attribute: Reference Range Low
 - b. This value **MAY** contain zero or one [0..1] **high** (CONF:3335-34411).
Note: QDM Attribute: Reference Range High

Figure 40: Laboratory Test Reference Range Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.124" extension="2017-05-01"/>
  </templateId>
  <id root="6a296c27-279f-4bdc-8707-6d030a6839a5"/>
  <code code="19147-8" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">
    <displayName value="Reference Range"/>
  </code>
  <title value="Laboratory Test Reference Range"/>
  <value xsi:type="IVL_PQ">
    <high value="17.5" unit="g/dL"/>
  </value>
</observationCriteria>
```

5.37 Laboratory Test, Order (V3)

[ProcedureCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.41:2019-05-01 (open)]

Table 85: Laboratory Test, Order (V3) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Laboratory Test, Order.

Laboratory Test represents 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 to see if treatment is working, or monitor the disease over time. Laboratory tests may be performed on specimens not derived from patients (electrolytes or contents of water or consumed fluids, cultures of environment, pets, other animals).

Timing: The time the order is signed; author datetime.

Table 86: Laboratory Test, Order (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
ProcedureCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.41:2019-05-01)					
@classCode	1..1	SHALL		4423-30389	PROC
@moodCode	1..1	SHALL		4423-30390	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		4423-30391	
templateId	1..1	SHALL		4423-30392	
item	1..1	SHALL		4423-30393	
@root	1..1	SHALL		4423-30394	2.16.840.1.113883.10.20.28.4.41
@extension	1..1	SHALL		4423-33649	2019-05-01
id	1..1	SHALL		4423-30395	
code	1..1	SHALL		4423-30396	
@valueSet	0..1	SHOULD		4423-30397	
title	1..1	SHALL		4423-35947	
statusCode	1..1	SHALL		4423-33109	
@code	1..1	SHALL		4423-33110	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
participation	0..1	MAY		4423-33495	
@typeCode	1..1	SHALL		4423-33497	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-33496	
low	1..1	SHALL		4423-33498	
role	1..1	SHALL		4423-33589	
@classCode	1..1	SHALL		4423-33590	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		4423-33591	
participation	0..1	MAY		4423-35237	

XPath	Card.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4423-35241	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35238	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.137:2019-05-01)
participation	0..1	MAY		4423-35239	
@typeCode	1..1	SHALL		4423-35242	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35240	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35865	
@typeCode	1..1	SHALL		4423-35867	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35866	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35243	
@typeCode	1..1	SHALL		4423-35245	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35244	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.136:2019-05-01)
outboundRelationship	0..1	MAY		4423-30405	
@typeCode	1..1	SHALL		4423-30406	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-30407	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.88:2017-05-01)

1. **SHALL** contain exactly one [1..1] @classCode="PROC" Procedure (CONF:4423-30389).
2. **SHALL** contain exactly one [1..1] @moodCode="RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-30390).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:4423-30391).
Note: QDM Attribute: Negation Rationale

4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-30392).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-30393) such that it
 - i. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.28.4.41"` (CONF:4423-30394).
 - ii. **SHALL** contain exactly one [1..1] `@extension="2019-05-01"` (CONF:4423-33649).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-30395).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-30396).

Note: QDM Attribute: Code

 - a. This code **SHOULD** contain zero or one [0..1] `@valueSet` (CONF:4423-30397).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-35947).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-33109).
 - a. This statusCode **SHALL** contain exactly one [1..1] `@code="active"` Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-33110).
9. **MAY** contain zero or one [0..1] **participation** (CONF:4423-33495) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="AUT"` Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-33497).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-33496).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-33498).

Note: QDM Attribute: Author dateTime (The time the order is signed)
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-33589).
 - i. This role **SHALL** contain exactly one [1..1] `@classCode="ROL"` Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-33590).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-33591).
10. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35237) such that it

Note: QDM Attribute: Requester

 - a. **SHALL** contain exactly one [1..1] `@typeCode="PART"` participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35241).
 - b. **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35238).
11. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35239) such that it

Note: QDM Attribute: Requester

 - a. **SHALL** contain exactly one [1..1] `@typeCode="PART"` participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35242).
 - b. **SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35240).
12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35865) such that it

Note: QDM Attribute: Requester

 - a. **SHALL** contain exactly one [1..1] `@typeCode="PART"` (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35867).

- b. **SHALL** contain exactly one [1..1] [Entity - Care Partner](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35866).

13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35243) such that it

Note: QDM Attribute: Requester

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35245).
- b. **SHALL** contain exactly one [1..1] [Entity - Patient](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35244).

14. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-30405) 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:4423-30406).
- b. **SHALL** contain exactly one [1..1] [Reason](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-30407).

Figure 41: Laboratory Test, Order (V3) Example

```
<procedureCriteria classCode="PROC" moodCode="RQO">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.41" extension="2019-05-01"/>
  </templateId>
  <id root="3a2a37c0-9abe-4c30-a254-8561a75d1cb4"/>
  <code valueSet="{$QDMElementValueSetOID}"/>
  <title value="Laboratory Test, Order"/>
  <statusCode code="active"/>
</procedureCriteria>
```

5.38 Laboratory Test, Performed (V3)

[observationCriteria: identifier

urn:hl7ii:2.16.840.1.113883.10.20.28.4.42:2019-05-01 (open)]

Table 87: Laboratory Test, Performed (V3) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Laboratory Test Component (optional) Laboratory Test Reference Range (optional) Result (V2) (optional) Status (V2) (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Laboratory Test, Performed.

Laboratory Test represents 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 to see if treatment is working, or monitor the disease over time. Laboratory tests may be performed on specimens not derived from patients (electrolytes or contents of water or consumed fluids, cultures of environment, pets, other animals).

Timing: Relevant dateTime references the time the laboratory test is performed if it occurs at a single point in time.

Relevant Period references a start and stop time for a laboratory that occurs over a time interval:

The Relevant Period addresses: startTime – When the laboratory test is initiated (i.e., the time the specimen collection begins); stopTime – when the laboratory test is completed (i.e., the time the specimen collection ends)

QDM Attributes: Result and Result dateTime are represented using the Result (V2) template.

Table 88: Laboratory Test, Performed (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.42;2019-05-01)					
@classCode	1..1	SHALL		4423-30364	OBS
@moodCode	1..1	SHALL		4423-33237	urn:oid:2.16.840.1.113883.5.1 001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		4423-30365	
templateId	1..1	SHALL		4423-30366	
item	1..1	SHALL		4423-30367	
@root	1..1	SHALL		4423-30368	2.16.840.1.113883.10.20.28.4 .42
@extension	1..1	SHALL		4423-33373	2019-05-01
id	1..1	SHALL		4423-30369	
code	1..1	SHALL		4423-30370	
@valueSet	0..1	SHOULD		4423-30371	
title	1..1	SHALL		4423-35948	
statusCode	1..1	SHALL		4423-30373	
@code	1..1	SHALL		4423-30509	urn:oid:2.16.840.1.113883.5.1 4 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	4423-30374	
low	0..1	MAY		4423-30375	
high	0..1	MAY		4423-30376	

XPath	Card.	Verb	Data Type	CONF#	Value
value	0..0	SHALL NOT		4423-33611	
methodCode	0..1	MAY		4423-30377	
item	1..1	SHALL		4423-30378	
@valueSet	0..1	SHOULD		4423-30379	
participation	0..1	MAY		4423-34535	
@typeCode	1..1	SHALL		4423-34538	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-34536	
low	1..1	SHALL		4423-34539	
role	1..1	SHALL		4423-34537	
@classCode	1..1	SHALL		4423-34540	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		4423-34541	
participation	0..1	MAY		4423-35246	
@typeCode	1..1	SHALL		4423-35250	PART
role	1..1	SHALL		4423-35247	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01)
participation	0..1	MAY		4423-35248	
@typeCode	1..1	SHALL		4423-35251	PART
role	1..1	SHALL		4423-35249	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35871	
@typeCode	1..1	SHALL		4423-35873	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35872	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.11)

XPath	Card.	Verb	Data Type	CONF#	Value
					0.20.28.4.134:2019-05-01
participation	0..1	MAY		4423-35252	
@typeCode	1..1	SHALL		4423-35254	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35253	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01)
outboundRelationship	0..1	MAY		4423-30380	
@typeCode	1..1	SHALL		4423-34061	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-30382	Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01)
outboundRelationship	0..1	MAY		4423-34767	
@typeCode	1..1	SHALL		4423-34768	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = VALUE
observationCriteria	1..1	SHALL		4423-34769	Result (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01)
outboundRelationship	0..1	MAY		4423-33372	
@typeCode	1..1	SHALL		4423-34618	REFR
observationCriteria	1..1	SHALL		4423-33375	Status (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.94:2017-08-01)
outboundRelationship	0..1	MAY		4423-34062	
@typeCode	1..1	SHALL		4423-34066	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		4423-34412	Laboratory Test Reference Range (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.124:2017-05-01)
outboundRelationship	0..*	MAY		4423-34617	
@typeCode	1..1	SHALL		4423-34619	REFR
observationCriteria	1..1	SHALL		4423-34620	Laboratory Test Component (identifier:

XPath	Card.	Verb	Data Type	CONF#	Value
					urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.126:2017-05-01

1. **SHALL** contain exactly one [1..1] **@classCode**= "OBS" Observation (CONF:4423-30364).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-33237).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:4423-30365).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-30366).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-30367) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.42" (CONF:4423-30368).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-33373).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-30369).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-30370).
Note: QDM Attribute: Code
 - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-30371).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-35948).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-30373).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**= "completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-30509).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-30374) such that it
Note: QDM Attribute: Relevant Period
 - a. **MAY** contain zero or one [0..1] **low** (CONF:4423-30375).
Note: startTime of Relevant Period (When the laboratory test is initiated (i.e., the time the specimen collection begins)) or QDM Attribute: Relevant dateTime
 - b. **MAY** contain zero or one [0..1] **high** (CONF:4423-30376).
Note: stopTime of Relevant Period (When the laboratory test is completed (i.e., the time the specimen collection ends))
10. **SHALL NOT** contain [0..0] **value** (CONF:4423-33611).
Note: Use Result (V2) template for the QDM Attribute: Result
11. **MAY** contain zero or one [0..1] **methodCode** (CONF:4423-30377).
Note: QDM Attribute: Method
 - a. The methodCode, if present, **SHALL** contain exactly one [1..1] **item** (CONF:4423-30378).
 - i. This item **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-30379).
12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34535) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**= "AUT" Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34538).

- b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34536).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-34539).
Note: QDM Attribute: Author Datetime
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34537).
 - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-34540).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-34541).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35246) such that it
Note: QDM Attribute: Performer
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CONF:4423-35250).
 - b. **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35247).
14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35248) such that it
Note: QDM Attribute: Performer
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CONF:4423-35251).
 - b. **SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35249).
15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35871) such that it
Note: QDM Attribute: Performer
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35873).
 - b. **SHALL** contain exactly one [1..1] **Entity - Care Partner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35872).
16. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35252) such that it
Note: QDM Attribute: Performer
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35254).
 - b. **SHALL** contain exactly one [1..1] **Entity - Patient** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35253).
17. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-30380) 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:4423-34061).
 - b. **SHALL** contain exactly one [1..1] **Reason** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-30382).

18. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-34767) such that it
Note: QDM Attribute: Result, QDM Attribute: Result dateTime

- a. **SHALL** contain exactly one [1..1] **@typeCode="VALUE"** has value (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-34768).
- b. **SHALL** contain exactly one [1..1] **Result (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01) (CONF:4423-34769).

19. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-33372) such that it
Note: QDM Attribute: Status

- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers To (CONF:4423-34618).
- b. **SHALL** contain exactly one [1..1] **Status (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.94:2017-08-01) (CONF:4423-33375).

20. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-34062) such that it
Note: QDM Attribute: Reference Range Low, QDM Attribute: Reference Range High

- a. **SHALL** contain exactly one [1..1] **@typeCode="REFV"** Has Reference Values (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-34066).
- b. **SHALL** contain exactly one [1..1] **Laboratory Test Reference Range** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.124:2017-05-01) (CONF:4423-34412).

21. **MAY** contain zero or more [0..*] **outboundRelationship** (CONF:4423-34617) such that it
Note: QDM Attribute: Components

- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers To (CONF:4423-34619).
- b. **SHALL** contain exactly one [1..1] **Laboratory Test Component** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.126:2017-05-01) (CONF:4423-34620).

Figure 42: Laboratory Test, Performed (V3) Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.42" extension="2019-05-01"/>
  </templateId>
  <id root="05f0a7c8-371e-4e77-aad4-22ff9fdf7fa3"/>
  <code valueSet="{$QDMElementValueSetOID}"/>
  <title value="Laboratory Test, Performed"/>
  <statusCode code="completed"/>
</observationCriteria>
```

5.39 Laboratory Test, Recommended (V3)

[observationCriteria: identifier

urn:hl7ii:2.16.840.1.113883.10.20.28.4.43:2019-05-01 (open)]

Table 89: Laboratory Test, Recommended (V3) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Laboratory Test, Recommended.

This template represents a recommendation for a laboratory test. Laboratory Test represents 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 to see if treatment is working, or monitor the disease over time. Laboratory tests may be performed on specimens not derived from patients (electrolytes or contents of water or consumed fluids, cultures of environment, pets, other animals). Timing: The time the recommendation is authored (i.e., provided to the patient).

All QDM datatypes referring to recommendations address the time that the recommendation occurs, a single point in time. Vendors have expressed concerns that recommendations are not necessarily captured or managed in a standard manner as part of structured data capture in clinical workflow; many are documented as part of assessments in narrative text. Measure developers should address feasibility of clinical workflow to capture recommendations when evaluating measures.

Table 90: Laboratory Test, Recommended (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.43:2019-05-01)					
@classCode	1..1	SHALL		4423-30414	OBS
@moodCode	1..1	SHALL		4423-30415	urn:oid:2.16.840.1.113883.5.1 001 (HL7ActMood) = INT
@actionNegationInd	0..1	MAY		4423-30416	
templateId	1..1	SHALL		4423-30417	
item	1..1	SHALL		4423-30418	
@root	1..1	SHALL		4423-30419	2.16.840.1.113883.10.20.28.4 .43
@extension	1..1	SHALL		4423-33692	2019-05-01
id	1..1	SHALL		4423-30420	
code	1..1	SHALL		4423-30421	
@valueSet	0..1	SHOULD		4423-30422	
title	1..1	SHALL		4423-35949	
statusCode	1..1	SHALL		4423-30424	urn:oid:2.16.840.1.113883.5.1 4 (HL7ActStatus)
@code	1..1	SHALL		4423-30510	urn:oid:2.16.840.1.113883.5.1 4 (HL7ActStatus) = active
participation	0..1	MAY		4423-34413	
@typeCode	1..1	SHALL		4423-34416	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-34414	
low	1..1	SHALL		4423-34417	
role	1..1	SHALL		4423-34415	
@classCode	1..1	SHALL		4423-34418	ROL
id	0..1	MAY		4423-34419	
participation	0..1	MAY		4423-35255	

XPath	Card.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4423-35259	PART
role	1..1	SHALL		4423-35256	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1_0.20.28.4.137:2019-05-01)
participation	0..1	MAY		4423-35257	
@typeCode	1..1	SHALL		4423-35260	PART
role	1..1	SHALL		4423-35258	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1_0.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35868	
@typeCode	1..1	SHALL		4423-35870	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35869	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1_0.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35261	
@typeCode	1..1	SHALL		4423-35263	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35262	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1_0.20.28.4.136:2019-05-01)
outboundRelationship	0..1	MAY		4423-30431	
@typeCode	1..1	SHALL		4423-34115	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-30433	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1_0.20.28.4.88:2017-05-01)

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:4423-30414).
2. **SHALL** contain exactly one [1..1] @moodCode="INT" Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-30415).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:4423-30416).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:4423-30417).

- a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-30418) such that it
 - i. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.28.4.43"` (CONF:4423-30419).
 - ii. **SHALL** contain exactly one [1..1] `@extension="2019-05-01"` (CONF:4423-33692).
- 5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-30420).
- 6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-30421).

Note: QDM Attribute: Code

 - a. This code **SHOULD** contain zero or one [0..1] `@valueSet` (CONF:4423-30422).
- 7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-35949).
- 8. **SHALL** contain exactly one [1..1] **statusCode** (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-30424).
 - a. This statusCode **SHALL** contain exactly one [1..1] `@code="active"` Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-30510).
- 9. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34413) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="AUT"` Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34416).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34414).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-34417).

Note: QDM Attribute: Author dateTime (The time the recommendation is authored (i.e., provided to the patient))
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34415).
 - i. This role **SHALL** contain exactly one [1..1] `@classCode="ROL"` Role (CONF:4423-34418).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-34419).
- 10. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35255) such that it

Note: QDM Attribute: Requester

 - a. **SHALL** contain exactly one [1..1] `@typeCode="PART"` participation (CONF:4423-35259).
 - b. **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35256).
- 11. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35257) such that it

Note: QDM Attribute: Requester

 - a. **SHALL** contain exactly one [1..1] `@typeCode="PART"` participation (CONF:4423-35260).
 - b. **SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35258).
- 12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35868) such that it

Note: QDM Attribute: Requester

 - a. **SHALL** contain exactly one [1..1] `@typeCode="PART"` (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35870).

- b. **SHALL** contain exactly one [1..1] [Entity - Care Partner](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35869).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35261) such that it
 Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35263).
 - b. **SHALL** contain exactly one [1..1] [Entity - Patient](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35262).
14. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-30431) 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:4423-34115).
 - b. **SHALL** contain exactly one [1..1] [Reason](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-30433).

Figure 43: Laboratory Test, Recommended (V3) Example

```
<observationCriteria classCode="OBS" moodCode="INT">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.43" extension="2019-05-01"/>
  </templateId>
  <id root="7a54587b-f1d6-4ce1-bb4c-30ffc5139565"/>
  <code valueSet="{$QDMElementValueSetOID}"/>
  <title value="Laboratory Test, Recommended"/>
  <statusCode code="active"/>
</observationCriteria>
```

5.40 Medication, Active (V4)

[substanceAdministrationCriteria: identifier
 urn:hl7ii:2.16.840.1.113883.10.20.28.4.44:2019-05-01 (open)]

Table 91: Medication, Active (V4) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Medication, Active.

Medication represents clinical drugs or chemical substances intended for use in the medical diagnosis, cure, treatment, or prevention of disease. Medication active represents medication that is currently being taken by the patient.

Timing: Relevant dateTime references the time the medication is active on the medication record if it was given or taken at a single point in time.

Relevant Period references a start and stop time for an active medication on the medication record that is given or taken over a time interval: StartTime = when the medication is first known to be used (generally the time of entry on the medication list); StopTime = when the medication is discontinued (generally the time discontinuation is recorded on the medication list).

Dosage: Details of how medication is/is to be taken, i.e., the quantity (mg, cc, tablets) to be taken at a single administration.

Table 92: Medication, Active (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
substanceAdministrationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.44:2019-05-01)					
@classCode	1..1	SHALL		4423-31950	SBADM
@moodCode	1..1	SHALL		4423-31951	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		4423-34809	
templateId	1..1	SHALL		4423-31953	
item	1..1	SHALL		4423-31954	
@root	1..1	SHALL		4423-31955	2.16.840.1.113883.10.20.28.4.44
@extension	1..1	SHALL		4423-33376	2019-05-01
id	1..1	SHALL		4423-31956	
title	1..1	SHALL		4423-35950	
statusCode	1..1	SHALL		4423-31958	
@code	1..1	SHALL		4423-31959	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
effectiveTime	0..1	MAY	IVL_TS	4423-31960	
low	0..1	MAY		4423-31961	
high	0..1	MAY		4423-31962	
effectiveTime	0..1	MAY	PIVL_TS	4423-34803	
period	0..1	MAY		4423-34804	
routeCode	0..1	MAY		4423-33115	
@valueSet	0..1	SHOULD		4423-33116	
doseQuantity	0..1	MAY		4423-33117	
participation	1..1	SHALL		4423-33121	
@typeCode	1..1	SHALL		4423-33122	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM

XPath	Card.	Verb	Data Type	CONF#	Value
role	1..1	SHALL		4423-33123	
playingMaterial	1..1	SHALL		4423-33124	
@classCode	1..1	SHALL		4423-34116	urn:oid:2.16.840.1.113883.5.4 1 (HL7EntityClass) = MMAT
@determinerCode	1..1	SHALL		4423-33125	urn:oid:2.16.840.1.113883.5.3 0 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		4423-33126	
@valueSet	0..1	SHOULD		4423-33127	
participation	0..1	MAY		4423-35264	
@typeCode	1..1	SHALL		4423-35268	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35265	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.137:2019-05-01
participation	0..1	MAY		4423-35266	
@typeCode	1..1	SHALL		4423-35269	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35267	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.135:2019-05-01
participation	0..1	MAY		4423-35874	
@typeCode	1..1	SHALL		4423-35876	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35875	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.134:2019-05-01
participation	0..1	MAY		4423-35270	
@typeCode	1..1	SHALL		4423-35272	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35271	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.136:2019-05-01

1. **SHALL** contain exactly one [1..1] **@classCode**= "SBADM" Substance Administrated (CONF:4423-31950).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-31951).
3. **SHALL NOT** contain [0..0] **@actionNegationInd** (CONF:4423-34809).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-31953).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-31954) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.44" (CONF:4423-31955).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-33376).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-31956).
6. **SHALL** contain exactly one [1..1] **title** (CONF:4423-35950).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-31958).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**= "active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-31959).
8. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-31960) such that it
 Note: QDM Attribute: Relevant Period
 - a. **MAY** contain zero or one [0..1] **low** (CONF:4423-31961).
 Note: startDateTime of Relevant Period- 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) or QDM Attribute: Relevant date**Time**
 - b. **MAY** contain zero or one [0..1] **high** (CONF:4423-31962).
 Note: stopTime of Relevant Period - 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)
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-34803) such that it
 Note: QDM Attribute: Frequency
 - a. **MAY** contain zero or one [0..1] **period** (CONF:4423-34804).
10. **MAY** contain zero or one [0..1] **routeCode** (CONF:4423-33115).
 Note: QDM Attribute: Route
 - a. The routeCode, if present, **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-33116).
11. **MAY** contain zero or one [0..1] **doseQuantity** (CONF:4423-33117).
 Note: QDM Attribute: Dosage
12. **SHALL** contain exactly one [1..1] **participation** (CONF:4423-33121) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**= "CSM" Consumable (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-33122).
 - b. **SHALL** contain exactly one [1..1] **role** (CONF:4423-33123).

- i. This role **SHALL** contain exactly one [1..1] **playingMaterial** (CONF:4423-33124).
 - 1. This playingMaterial **SHALL** contain exactly one [1..1] **@classCode**= "MMAT" Manufactured Material (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:4423-34116).
 - 2. This playingMaterial **SHALL** contain exactly one [1..1] **@determinerCode**= "KIND" Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:4423-33125).
 - 3. This playingMaterial **SHALL** contain exactly one [1..1] **code** (CONF:4423-33126).
 - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-33127).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35264) such that it
Note: QDM Attribute: Recorder
- a. **SHALL** contain exactly one [1..1] **@typeCode**= "PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35268).
 - b. **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35265).
14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35266) such that it
Note: QDM Attribute: Recorder
- a. **SHALL** contain exactly one [1..1] **@typeCode**= "PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35269).
 - b. **SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35267).
15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35874) such that it
Note: QDM Attribute: Recorder
- a. **SHALL** contain exactly one [1..1] **@typeCode**= "PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35876).
 - b. **SHALL** contain exactly one [1..1] **Entity - Care Partner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35875).
16. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35270) such that it
Note: QDM Attribute: Recorder
- a. **SHALL** contain exactly one [1..1] **@typeCode**= "PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35272).
 - b. **SHALL** contain exactly one [1..1] **Entity - Patient** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35271).

Figure 44: Medication, Active (V4) Example

```

<substanceAdministrationCriteria classCode="SBADM" moodCode="EVN">
    <templateId>
        <item root="2.16.840.1.113883.10.20.28.4.44" extension="2019-05-01"/>
    </templateId>
    <id root="6c21f22e-3ae3-435d-a240-7718cc418b7d"/>
    <title value="Medication, Active"/>
    <statusCode code="active"/>
    <participation typeCode="CSM">
        <role classCode="MANU">
            <playingMaterial classCode="MMAT" determinerCode="KIND">
                <code valueSet="{$QDMElementValueSetOID}"/>
            </playingMaterial>
        </role>
    </participation>
</substanceAdministrationCriteria>

```

5.41 Medication, Administered (V4)

[substanceAdministrationCriteria: identifier
urn:h17ii:2.16.840.1.113883.10.20.28.4.45:2019-05-01 (open)]

Table 93: Medication, Administered (V4) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Medication, Administered.

A medication refers to clinical drugs or chemical substances intended for use in the medical diagnosis, cure, treatment, or prevention of disease. This template represents a medication that was administered.

Timing: Relevant dateTime references the time the medication is administered if it was given or taken at a single point in time.

Relevant Period references a start and stop time for medication administration if the administration event occurred over a time interval (e.g., an intravenous infusion). StartTime = 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); StopTime = 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).

Author dateTime references the time the medication administration was recorded and applies only when the record has no reference to the time the medication administration occurred and only the recorded time is available.

Dosage: Details of how medication is/is to be taken, i.e., the quantity (mg, cc, tablets) to be taken at a single administration.

Table 94: Medication, Administered (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
substanceAdministrationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.45:2019-05-01)					
@classCode	1..1	SHALL		4423-32047	SBADM
@moodCode	1..1	SHALL		4423-32048	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		4423-32049	
templateId	1..1	SHALL		4423-32050	
item	1..1	SHALL		4423-32051	
@root	1..1	SHALL		4423-32052	2.16.840.1.113883.10.20.28.4.45
@extension	1..1	SHALL		4423-33386	2019-05-01
id	1..1	SHALL		4423-32053	
code	1..1	SHALL		4423-32054	
@code	1..1	SHALL		4423-32055	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 416118004
@codeSystem	1..1	SHALL		4423-32056	2.16.840.1.113883.6.96
title	1..1	SHALL		4423-35951	
statusCode	1..1	SHALL		4423-32058	
@code	1..1	SHALL		4423-32059	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	4423-32060	
low	0..1	MAY		4423-32061	
high	0..1	MAY		4423-32062	
effectiveTime	0..1	MAY	PIVL_TS	4423-34806	
period	0..1	MAY		4423-34807	
routeCode	0..1	MAY		4423-32506	
@valueSet	0..1	SHOULD		4423-32507	

XPath	Card.	Verb	Data Type	CONF#	Value
doseQuantity	0..1	MAY		4423-33128	
participation	1..1	SHALL		4423-32497	
@typeCode	1..1	SHALL		4423-32503	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = CSM
role	1..1	SHALL		4423-32498	
@classCode	1..1	SHALL		4423-32504	urn:oid:2.16.840.1.113883.5.1 10 (HL7RoleClass) = MANU
playingManufacturedMaterial	1..1	SHALL		4423-32499	
@classCode	1..1	SHALL		4423-32500	urn:oid:2.16.840.1.113883.5.4 1 (HL7EntityClass) = MMAT
@determinerCode	1..1	SHALL		4423-32520	urn:oid:2.16.840.1.113883.5.3 0 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		4423-32501	
@valueSet	0..1	SHOULD		4423-32502	
participation	0..1	MAY		4423-34542	
@typeCode	1..1	SHALL		4423-34545	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-34543	
low	1..1	SHALL		4423-34546	
role	1..1	SHALL		4423-34544	
@classCode	1..1	SHALL		4423-34547	urn:oid:2.16.840.1.113883.5.1 10 (HL7RoleClass) = ROL
id	0..1	MAY		4423-34548	
participation	0..1	MAY		4423-35273	
@typeCode	1..1	SHALL		4423-35277	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35274	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.137:2019-05-01)
participation	0..1	MAY		4423-	

XPath	Card.	Verb	Data Type	CONF#	Value
				35275	
@typeCode	1..1	SHALL		4423-35278	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35276	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35877	
@typeCode	1..1	SHALL		4423-35879	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35878	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35279	
@typeCode	1..1	SHALL		4423-35281	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35280	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01)
outboundRelationship	0..1	MAY		4423-32511	
@typeCode	1..1	SHALL		4423-32512	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-32513	Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01)

1. **SHALL** contain exactly one [1..1] **@classCode**= "SBADM" Substance Administration (CONF:4423-32047).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-32048).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:4423-32049).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-32050).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-32051) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.45" (CONF:4423-32052).

- ii. **SHALL** contain exactly one [1..1] `@extension="2019-05-01"` (CONF:4423-33386).
- 5. **SHALL** contain exactly one [1..1] `id` (CONF:4423-32053).
- 6. **SHALL** contain exactly one [1..1] `code` (CONF:4423-32054).
 - a. This code **SHALL** contain exactly one [1..1] `@code="416118004"` Administration (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:4423-32055).
 - b. This code **SHALL** contain exactly one [1..1] `@codeSystem="2.16.840.1.113883.6.96"` (CONF:4423-32056).
- 7. **SHALL** contain exactly one [1..1] `title` (CONF:4423-35951).
- 8. **SHALL** contain exactly one [1..1] `statusCode` (CONF:4423-32058).
 - a. This statusCode **SHALL** contain exactly one [1..1] `@code="completed"` Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-32059).
- 9. **MAY** contain zero or one [0..1] `effectiveTime` (CONF:4423-32060) such that it

Note: QDM Attribute: Relevant Period

 - a. **MAY** contain zero or one [0..1] `low` (CONF:4423-32061).

Note: startTime of Relevant Period - 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) or QDM Attribute: Relevant dateTime
 - b. **MAY** contain zero or one [0..1] `high` (CONF:4423-32062).

Note: stopTime of Relevant Period - 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)
- 10. **MAY** contain zero or one [0..1] `effectiveTime` (CONF:4423-34806) such that it

Note: QDM Attribute: Frequency

 - a. **MAY** contain zero or one [0..1] `period` (CONF:4423-34807).
- 11. **MAY** contain zero or one [0..1] `routeCode` (CONF:4423-32506).

Note: QDM Attribute: Route

 - a. The routeCode, if present, **SHOULD** contain zero or one [0..1] `@valueSet` (CONF:4423-32507).
- 12. **MAY** contain zero or one [0..1] `doseQuantity` (CONF:4423-33128).

Note: QDM Attribute: Dosage
- 13. **SHALL** contain exactly one [1..1] `participation` (CONF:4423-32497) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="CSM"` Consumable (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-32503).
 - b. **SHALL** contain exactly one [1..1] `role` (CONF:4423-32498).
 - i. This role **SHALL** contain exactly one [1..1] `@classCode="MANU"` Manufactured Product (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-32504).
 - ii. This role **SHALL** contain exactly one [1..1] `playingManufacturedMaterial` (CONF:4423-32499).
 - 1. This playingManufacturedMaterial **SHALL** contain exactly one [1..1] `@classCode="MMAT"` Manufactured Material (CodeSystem:

- HL7EntityClass urn:oid:2.16.840.1.113883.5.41)
(CONF:4423-32500).
2. This playingManufacturedMaterial **SHALL** contain exactly one [1..1] **@determinerCode**= "KIND" Kind (CodeSystem:
HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30)
(CONF:4423-32520).
 3. This playingManufacturedMaterial **SHALL** contain exactly one [1..1] **code** (CONF:4423-32501).
 - a. This code **SHOULD** contain zero or one [0..1] **@valueSet**
(CONF:4423-32502).
14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34542) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode**= "AUT" Author (CodeSystem:
HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34545).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34543).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-34546).
Note: QDM Attribute: Author Time
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34544).
 - i. This role **SHALL** contain exactly one [1..1] **@classCode**= "ROL" Role
(CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110)
(CONF:4423-34547).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-34548).
15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35273) such that it
- Note: QDM Attribute: Performer
- a. **SHALL** contain exactly one [1..1] **@typeCode**= "PART" participation (CodeSystem:
HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35277).
 - b. **SHALL** contain exactly one [1..1] Entity - Practitioner (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35274).
16. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35275) such that it
- Note: QDM Attribute: Performer
- a. **SHALL** contain exactly one [1..1] **@typeCode**= "PART" participation (CodeSystem:
HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35278).
 - b. **SHALL** contain exactly one [1..1] Entity - Organization (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35276).
17. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35877) such that it
- Note: QDM Attribute: Performer
- a. **SHALL** contain exactly one [1..1] **@typeCode**= "PART" (CodeSystem:
HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35879).
 - b. **SHALL** contain exactly one [1..1] Entity - Care Partner (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35878).
18. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35279) such that it
- Note: QDM Attribute: Performer

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35281).
 - b. **SHALL** contain exactly one [1..1] Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35280).
19. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-32511) 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:4423-32512).
 - b. **SHALL** contain exactly one [1..1] Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-32513).
- Note: QDM Attribute: Reason

Figure 45: Medication, Administered (V4) Example

```
<substanceAdministrationCriteria classCode="SBADM" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.45" extension="2019-05-01"/>
  </templateId>
  <id root="de28ff02-d2cf-436e-898a-58eb49e15b47"/>
  <code code="416118004" codeSystem="2.16.840.1.113883.6.96">
    <displayName value="Administration"/>
  </code>
  <title value="Medication, Administered"/>
  <statusCode code="completed"/>
  <participation typeCode="CSM">
    <role classCode="MANU">
      <playingManufacturedMaterial classCode="MMAT" determinerCode="KIND">
        <code valueSet="{$QDMElementValueSetOID}"/>
      </playingManufacturedMaterial>
    </role>
  </participation>
</substanceAdministrationCriteria>
```

5.42 Medication, Discharge (V3)

[substanceAdministrationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.48:2019-05-01 (open)]

Table 95: Medication, Discharge (V3) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Supply (optional) Days Supplied (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Medication, Discharge.

A medication refers to clinical drugs or chemical substances intended for use in the medical diagnosis, cure, treatment, or prevention of disease. This template represents medication should be taken by or given to the patient after being discharged from an inpatient encounter

Timing: The time the discharge medication list on the discharge instruction form is authored.

Dosage: Details of how medication is/is to be taken, i.e., the quantity (mg, cc, tablets) to be taken at a single administration.

Supply: The quantity (amount) of therapeutic agent that was provided to a patient (i.e., number of doses, number of tablets or pills, volume of medication). Dispensed to a patient to be taken at a later time.

Table 96: Medication, Discharge (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
substanceAdministrationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.48:2019-05-01)					
@classCode	1..1	SHALL		4423-32521	SBADM
@moodCode	1..1	SHALL		4423-32522	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		4423-33438	
templateId	1..1	SHALL		4423-32523	
item	1..1	SHALL		4423-32524	
@root	1..1	SHALL		4423-32525	2.16.840.1.113883.10.20.28.4.48
@extension	1..1	SHALL		4423-33439	2019-05-01
id	1..1	SHALL		4423-32526	
code	1..1	SHALL		4423-32527	
@code	1..1	SHALL		4423-32528	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 10183-2
@codeSystem	1..1	SHALL		4423-32529	2.16.840.1.113883.6.1
title	1..1	SHALL		4423-35952	
statusCode	1..1	SHALL		4423-32531	
@code	1..1	SHALL		4423-32532	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
effectiveTime	0..1	MAY	PIVL_TS	4423-34810	
period	0..1	MAY		4423-34811	
repeatNumber	0..1	MAY		4423-32536	
routeCode	0..1	MAY		4423-32537	
@valueSet	0..1	SHOULD		4423-32538	
doseQuantity	0..1	MAY		4423-34437	
participation	1..1	SHALL		4423-32539	

XPath	Card.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4423-32540	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
role	1..1	SHALL		4423-32541	
@classCode	1..1	SHALL		4423-32542	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = MANU
playingManufacturedMaterial	1..1	SHALL		4423-32543	
@classCode	1..1	SHALL		4423-32544	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = MMAT
@determinerCode	1..1	SHALL		4423-32545	urn:oid:2.16.840.1.113883.5.30 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		4423-32546	
@valueSet	0..1	SHOULD		4423-32547	
participation	0..1	MAY		4423-34438	
@typeCode	1..1	SHALL		4423-34442	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-34439	
low	1..1	SHALL		4423-34443	
role	1..1	SHALL		4423-34440	
@classCode	1..1	SHALL		4423-34444	ROL
id	0..1	MAY		4423-34445	
participation	0..1	MAY		4423-35285	
@typeCode	1..1	SHALL		4423-35289	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35286	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01)
participation	0..1	MAY		4423-35287	
@typeCode	1..1	SHALL		4423-35290	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART

XPath	Card.	Verb	Data Type	CONF#	Value
role	1..1	SHALL		4423-35288	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35880	
@typeCode	1..1	SHALL		4423-35884	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35881	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35291	
@typeCode	1..1	SHALL		4423-35293	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35292	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.136:2019-05-01)
participation	0..1	MAY		4423-35294	
@typeCode	1..1	SHALL		4423-35298	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35295	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.137:2019-05-01)
participation	0..1	MAY		4423-35296	
@typeCode	1..1	SHALL		4423-35299	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35297	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35882	
@typeCode	1..1	SHALL		4423-35885	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35883	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-	

XPath	Card.	Verb	Data Type	CONF#	Value
				35300	
@typeCode	1..1	SHALL		4423-35302	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35301	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01)
outboundRelationship	0..1	MAY		4423-34441	
@typeCode	1..1	SHALL		4423-34446	REFR
supplyCriteria	1..1	SHALL		4423-34812	Supply (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01)
outboundRelationship	0..1	MAY		4423-34130	
@typeCode	1..1	SHALL		4423-34131	RSON
observationCriteria	1..1	SHALL		4423-34132	Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01)
outboundRelationship	0..1	MAY		4423-35282	
@typeCode	1..1	SHALL		4423-35284	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
supplyCriteria	1..1	SHALL		4423-35283	Days Supplied (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.133:2018-05-01)

1. **SHALL** contain exactly one [1..1] **@classCode**= "SBADM" Substance Administration (CONF:4423-32521).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-32522).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:4423-33438).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-32523).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-32524) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.48" (CONF:4423-32525).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-33439).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-32526).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-32527).

- a. This code **SHALL** contain exactly one [1..1] `@code="10183-2"` Discharge Medication (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:4423-32528).
- b. This code **SHALL** contain exactly one [1..1] `@codeSystem="2.16.840.1.113883.6.1"` (CONF:4423-32529).
- 7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-35952).
- 8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-32531).
 - a. This statusCode **SHALL** contain exactly one [1..1] `@code="active"` Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-32532).
- 9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-34810) such that it
 Note: QDM Attribute: Frequency
 - a. **MAY** contain zero or one [0..1] **period** (CONF:4423-34811).
- 10. **MAY** contain zero or one [0..1] **repeatNumber** (CONF:4423-32536).
 Note: QDM Attribute: Refills
- 11. **MAY** contain zero or one [0..1] **routeCode** (CONF:4423-32537).
 Note: QDM Attribute: Route
 - a. The routeCode, if present, **SHOULD** contain zero or one [0..1] `@valueSet` (CONF:4423-32538).
- 12. **MAY** contain zero or one [0..1] **doseQuantity** (CONF:4423-34437).
 Note: QDM Attribute: Dosage
- 13. **SHALL** contain exactly one [1..1] **participation** (CONF:4423-32539) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="CSM"` Consumable (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-32540).
 - b. **SHALL** contain exactly one [1..1] **role** (CONF:4423-32541).
 - i. This role **SHALL** contain exactly one [1..1] `@classCode="MANU"` Manufactured Product (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-32542).
 - ii. This role **SHALL** contain exactly one [1..1] **playingManufacturedMaterial** (CONF:4423-32543).
 - 1. This playingManufacturedMaterial **SHALL** contain exactly one [1..1] `@classCode="MMAT"` Manufactured Material (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:4423-32544).
 - 2. This playingManufacturedMaterial **SHALL** contain exactly one [1..1] `@determinerCode="KIND"` Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:4423-32545).
 - 3. This playingManufacturedMaterial **SHALL** contain exactly one [1..1] **code** (CONF:4423-32546).
 Note: QDM Attribute: Code
 - a. This code **SHOULD** contain zero or one [0..1] `@valueSet` (CONF:4423-32547).
- 14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34438) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="AUT"` Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34442).

- b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34439).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-34443).
Note: QDM Attribute: Author dateTime (The time the discharge medication list on the discharge instruction form is authored)
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34440).
 - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CONF:4423-34444).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-34445).
15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35285) such that it
Note: QDM Attribute: Prescriber
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35289).
 - b. **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35286).
16. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35287) such that it
Note: QDM Attribute: Prescriber
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35290).
 - b. **SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35288).
17. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35880) such that it
Note: QDM Attribute: Prescriber
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35884).
 - b. **SHALL** contain exactly one [1..1] **Entity - Care Partner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35881).
18. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35291) such that it
Note: QDM Attribute: Prescriber
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35293).
 - b. **SHALL** contain exactly one [1..1] **Entity - Patient** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35292).
19. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35294) such that it
Note: QDM Attribute: Recorder
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35298).
 - b. **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35295).
20. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35296) such that it
Note: QDM Attribute: Recorder

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35299).
 - b. **SHALL** contain exactly one [1..1] Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35297).
21. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35882) such that it
Note: QDM Attribute: Recorder
 - a. **SHALL** contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35885).
 - b. **SHALL** contain exactly one [1..1] Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35883).
22. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35300) such that it
Note: QDM Attribute: Recorder
 - a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35302).
 - b. **SHALL** contain exactly one [1..1] Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35301).
23. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-34441) such that it
Note: QDM Attribute: Supply
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers To (CONF:4423-34446).
 - b. **SHALL** contain exactly one [1..1] Supply (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01) (CONF:4423-34812).
24. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-34130) such that it
Note: QDM Attribute: Reason
 - a. **SHALL** contain exactly one [1..1] @typeCode="RSON" Has Reason (CONF:4423-34131).
 - b. **SHALL** contain exactly one [1..1] Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-34132).
25. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-35282) such that it
Note: QDM Attribute: daysSupplied
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-35284).
 - b. **SHALL** contain exactly one [1..1] Days Supplied (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.133:2018-05-01) (CONF:4423-35283).

Figure 46: Medication, Discharge (V3) Example

```

<substanceAdministrationCriteria classCode="SBADM" moodCode="RQO">
    <templateId>
        <item root="2.16.840.1.113883.10.20.28.4.48" extension="2019-05-01"/>
    </templateId>
    <id root="7c7cb827-4ff6-4585-aba3-885a89c32083"/>
    <code code="10183-2" codeSystem="2.16.840.1.113883.6.1">
        <displayName value="Discharge Medication"/>
    </code>
    <title value="Medication, Discharge"/>
    <statusCode code="active" />
    <participation typeCode="CSM">
        <role classCode="MANU">
            <playingManufacturedMaterial classCode="MMAT" determinerCode="KIND">
                <code valueSet="{$QDMElementValueSetOID}"/>
            </playingManufacturedMaterial>
        </role>
    </participation>
</substanceAdministrationCriteria>

```

5.43 Medication, Dispensed (V3)

[supplyCriteria: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.49:2019-05-01 (open)]

Table 97: Medication, Dispensed (V3) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Dosage (optional) Days Supplied (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Medication, Dispensed.

Medication dispensed is to give medications to a patient or patient proxy based on a prescription. Typically, in the ambulatory setting, medications are primarily taken directly by patients and not directly observed. Hence, medications dispensed are the closest health provider documentation of medication compliance.

Timing: Relevant Period references the validity period, i.e., the time period for which the ordered supply is authorized by the prescription authorizing the dispensing event. Relevant dateTime references the dateTime the prescription dispensing event occurred, i.e., the time the prescription was handed over to the patient or patient's representative. Author dateTime references the date and time the dispensing event is recorded.

Dosage: Details of how medication is/is to be taken, i.e., the quantity (mg, cc, tablets) to be taken at a single administration.

Supply: The quantity (amount) of therapeutic agent that was provided to a patient (i.e., number of

doses, number of tablets or pills, volume of medication). Dispensed to a patient to be taken at a later time.

Table 98: Medication, Dispensed (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
supplyCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.49:2019-05-01)					
@classCode	1..1	SHALL		4423-32560	SPLY
@moodCode	1..1	SHALL		4423-32561	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		4423-32562	
templateId	1..1	SHALL		4423-32563	
item	1..1	SHALL		4423-32564	
@root	1..1	SHALL		4423-32565	2.16.840.1.113883.10.20.28.4.49
@extension	1..1	SHALL		4423-33752	2019-05-01
id	1..1	SHALL		4423-32566	
title	1..1	SHALL		4423-35953	
statusCode	1..1	SHALL		4423-32568	
@code	1..1	SHALL		4423-32582	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	4423-32569	
low	1..1	SHALL		4423-32570	
high	0..1	MAY		4423-34860	
effectiveTime	0..1	MAY	PIVL_TS	4423-34856	
period	0..1	MAY		4423-35307	
repeatNumber	0..1	MAY		4423-32572	
quantity	0..1	MAY		4423-34858	
participation	1..1	SHALL		4423-32573	
@typeCode	1..1	SHALL		4423-32574	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
role	1..1	SHALL		4423-32575	

XPath	Card.	Verb	Data Type	CONF#	Value
@classCode	1..1	SHALL		4423-32576	urn:oid:2.16.840.1.113883.5.1 10 (HL7RoleClass) = MANU
playingMaterial	0..1	MAY		4423-32577	
@classCode	1..1	SHALL		4423-32578	urn:oid:2.16.840.1.113883.5.4 1 (HL7EntityClass) = MMAT
@determinerCode	1..1	SHALL		4423-32579	urn:oid:2.16.840.1.113883.5.3 0 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		4423-32580	
@valueSet	0..1	SHOULD		4423-32581	
participation	0..1	MAY		4423-34861	
@typeCode	1..1	SHALL		4423-34864	AUT
time	1..1	SHALL		4423-34862	
low	1..1	SHALL		4423-35308	
role	1..1	SHALL		4423-34863	
@classCode	1..1	SHALL		4423-35309	ROL
participation	0..1	MAY		4423-35303	
@typeCode	1..1	SHALL		4423-35313	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35304	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.137:2019-05-01
participation	0..1	MAY		4423-35315	
@typeCode	1..1	SHALL		4423-35317	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35316	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.135:2019-05-01
participation	0..1	MAY		4423-35886	
@typeCode	1..1	SHALL		4423-35890	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) =

XPath	Card.	Verb	Data Type	CONF#	Value
					PART
role	1..1	SHALL		4423-35887	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35318	
@typeCode	1..1	SHALL		4423-35324	PART
patient	1..1	SHALL		4423-35319	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.136:2019-05-01)
participation	0..1	MAY		4423-35320	
@typeCode	1..1	SHALL		4423-35325	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35321	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35888	
@typeCode	1..1	SHALL		4423-35891	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35889	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35327	
@typeCode	1..1	SHALL		4423-35329	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35328	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.136:2019-05-01)
participation	0..1	MAY		4423-35322	
@typeCode	1..1	SHALL		4423-35326	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35323	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.137:2019-05-01)
outboundRelationship	0..1	MAY		4423-	

XPath	Card.	Verb	Data Type	CONF#	Value
				34448	
@typeCode	1..1	SHALL		4423-34449	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		4423-34450	Dosage (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.125:2017-05-01)
outboundRelationship	0..1	MAY		4423-32589	
@typeCode	1..1	SHALL		4423-32590	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-32591	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.88:2017-05-01)
outboundRelationship	0..1	MAY		4423-35305	
@typeCode	1..1	SHALL		4423-35314	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = REFR
supplyCriteria	1..1	SHALL		4423-35306	Days Supplied (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.133:2018-05-01)

1. **SHALL** contain exactly one [1..1] **@classCode="SPLY"** Supply (CONF:4423-32560).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-32561).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:4423-32562).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-32563).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-32564) such that it
 - i. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.28.4.49"** (CONF:4423-32565).
 - ii. **SHALL** contain exactly one [1..1] **@extension="2019-05-01"** (CONF:4423-33752).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-32566).
6. **SHALL** contain exactly one [1..1] **title** (CONF:4423-35953).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-32568).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-32582).
8. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-32569) such that it
Note: QDM Attribute: Relevant Period (references the validity period. i.e., the time period for

which the ordered supply is authorized by the prescription authorizing the dispensing event.)

- a. **SHALL** contain exactly one [1..1] **low** (CONF:4423-32570).
Note: startTime of Relevant Period or QDM Attribute: Relevant dateTime (the dateTime the prescription dispensing event occurred)
 - b. **MAY** contain zero or one [0..1] **high** (CONF:4423-34860).
Note: stopTime of Relevant Period
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-34856) such that it
Note: QDM Attribute: Frequency
- a. **MAY** contain zero or one [0..1] **period** (CONF:4423-35307).
10. **MAY** contain zero or one [0..1] **repeatNumber** (CONF:4423-32572).
Note: QDM Attribute: Refills
11. **MAY** contain zero or one [0..1] **quantity** (CONF:4423-34858).
Note: QDM Attribute: Supply
12. **SHALL** contain exactly one [1..1] **participation** (CONF:4423-32573) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="CSM"** Consumable (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-32574).
 - b. **SHALL** contain exactly one [1..1] **role** (CONF:4423-32575).
 - i. This role **SHALL** contain exactly one [1..1] **@classCode="MANU"** Manufactured Product (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-32576).
 - ii. This role **MAY** contain zero or one [0..1] **playingMaterial** (CONF:4423-32577).
 1. The playingMaterial, if present, **SHALL** contain exactly one [1..1] **@classCode="MMAT"** Manufactured Material (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:4423-32578).
 2. The playingMaterial, if present, **SHALL** contain exactly one [1..1] **@determinerCode="KIND"** Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:4423-32579).
 3. The playingMaterial, if present, **SHALL** contain exactly one [1..1] **code** (CONF:4423-32580).
Note: QDM Attribute: Code
 - a. This code **SHOULD** contain zero or one [0..1] **@valueset** (CONF:4423-32581).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34861) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="AUT"** Author (CONF:4423-34864).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34862).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-35308).
Note: QDM Attribute: Author dateTime
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34863).
 - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CONF:4423-35309).

14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35303) such that it

Note: QDM Attribute: Dispenser

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35313).
- b. **SHALL** contain exactly one [1..1] Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35304).

15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35315) such that it

Note: QDM Attribute: Dispenser

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35317).
- b. **SHALL** contain exactly one [1..1] Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35316).

16. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35886) such that it

Note: QDM Attribute: Dispenser

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35890).
- b. **SHALL** contain exactly one [1..1] Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35887).

17. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35318) such that it

Note: QDM Attribute: Dispenser

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CONF:4423-35324).
- b. **SHALL** contain exactly one [1..1] Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35319).

18. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35320) such that it

Note: QDM Attribute: Prescriber

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35325).
- b. **SHALL** contain exactly one [1..1] Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35321).

19. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35888) such that it

Note: QDM Attribute: Prescriber

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35891).
- b. **SHALL** contain exactly one [1..1] Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35889).

20. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35327) such that it

Note: QDM Attribute: Prescriber

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35329).
 - b. **SHALL** contain exactly one [1..1] Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35328).
21. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35322) such that it
Note: QDM Attribute: Prescriber
 - a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35326).
 - b. **SHALL** contain exactly one [1..1] Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35323).
22. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-34448) such that it
Note: QDM Attribute: Dosage
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers To (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-34449).
 - b. **SHALL** contain exactly one [1..1] Dosage (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.125:2017-05-01) (CONF:4423-34450).
23. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-32589) 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:4423-32590).
 - b. **SHALL** contain exactly one [1..1] Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-32591).
24. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-35305) such that it
Note: QDM Attribute: daysSupplied
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-35314).
 - b. **SHALL** contain exactly one [1..1] Days Supplied (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.133:2018-05-01) (CONF:4423-35306).

Figure 47: Medication, Dispensed (V3) Example

```

<supplyCriteria classCode="SPLY" moodCode="EVN">
    <templateId>
        <item root="2.16.840.1.113883.10.20.28.4.49" extension="2019-05-01"/>
    </templateId>
    <id root="3c4dcf95-2b8b-4e29-bfef-40aaf2e3a80c"/>
    <title value="Medication, Dispensed"/>
    <statusCode code="completed"/>
    <participation typeCode="CSM">
        <role classCode="MANU">
            <playingMaterial classCode="MMAT" determinerCode="KIND">
                <code valueSet="{$QDMElementValueSetOID}"/>
            </playingMaterial>
        </role>
    </participation>
</supplyCriteria>

```

5.44 Medication, Order (V4)

[substanceAdministrationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.51:2019-05-01 (open)]

Table 99: Medication, Order (V4) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Supply (optional) Days Supplied (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Medication, Order.

This represents an order for a medication, intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease and that is not dependent on being metabolized to achieve any of its primary intended purposes.

Timing: The time the order is signed; author dateTime.

Timing: The Relevant Period addresses:

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).

stopTime = when the medication supply provided by the medication order is expected to be completed, including all fulfillments covered by the number of refills.

Author dateTime references the date and time the medication order (prescription) is authored.

Dosage: Details of how medication is/is to be taken, i.e., the quantity (mg, cc, tablets) to be taken at a single administration.

Supply: The quantity (amount) of therapeutic agent that was provided to a patient (i.e., number of

doses, number of tablets or pills, volume of medication). Dispensed to a patient to be taken at a later time.

daysSupplied: number of days supplied.

id: The unique identifier of a specific instance of any QDM data element for internal reference within the logic expression.

Table 100: Medication, Order (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
substanceAdministrationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.51:2019-05-01)					
@classCode	1..1	SHALL		4423-30218	SBADM
@moodCode	1..1	SHALL		4423-29049	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		4423-31037	
templateId	1..1	SHALL		4423-29050	
item	1..1	SHALL		4423-29051	
@root	1..1	SHALL		4423-29052	2.16.840.1.113883.10.20.28.4.51
@extension	1..1	SHALL		4423-33443	2019-05-01
id	1..1	SHALL		4423-30185	
title	1..1	SHALL		4423-35954	
statusCode	1..1	SHALL		4423-30227	
@code	1..1	SHALL		4423-30228	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
effectiveTime	0..1	MAY	IVL_TS	4423-30504	
low	0..1	MAY		4423-31035	
high	0..1	MAY		4423-34859	
effectiveTime	0..1	MAY	PIVL_TS	4423-34816	
period	0..1	MAY		4423-34817	
repeatNumber	0..1	MAY		4423-31038	
routeCode	0..1	MAY		4423-30188	
@valueSet	0..1	SHOULD		4423-30231	
doseQuantity	0..1	MAY		4423-30224	
participation	1..1	SHALL		4423-29053	

XPath	Card.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4423-29054	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
role	1..1	SHALL		4423-29055	
@classCode	1..1	SHALL		4423-29056	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = MANU
playingMaterial	1..1	SHALL		4423-29057	
@classCode	1..1	SHALL		4423-29058	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = MMAT
@determinerCode	1..1	SHALL		4423-29059	urn:oid:2.16.840.1.113883.5.30 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		4423-29060	
@valueSet	0..1	SHOULD		4423-30164	
participation	0..1	MAY		4423-33441	
@typeCode	1..1	SHALL		4423-33444	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-33442	
low	1..1	SHALL		4423-33500	
role	1..1	SHALL		4423-33592	
@classCode	1..1	SHALL		4423-33593	ROL
participation	0..1	MAY		4423-35330	
@typeCode	1..1	SHALL		4423-35334	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC
role	1..1	SHALL		4423-35331	
@classCode	1..1	SHALL		4423-35332	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = EXLOC
code	1..1	SHALL		4423-35333	
participation	0..1	MAY		4423-35335	
@typeCode	1..1	SHALL		4423-35339	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) =

XPath	Card.	Verb	Data Type	CONF#	Value
					PART
role	1..1	SHALL		4423-35336	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.137:2019-05-01
participation	0..1	MAY		4423-35337	
@typeCode	1..1	SHALL		4423-35340	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35338	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.135:2019-05-01
participation	0..1	MAY		4423-35892	
@typeCode	1..1	SHALL		4423-35894	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35893	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.134:2019-05-01
participation	0..1	MAY		4423-35341	
@typeCode	1..1	SHALL		4423-35343	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35342	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.136:2019-05-01
outboundRelationship	0..1	MAY		4423-30190	
@typeCode	1..1	SHALL		4423-30191	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-30192	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.88:2017-05-01
outboundRelationship	0..1	MAY		4423-34451	
@typeCode	1..1	SHALL		4423-34452	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
supplyCriteria	1..1	SHALL		4423-34818	Supply (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.129:2017-08-01
outboundRelationship	0..1	MAY		4423-	

XPath	Card.	Verb	Data Type	CONF#	Value
				34895	
@typeCode	1..1	SHALL		4423-34897	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = REFR
supplyCriteria	1..1	SHALL		4423-34896	Days Supplied (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.133:2018-05-01

1. **SHALL** contain exactly one [1..1] **@classCode**= "SBADM" Substance Administration (CONF:4423-30218).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-29049).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:4423-31037).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-29050).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-29051) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.51" (CONF:4423-29052).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-33443).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-30185).
6. **SHALL** contain exactly one [1..1] **title** (CONF:4423-35954).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-30227).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**= "active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-30228).
8. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-30504) such that it
Note: QDM Attribute: Relevant Period
 - a. **MAY** contain zero or one [0..1] **low** (CONF:4423-31035).
Note: startTime = when the first administration of the medication is expected
 - b. **MAY** contain zero or one [0..1] **high** (CONF:4423-34859).
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
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-34816) such that it
Note: QDM Attribute: Frequency
 - a. **MAY** contain zero or one [0..1] **period** (CONF:4423-34817).
10. **MAY** contain zero or one [0..1] **repeatNumber** (CONF:4423-31038).
Note: QDM Attribute: Refills
11. **MAY** contain zero or one [0..1] **routeCode** (CONF:4423-30188).
Note: QDM Attribute: Route
 - a. The routeCode, if present, **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-30231).

12. **MAY** contain zero or one [0..1] **doseQuantity** (CONF:4423-30224).

Note: QDM Attribute: Dosage

13. **SHALL** contain exactly one [1..1] **participation** (CONF:4423-29053) such that it

- a. **SHALL** contain exactly one [1..1] **@typeCode="CSM"** Consumable (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-29054).
- b. **SHALL** contain exactly one [1..1] **role** (CONF:4423-29055).
 - i. This role **SHALL** contain exactly one [1..1] **@classCode="MANU"** Manufactured (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-29056).
 - ii. This role **SHALL** contain exactly one [1..1] **playingMaterial** (CONF:4423-29057).
 1. This playingMaterial **SHALL** contain exactly one [1..1] **@classCode="MMAT"** Manufactured Material (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:4423-29058).
 2. This playingMaterial **SHALL** contain exactly one [1..1] **@determinerCode="KIND"** Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:4423-29059).
 3. This playingMaterial **SHALL** contain exactly one [1..1] **code** (CONF:4423-29060).

Note: QDM Attribute: Code

- a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-30164).

14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-33441) such that it

- a. **SHALL** contain exactly one [1..1] **@typeCode="AUT"** Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-33444).
- b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-33442).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-33500).
Note: QDM Attribute: Author dateTime
- c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-33592).
 - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CONF:4423-33593).

15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35330) 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:4423-35334).
- b. **SHALL** contain exactly one [1..1] **role** (CONF:4423-35331).
 - i. This role **SHALL** contain exactly one [1..1] **@classCode="EXLOC"** event location (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-35332).
 - ii. This role **SHALL** contain exactly one [1..1] **code** (CONF:4423-35333).
Note: QDM Attribute:Setting - Where the medication is expected to be consumed or administered.

16. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35335) such that it

Note: QDM Attribute: Prescriber

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35339).
 - b. **SHALL** contain exactly one [1..1] Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35336).
17. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35337) such that it
Note: QDM Attribute: Prescriber
 - a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35340).
 - b. **SHALL** contain exactly one [1..1] Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35338).
18. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35892) such that it
Note: QDM Attribute: Prescriber
 - a. **SHALL** contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35894).
 - b. **SHALL** contain exactly one [1..1] Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35893).
19. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35341) such that it
Note: QDM Attribute: Prescriber
 - a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35343).
 - b. **SHALL** contain exactly one [1..1] Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35342).
20. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-30190) 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:4423-30191).
 - b. **SHALL** contain exactly one [1..1] Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-30192).
21. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-34451) such that it
Note: QDM Attribute: Supply
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers To (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-34452).
 - b. **SHALL** contain exactly one [1..1] Supply (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01) (CONF:4423-34818).
22. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-34895) such that it
Note: QDM Attribute: daysSupplied

- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-34897).
- b. **SHALL** contain exactly one [1..1] [Days Supplied](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.133:2018-05-01) (CONF:4423-34896).

Figure 48: Medication, Order (V4) Example

```
<substanceAdministrationCriteria classCode="SBADM" moodCode="RQO">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.51" extension="2019-05-01"/>
  </templateId>
  <id root="27beb8e3-7c86-48cf-b430-235b72786dea"/>
  <title value="Medication, Order"/>
  <statusCode code="active"/>
  <participation typeCode="CSM">
    <role classCode="MANU">
      <playingMaterial classCode="MMAT" determinerCode="KIND">
        <code valueSet="{$QDMElementValueSetOID}"/>
      </playingMaterial>
    </role>
  </participation>
</substanceAdministrationCriteria>
```

5.45 Patient Care Experience (V2)

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.52:2019-05-01 (open)]

Table 101: Patient Care Experience (V2) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Patient Care Experience.

Data elements that meet this criterion indicate the patient's care experience, usually measured with a validated survey tool. The most common tool is the Consumer Assessment of Healthcare Providers and Systems.

Timing: The time the care experience is recorded; author time

Table 102: Patient Care Experience (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.52;2019-05-01)					
@classCode	1..1	SHALL		4423-32204	OBS
@moodCode	1..1	SHALL		4423-32205	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		4423-35344	
templateId	1..1	SHALL		4423-32206	
item	1..1	SHALL		4423-32207	
@root	1..1	SHALL		4423-32208	2.16.840.1.113883.10.20.28.4.52
@extension	1..1	SHALL		4423-33700	2019-05-01
id	1..1	SHALL		4423-32209	
code	1..1	SHALL		4423-32210	
@code	1..1	SHALL		4423-32211	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 406193000
@codeSystem	1..1	SHALL		4423-32212	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT)
title	1..1	SHALL		4423-35937	
statusCode	1..1	SHALL		4423-32216	
@code	1..1	SHALL		4423-32217	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	4423-34388	
low	1..1	SHALL		4423-34389	
value	1..1	SHALL	CD	4423-32214	
@valueSet	0..1	SHOULD		4423-32215	
participation	0..1	MAY		4423-35345	
@typeCode	1..1	SHALL		4423-35351	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35346	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1

XPath	Card.	Verb	Data Type	CONF#	Value
					0.20.28.4.137:2019-05-01
participation	0..1	MAY		4423-35347	
@typeCode	1..1	SHALL		4423-35352	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35348	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35895	
@typeCode	1..1	SHALL		4423-35897	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35896	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35349	
@typeCode	1..1	SHALL		4423-35353	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35350	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01)

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CONF:4423-32204).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-32205).
3. **SHALL NOT** contain [0..0] **@actionNegationInd** (CONF:4423-35344).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-32206).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-32207) such that it
 - i. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.28.4.52"** (CONF:4423-32208).
 - ii. **SHALL** contain exactly one [1..1] **@extension="2019-05-01"** (CONF:4423-33700).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-32209).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-32210).
 - a. This code **SHALL** contain exactly one [1..1] **@code="406193000"** Patient Satisfaction (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:4423-32211).

- b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:4423-32212).
- 7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-35937).
- 8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-32216).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-32217).
- 9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-34388) such that it
 - a. **SHALL** contain exactly one [1..1] **low** (CONF:4423-34389).
Note: QDM Attribute: Author dateTime (The time the care experience is recorded)
- 10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:4423-32214).
Note: QDM Attribute: Code
 - a. This value **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-32215).
- 11. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35345).
Note: QDM Attribute: Recorder
 - a. The participation, if present, **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35351).
 - b. The participation, if present, **SHALL** contain exactly one [1..1] **Entity - Practitioner** (**identifier:** urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35346).
- 12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35347).
Note: QDM Attribute: Recorder
 - a. The participation, if present, **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35352).
 - b. The participation, if present, **SHALL** contain exactly one [1..1] **Entity - Organization** (**identifier:** urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35348).
- 13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35895).
Note: QDM Attribute: Recorder
 - a. The participation, if present, **SHALL** contain exactly one [1..1] **@typeCode="PART"** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35897).
 - b. The participation, if present, **SHALL** contain exactly one [1..1] **Entity - Care Partner** (**identifier:** urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35896).
- 14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35349).
Note: QDM Attribute: Recorder
 - a. The participation, if present, **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35353).

- b. The participation, if present, **SHALL** contain exactly one [1..1] [Entity - Patient](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35350).

Figure 49: Patient Care Experience (V2) Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.52" extension="2019-05-01"/>
  </templateId>
  <id root="5d852a88-4e5f-4a13-b29f-6798ad42d192"/>
  <code code="406193000" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT">
    <displayName value="Patient Satisfaction"/>
  </code>
  <title value="Patient Care Experience"/>
  <statusCode code="completed"/>
  <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.46 Patient Characteristic (V2)

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.53:2017-08-01 (open)]

Table 103: Patient Characteristic (V2) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	

This template represents the QDM data type: Patient Characteristic.

Timing: The time the characteristic is authored.

Table 104: Patient Characteristic (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.53:2017-08-01)					
@classCode	1..1	SHALL		3346-34924	OBS
@moodCode	1..1	SHALL		3346-34925	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		3346-34926	
templateId	1..1	SHALL		3346-34919	
item	1..1	SHALL		3346-34920	
@root	1..1	SHALL		3346-34922	2.16.840.1.113883.10.20.28.4.53
@extension	1..1	SHALL		3346-34923	2017-08-01
id	1..1	SHALL		3346-34927	
code	1..1	SHALL		3346-34921	
@valueSet	0..1	SHOULD		3346-34454	
title	1..1	SHALL		3346-34929	
statusCode	1..1	SHALL		3346-31613	
@code	1..1	SHALL		3346-31614	urn:oid:2.16.840.1.113883.5.1004 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	3346-31615	
low	1..1	SHALL		3346-31616	
value	0..1	MAY		3346-34928	

1. **SHALL** contain exactly one [1..1] **@classCode**= "OBS" Observation (CONF:3346-34924).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3346-34925).
3. **SHALL NOT** contain [0..0] **@actionNegationInd** (CONF:3346-34926).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3346-34919).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:3346-34920) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.53" (CONF:3346-34922).

- ii. **SHALL** contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-34923).
- 5. **SHALL** contain exactly one [1..1] **id** (CONF:3346-34927).
Note: QDM Attribute: id
- 6. **SHALL** contain exactly one [1..1] **code** (CONF:3346-34921).
Note: QDM Attribute: Code
 - a. This code **SHOULD** contain zero or one [0..1] @valueSet (CONF:3346-34454).
- 7. **SHALL** contain exactly one [1..1] **title** (CONF:3346-34929).
- 8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3346-31613).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3346-31614).
- 9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3346-31615) such that it
 - a. **SHALL** contain exactly one [1..1] **low** (CONF:3346-31616).
Note: QDM Attribute: Author dateTime (The time the characteristic is authored)
- 10. **MAY** contain zero or one [0..1] **value** (CONF:3346-34928).

Figure 50: Patient Characteristic (V2) Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.53" extension="2017-08-01"/>
  </templateId>
  <id root="35cf9fd6-0d3d-4f86-91bf-a87fbf5ba8ef"/>
  <code valueSet="{$QDMElementValueSetOID}"/>
  <statusCode code="completed"/>
</observationCriteria>
```

5.47 Patient Characteristic Birth Date

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.54:2017-05-01 (open)]

Table 105: Patient Characteristic Birth Date Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	

This template represents the QDM data type: Patient Characteristic Birth Date.

Timing: The Patient Characteristic, Birthdate is a single point in time representing the date and time of birth. It does not have a start and stop time.

Table 106: Patient Characteristic Birth Date Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.54:2017-05-01)					
@classCode	1..1	SHALL		3335-31550	OBS
@moodCode	1..1	SHALL		3335-31551	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = EVN
@actionNegationInd	0..0	SHALL NOT		3335-34706	
templateId	1..1	SHALL		3335-31552	
item	1..1	SHALL		3335-31553	
@root	1..1	SHALL		3335-31554	2.16.840.1.113883.10.20.28.4.54
@extension	1..1	SHALL		3335-33650	2017-05-01
id	1..1	SHALL		3335-31555	
code	1..1	SHALL		3335-31556	
@code	1..1	SHALL		3335-31557	21112-8
@codeSystem	1..1	SHALL		3335-31558	2.16.840.1.113883.6.1
title	1..1	SHALL		3335-34722	
statusCode	1..1	SHALL		3335-31583	
@code	1..1	SHALL		3335-31584	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	3335-31562	
low	1..1	SHALL		3335-31563	

1. **SHALL** contain exactly one [1..1] **@classCode**= "OBS" Observation (CONF:3335-31550).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "EVN" Event (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3335-31551).
3. **SHALL NOT** contain [0..0] **@actionNegationInd** (CONF:3335-34706).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3335-31552).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:3335-31553) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.54" (CONF:3335-31554).

- ii. **SHALL** contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-33650).
- 5. **SHALL** contain exactly one [1..1] **id** (CONF:3335-31555).
- 6. **SHALL** contain exactly one [1..1] **code** (CONF:3335-31556).
 - a. This code **SHALL** contain exactly one [1..1] @code="21112-8" Birth Date (CONF:3335-31557).
 - b. This code **SHALL** contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.1" (CONF:3335-31558).
- 7. **SHALL** contain exactly one [1..1] **title** (CONF:3335-34722).
- 8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3335-31583).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3335-31584).
- 9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3335-31562) such that it
 - a. **SHALL** contain exactly one [1..1] **low** (CONF:3335-31563).

Note: QDM Attribute: Birth dateTime (A single point in time representing the date and time of birth)

Figure 51: Patient Characteristic Birth Date Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.54" extension="2017-05-01"/>
  </templateId>
  <id root="b591e825-d308-4f9e-9798-098bbd880975"/>
  <code code="21112-8" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">
    <displayName value="Birth Date"/>
  </code>
  <title value="Patient Characteristic Birth Date"/>
  <statusCode code="completed"/>
</observationCriteria>
```

5.48 Patient Characteristic Clinical Trial Participant

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.6:2017-05-01 (open)]

Table 107: Patient Characteristic Clinical Trial Participant Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional)

This template represents the QDM data type: Patient Characteristic Clinical Trial Participant.

This template represents that a patient is a participant in a clinical trial.

Timing: The Relevant Period addresses: startTime – The time the clinical trial began; stopTime – The time the clinical trial ended.

Table 108: Patient Characteristic Clinical Trial Participant Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.6:2017-05-01)					
@classCode	1..1	SHALL		3335-31565	OBS
@moodCode	1..1	SHALL		3335-31566	urn:oid:2.16.840.1.113883.5.1 001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		3335-34705	
templateId	1..1	SHALL		3335-31567	
item	1..1	SHALL		3335-31568	
@root	1..1	SHALL		3335-31569	2.16.840.1.113883.10.20.28.4 .6
@extension	1..1	SHALL		3335-33706	2017-05-01
id	1..1	SHALL		3335-31570	
code	1..1	SHALL		3335-31571	
@code	1..1	SHALL		3335-31572	ASSERTION
@codeSystem	1..1	SHALL		3335-31573	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
title	1..1	SHALL		3335-34723	
statusCode	1..1	SHALL		3335-31575	
@code	1..1	SHALL		3335-31576	urn:oid:2.16.840.1.113883.5.1 4 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	3335-31577	
low	0..1	MAY		3335-31578	
high	0..1	MAY		3335-31579	
value	1..1	SHALL	CD	3335-31580	
@valueSet	0..1	SHOULD		3335-31739	
outboundRelationship	0..1	MAY		3335-31620	
@typeCode	1..1	SHALL		3335-31621	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = RSON

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria	1..1	SHALL		3335-31622	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.88:2017-05-01)

1. **SHALL** contain exactly one [1..1] **@classCode**= "OBS" Observation (CONF:3335-31565).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3335-31566).
3. **SHALL NOT** contain [0..0] **@actionNegationInd** (CONF:3335-34705).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3335-31567).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:3335-31568) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.6" (CONF:3335-31569).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2017-05-01" (CONF:3335-33706).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3335-31570).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3335-31571).
 - a. This code **SHALL** contain exactly one [1..1] **@code**= "ASSERTION" Assertion (CONF:3335-31572).
 - b. This code **SHALL** contain exactly one [1..1] **@codesystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3335-31573).
7. **SHALL** contain exactly one [1..1] **title** (CONF:3335-34723).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3335-31575).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**= "completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3335-31576).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3335-31577) such that it

Note: QDM Attribute: Relevant Period

 - a. **MAY** contain zero or one [0..1] **low** (CONF:3335-31578).

Note: startTime (The time the clinical trial began)
 - b. **MAY** contain zero or one [0..1] **high** (CONF:3335-31579).

Note: stopTime (The time the clinical trial ended)
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**= "CD" (CONF:3335-31580).

Note: QDM Attribute: Code

 - a. This value **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3335-31739).
11. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3335-31620) 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:3335-31621).

- b. **SHALL** contain exactly one [1..1] **Reason** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:3335-31622).

Figure 52: Patient Characteristic Clinical Trial Participant Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.6" extension="2017-05-01"/>
  </templateId>
  <id root="c881c7cd-5ecf-4060-93c7-fbc8d1ab4500"/>
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4">
    <displayName value="Assertion"/>
  </code>
  <title value="Patient Characteristic Clinical Trial Participant"/>
  <statusCode code="completed"/>
  <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.49 Patient Characteristic Ethnicity

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.56:2017-05-01 (open)]

Table 109: Patient Characteristic Ethnicity Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	

This template represents the QDM data type: Patient Characteristic Ethnicity.

This template represents a patient's ethnicity.

Table 110: Patient Characteristic Ethnicity Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.56:2017-05-01)					
@classCode	1..1	SHALL		3335-28168	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		3335-28169	urn:oid:2.16.840.1.113883.5.1 001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		3335-34704	
templateId	1..1	SHALL		3335-28171	
item	1..1	SHALL		3335-28172	
@root	1..1	SHALL		3335-28173	2.16.840.1.113883.10.20.28.4 .56
@extension	1..1	SHALL		3335-34654	2017-05-01
id	1..1	SHALL		3335-34714	
code	1..1	SHALL		3335-28174	
@code	1..1	SHALL		3335-28175	54133-4
@codeSystem	1..1	SHALL		3335-28176	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
title	1..1	SHALL		3335-34724	
statusCode	1..1	SHALL		3335-31180	
@code	1..1	SHALL		3335-31181	urn:oid:2.16.840.1.113883.5.1 4 (HL7ActStatus) = completed
value	1..1	SHALL	CD	3335-28180	
@valueSet	0..1	SHOULD		3335-31182	

1. **SHALL** contain exactly one [1..1] **@classCode**= "OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3335-28168).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "EVN" (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3335-28169).
3. **SHALL NOT** contain [0..0] **@actionNegationInd** (CONF:3335-34704).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3335-28171).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:3335-28172) such that it

- i. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.56" (CONF:3335-28173).
 - ii. **SHALL** contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-34654).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3335-34714).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3335-28174).
- a. This code **SHALL** contain exactly one [1..1] @code="54133-4" Ethnicity (CONF:3335-28175).
 - 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:3335-28176).
7. **SHALL** contain exactly one [1..1] **title** (CONF:3335-34724).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3335-31180).
- a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3335-31181).
9. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:3335-28180).
- Note: QDM Attribute: Code
- a. This value **SHOULD** contain zero or one [0..1] @valueSet (CONF:3335-31182).

Figure 53: Patient Characteristic Ethnicity Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.56" extension="2017-05-01"/>
  </templateId>
  <id root="a719b01b-55a7-43e9-93bb-40e765affd7b"/>
  <code code="54133-4" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">
    <displayName value="Ethnicity"/>
  </code>
  <title value="Patient Characteristic Ethnicity"/>
  <statusCode code="completed"/>
  <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.50 Patient Characteristic Expired

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.57:2017-05-01 (open)]

Table 111: Patient Characteristic Expired Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Cause (optional)

This template represents the QDM data type: Patient Characteristic Expired.

Timing: The Patient Characteristic, Expired is a single point in time representing the date and time of death. It does not have a start and stop time.

Table 112: Patient Characteristic Expired Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.57:2017-05-01)					
@classCode	1..1	SHALL		3335-31585	OBS
@moodCode	1..1	SHALL		3335-31586	urn:oid:2.16.840.1.113883.5.1 001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		3335-34709	
templateId	1..1	SHALL		3335-31587	
item	1..1	SHALL		3335-31588	
@root	1..1	SHALL		3335-33141	2.16.840.1.113883.10.20.28.4 .57
@extension	1..1	SHALL		3335-33381	2017-05-01
id	1..1	SHALL		3335-31590	
code	1..1	SHALL		3335-31591	
@code	1..1	SHALL		3335-31592	ASSERTION
@codeSystem	1..1	SHALL		3335-31593	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
title	1..1	SHALL		3335-34721	
statusCode	1..1	SHALL		3335-31595	
@code	1..1	SHALL		3335-31596	urn:oid:2.16.840.1.113883.5.1 4 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	3335-31597	
low	1..1	SHALL		3335-31623	
value	1..1	SHALL	CD	3335-31600	
@code	1..1	SHALL		3335-33429	419099009
@codeSystem	1..1	SHALL		3335-33430	urn:oid:2.16.840.1.113883.6.9 6 (SNOMED CT) = 2.16.840.1.113883.6.96
outboundRelationship	0..1	MAY		3335-33450	
@typeCode	1..1	SHALL		3335-	urn:oid:2.16.840.1.113883.5.1

XPath	Card.	Verb	Data Type	CONF#	Value
				33451	002 (HL7ActRelationshipType) = CAUS
@inversionInd	1..1	SHALL		3335-33676	true
observationCriteria	1..1	SHALL		3335-33452	Cause (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.105:2017-05-01)

1. **SHALL** contain exactly one [1..1] **@classCode**= "OBS" Observation (CONF:3335-31585).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3335-31586).
3. **SHALL NOT** contain [0..0] **@actionNegationInd** (CONF:3335-34709).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3335-31587).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:3335-31588) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.57" (CONF:3335-33141).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2017-05-01" (CONF:3335-33381).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3335-31590).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3335-31591).
 - a. This code **SHALL** contain exactly one [1..1] **@code**= "ASSERTION" Assertion (CONF:3335-31592).
 - 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:3335-31593).
7. **SHALL** contain exactly one [1..1] **title** (CONF:3335-34721).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3335-31595).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**= "completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3335-31596).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3335-31597) such that it
 - a. **SHALL** contain exactly one [1..1] **low** (CONF:3335-31623).

Note: QDM Attribute: Expiration dateDateTime (A single point in time representing the date and time of death)
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**= "CD" (CONF:3335-31600).
 - a. This value **SHALL** contain exactly one [1..1] **@code**= "419099009" Dead (CONF:3335-33429).
 - 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:3335-33430).
11. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3335-33450) such that it

Note: QDM Attribute: Cause

- a. **SHALL** contain exactly one [1..1] @typeCode="CAUS" Cause (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3335-33451).
- b. **SHALL** contain exactly one [1..1] @inversionInd="true" (CONF:3335-33676).
- c. **SHALL** contain exactly one [1..1] Cause (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.105:2017-05-01) (CONF:3335-33452).

Figure 54: Patient Characteristic Expired Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.57" extension="2017-05-01"/>
  </templateId>
  <id root="6b9cb746-991a-45b1-a0ea-e511e0a38a41"/>
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4">
    <displayName value="Assertion"/>
  </code>
  <title value="Patient Characteristic Expired"/>
  <statusCode code="completed"/>
  <value xsi:type="CD" code="419099009" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT">
    <displayName value="Dead"/>
  </value>
</observationCriteria>
```

5.51 Patient Characteristic Payer

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.58:2017-05-01 (open)]

Table 113: Patient Characteristic Payer Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	

This template represents the QDM data type: Patient Characteristic Payer.

This template represents a patient's payment source.

Timing: The Relevant Period addresses: startTime – The first day of insurance coverage with the referenced payer; stopTime – The last day of insurance coverage with the referenced payer.

Table 114: Patient Characteristic Payer Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.58:2017-05-01)					
@classCode	1..1	SHALL		3335-31627	OBS
@moodCode	1..1	SHALL		3335-31628	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		3335-34710	
templateId	1..1	SHALL		3335-31629	
item	1..1	SHALL		3335-31630	
@root	1..1	SHALL		3335-31631	2.16.840.1.113883.10.20.28.4.58
@extension	1..1	SHALL		3335-34457	2017-05-01
id	1..1	SHALL		3335-31632	
code	1..1	SHALL		3335-31633	
@code	1..1	SHALL		3335-31634	48768-6
@codeSystem	1..1	SHALL		3335-31635	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
title	1..1	SHALL		3335-31636	
statusCode	1..1	SHALL		3335-31637	
@code	1..1	SHALL		3335-31643	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	3335-31638	
low	0..1	MAY		3335-31641	
high	0..1	MAY		3335-31642	
value	1..1	SHALL	CD	3335-31639	
@valueSet	0..1	SHOULD		3335-31640	

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:3335-31627).

2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3335-31628).
3. **SHALL NOT** contain [0..0] @actionNegationInd (CONF:3335-34710).
4. **SHALL** contain exactly one [1..1] templateId (CONF:3335-31629).
 - a. This templateId **SHALL** contain exactly one [1..1] item (CONF:3335-31630) such that it
 - i. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.58" (CONF:3335-31631).
 - ii. **SHALL** contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-34457).
5. **SHALL** contain exactly one [1..1] id (CONF:3335-31632).
6. **SHALL** contain exactly one [1..1] code (CONF:3335-31633).
 - a. This code **SHALL** contain exactly one [1..1] @code="48768-6" Payment Source (CONF:3335-31634).
 - 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:3335-31635).
7. **SHALL** contain exactly one [1..1] title (CONF:3335-31636).
8. **SHALL** contain exactly one [1..1] statusCode (CONF:3335-31637).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3335-31643).
9. **MAY** contain zero or one [0..1] effectiveTime (CONF:3335-31638) such that it

Note: QDM Attribute: Relevant Period

 - a. **MAY** contain zero or one [0..1] low (CONF:3335-31641).

Note: startTime (The first day of insurance coverage with the referenced payer)
 - b. **MAY** contain zero or one [0..1] high (CONF:3335-31642).

Note: stopTime (The last day of insurance coverage with the referenced payer)
10. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:3335-31639).

Note: QDM Attribute: Code

 - a. This value **SHOULD** contain zero or one [0..1] @valueSet (CONF:3335-31640).

Figure 55: Patient Characteristic Payer Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.58" extension="2017-05-01"/>
  </templateId>
  <id root="ca3b4435-8cb4-499a-8cccd-db955364764e"/>
  <code code="48768-6" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">
    <displayName value="Payer"/>
  </code>
  <title value="Patient Characteristic Payer"/>
  <statusCode code="completed"/>
  <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.52 Patient Characteristic Race

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.59:2017-05-01 (open)]

Table 115: Patient Characteristic Race Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	

This template represents the QDM data type: Patient Characteristic Race.

This template represents a patient's race.

Table 116: Patient Characteristic Race Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.59:2017-05-01)					
@classCode	1..1	SHALL		3335-31236	OBS
@moodCode	1..1	SHALL		3335-31237	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		3335-34711	
templateId	1..1	SHALL		3335-31238	
item	1..1	SHALL		3335-31239	
@root	1..1	SHALL		3335-31240	2.16.840.1.113883.10.20.28.4.59
@extension	1..1	SHALL		3335-34655	2017-05-01
id	1..1	SHALL		3335-31241	
code	1..1	SHALL		3335-31242	
@code	1..1	SHALL		3335-31243	32624-9
@codeSystem	1..1	SHALL		3335-31244	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
title	1..1	SHALL		3335-31245	
statusCode	1..1	SHALL		3335-31246	
@code	1..1	SHALL		3335-31247	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
value	1..1	SHALL	CD	3335-31248	
@valueSet	0..1	SHOULD		3335-31249	

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:3335-31236).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3335-31237).
3. **SHALL NOT** contain [0..0] @actionNegationInd (CONF:3335-34711).
4. **SHALL** contain exactly one [1..1] templateId (CONF:3335-31238).
 - a. This templateId **SHALL** contain exactly one [1..1] item (CONF:3335-31239) such that it

- i. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.59" (CONF:3335-31240).
 - ii. **SHALL** contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-34655).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3335-31241).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3335-31242).
- a. This code **SHALL** contain exactly one [1..1] @code="32624-9" Race (CONF:3335-31243).
 - 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:3335-31244).
7. **SHALL** contain exactly one [1..1] **title** (CONF:3335-31245).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3335-31246).
- a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3335-31247).
9. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:3335-31248).
- Note: QDM Attribute: Code
- a. This value **SHOULD** contain zero or one [0..1] @valueSet (CONF:3335-31249).

Figure 56: Patient Characteristic Race Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.59" extension="2017-05-01"/>
  </templateId>
  <id root="5cabdd9d-cd97-47a2-8f15-a4a17c941d8c"/>
  <code code="32624-9" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">
    <displayName value="Race"/>
  </code>
  <title value="Patient Characteristic Race"/>
  <statusCode code="completed"/>
  <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.53 Patient Characteristic Sex

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.55:2017-05-01 (open)]

Table 117: Patient Characteristic Sex Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	

This template represents the QDM data type: Patient Characteristic Sex.

This template represents a patient's sex.

Table 118: Patient Characteristic Sex Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.55:2017-05-01)					
@classCode	1..1	SHALL		3335-31282	OBS
@moodCode	1..1	SHALL		3335-31283	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		3335-34712	
templateId	1..1	SHALL		3335-31284	
item	1..1	SHALL		3335-31285	
@root	1..1	SHALL		3335-31286	2.16.840.1.113883.10.20.28.4.55
@extension	1..1	SHALL		3335-33382	2017-05-01
id	1..1	SHALL		3335-31287	
code	1..1	SHALL		3335-31288	
@code	1..1	SHALL		3335-31289	263495000
@codeSystem	1..1	SHALL		3335-31290	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
title	1..1	SHALL		3335-31291	
statusCode	1..1	SHALL		3335-31292	
@code	1..1	SHALL		3335-33142	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = completed
value	1..1	SHALL	CD	3335-31293	
@valueSet	1..1	SHOULD		3335-31294	

1. **SHALL** contain exactly one [1..1] @classCode= "OBS" Observation (CONF:3335-31282).
2. **SHALL** contain exactly one [1..1] @moodCode= "EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3335-31283).
3. **SHALL NOT** contain [0..0] @actionNegationInd (CONF:3335-34712).
4. **SHALL** contain exactly one [1..1] templateId (CONF:3335-31284).
 - a. This templateId **SHALL** contain exactly one [1..1] item (CONF:3335-31285) such that it

- i. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.55" (CONF:3335-31286).
 - ii. **SHALL** contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-33382).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3335-31287).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3335-31288).
- a. This code **SHALL** contain exactly one [1..1] @code="263495000" Gender (CONF:3335-31289).
 - 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:3335-31290).
7. **SHALL** contain exactly one [1..1] **title** (CONF:3335-31291).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3335-31292).
- a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3335-33142).
9. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:3335-31293).
- Note: QDM Attribute: Code
- a. This value **SHOULD** contain exactly one [1..1] @valueSet (CONF:3335-31294).

Figure 57: Patient Characteristic Sex Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.55" extension="2017-05-01"/>
  </templateId>
  <id root="4d3b1027-eb4b-4081-9093-e056acfd12ba"/>
  <code code="263495000" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT">
    <displayName value="Gender"/>
  </code>
  <title value="Patient Characteristic Sex"/>
  <statusCode code="completed"/>
  <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.54 Physical Exam, Order (V3)

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.61:2019-05-01 (open)]

Table 119: Physical Exam, Order (V3) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional)

This template represents the QDM data type: Physical Exam, Order.

Physical Exam represents the evaluation of the patient's body to determine its state of health. The techniques of inspection include palpation (feeling with the hands or fingers), percussion (tapping with the fingers), auscultation (listening), visual inspection, and smell. Measurements may include vital signs (blood pressure, pulse, respiration) as well as other clinical measures (such as expiratory flow rate and size of lesion). Physical exam includes psychiatric examinations.

Timing: The time the order is signed; author datetime.

Table 120: Physical Exam, Order (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.61:2019-05-01)					
@classCode	1..1	SHALL		4423-31405	OBS
@moodCode	1..1	SHALL		4423-31406	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		4423-31407	
templateId	1..1	SHALL		4423-31408	
item	1..1	SHALL		4423-31409	
@root	1..1	SHALL		4423-31410	2.16.840.1.113883.10.20.28.4.61
@extension	1..1	SHALL		4423-33437	2019-05-01
id	1..1	SHALL		4423-31411	
code	1..1	SHALL		4423-31412	
@code	1..1	SHALL		4423-31434	5880005
@codeSystem	1..1	SHALL		4423-31435	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
title	1..1	SHALL		4423-31413	
statusCode	1..1	SHALL		4423-31414	
@code	1..1	SHALL		4423-31415	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
value	1..1	SHALL	CD	4423-31437	
@valueSet	0..1	SHOULD		4423-31438	
targetSiteCode	0..1	MAY		4423-31422	
item	0..1	SHOULD		4423-31423	
@valueSet	0..1	SHOULD		4423-31424	
participation	0..1	MAY		4423-33501	
@typeCode	1..1	SHALL		4423-33503	AUT

XPath	Card.	Verb	Data Type	CONF#	Value
time	1..1	SHALL		4423-33502	
low	1..1	SHALL		4423-33504	
role	1..1	SHALL		4423-33595	
@classCode	1..1	SHALL		4423-33596	urn:oid:2.16.840.1.113883.5.1 10 (HL7RoleClass) = ROL
id	0..1	MAY		4423-33597	
participation	0..1	MAY		4423-35373	
@typeCode	1..1	SHALL		4423-35379	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35374	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.137:2019-05-01
participation	0..1	MAY		4423-35377	
@typeCode	1..1	SHALL		4423-35381	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35378	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.135:2019-05-01
participation	0..1	MAY		4423-35898	
@typeCode	1..1	SHALL		4423-35899	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
participation	0..1	MAY		4423-35375	
@typeCode	1..1	SHALL		4423-35380	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35376	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.136:2019-05-01
outboundRelationship	0..1	MAY		4423-31431	
@typeCode	1..1	SHALL		4423-31432	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-31433	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1

XPath	Card.	Verb	Data Type	CONF#	Value
					0.20.28.4.88:2017-05-01

1. **SHALL** contain exactly one [1..1] **@classCode**= "OBS" Observation (CONF:4423-31405).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "RQO" request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-31406).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:4423-31407).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-31408).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-31409) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.61" (CONF:4423-31410).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-33437).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-31411).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-31412).
 - a. This code **SHALL** contain exactly one [1..1] **@code**= "5880005" Physical Examination (CONF:4423-31434).
 - 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:4423-31435).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-31413).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-31414).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**= "active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-31415).
9. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:4423-31437).
Note: QDM Attribute: Code
 - a. This value **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-31438).
10. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:4423-31422).
Note: QDM Attribute: Anatomical Location Site
 - a. The targetSiteCode, if present, **SHOULD** contain zero or one [0..1] **item** (CONF:4423-31423).
 - i. The item, if present, **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-31424).
11. **MAY** contain zero or one [0..1] **participation** (CONF:4423-33501) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**= "AUT" Author (CONF:4423-33503).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-33502).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-33504).
Note: QDM Attribute: Author dateTime (The time the order is signed)
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-33595).

- i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-33596).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-33597).
12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35373) such that it
Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35379).
 - b. **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35374).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35377) such that it
Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35381).
 - b. **SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35378).
14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35898) such that it
Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35899).
15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35375) such that it
Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35380).
 - b. **SHALL** contain exactly one [1..1] **Entity - Patient** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35376).
16. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-31431) 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:4423-31432).
 - b. **SHALL** contain exactly one [1..1] **Reason** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-31433).

Figure 58: Physical Exam, Order (V3) Example

```
<observationCriteria classCode="OBS" moodCode="RQO">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.61" extension="2019-05-01"/>
  </templateId>
  <id root="ae06f4b8-668d-45a9-acd4-28cff4ef6d45"/>
  <code code="5880005" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT">
    <displayName value="Physical Examination"/>
  </code>
  <title value="Physical Exam Order"/>
  <statusCode code="active"/>
  <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.55 Physical Exam, Performed (V3)

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.62:2019-05-01 (open)]

Table 121: Physical Exam, Performed (V3) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Component (optional) Result (V2) (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Physical Exam, Performed.

This represents that a physical exam has been completed.

Timing: Relevant dateTimes references the time the physical exam is performed if it occurs at a single point in time.

Relevant Period references a start and stop time for physical exam procedure that occurs over a time interval: startTime – The time the physical examination activity begins; stopTime – The time the physical examination activity ends.

Author dateTime references the time the physical exam event was recorded and applies only when the record has no reference to the time the physical exam event was performed and only the recorded time is available.

QDM Attribute: Result is represented using the Result (V2) template

Table 122: Physical Exam, Performed (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.62;2019-05-01)					
@classCode	1..1	SHALL		4423-31251	OBS
@moodCode	1..1	SHALL		4423-31252	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		4423-31253	
templateId	1..1	SHALL		4423-31254	
item	1..1	SHALL		4423-31255	
@root	1..1	SHALL		4423-31256	2.16.840.1.113883.10.20.28.4.62
@extension	1..1	SHALL		4423-33428	2019-05-01
id	1..1	SHALL		4423-31257	
code	1..1	SHALL		4423-31258	
@code	1..1	SHALL		4423-31439	5880005
@codeSystem	1..1	SHALL		4423-31440	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
title	1..1	SHALL		4423-31260	
statusCode	1..1	SHALL		4423-31261	
@code	1..1	SHALL		4423-31262	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	4423-31263	
low	0..1	MAY		4423-31264	
high	0..1	MAY		4423-31265	
value	1..1	SHALL	CD	4423-31441	
@valueSet	0..1	SHOULD		4423-31442	
methodCode	0..1	MAY		4423-31267	
item	1..1	SHALL		4423-31268	

XPath	Card.	Verb	Data Type	CONF#	Value
@valueSet	0..1	SHOULD		4423-31269	
targetSiteCode	0..1	MAY		4423-31270	
item	0..1	SHOULD		4423-31271	
@valueSet	0..1	SHOULD		4423-31272	
participation	0..1	MAY		4423-34549	
@typeCode	1..1	SHALL		4423-34552	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-34550	
low	1..1	SHALL		4423-34553	
role	1..1	SHALL		4423-34551	
@classCode	1..1	SHALL		4423-34554	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		4423-34555	
participation	0..1	MAY		4423-35364	
@typeCode	1..1	SHALL		4423-35370	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35365	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01)
participation	0..1	MAY		4423-35368	
@typeCode	1..1	SHALL		4423-35372	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35369	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35900	
@typeCode	1..1	SHALL		4423-35902	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-	Entity - Care Partner

XPath	Card.	Verb	Data Type	CONF#	Value
				35901	(identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35366	
@typeCode	1..1	SHALL		4423-35371	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35367	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.136:2019-05-01)
outboundRelationship	0..1	MAY		4423-31279	
@typeCode	1..1	SHALL		4423-31280	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-33448	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.88:2017-05-01)
outboundRelationship	0..1	MAY		4423-33614	
@typeCode	1..1	SHALL		4423-33615	VALUE
observationCriteria	1..1	SHALL		4423-33616	Result (V2) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.101:2017-08-01)
outboundRelationship	0..*	MAY		4423-34621	
@typeCode	1..1	SHALL		4423-34622	REFR
observationCriteria	1..1	SHALL		4423-34623	Component (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.121:2017-05-01)

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:4423-31251).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-31252).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:4423-31253).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:4423-31254).
 - a. This templateId **SHALL** contain exactly one [1..1] item (CONF:4423-31255) such that it
 - i. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.62" (CONF:4423-31256).

- ii. **SHALL** contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33428).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-31257).
 6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-31258).
 - a. This code **SHALL** contain exactly one [1..1] @code="5880005" Physical Examination (CONF:4423-31439).
 - 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:4423-31440).
 7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-31260).
 8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-31261).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-31262).
 9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-31263) such that it

Note: QDM Attribute: Relevant Period

 - a. **MAY** contain zero or one [0..1] **low** (CONF:4423-31264).

Note: startTime of Relevant Period (The time the physical examination activity begins) or QDM Attribute: Relevant dateTime
 - b. **MAY** contain zero or one [0..1] **high** (CONF:4423-31265).

Note: stopTime of Relevant Period (The time the physical examination activity ends)
 10. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:4423-31441).

Note: QDM Attribute: Code

 - a. This value **SHOULD** contain zero or one [0..1] @valueSet (CONF:4423-31442).
 11. **MAY** contain zero or one [0..1] **methodCode** (CONF:4423-31267).

Note: QDM Attribute: Method

 - a. The methodCode, if present, **SHALL** contain exactly one [1..1] **item** (CONF:4423-31268).
 - i. This item **SHOULD** contain zero or one [0..1] @valueSet (CONF:4423-31269).
 12. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:4423-31270).

Note: QDM Attribute: Anatomical Location Site

 - a. The targetSiteCode, if present, **SHOULD** contain zero or one [0..1] **item** (CONF:4423-31271).
 - i. The item, if present, **SHOULD** contain zero or one [0..1] @valueSet (CONF:4423-31272).
 13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34549) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="AUT" Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34552).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34550).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-34553).

Note: QDM Attribute: Author date
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34551).
 - i. This role **SHALL** contain exactly one [1..1] @classCode="ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-34554).

- ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-34555).
14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35364) such that it
Note: QDM Attribute: Performer
- SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35370).
 - SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35365).
15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35368) such that it
Note: QDM Attribute: Performer
- SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35372).
 - SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35369).
16. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35900) such that it
Note: QDM Attribute: Performer
- SHALL** contain exactly one [1..1] **@typeCode="PART"** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35902).
 - SHALL** contain exactly one [1..1] **Entity - Care Partner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35901).
17. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35366) such that it
Note: QDM Attribute: Performer
- SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35371).
 - SHALL** contain exactly one [1..1] **Entity - Patient** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35367).
18. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-31279) such that it
Note: QDM Attribute: Reason
- SHALL** contain exactly one [1..1] **@typeCode="RSON"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-31280).
 - SHALL** contain exactly one [1..1] **Reason** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-33448).
19. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-33614) such that it
Note: QDM Attribute: Result
- SHALL** contain exactly one [1..1] **@typeCode="VALUE"** Has value (CONF:4423-33615).
 - SHALL** contain exactly one [1..1] **Result (v2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01) (CONF:4423-33616).

20. **MAY** contain zero or more [0..*] **outboundRelationship** (CONF:4423-34621) such that it
Note: QDM Attribute: Components

- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers To (CONF:4423-34622).
- b. **SHALL** contain exactly one [1..1] Component (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.28.4.121:2017-05-01) (CONF:4423-34623).

Figure 59: Physical Exam, Performed (V3) Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
    <templateId>
        <item root="2.16.840.1.113883.10.20.28.4.62" extension="2019-05-01"/>
    </templateId>
    <id root="74a0af1f-15ed-4536-854f-79a066953e44"/>
    <code code="5880005" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT">
        <displayName value="Physical Examination"/>
    </code>
    <title value="Physical Exam, Performed"/>
    <statusCode code="completed"/>
    <effectiveTime xsi:type="IVL_TS"/>
    <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.56 Physical Exam, Recommended (V3)

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.63:2019-05-01 (open)]

Table 123: Physical Exam, Recommended (V3) Contexts

Contained By:	Contains:
<u>Data Criteria Section (V4)</u> (optional)	<u>Reason</u> (optional) <u>Entity - Practitioner</u> (optional) <u>Entity - Organization</u> (optional) <u>Entity - Patient</u> (optional) <u>Entity - Care Partner</u> (optional)

This template represents the QDM data type: Physical Exam, Recommended.

This template captures a recommendation by a physician or appropriately licensed care provider for a physical exam to be performed on the patient.

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

All QDM datatypes referring to recommendations address the time that the recommendation occurs, a single point in time. Vendors have expressed concerns that recommendations are not necessarily captured or managed in a standard manner as part of structured data capture in clinical workflow; many are documented as part of assessments in narrative text. Measure developers should address feasibility of clinical workflow to capture recommendations when evaluating measures.

Table 124: Physical Exam, Recommended (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.63:2019-05-01)					
@classCode	1..1	SHALL		4423-31443	OBS
@moodCode	1..1	SHALL		4423-31444	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = INT
@actionNegationInd	0..1	MAY		4423-31445	
templateId	1..1	SHALL		4423-31446	
item	1..1	SHALL		4423-31447	
@root	1..1	SHALL		4423-31448	2.16.840.1.113883.10.20.28.4.61
@extension	1..1	SHALL		4423-33449	2019-05-01
id	1..1	SHALL		4423-31449	
code	1..1	SHALL		4423-31450	
@code	1..1	SHALL		4423-31451	5880005
@codeSystem	1..1	SHALL		4423-31452	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
title	1..1	SHALL		4423-31453	
statusCode	1..1	SHALL		4423-31454	
@code	1..1	SHALL		4423-31455	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
value	1..1	SHALL	CD	4423-31459	
@valueSet	0..1	SHOULD		4423-31460	
targetSiteCode	0..1	MAY		4423-31464	
item	0..1	SHOULD		4423-31465	
@valueSet	0..1	SHOULD		4423-31466	
participation	0..1	MAY		4423-34458	
@typeCode	1..1	SHALL		4423-34461	AUT

XPath	Card.	Verb	Data Type	CONF#	Value
time	1..1	SHALL		4423-34459	
low	1..1	SHALL		4423-34462	
role	1..1	SHALL		4423-34460	
@classCode	1..1	SHALL		4423-34463	urn:oid:2.16.840.1.113883.5.1 10 (HL7RoleClass) = ROL
id	0..1	MAY		4423-34464	
participation	0..1	MAY		4423-35478	
@typeCode	1..1	SHALL		4423-35482	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35479	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.137:2019-05-01
participation	0..1	MAY		4423-35480	
@typeCode	1..1	SHALL		4423-35483	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35481	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.135:2019-05-01
participation	0..1	MAY		4423-35903	
@typeCode	1..1	SHALL		4423-35905	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35904	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.134:2019-05-01
participation	0..1	MAY		4423-35484	
@typeCode	1..1	SHALL		4423-35486	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35485	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.136:2019-05-01
outboundRelationship	0..1	MAY		4423-31473	
@typeCode	1..1	SHALL		4423-	urn:oid:2.16.840.1.113883.5.1

XPath	Card.	Verb	Data Type	CONF#	Value
				31474	002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-31475	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.88:2017-05-01)

1. **SHALL** contain exactly one [1..1] **@classCode**= "OBS" Observation (CONF:4423-31443).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "INT" intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-31444).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:4423-31445).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-31446).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-31447) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.61" (CONF:4423-31448).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-33449).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-31449).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-31450).
 - a. This code **SHALL** contain exactly one [1..1] **@code**= "5880005" Physical Examination (CONF:4423-31451).
 - 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:4423-31452).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-31453).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-31454).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**= "active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-31455).
9. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**= "CD" (CONF:4423-31459).
Note: QDM Attribute: Code
 - a. This value **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-31460).
10. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:4423-31464).
Note: QDM Attribute: Anatomical Location Site
 - a. The targetSiteCode, if present, **SHOULD** contain zero or one [0..1] **item** (CONF:4423-31465).
 - i. The item, if present, **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-31466).
11. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34458) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**= "AUT" Author (CONF:4423-34461).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34459).

- i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-34462).
Note: QDM Attribute: Author dateTime (The time the recommendation is authored)

- c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34460).
 - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-34463).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-34464).

- 12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35478) such that it
Note: QDM Attribute: Requseter

- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35482).
- b. **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35479).

- 13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35480) such that it
Note: QDM Attribute: Requseter

- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35483).
- b. **SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35481).

- 14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35903) such that it
Note: QDM Attribute: Requseter

- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35905).
- b. **SHALL** contain exactly one [1..1] **Entity - Care Partner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35904).

- 15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35484) such that it
Note: QDM Attribute: Requseter

- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35486).
- b. **SHALL** contain exactly one [1..1] **Entity - Patient** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35485).

- 16. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-31473) 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:4423-31474).
- b. **SHALL** contain exactly one [1..1] **Reason** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-31475).

Figure 60: Physical Exam, Recommended (V3) Example

```
<observationCriteria classCode="OBS" moodCode="INT">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.63" extension="2019-05-01"/>
  </templateId>
  <id root="2ba56315-4f6f-4141-be6c-0248d8dfdbfc"/>
  <code code="5880005" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT">
    <displayName value="Physical Examination"/>
  </code>
  <title value="Physical Exam Recommended"/>
  <statusCode code="active"/>
  <effectiveTime xsi:type="IVL_TS"/>
  <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.57 Present On Admission Indicator

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.140:2019-05-01 (open)]

Table 125: Present On Admission Indicator Contexts

Contained By:	Contains:
Encounter Diagnosis (optional)	

This template represents the QDM attribute: Present On Admission (POA) Indicator

The full set of allowable values in the UB-04 standard include:

Y - Diagnosis was present at the time of admission

N - Diagnosis was not present at the time of admission

U - Documentation insufficient to determine if condition was present at the time of inpatient admission

W - Clinically undetermined. Provider unable to clinically determine whether the condition was present at the time of inpatient admission

1 – Unreported/not used (exempt from POA reporting – equivalent to a blank on the UB-04 form)

Table 126: Present On Admission Indicator Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.140:2019-05-01)					
@classCode	1..1	SHALL		4423-31602	OBS
@moodCode	1..1	SHALL		4423-31603	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		4423-31604	
templateId	1..1	SHALL		4423-31605	
item	1..1	SHALL		4423-31606	
@root	1..1	SHALL		4423-31607	2.16.840.1.113883.10.20.28.4.140
@extension	1..1	SHALL		4423-34456	2019-05-01
code	1..1	SHALL		4423-31609	
@code	1..1	SHALL		4423-35156	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 78026-2
value	1..1	SHALL	CD	4423-34455	

1. **SHALL** contain exactly one [1..1] **@classCode**= "OBS" Observation (CONF:4423-31602).
 2. **SHALL** contain exactly one [1..1] **@moodCode**= "EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-31603).
 3. **SHALL NOT** contain [0..0] **@actionNegationInd** (CONF:4423-31604).
 4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-31605).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-31606) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.140" (CONF:4423-31607).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-34456).
 5. **SHALL** contain exactly one [1..1] **code** (CONF:4423-31609).
 - a. This code **SHALL** contain exactly one [1..1] **@code**= "78026-2" diagnosis present on admission (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:4423-35156).
 6. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:4423-34455).
- Note: The value could be selected from the standard codes for POA defined in UB-04

Figure 61: Present On Admission Indicator Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.140" extension="2019-05-01"/>
  </templateId>
  <code code="78026-2" codeSystem="2.16.840.1.113883.6.1"/>
  <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.58 Procedure, Order (V4)

[ProcedureCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.66:2019-05-01 (open)]

Table 127: Procedure, Order (V4) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Rank (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Procedure, Order.

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 or providing treatment.

This template represents an order for a procedure.

Timing: The time the order is signed; author datetime.

Table 128: Procedure, Order (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
ProcedureCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.66:2019-05-01)					
@classCode	1..1	SHALL		4423-33158	PROC
@moodCode	1..1	SHALL		4423-31120	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		4423-31121	
templateId	1..1	SHALL		4423-31122	
item	1..1	SHALL		4423-31123	
@root	1..1	SHALL		4423-31124	2.16.840.1.113883.10.20.28.4.66
@extension	1..1	SHALL		4423-33422	2019-05-01
id	1..1	SHALL		4423-31125	
code	1..1	SHALL		4423-31126	
@valueSet	0..1	SHOULD		4423-31127	
title	1..1	SHALL		4423-31128	
statusCode	1..1	SHALL		4423-31129	
@code	1..1	SHALL		4423-33147	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = active
priorityCode	0..1	MAY		4423-35463	
item	1..1	SHALL		4423-35464	
@valueSet	0..1	SHOULD		4423-35471	
targetSiteCode	0..1	MAY		4423-33420	
item	1..1	SHALL		4423-33421	
@valueSet	0..1	SHOULD		4423-33424	
participation	0..1	MAY		4423-33506	
@typeCode	1..1	SHALL		4423-33508	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT

XPath	Card.	Verb	Data Type	CONF#	Value
time	1..1	SHALL		4423-33507	
low	1..1	SHALL		4423-33509	
role	1..1	SHALL		4423-33598	
@classCode	1..1	SHALL		4423-33599	urn:oid:2.16.840.1.113883.5.1 10 (HL7RoleClass) = ROL
id	0..1	MAY		4423-33600	
participation	0..1	MAY		4423-35465	
@typeCode	1..1	SHALL		4423-35472	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35466	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.137:2019-05-01
participation	0..1	MAY		4423-35467	
@typeCode	1..1	SHALL		4423-35473	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35468	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.135:2019-05-01
participation	0..1	MAY		4423-35906	
@typeCode	1..1	SHALL		4423-35908	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35907	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.134:2019-05-01
participation	0..1	MAY		4423-35475	
@typeCode	1..1	SHALL		4423-35477	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35476	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.136:2019-05-01
outboundRelationship	0..1	MAY		4423-35764	
@typeCode	1..1	SHALL		4423-	REFR

XPath	Card.	Verb	Data Type	CONF#	Value
				35766	
observationCriteria	1..1	SHALL		4423-35765	Rank (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.139:2019-05-01)
outboundRelationship	0..1	MAY		4423-31143	
@typeCode	1..1	SHALL		4423-33148	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-31144	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1.0.20.28.4.88:2017-05-01)

1. **SHALL** contain exactly one [1..1] **@classCode**= "PROC" Procedure (CONF:4423-33158).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-31120).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:4423-31121).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-31122).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-31123) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.66" (CONF:4423-31124).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-33422).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-31125).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-31126).
Note: QDM Attribute: Code
 - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-31127).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-31128).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-31129).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**= "active" Active (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-33147).
9. **MAY** contain zero or one [0..1] **priorityCode** (CONF:4423-35463).
Note: QDM Attribute: Priority
 - a. The priorityCode, if present, **SHALL** contain exactly one [1..1] **item** (CONF:4423-35464).
 - i. This item **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-35471).
10. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:4423-33420).
Note: QDM Attribute: Anatomical Location Site
 - a. The targetSiteCode, if present, **SHALL** contain exactly one [1..1] **item** (CONF:4423-33421).

- i. This item **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-33424).
11. **MAY** contain zero or one [0..1] **participation** (CONF:4423-33506) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="AUT"** Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-33508).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-33507).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-33509).
Note: QDM Attribute: Author dateTime (The time the order is signed)
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-33598).
 - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-33599).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-33600).
12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35465) such that it
Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35472).
 - b. **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35466).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35467) such that it
Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35473).
 - b. **SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35468).
14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35906) such that it
Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35908).
 - b. **SHALL** contain exactly one [1..1] **Entity - Care Partner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35907).
15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35475) such that it
Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35477).
 - b. **SHALL** contain exactly one [1..1] **Entity - Patient** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35476).
16. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-35764) such that it
Note: QDM Attribute: Rank
- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** (CONF:4423-35766).

- b. **SHALL** contain exactly one [1..1] [Rank](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.139:2019-05-01) (CONF:4423-35765).
17. **MAY** contain zero or one [0..1] [outboundRelationship](#) (CONF:4423-31143) 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:4423-33148).
 - b. **SHALL** contain exactly one [1..1] [Reason](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-31144).
- Note: QDM Attribute: Reason

Figure 62: Procedure, Order (V4) Example

```
<procedureCriteria classCode="PROC" moodCode="RQO">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.66" extension="2019-05-01"/>
  </templateId>
  <id root="7d559e0a-4e01-4f52-b87b-a3342705e2f2"/>
  <code valueSet="{$QDMElementValueSetOID}"/>
  <title value="Procedure, Order"/>
  <statusCode code="active"/>
</procedureCriteria>
```

5.59 Procedure, Performed (V4)

[ProcedureCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.67:2019-05-01 (open)]

Table 129: Procedure, Performed (V4) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Component (optional) Incision Datetime (optional) Result (V2) (optional) Status (V2) (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Rank (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Procedure, Performed.

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 or providing treatment.

This template represents a procedure that has been performed.

Timing: Relevant dateTime references the time the procedure is performed when the procedure occurs at a single point in time. Relevant Period references a start and stop time for a procedure that occurs over a time interval: StartTime = the time the procedure begins; StopTime = the time the procedure is completed. Author dateTime references the time the procedure was recorded and applies only when the record has no reference to the time the procedure was performed and only the recorded time is available.

Table 130: Procedure, Performed (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
ProcedureCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.67:2019-05-01)					
@classCode	1..1	SHALL		4423-33149	PROC
@moodCode	1..1	SHALL		4423-31336	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		4423-31337	
templateId	1..1	SHALL		4423-31338	
item	1..1	SHALL		4423-31339	
@root	1..1	SHALL		4423-31340	2.16.840.1.113883.10.20.28.4.67
@extension	1..1	SHALL		4423-33398	2019-05-01
id	1..1	SHALL		4423-31341	
code	1..1	SHALL		4423-31342	
@valueSet	0..1	SHOULD		4423-31343	
title	1..1	SHALL		4423-31344	
statusCode	1..1	SHALL		4423-31345	
@code	1..1	SHALL		4423-33150	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = completed
effectiveTime	0..1	MAY	IVL_TS	4423-31346	
low	0..1	MAY		4423-31347	
high	0..1	MAY		4423-31348	
priorityCode	0..1	MAY		4423-35454	
item	1..1	SHALL		4423-35455	
@valueSet	0..1	SHOULD		4423-35460	
methodCode	0..1	MAY		4423-31351	
item	1..1	SHALL		4423-31352	

XPath	Card.	Verb	Data Type	CONF#	Value
@valueSet	0..1	SHOULD		4423-31353	
targetSiteCode	0..1	MAY		4423-33401	
item	1..1	SHALL		4423-33402	
@valueSet	0..1	SHOULD		4423-33404	
participation	0..1	MAY		4423-34556	
@typeCode	1..1	SHALL		4423-34559	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-34557	
low	1..1	SHALL		4423-34560	
role	1..1	SHALL		4423-34558	
@classCode	1..1	SHALL		4423-34561	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		4423-34562	
participation	0..1	MAY		4423-35448	
@typeCode	1..1	SHALL		4423-35452	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35449	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01)
participation	0..1	MAY		4423-35450	
@typeCode	1..1	SHALL		4423-35453	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35451	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35909	
@typeCode	1..1	SHALL		4423-35911	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-	Entity - Care Partner

XPath	Card.	Verb	Data Type	CONF#	Value
				35910	(identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35456	
@typeCode	1..1	SHALL		4423-35461	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35457	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.136:2019-05-01)
outboundRelationship	0..1	MAY		4423-31360	
@typeCode	1..1	SHALL		4423-31366	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-31361	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.88:2017-05-01)
outboundRelationship	0..1	MAY		4423-31362	
@typeCode	1..1	SHALL		4423-31367	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = REFR
procedureCriteria	1..1	SHALL		4423-33153	Incision Datetime (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.89:2017-05-01)
outboundRelationship	0..1	MAY		4423-31364	
@typeCode	1..1	SHALL		4423-31368	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = VALUE
observationCriteria	1..1	SHALL		4423-31365	Result (V2) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.101:2017-08-01)
outboundRelationship	0..1	MAY		4423-33408	
@typeCode	1..1	SHALL		4423-33409	REFR
observationCriteria	1..1	SHALL		4423-33410	Status (V2) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.94:2017-08-01)
outboundRelationship	0..*	MAY		4423-34624	
@typeCode	1..1	SHALL		4423-34625	REFR
observationCriteria	1..1	SHALL		4423-	Component (identifier:

XPath	Card.	Verb	Data Type	CONF#	Value
				34626	urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.121:2017-05-01
outboundRelationship	0..1	MAY		4423-35767	
@typeCode	1..1	SHALL		4423-35769	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		4423-35768	Rank (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.139:2019-05-01

1. **SHALL** contain exactly one [1..1] **@classCode**= "PROC" Procedure (CONF:4423-33149).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-31336).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:4423-31337).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-31338) such that it
 - a. **SHALL** contain exactly one [1..1] **item** (CONF:4423-31339).
 - i. This item **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.67" (CONF:4423-31340).
 - ii. This item **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-33398).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-31341).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-31342).
Note: QDM Attribute: Code
 - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-31343).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-31344).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-31345).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**= "completed" Completed (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-33150).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-31346) such that it
Note: QDM Attribute: Relevant Period
 - a. **MAY** contain zero or one [0..1] **low** (CONF:4423-31347).
Note: startTime of Relevant Period (The time the procedure begins) or QDM Attribute: Relevant date/Time (References the procedure is performed when the procedure occurs at a single point in time)
 - b. **MAY** contain zero or one [0..1] **high** (CONF:4423-31348).
Note: stopTime of Relevant Period (The time the procedure is completed)
10. **MAY** contain zero or one [0..1] **priorityCode** (CONF:4423-35454).
Note: QDM Attribute: Priority
 - a. The priorityCode, if present, **SHALL** contain exactly one [1..1] **item** (CONF:4423-35455).

- i. This item **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-35460).
11. **MAY** contain zero or one [0..1] **methodCode** (CONF:4423-31351).
 Note: QDM Attribute: Method
- a. The methodCode, if present, **SHALL** contain exactly one [1..1] **item** (CONF:4423-31352).
 - i. This item **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-31353).
12. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:4423-33401).
 Note: QDM Attribute: Anatomical Location Site
- a. The targetSiteCode, if present, **SHALL** contain exactly one [1..1] **item** (CONF:4423-33402).
 - i. This item **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-33404).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34556) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="AUT"** Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34559).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34557).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-34560).
 Note: QDM Attribute: Author date
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34558).
 - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-34561).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-34562).
14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35448) such that it
 Note: QDM Attribute: Performer
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35452).
 - b. **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35449).
15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35450) such that it
 Note: QDM Attribute: Performer
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35453).
 - b. **SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35451).
16. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35909) such that it
 Note: QDM Attribute: Performer
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35911).
 - b. **SHALL** contain exactly one [1..1] **Entity - Care Partner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35910).
17. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35456) such that it
 Note: QDM Attribute: Performer

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35461).
 - b. **SHALL** contain exactly one [1..1] Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35457).
18. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-31360) 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:4423-31366).
 - b. **SHALL** contain exactly one [1..1] Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-31361).
19. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-31362) such that it
 Note: QDM Attribute: Incision dateTime
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers To (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-31367).
 - b. **SHALL** contain exactly one [1..1] Incision Datetime (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.89:2017-05-01) (CONF:4423-33153).
20. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-31364) such that it
 Note: QDM Attribute: Result
- a. **SHALL** contain exactly one [1..1] @typeCode="VALUE" Has value (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-31368).
 - b. **SHALL** contain exactly one [1..1] Result (v2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01) (CONF:4423-31365).
21. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-33408) such that it
 Note: QDM Attribute: Status
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers to (CONF:4423-33409).
 - b. **SHALL** contain exactly one [1..1] Status (v2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.94:2017-08-01) (CONF:4423-33410).
22. **MAY** contain zero or more [0..*] **outboundRelationship** (CONF:4423-34624) such that it
 Note: QDM Attribute: Components
- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers To (CONF:4423-34625).
 - b. **SHALL** contain exactly one [1..1] Component (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.121:2017-05-01) (CONF:4423-34626).
23. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-35767) such that it
 Note: QDM Attribute: Rank

- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-35769).
- b. **SHALL** contain exactly one [1..1] **Rank** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.139:2019-05-01) (CONF:4423-35768).

Figure 63: Procedure, Performed (V4) Example

```
<procedureCriteria classCode="PROC" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.67" extension="2019-05-01"/>
  </templateId>
  <id root="6cc25a38-8781-4d79-a580-6a83d1b33575"/>
  <code valueSet="{$QDMElementValueSetOID}"/>
  <title value="Procedure, Performed"/>
  <statusCode code="completed"/>
</procedureCriteria>
```

5.60 Procedure, Recommended (V3)

[ProcedureCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.68:2019-05-01 (open)]

Table 131: Procedure, Recommended (V3) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Rank (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Procedure, Recommended.

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 or providing treatment.

This template represents a recommendation for a procedure.

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

All QDM datatypes referring to recommendations address the time that the recommendation occurs, a single point in time. Vendors have expressed concerns that recommendations are not necessarily captured or managed in a standard manner as part of structured data capture in clinical workflow; many are documented as part of assessments in narrative text. Measure developers should address feasibility of clinical workflow to capture recommendations when evaluating measures.

Table 132: Procedure, Recommended (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
ProcedureCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.68:2019-05-01)					
@classCode	1..1	SHALL		4423-33154	PROC
@moodCode	1..1	SHALL		4423-31209	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = INT
@actionNegationInd	0..1	MAY		4423-31210	
templateId	1..1	SHALL		4423-31211	
item	1..1	SHALL		4423-31212	
@root	1..1	SHALL		4423-31213	2.16.840.1.113883.10.20.28.4.68
@extension	1..1	SHALL		4423-33417	2019-05-01
id	1..1	SHALL		4423-31214	
code	1..1	SHALL		4423-31215	
@valueSet	0..1	SHOULD		4423-31216	
title	1..1	SHALL		4423-31217	
statusCode	1..1	SHALL		4423-31218	
@code	1..1	SHALL		4423-33155	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = active
targetSiteCode	0..1	MAY		4423-33413	
item	1..1	SHALL		4423-33414	
@valueSet	0..1	SHOULD		4423-33416	
participation	0..1	MAY		4423-34465	
@typeCode	1..1	SHALL		4423-34468	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-34466	
low	1..1	SHALL		4423-34469	
role	1..1	SHALL		4423-34467	

XPath	Card.	Verb	Data Type	CONF#	Value
@classCode	1..1	SHALL		4423-34470	urn:oid:2.16.840.1.113883.5.1 10 (HL7RoleClass) = ROL
id	0..1	MAY		4423-34471	
participation	0..1	MAY		4423-35425	
@typeCode	1..1	SHALL		4423-35429	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35426	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.137:2019-05-01
participation	0..1	MAY		4423-35427	
@typeCode	1..1	SHALL		4423-35430	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35428	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.135:2019-05-01
participation	0..1	MAY		4423-35912	
@typeCode	1..1	SHALL		4423-35914	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35913	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.134:2019-05-01
participation	0..1	MAY		4423-35431	
@typeCode	1..1	SHALL		4423-35433	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35432	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.136:2019-05-01
outboundRelationship	0..1	MAY		4423-31233	
@typeCode	1..1	SHALL		4423-33157	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-31234	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.88:2017-05-01
outboundRelationship	0..1	MAY		4423-	

XPath	Card.	Verb	Data Type	CONF#	Value
				35770	
@typeCode	1..1	SHALL		4423-35772	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		4423-35771	Rank (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.139:2019-05-01

1. **SHALL** contain exactly one [1..1] **@classCode**= "PROC" Procedure (CONF:4423-33154).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "INT" Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-31209).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:4423-31210).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-31211).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-31212) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.68" (CONF:4423-31213).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-33417).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-31214).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-31215).
Note: QDM Attribute: Code
 - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-31216).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-31217).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-31218).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**= "active" (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-33155).
9. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:4423-33413).
Note: QDM Attribute: Anatomical Location Site
 - a. The targetSiteCode, if present, **SHALL** contain exactly one [1..1] **item** (CONF:4423-33414).
 - i. This item **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-33416).
10. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34465) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**= "AUT" Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34468).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34466).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-34469).
Note: QDM Attribute: Author dateTime (The time the recommendation is authored (i.e., provided to the patient))
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34467).

- i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-34470).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-34471).
11. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35425) such that it
Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35429).
 - b. **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35426).
12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35427) such that it
Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35430).
 - b. **SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35428).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35912) such that it
Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35914).
 - b. **SHALL** contain exactly one [1..1] **Entity - Care Partner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35913).
14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35431) such that it
Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35433).
 - b. **SHALL** contain exactly one [1..1] **Entity - Patient** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35432).
15. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-31233) 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:4423-33157).
 - b. **SHALL** contain exactly one [1..1] **Reason** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-31234).
16. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-35770) such that it
Note: QDM Attribute: Rank
- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-35772).

- b. **SHALL** contain exactly one [1..1] [Rank](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.139:2019-05-01) (CONF:4423-35771).

Figure 64: Procedure, Recommended (V3) Example

```
<procedureCriteria classCode="PROC" moodCode="INT">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.68" extension="2019-05-01"/>
  </templateId>
  <id root="7d559e0a-4e01-4f52-b87b-a3342705e2f2"/>
  <code valueSet="{$QDMElementValueSetOID}"/>
  <title value="Procedure, Recommended"/>
  <statusCode code="completed"/>
</procedureCriteria>
```

5.61 Program Participation (V3)

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.130:2019-05-01 (open)]

Table 133: Program Participation (V3) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Participation

Participation represents a patient's coverage by a program such as an insurance or medical plan or a payment agreement. Such programs can include patient-centered medical home, disease-specific programs, etc.

Table 134: Program Participation (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.130:2019-05-01)					
@classCode	1..1	SHALL		4423-34829	OBS
@moodCode	1..1	SHALL		4423-34830	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		4423-34831	
templateId	1..1	SHALL		4423-34819	
item	1..1	SHALL		4423-34820	
@root	1..1	SHALL		4423-34824	2.16.840.1.113883.10.20.28.4.130
@extension	1..1	SHALL		4423-34825	2019-05-01
id	1..1	SHALL		4423-34832	
code	1..1	SHALL		4423-34821	
@code	1..1	SHALL		4423-34834	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = ASSERTION
title	1..1	SHALL		4423-34881	
statusCode	1..1	SHALL		4423-34822	
@code	1..1	SHALL		4423-34827	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	4423-34823	
low	0..1	MAY		4423-34828	
high	0..1	MAY		4423-34835	
value	1..1	SHALL	CD	4423-34833	
@valueSet	0..1	SHOULD		4423-34836	
participation	0..*	MAY		4423-35416	
@typeCode	1..1	SHALL		4423-35420	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35417	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1

XPath	Card.	Verb	Data Type	CONF#	Value
					0.20.28.4.137:2019-05-01
participation	0..*	MAY		4423-35418	
@typeCode	1..1	SHALL		4423-35421	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35419	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.135:2019-05-01)
participation	0..*	MAY		4423-35918	
@typeCode	1..1	SHALL		4423-35920	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35919	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.134:2019-05-01)
participation	0..*	MAY		4423-35422	
@typeCode	1..1	SHALL		4423-35424	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35423	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.136:2019-05-01)

1. **SHALL** contain exactly one [1..1] **@classCode**= "OBS" Observation (CONF:4423-34829).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-34830).
3. **SHALL NOT** contain [0..0] **@actionNegationInd** (CONF:4423-34831).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-34819).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-34820) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.130" (CONF:4423-34824).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-34825).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-34832).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-34821).
 - a. This code **SHALL** contain exactly one [1..1] **@code**= "ASSERTION" Assertion (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:4423-34834).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-34881).

8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-34822).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-34827).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-34823) such that it
Note: QDM Attribute: Participation Period
 - a. **MAY** contain zero or one [0..1] **low** (CONF:4423-34828).
Note: enrollmentStartdate – The time the patient enrolled in the program
 - b. **MAY** contain zero or one [0..1] **high** (CONF:4423-34835).
Note: enrollmentEnddate – The time the patient's enrollment in the program ends
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:4423-34833).
Note: QDM Attribute: Code
 - a. This value **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-34836).
11. **MAY** contain zero or more [0..*] **participation** (CONF:4423-35416).
Note: QDM Attribute: Recorder
 - a. The participation, if present, **SHALL** contain exactly one [1..1] **@typeCode**="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35420).
 - b. The participation, if present, **SHALL** contain exactly one [1..1] **Entity - Practitioner** (**identifier**: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35417).
12. **MAY** contain zero or more [0..*] **participation** (CONF:4423-35418).
Note: QDM Attribute: Recorder
 - a. The participation, if present, **SHALL** contain exactly one [1..1] **@typeCode**="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35421).
 - b. The participation, if present, **SHALL** contain exactly one [1..1] **Entity - Organization** (**identifier**: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35419).
13. **MAY** contain zero or more [0..*] **participation** (CONF:4423-35918).
Note: QDM Attribute: Recorder
 - a. The participation, if present, **SHALL** contain exactly one [1..1] **@typeCode**="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35920).
 - b. The participation, if present, **SHALL** contain exactly one [1..1] **Entity - Care Partner** (**identifier**: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35919).
14. **MAY** contain zero or more [0..*] **participation** (CONF:4423-35422).
Note: QDM Attribute: Recorder
 - a. The participation, if present, **SHALL** contain exactly one [1..1] **@typeCode**="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35424).

- b. The participation, if present, **SHALL** contain exactly one [1..1] [Entity - Patient](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35423).

Figure 65: Program Participation (V3) Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.130" extension="2019-05-01"/>
  </templateId>
  <id root="35cf9fd6-0d3d-4f86-91bf-a87fbf5ba8ef"/>
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>
  <title value="Program Participation"/>
  <statusCode code="completed"/>
  <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.62 Provider Care Experience (V2)

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.70:2019-05-01 (open)]

Table 135: Provider Care Experience (V2) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Provider Care Experience.

Data elements that meet this criterion indicate the provider's experience with availability of resources (e.g., scheduling, equipment, space, and such consumables as medications). Provider care experience gauges provider satisfaction with key structures, processes, and outcomes in the healthcare delivery system.

Timing: The time the care experience is recorded; author time.

Table 136: Provider Care Experience (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.70:2019-05-01)					
@classCode	1..1	SHALL		4423-32218	OBS
@moodCode	1..1	SHALL		4423-32219	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		4423-35354	
templateId	1..1	SHALL		4423-32220	
item	1..1	SHALL		4423-32221	
@root	1..1	SHALL		4423-32222	2.16.840.1.113883.10.20.28.4.70
@extension	1..1	SHALL		4423-33701	2019-05-01
id	1..1	SHALL		4423-32223	
code	1..1	SHALL		4423-32224	
@code	1..1	SHALL		4423-32225	405193005
@codeSystem	1..1	SHALL		4423-32226	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
title	1..1	SHALL		4423-32227	
statusCode	1..1	SHALL		4423-32228	
@code	1..1	SHALL		4423-32229	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	4423-34390	
low	1..1	SHALL		4423-34391	
value	1..1	SHALL	CD	4423-32230	
@valueSet	0..1	SHOULD		4423-32231	
participation	0..1	MAY		4423-35355	
@typeCode	1..1	SHALL		4423-35361	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-	Entity - Practitioner (identifier:

XPath	Card.	Verb	Data Type	CONF#	Value
				35356	urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.137:2019-05-01
participation	0..1	MAY		4423-35357	
@typeCode	1..1	SHALL		4423-35362	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35358	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.135:2019-05-01
participation	0..1	MAY		4423-35915	
@typeCode	1..1	SHALL		4423-35916	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35917	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.134:2019-05-01
participation	0..1	MAY		4423-35359	
@typeCode	1..1	SHALL		4423-35363	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35360	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.136:2019-05-01

1. **SHALL** contain exactly one [1..1] **@classCode**= "OBS" Observation (CONF:4423-32218).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-32219).
3. **SHALL NOT** contain [0..0] **@actionNegationInd** (CONF:4423-35354).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-32220).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-32221) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.70" (CONF:4423-32222).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-33701).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-32223).
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-32224).
 - a. This code **SHALL** contain exactly one [1..1] **@code**= "405193005" Caregiver Satisfaction (CONF:4423-32225).

- 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:4423-32226).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-32227).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-32228).
- a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-32229).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-34390) such that it
- a. **SHALL** contain exactly one [1..1] **low** (CONF:4423-34391).
Note: QDM Attribute: Author dateTime (The time the care experience is recorded)
10. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:4423-32230).
Note: QDM Attribute: Code
- a. This value **SHOULD** contain zero or one [0..1] @valueSet (CONF:4423-32231).
11. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35355).
Note: QDM Attribute: Recorder
- a. The participation, if present, **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35361).
 - b. The participation, if present, **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35356).
12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35357).
Note: QDM Attribute: Recorder
- a. The participation, if present, **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35362).
 - b. The participation, if present, **SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35358).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35915).
Note: QDM Attribute: Recorder
- a. The participation, if present, **SHALL** contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35916).
 - b. The participation, if present, **SHALL** contain exactly one [1..1] **Entity - Care Partner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35917).
14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35359).
Note: QDM Attribute: Recorder

- a. The participation, if present, **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35363).
- b. The participation, if present, **SHALL** contain exactly one [1..1] **Entity - Patient** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35360).

Figure 66: Provider Care Experience (V2) Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.70" extension="2019-05-01"/>
  </templateId>
  <id root="a0b2aa8d-16b8-47b3-831b-94fcbbe31e36"/>
  <code code="405193005" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT">
    <displayName value="Caregiver Satisfaction"/>
  </code>
  <title value="Provider Care Experience"/>
  <statusCode code="completed"/>
  <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.63 Rank

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.139:2019-05-01 (open)]

Table 137: Rank Contexts

Contained By:	Contains:
Procedure, Recommended (V3) (optional) Procedure, Performed (V4) (optional) Procedure, Order (V4) (optional) Encounter Diagnosis (optional)	

This template is to represent Rank attribute. Rank is a position in a hierarchy. Rank is defined by an integer to indicate the relative importance of an item.

Rank is expressed as a positive integer, i.e., 1, 2, 3 etc.

The attribute applies to:

- Encounter, Performed diagnosis as a component to identify a principal diagnosis for a given encounter. A rank of 1 defines a principal diagnosis
- Procedure, Performed; Procedure, Order; and Procedure, Recommended – a rank of 1 defines a principal procedure

Table 138: Rank Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.139:2019-05-01)					
@classCode	1..1	SHALL		3264-33763	OBS
@moodCode	1..1	SHALL		3264-33764	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		3264-33753	
item	1..1	SHALL		3264-33754	
@root	1..1	SHALL		3264-33759	2.16.840.1.113883.10.20.28.4.139
@extension	1..1	SHALL		3264-33760	2019-05-01
code	1..1	SHALL		3264-33755	
@code	1..1	SHALL		3264-33761	263486008
@codeSystem	1..1	SHALL		3264-33762	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
value	1..1	SHALL	INT	3264-33756	
@value	1..1	SHALL		3264-33765	

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CONF:3264-33763).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3264-33764).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:3264-33753) such that it
 - a. **SHALL** contain exactly one [1..1] **item** (CONF:3264-33754).
 - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.139" (CONF:3264-33759).
 - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2019-05-01" (CONF:3264-33760).
4. **SHALL** contain exactly one [1..1] **code** (CONF:3264-33755).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="263486008" Rank (attribute) (CONF:3264-33761).
 - 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:3264-33762).
5. **SHALL** contain exactly one [1..1] **value** with @xsi:type="INT" (CONF:3264-33756).
 - a. This value **SHALL** contain exactly one [1..1] **@value** (CONF:3264-33765).

Figure 67: Rank Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.139" extension="2019-05-01"/>
  </templateId>
  <code code="263486008" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT">
    <displayName value="Rank"/>
  </code>
  <value xsi:type="INT" value="1"/>
</observationCriteria>
```

5.64 Reason

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01 (open)]

Table 139: Reason Contexts

Contained By:	Contains:
Patient Characteristic Clinical Trial Participant (optional) Assessment, Order (V2) (optional) Assessment, Performed (V3) (optional) Assessment, Recommended (V3) (optional) Communication, Performed (V2) (required) Device, Applied (V3) (optional) Device, Order (V2) (optional) Device, Recommended (V2) (optional) Diagnostic Study, Order (V4) (optional) Diagnostic Study, Performed (V3) (optional) Encounter, Order (V2) (optional) Encounter, Performed (V3) (optional) Encounter, Recommended (V2) (optional) Immunization, Administered (V4) (optional) Immunization, Order (V3) (optional) Intervention, Order (V2) (optional) Intervention, Performed (V3) (optional) Intervention, Recommended (V2) (optional) Laboratory Test, Order (V3) (optional) Laboratory Test, Performed (V3) (optional) Laboratory Test, Recommended (V3) (optional) Medication, Administered (V4) (optional) Medication, Discharge (V3) (optional) Medication, Dispensed (V3) (optional) Medication, Order (V4) (optional) Physical Exam, Performed (V3) (optional) Physical Exam, Order (V3) (optional) Substance, Recommended (V4) (optional) Substance, Order (V4) (optional) Procedure, Recommended (V3) (optional) Procedure, Performed (V4) (optional) Procedure, Order (V4) (optional) Physical Exam, Recommended (V3) (optional)	

This template represents the QDM attribute: Reason.

It represents the thought process or justification for an action or for not performing an action. In some measures, specific treatments are acceptable inclusion criteria only if a justified reason is present. Each of these measures uses a value set (often, but not exclusively, using SNOMED CT) to express acceptable justification reasons. Other measures specify reasons as justification for exclusions. Examples include patient, system, or medical-related reasons for declining to perform specific actions.

Each of these measures also uses a value set to express acceptable justification reasons for declining to perform expected actions.

Table 140: Reason Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01)					
@classCode	1..1	SHALL		3335-29895	OBS
@moodCode	1..1	SHALL		3335-29896	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		3335-29897	
item	1..1	SHALL		3335-29898	
@root	1..1	SHALL		3335-29899	2.16.840.1.113883.10.20.28.4.88
@extension	1..1	SHALL		3335-33686	2017-05-01
code	1..1	SHALL		3335-29901	
@code	1..1	SHALL		3335-29902	410666004
@codeSystem	1..1	SHALL		3335-29903	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
value	1..1	SHALL	CD	3335-29904	
@valueSet	0..1	SHOULD		3335-34681	

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CONF:3335-29895).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3335-29896).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:3335-29897).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:3335-29898) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.88" (CONF:3335-29899).
 - ii. **SHALL** contain exactly one [1..1] **@extension**="2017-05-01" (CONF:3335-33686).
4. **SHALL** contain exactly one [1..1] **code** (CONF:3335-29901).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="410666004" Reason (CONF:3335-29902).

- 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:3335-29903).
- 5. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:3335-29904).
 - a. This value **SHOULD** contain zero or one [0..1] @valueSet (CONF:3335-34681).

Figure 68: Reason Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.88" extension="2017-05-01"/>
  </templateId>
  <id root="05c07740-1f8d-417e-a9f2-fc769b1d342d"/>
  <code code="410666004" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT">
    <displayName value="Reason"/>
  </code>
  <title value="Reason"/>
  <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.65 Related Person

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.141:2019-05-01 (open)]

Table 141: Related Person Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	

This template represents the QDM data type: Related Person.

A Related Person typically has a personal or non-healthcare-specific professional relationship to the patient. A Related Person QDM datatype is primarily used for attribution of information, since RelatedPersons are often a source of information about the patient. Some individuals may serve as both an activity performer (i.e., referenced as the Care Partner entity), and a Related Person (i.e., the individual from whose record clinical information should be retrieved to support care provided to a patient). The QDM datatype, Related Person, references the latter. Example Related Persons are a patient's mother, father, wife or husband, and potentially, a patient's relatives or friends, a neighbor bringing a patient to the hospital, a patient's attorney or guardian.

Table 142: Related Person Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.141:2019-05-01)					
@classCode	1..1	SHALL		4423-35586	OBS
@moodCode	1..1	SHALL		4423-35587	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		4423-35588	
templateId	1..1	SHALL		4423-35570	
item	1..1	SHALL		4423-35571	
@root	1..1	SHALL		4423-35581	2.16.840.1.113883.10.20.28.4.141
@extension	1..1	SHALL		4423-35582	2019-05-01
id	1..1	SHALL		4423-35589	
code	1..1	SHALL		4423-35572	
@code	1..1	SHALL		4423-35595	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 444018008
@codeSystem	1..1	SHALL		4423-35596	2.16.840.1.113883.6.96
title	1..1	SHALL		4423-35936	
value	0..1	MAY	CD	4423-35738	
participation	0..1	MAY		4423-35961	
@typeCode	1..1	SHALL		4423-35963	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35962	PAT
@classCode	1..1	SHALL		4423-35964	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = PAT
id	1..1	SHALL		4423-35965	

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:4423-35586).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-35587).
3. **SHALL NOT** contain [0..0] @actionNegationInd (CONF:4423-35588).

4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-35570).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-35571) such that it
 - i. **SHALL** contain exactly one [1..1]
 @root="2.16.840.1.113883.10.20.28.4.141" (CONF:4423-35581).
 - ii. **SHALL** contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-35582).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-35589).
Note: QDM Attribute: id
6. **SHALL** contain exactly one [1..1] **code** (CONF:4423-35572).
 - a. This code **SHALL** contain exactly one [1..1] @code=" 444018008" Person with characteristic related to subject of record (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:4423-35595).
 - b. This code **SHALL** contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.96" (CONF:4423-35596).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-35936).
8. **MAY** contain zero or one [0..1] **value** with @xsi:type="CD" (CONF:4423-35738).
Note: QDM Attribute: Code
9. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35961) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="PART" Participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35963).
 - b. **SHALL** contain exactly one [1..1] **role**="PAT" Patient (CONF:4423-35962).
 - i. This role **SHALL** contain exactly one [1..1] @classCode="PAT" Patient (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-35964).
 - ii. This role **SHALL** contain exactly one [1..1] **id** (CONF:4423-35965).
Note: QDM Attribute: LinkedPatientId

Figure 69: Related Person Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.141" extension="2019-05-01"/>
  </templateId>
  <code code="444018008" codeSystem="2.16.840.1.113883.6.96"/>
  <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.66 Related To

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.127:2017-08-01 (open)]

Table 143: Related To Contexts

Contained By:	Contains:
Assessment, Performed (V3) (optional) Care Goal (V3) (optional) Communication, Performed (V2) (optional)	

This template represents the QDM attribute: Related To.

Something to which the QDM element is related.

The id of this template references the existing id of the QDM element this is related to. The root attribute of the id is required.

Table 144: Related To Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.127:2017-08-01)					
@classCode	1..1	SHALL		3346-34725	OBS
@moodCode	1..1	SHALL		3346-34726	EVN
templateId	1..1	SHALL		3346-34717	
item	1..1	SHALL		3346-34718	
@root	1..1	SHALL		3346-34721	2.16.840.1.113883.10.20.28.4.127
@extension	1..1	SHALL		3346-34722	2017-08-01
id	1..1	SHALL		3346-34727	
@root	1..1	SHALL		3346-34730	
@extension	0..1	MAY		3346-34731	
code	1..1	SHALL		3346-34719	
@code	1..1	SHALL		3346-34723	42752001
@codeSystem	1..1	SHALL		3346-34724	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CONF:3346-34725).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CONF:3346-34726).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:3346-34717).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:3346-34718) such that it
 - i. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.28.4.127"** (CONF:3346-34721).
 - ii. **SHALL** contain exactly one [1..1] **@extension="2017-08-01"** (CONF:3346-34722).
4. **SHALL** contain exactly one [1..1] **id** (CONF:3346-34727).
 - a. This id **SHALL** contain exactly one [1..1] **@root** (CONF:3346-34730).
 - b. This id **MAY** contain zero or one [0..1] **@extension** (CONF:3346-34731).
5. **SHALL** contain exactly one [1..1] **code** (CONF:3346-34719).
 - a. This code **SHALL** contain exactly one [1..1] **@code="42752001"** Due to (CONF:3346-34723).
 - 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:3346-34724).

Figure 70: Related To Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.127" extension="2017-08-01"/>
  </templateId>
  <id root="302625d2-e41a-4d51-ba11-af0dfc81a11b"/>
  <code code="42752001" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT">
    <displayName value="Due to"/>
  </code>
  <title value="Related To"/>
</observationCriteria>
```

5.67 Result (V2)

[observationCriteria: identifier
 urn:h17ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01 (open)]

Table 145: Result (V2) Contexts

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

This template represents the QDM attribute: Result.

This represents the final consequences or data collected from a sequence of actions or events, or observable entities including, but not limited to procedures, laboratory tests, physical examinations, or diagnostic tests.

This template is used to represent result in all actCriteria except observationCriteria, where result is represented directly using observationCriteria/value. However, even though "Diagnostic Study, Performed" and "Laboratory Test, Performed" are observationCriteria, because these two data types also contain Result dateTime attribute, this Result template is also used to represent result in lieu of observation/value.

Table 146: Result (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01)					
@classCode	1..1	SHALL		3346-32186	OBS
@moodCode	1..1	SHALL		3346-32187	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		3346-32188	
item	1..1	SHALL		3346-32189	
@root	1..1	SHALL		3346-32190	2.16.840.1.113883.10.20.28.4.101
@extension	1..1	SHALL		3346-34653	2017-08-01
code	1..1	SHALL		3346-32192	
@code	1..1	SHALL		3346-32193	394617004
@codeSystem	1..1	SHALL		3346-32194	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
effectiveTime	0..1	MAY	IVL_TS	3346-34761	
low	1..1	SHALL		3346-34762	
value	1..1	SHALL		3346-32196	

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:3346-32186).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3346-32187).
3. **SHALL** contain exactly one [1..1] templateId (CONF:3346-32188).
 - a. This templateId **SHALL** contain exactly one [1..1] item (CONF:3346-32189) such that it

- i. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.101" (CONF:3346-32190).
 - ii. **SHALL** contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-34653).
4. **SHALL** contain exactly one [1..1] **code** (CONF:3346-32192).
- a. This code **SHALL** contain exactly one [1..1] @code="394617004" Result (CONF:3346-32193).
 - 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:3346-32194).
5. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3346-34761).
 Note: QDM Attribute: Result dateTime (The time the result report is generated and saved in the database)
- a. The effectiveTime, if present, **SHALL** contain exactly one [1..1] **low** (CONF:3346-34762).
6. **SHALL** contain exactly one [1..1] **value** (CONF:3346-32196).
 Note: QDM Attribute: Result

Figure 71: Result (V2) Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.101" extension="2017-08-01"/>
  </templateId>
  <id root="6626ee8e-e72b-4382-97a0-9a00ac27763a"/>
  <code code="394617004" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT">
    <displayName value="Result"/>
  </code>
  <title value="Result"/>
  <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.68 Severity Observation (V2)

[observationCriteria: identifier
 urn:hl7ii:2.16.840.1.113883.10.20.28.4.93:2017-08-01 (open)]

Table 147: Severity Observation (V2) Contexts

Contained By:	Contains:
Adverse Event (V3) (optional) Allergy Intolerance (V3) (optional) Diagnosis (V3) (optional) Symptom (V3) (optional)	

This template represents the QDM attribute: Severity.

Severity observation represents the gravity of the problem, such as allergy or reaction, in terms of its actual or potential impact on the patient.

Table 148: Severity Observation (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.93:2017-08-01)					
@classCode	1..1	SHALL		3346-30129	OBS
@moodCode	1..1	SHALL		3346-30130	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		3346-30131	
item	1..1	SHALL		3346-30132	
@root	1..1	SHALL		3346-30133	2.16.840.1.113883.10.20.28.4.93
@extension	1..1	SHALL		3346-33691	2017-08-01
code	1..1	SHALL		3346-30135	
@code	1..1	SHALL		3346-30136	SEV
@codeSystem	1..1	SHALL		3346-30137	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
value	1..1	SHALL	CD	3346-30138	
@valueSet	0..1	SHOULD		3346-34843	

1. **SHALL** contain exactly one [1..1] **@classCode**= "OBS" Observation (CONF:3346-30129).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3346-30130).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:3346-30131).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:3346-30132) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.93" (CONF:3346-30133).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2017-08-01" (CONF:3346-33691).
4. **SHALL** contain exactly one [1..1] **code** (CONF:3346-30135).
 - a. This code **SHALL** contain exactly one [1..1] **@code**= "SEV" Severity Observation (CONF:3346-30136).

- 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:3346-30137).
- 5. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:3346-30138).
 - a. This value **SHOULD** contain zero or one [0..1] @valueSet (CONF:3346-34843).

Figure 72: Severity Observation (V2) Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.93" extension="2017-08-01"/>
  </templateId>
  <code code="SEV" codeSystem="2.16.840.1.113883.5.4" codeSystemName="HL7 ActCode">
    <displayName value="Severity Observation"/>
  </code>
  <title value="Severity"/>
  <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.69 Status (V2)

[observationCriteria: identifier
 urn:hl7ii:2.16.840.1.113883.10.20.28.4.94:2017-08-01 (open)]

Table 149: Status (V2) Contexts

Contained By:	Contains:
Diagnostic Study, Performed (V3) (optional) Intervention, Performed (V3) (optional) Laboratory Test, Performed (V3) (optional) Procedure, Performed (V4) (optional)	

This template represents the QDM attribute: Status.

Status represents the particular stage of the subject within a defined process.

Table 150: Status (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.94:2017-08-01)					
@classCode	1..1	SHALL		3346-30151	OBS
@moodCode	1..1	SHALL		3346-30152	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		3346-30153	
item	1..1	SHALL		3346-30155	
@root	1..1	SHALL		3346-30156	2.16.840.1.113883.10.20.28.4.94
@extension	1..1	SHALL		3346-33690	2017-08-01
code	1..1	SHALL		3346-30158	
@code	1..1	SHALL		3346-30159	33999-4
@codeSystem	1..1	SHALL		3346-30160	urn:oid:2.16.840.1.113883.6.1 (LOINC)
value	1..1	SHALL	CD	3346-30162	
@valueSet	0..1	SHOULD		3346-34844	

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CONF:3346-30151).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3346-30152).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:3346-30153).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:3346-30155) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.94" (CONF:3346-30156).
 - ii. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3346-33690).
4. **SHALL** contain exactly one [1..1] **code** (CONF:3346-30158).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="33999-4" Status (CONF:3346-30159).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:3346-30160).
5. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:3346-30162).
 - a. This value **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-34844).

Figure 73: Status (V2) Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.94" extension="2017-08-01"/>
  </templateId>
  <code code="33999-4" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">
    <displayName value="Status"/>
  </code>
  <title value="Status"/>
  <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.70 Substance, Administered (V4)

[substanceAdministrationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.73:2019-05-01 (open)]

Table 151: Substance, Administered (V4) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Substance, Administered.

A substance is a chemical element and its compounds in the natural state or obtained by any manufacturing process (other than pharmaceutical drugs), including any additive necessary to preserve its stability and any impurity deriving from the process used, but excluding any solvent that may be separated without affecting the stability of the substance or changing its composition.

Examples of a substance may include but are not limited to: environmental agents (e.g., pollen, dust) and food (e.g., vitamins).

This template represents a substance that has been administered.

Timing: Relevant dateTime references the time the substance is administered if it was given or taken at a single point in time. Relevant Period references a start and stop time for substance administration if the administration event occurred over a time interval. The Relevant Period addresses: StartTime = when a single substance administration event starts (e.g., the initiation of an intravenous infusion, or administering a the substance orally or topically to a patient); StopTime = when a single substance administration event ends (e.g., the end time of the intravenous infusion, or the administration of a substance orally or topically is completed - for oral or topical administration, the start and stop times are the same).

Dosage: Details of how medication is/is to be taken, i.e., the quantity (mg, cc, tablets) to be taken at a single administration.

Table 152: Substance, Administered (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
substanceAdministrationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.73:2019-05-01)					
@classCode	1..1	SHALL		4423-32878	SBADM
@moodCode	1..1	SHALL		4423-32879	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		4423-32880	
templateId	1..1	SHALL		4423-32881	
item	1..1	SHALL		4423-32882	
@root	1..1	SHALL		4423-32883	2.16.840.1.113883.10.20.28.4.73
@extension	1..1	SHALL		4423-33393	2019-05-01
id	1..1	SHALL		4423-32884	
code	1..1	SHALL		4423-32885	
@code	1..1	SHALL		4423-33177	416118004
@codeSystem	1..1	SHALL		4423-33178	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
title	1..1	SHALL		4423-32887	
statusCode	1..1	SHALL		4423-32888	
@code	1..1	SHALL		4423-32889	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	4423-32890	
low	0..1	MAY		4423-32891	
high	0..1	MAY		4423-32892	
effectiveTime	0..1	MAY	PIVL_TS	4423-34845	
period	0..1	MAY		4423-34846	
routeCode	0..1	MAY		4423-32894	
@valueSet	0..1	SHOULD		4423-32895	

XPath	Card.	Verb	Data Type	CONF#	Value
doseQuantity	0..1	MAY		4423-32896	
participation	1..1	SHALL		4423-32897	
@typeCode	1..1	SHALL		4423-32898	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
role	1..1	SHALL		4423-32899	
@classCode	1..1	SHALL		4423-32900	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ADMM
playingMaterial	1..1	SHALL		4423-32901	
@classCode	1..1	SHALL		4423-32902	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = MAT
@determinerCode	1..1	SHALL		4423-32903	urn:oid:2.16.840.1.113883.5.30 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		4423-32904	
@valueSet	0..1	SHOULD		4423-32905	
participation	0..1	MAY		4423-34563	
@typeCode	1..1	SHALL		4423-34566	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-34564	
low	1..1	SHALL		4423-34567	
role	1..1	SHALL		4423-34565	
@classCode	1..1	SHALL		4423-34568	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		4423-34569	
participation	0..1	MAY		4423-35407	
@typeCode	1..1	SHALL		4423-35411	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35408	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01)
participation	0..1	MAY		4423-	

XPath	Card.	Verb	Data Type	CONF#	Value
				35409	
@typeCode	1..1	SHALL		4423-35412	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35410	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01)
participation	0..1	MAY		4423-35933	
@typeCode	1..1	SHALL		4423-35935	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35934	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35413	
@typeCode	1..1	SHALL		4423-35415	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35414	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01)

1. **SHALL** contain exactly one [1..1] @classCode="SBADM" Substance Administration (CONF:4423-32878).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-32879).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:4423-32880).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:4423-32881).
 - a. This templateId **SHALL** contain exactly one [1..1] item (CONF:4423-32882) such that it
 - i. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.73" (CONF:4423-32883).
 - ii. **SHALL** contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33393).
5. **SHALL** contain exactly one [1..1] id (CONF:4423-32884).
6. **SHALL** contain exactly one [1..1] code (CONF:4423-32885).
 - a. This code **SHALL** contain exactly one [1..1] @code="416118004" Administration (CONF:4423-33177).

- 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:4423-33178).
7. **SHALL** contain exactly one [1..1] **title** (CONF:4423-32887).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-32888).
- a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-32889).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-32890) such that it
 Note: QDM Attribute: Relevant Period
 - a. **MAY** contain zero or one [0..1] **low** (CONF:4423-32891).
 Note: startTime of Relevant Period (When a single substance administration event starts (e.g., the initiation of an intravenous infusion, or administering a the substance orally or topically to a patient)) or QDM Attribute: Relevant dateTime (References the time the substance is administered if it was given or taken at a single point in time).
 - b. **MAY** contain zero or one [0..1] **high** (CONF:4423-32892).
 Note: stopTime of Relevant Period (When a single substance administration event ends (e.g., the end time of the intravenous infusion, or the administration of a substance orally or topically is completed - for oral or topical administration, the start and stop times are the same)

10. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-34845) such that it
 Note: QDM Attribute: Frequency

 - a. **MAY** contain zero or one [0..1] **period** (CONF:4423-34846).

11. **MAY** contain zero or one [0..1] **routeCode** (CONF:4423-32894).
 Note: QDM Attribute: Route

 - a. The routeCode, if present, **SHOULD** contain zero or one [0..1] @valueSet (CONF:4423-32895).

12. **MAY** contain zero or one [0..1] **doseQuantity** (CONF:4423-32896).
 Note: QDM Attribute: Dosage

13. **SHALL** contain exactly one [1..1] **participation** (CONF:4423-32897) such that it

 - a. **SHALL** contain exactly one [1..1] @typeCode="CSM" Consumable (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-32898).
 - b. **SHALL** contain exactly one [1..1] **role** (CONF:4423-32899).
 - i. This role **SHALL** contain exactly one [1..1] @classCode="ADMM" Administerable Material (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-32900).
 - ii. This role **SHALL** contain exactly one [1..1] **playingMaterial** (CONF:4423-32901).
 - 1. This playingMaterial **SHALL** contain exactly one [1..1] @classCode="MAT" Material (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:4423-32902).
 - 2. This playingMaterial **SHALL** contain exactly one [1..1] @determinerCode="KIND" Kind (CodeSystem:

- HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30)
(CONF:4423-32903).
3. This playingMaterial **SHALL** contain exactly one [1..1] **code**
(CONF:4423-32904).
Note: QDM Attribute: Code
 - a. This code **SHOULD** contain zero or one [0..1] **@valueSet**
(CONF:4423-32905).
14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34563) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="AUT"** Author (CodeSystem:
HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34566).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34564).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-34567).
Note: QDM Attribute: Author date**Time**
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34565).
 - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role
(CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110)
(CONF:4423-34568).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-34569).
15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35407) such that it
- Note: QDM Attribute: Performer
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem:
HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35411).
 - b. **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35408).
16. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35409) such that it
- Note: QDM Attribute: Performer
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem:
HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35412).
 - b. **SHALL** contain exactly one [1..1] **Entity - Organization** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35410).
17. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35933) such that it
- Note: QDM Attribute: Performer
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** (CodeSystem:
HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35935).
 - b. **SHALL** contain exactly one [1..1] **Entity - Care Partner** (identifier:
urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35934).
18. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35413) such that it
- Note: QDM Attribute: Performer
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem:
HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35415).

- b. **SHALL** contain exactly one [1..1] [Entity - Patient](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35414).

Figure 74: Substance, Administered (V4) Example

```
<substanceAdministrationCriteria classCode="SBADM" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.73" extension="2019-05-01"/>
  </templateId>
  <id root="8918e418-fdc0-4c9c-b902-67502e324b9b"/>
  <code code="416118004" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT">
    <displayName value="Administration"/>
  </code>
  <title value="Substance, Administered"/>
  <statusCode code="completed" />
  <participation typeCode="CSM">
    <role classCode="ADMM">
      <playingMaterial classCode="MAT" determinerCode="KIND">
        <code valueSet="{$QDMElementValueSetOID}"/>
      </playingMaterial>
    </role>
  </participation>
</substanceAdministrationCriteria>
```

5.71 Substance, Order (V4)

[substanceAdministrationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.77:2019-05-01 (open)]

Table 153: Substance, Order (V4) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Supply (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Substance, Order.

This template represents a request by a clinician or appropriately licensed care provider to a pharmacy to provide a substance to a patient.

Timing: The time the order is signed; author datetime.

Dosage: Details of how medication is/is to be taken, i.e., the quantity (mg, cc, tablets) to be taken at a single administration.

Table 154: Substance, Order (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
substanceAdministrationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.77:2019-05-01)					
@classCode	1..1	SHALL		4423-32623	SBADM
@moodCode	1..1	SHALL		4423-32624	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		4423-32625	
templateId	1..1	SHALL		4423-32626	
item	1..1	SHALL		4423-32627	
@root	1..1	SHALL		4423-32628	2.16.840.1.113883.10.20.28.4.77
@extension	1..1	SHALL		4423-33652	2019-05-01
id	1..1	SHALL		4423-32629	
title	1..1	SHALL		4423-32632	
statusCode	1..1	SHALL		4423-32633	
@code	1..1	SHALL		4423-32634	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
effectiveTime	0..1	MAY	PIVL_TS	4423-35566	
period	0..1	MAY		4423-35567	
repeatNumber	0..1	MAY		4423-32638	
routeCode	0..1	MAY		4423-32639	
@valueSet	0..1	SHOULD		4423-32640	
doseQuantity	0..1	MAY		4423-32641	
participation	1..1	SHALL		4423-32642	
@typeCode	1..1	SHALL		4423-32643	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
role	1..1	SHALL		4423-32644	
@classCode	1..1	SHALL		4423-32645	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ADMM

XPath	Card.	Verb	Data Type	CONF#	Value
playingMaterial	1..1	SHALL		4423-32646	
@classCode	1..1	SHALL		4423-32647	urn:oid:2.16.840.1.113883.5.4 1 (HL7EntityClass) = MAT
@determinerCode	1..1	SHALL		4423-32648	urn:oid:2.16.840.1.113883.5.3 0 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		4423-32649	
@valueSet	0..1	SHOULD		4423-32650	
participation	0..1	MAY		4423-33511	
@typeCode	1..1	SHALL		4423-33513	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-33512	
low	1..1	SHALL		4423-33514	
role	1..1	SHALL		4423-33601	
@classCode	1..1	SHALL		4423-33602	urn:oid:2.16.840.1.113883.5.1 10 (HL7RoleClass) = ROL
id	0..1	MAY		4423-33603	
participation	0..1	MAY		4423-35400	
@typeCode	1..1	SHALL		4423-35404	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35401	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.137:2019-05-01
participation	0..1	MAY		4423-35927	
@typeCode	1..1	SHALL		4423-35931	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35928	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.135:2019-05-01
participation	0..1	MAY		4423-35929	
@typeCode	1..1	SHALL		4423-	urn:oid:2.16.840.1.113883.5.9

XPath	Card.	Verb	Data Type	CONF#	Value
				35932	0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35930	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423-35402	
@typeCode	1..1	SHALL		4423-35405	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35406	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.136:2019-05-01)
outboundRelationship	0..1	MAY		4423-32651	
@typeCode	1..1	SHALL		4423-32652	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423-32653	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.88:2017-05-01)
outboundRelationship	0..1	MAY		4423-34485	
@typeCode	1..1	SHALL		4423-34486	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = REFR
supplyCriteria	1..1	SHALL		4423-34848	Supply (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.129:2017-08-01)

1. **SHALL** contain exactly one [1..1] **@classCode**= "SBADM" Substance Administration (CONF:4423-32623).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-32624).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:4423-32625).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-32626).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-32627) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.77" (CONF:4423-32628).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-33652).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-32629).

6. **SHALL** contain exactly one [1..1] **title** (CONF:4423-32632).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-32633).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-32634).
8. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-35566) such that it

Note: QDM Attribute: Frequency

 - a. **MAY** contain zero or one [0..1] **period** (CONF:4423-35567).
9. **MAY** contain zero or one [0..1] **repeatNumber** (CONF:4423-32638).

Note: QDM Attribute: Refills
10. **MAY** contain zero or one [0..1] **routeCode** (CONF:4423-32639).

Note: QDM Attribute: Route

 - a. The routeCode, if present, **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-32640).
11. **MAY** contain zero or one [0..1] **doseQuantity** (CONF:4423-32641).

Note: QDM Attribute: Dosage
12. **SHALL** contain exactly one [1..1] **participation** (CONF:4423-32642) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="CSM" Consumable (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-32643).
 - b. **SHALL** contain exactly one [1..1] **role** (CONF:4423-32644).
 - i. This role **SHALL** contain exactly one [1..1] **@classCode**="ADMM" Administerable Material (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-32645).
 - ii. This role **SHALL** contain exactly one [1..1] **playingMaterial** (CONF:4423-32646).
 1. This playingMaterial **SHALL** contain exactly one [1..1] **@classCode**="MAT" Material (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:4423-32647).
 2. This playingMaterial **SHALL** contain exactly one [1..1] **@determinerCode**="KIND" Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:4423-32648).
 3. This playingMaterial **SHALL** contain exactly one [1..1] **code** (CONF:4423-32649).

Note: QDM Attribute: Code

 - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:4423-32650).
 13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-33511) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode**="AUT" Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-33513).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-33512).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-33514).

Note: QDM Attribute: Author dateTime (The time the order is signed)
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-33601).

- i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-33602).
 - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:4423-33603).
14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35400) such that it
Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35404).
 - b. **SHALL** contain exactly one [1..1] **Entity - Practitioner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35401).
15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35927) such that it
Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35931).
 - b. **SHALL** contain exactly one [1..1] **Entity - Organization** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35928).
16. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35929) such that it
Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35932).
 - b. **SHALL** contain exactly one [1..1] **Entity - Care Partner** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35930).
17. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35402) such that it
Note: QDM Attribute: Requester
- a. **SHALL** contain exactly one [1..1] **@typeCode="PART"** participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35405).
 - b. **SHALL** contain exactly one [1..1] **Entity - Patient** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35406).
18. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-32651) 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:4423-32652).
 - b. **SHALL** contain exactly one [1..1] **Reason** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-32653).
19. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-34485) such that it
Note: QDM Attribute: Supply
- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers To (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-34486).

- b. **SHALL** contain exactly one [1..1] **Supply** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01) (CONF:4423-34848).

Figure 75: Substance, Order (V4) Example

```
<substanceAdministrationCriteria classCode="SBADM" moodCode="RQO">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.77" extension="2019-05-01"/>
  </templateId>
  <id root="58f3015d-d2dc-45ac-bf6d-fa8d1588603f"/>
  <title value="Substance, Order"/>
  <statusCode code="active"/>
  <participation typeCode="CSM">
    <role classCode="ADMM">
      <playingMaterial classCode="MAT" determinerCode="KIND">
        <code valueSet="{$QDMElementValueSetOID}"/>
      </playingMaterial>
    </role>
  </participation>
</substanceAdministrationCriteria>
```

5.72 Substance, Recommended (V4)

[substanceAdministrationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.78:2019-05-01 (open)]

Table 155: Substance, Recommended (V4) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Reason (optional) Supply (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Substance, Recommended.

A substance is a chemical element and its compounds in the natural state or obtained by any manufacturing process (other than pharmaceutical drugs), including any additive necessary to preserve its stability and any impurity deriving from the process used, but excluding any solvent that may be separated without affecting the stability of the substance or changing its composition.

Examples of a substance may include but are not limited to: environmental agents (e.g., pollen, dust) and food (e.g., vitamins).

This template represents a recommendation for a substance.

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

Dosage: Details of how medication is/is to be taken, i.e., the quantity (mg, cc, tablets) to be taken at a single administration.

Supply: The quantity (amount) of therapeutic agent that was provided to a patient (i.e., number of doses, number of tablets or pills, volume of medication).

Table 156: Substance, Recommended (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
substanceAdministrationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.78:2019-05-01)					
@classCode	1..1	SHALL		4423-32063	SBADM
@moodCode	1..1	SHALL		4423-32064	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = INT
@actionNegationInd	0..1	MAY		4423-32065	
templateId	1..1	SHALL		4423-32066	
item	1..1	SHALL		4423-32125	
@root	1..1	SHALL		4423-32126	2.16.840.1.113883.10.20.28.4.78
@extension	1..1	SHALL		4423-33693	2019-05-01
id	1..1	SHALL		4423-32067	
title	1..1	SHALL		4423-32069	
statusCode	1..1	SHALL		4423-32070	
@code	1..1	SHALL		4423-32071	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
effectiveTime	0..1	MAY	PIVL_TS	4423-35568	
period	0..1	MAY		4423-35569	
repeatNumber	0..1	MAY		4423-32121	
routeCode	0..1	MAY		4423-32123	
@valueSet	0..1	SHOULD		4423-33200	
doseQuantity	0..1	MAY		4423-32124	
participation	1..1	SHALL		4423-32103	
@typeCode	1..1	SHALL		4423-32104	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
role	1..1	SHALL		4423-32105	
@classCode	1..1	SHALL		4423-32106	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ADMM

XPath	Card.	Verb	Data Type	CONF#	Value
playingMaterial	1..1	SHALL		4423-32107	
@classCode	1..1	SHALL		4423-32108	urn:oid:2.16.840.1.113883.5.4 1 (HL7EntityClass) = MAT
@determinerCode	1..1	SHALL		4423-32109	urn:oid:2.16.840.1.113883.5.3 0 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		4423-32110	
@valueSet	0..1	SHOULD		4423-32111	
participation	0..1	MAY		4423-34473	
@typeCode	1..1	SHALL		4423-34476	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = AUT
time	1..1	SHALL		4423-34474	
low	1..1	SHALL		4423-34477	
role	1..1	SHALL		4423-34475	
@classCode	1..1	SHALL		4423-34478	urn:oid:2.16.840.1.113883.5.1 10 (HL7RoleClass) = ROL
participation	0..1	MAY		4423-35391	
@typeCode	1..1	SHALL		4423-35395	PART
role	1..1	SHALL		4423-35392	Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.137:2019-05-01
participation	0..1	MAY		4423-35393	
@typeCode	1..1	SHALL		4423-35396	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35394	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.135:2019-05-01
participation	0..1	MAY		4423-35924	
@typeCode	1..1	SHALL		4423-35926	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-	Entity - Care Partner

XPath	Card.	Verb	Data Type	CONF#	Value
				35925	(identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.134:2019-05-01)
participation	0..1	MAY		4423- 35397	
@typeCode	1..1	SHALL		4423- 35399	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423- 35398	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.136:2019-05-01)
outboundRelationship	0..1	MAY		4423- 32112	
@typeCode	1..1	SHALL		4423- 32113	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		4423- 32114	Reason (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.88:2017-05-01)
outboundRelationship	0..1	MAY		4423- 34488	
@typeCode	1..1	SHALL		4423- 34489	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = REFR
supplyCriteria	1..1	SHALL		4423- 34849	Supply (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.129:2017-08-01)

1. **SHALL** contain exactly one [1..1] **@classCode**= "SBADM" Substance Administration (CONF:4423-32063).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "INT" Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-32064).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:4423-32065).
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-32066).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:4423-32125) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.78" (CONF:4423-32126).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2019-05-01" (CONF:4423-33693).
5. **SHALL** contain exactly one [1..1] **id** (CONF:4423-32067).
6. **SHALL** contain exactly one [1..1] **title** (CONF:4423-32069).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-32070).

- a. This statusCode **SHALL** contain exactly one [1..1] `@code="active"` Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-32071).
- 8. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-35568) such that it

Note: QDM Attribute: Frequency

 - a. **MAY** contain zero or one [0..1] **period** (CONF:4423-35569).
- 9. **MAY** contain zero or one [0..1] **repeatNumber** (CONF:4423-32121).

Note: QDM Attribute: Refills
- 10. **MAY** contain zero or one [0..1] **routeCode** (CONF:4423-32123).

Note: QDM Attribute: Route

 - a. The routeCode, if present, **SHOULD** contain zero or one [0..1] `@valueSet` (CONF:4423-33200).
- 11. **MAY** contain zero or one [0..1] **doseQuantity** (CONF:4423-32124).

Note: QDM Attribute: Dosage
- 12. **SHALL** contain exactly one [1..1] **participation** (CONF:4423-32103) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="CSM"` Consumable (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-32104).
 - b. **SHALL** contain exactly one [1..1] **role** (CONF:4423-32105).
 - i. This role **SHALL** contain exactly one [1..1] `@classCode="ADMM"` Administerable Material (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-32106).
 - ii. This role **SHALL** contain exactly one [1..1] **playingMaterial** (CONF:4423-32107).
 - 1. This playingMaterial **SHALL** contain exactly one [1..1] `@classCode="MAT"` Material (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:4423-32108).
 - 2. This playingMaterial **SHALL** contain exactly one [1..1] `@determinerCode="KIND"` Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:4423-32109).
 - 3. This playingMaterial **SHALL** contain exactly one [1..1] **code** (CONF:4423-32110).

Note: QDM Attribute: Code

 - a. This code **SHOULD** contain zero or one [0..1] `@valueSet` (CONF:4423-32111).
 - 13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-34473) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="AUT"` Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34476).
 - b. **SHALL** contain exactly one [1..1] **time** (CONF:4423-34474).
 - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:4423-34477).

Note: QDM Attribute: Author dateTime (The time the recommendation is authored (i.e., provided to the patient))
 - c. **SHALL** contain exactly one [1..1] **role** (CONF:4423-34475).

- i. This role **SHALL** contain exactly one [1..1] @classCode="ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-34478).

14. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35391) such that it

Note: QDM Attribute: Requester

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CONF:4423-35395).
- b. **SHALL** contain exactly one [1..1] Entity - Practitioner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01) (CONF:4423-35392).

15. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35393) such that it

Note: QDM Attribute: Requester

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35396).
- b. **SHALL** contain exactly one [1..1] Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01) (CONF:4423-35394).

16. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35924) such that it

Note: QDM Attribute: Requester

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35926).
- b. **SHALL** contain exactly one [1..1] Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35925).

17. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35397) such that it

Note: QDM Attribute: Requester

- a. **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35399).
- b. **SHALL** contain exactly one [1..1] Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35398).

18. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-32112) 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:4423-32113).
- b. **SHALL** contain exactly one [1..1] Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01) (CONF:4423-32114).

19. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-34488) such that it

Note: QDM Attribute: Supply

- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" Refers To (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-34489).

- b. **SHALL** contain exactly one [1..1] **Supply** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01) (CONF:4423-34849).

Figure 76: Substance, Recommended (V4) Example

```
<substanceAdministrationCriteria classCode="SBADM" moodCode="INT">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.78" extension="2019-05-01"/>
  </templateId>
  <id root="e208b889-30eb-4c2b-be1f-372084e98bbc"/>
  <title value="Substance, Recommended"/>
  <statusCode code="active"/>
  <participation typeCode="CSM">
    <role classCode="ADMM">
      <playingMaterial classCode="MAT" determinerCode="KIND">
        <code valueSet="{$QDMElementValueSetOID}" />
      </playingMaterial>
    </role>
  </participation>
</substanceAdministrationCriteria>
```

5.73 Supply

[supplyCriteria: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01 (open)]

Table 157: Supply Contexts

Contained By:	Contains:
Immunization, Order (V3) (optional) Medication, Discharge (V3) (optional) Medication, Order (V4) (optional) Substance, Recommended (V4) (optional) Substance, Order (V4) (optional)	

This template represents the QDM Attribute: Supply

The quantity (amount) of therapeutic agent that was provided to a patient (i.e., number of doses, number of tablets or pills, volume of medication)

Table 158: Supply Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
supplyCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01)					
@classCode	1..1	SHALL		3346-34795	SPLY
@moodCode	1..1	SHALL		3346-34796	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		3346-34771	
item	1..1	SHALL		3346-34772	
@root	1..1	SHALL		3346-34783	2.16.840.1.113883.10.20.28.4.129
@extension	1..1	SHALL		3346-34784	2017-08-01
id	1..1	SHALL		3346-34797	
quantity	1..1	SHALL		3346-34800	

1. **SHALL** contain exactly one [1..1] **@classCode**="SPLY" Supply (CONF:3346-34795).
 2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3346-34796).
 3. **SHALL** contain exactly one [1..1] **templateId** (CONF:3346-34771).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:3346-34772) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.129" (CONF:3346-34783).
 - ii. **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3346-34784).
 4. **SHALL** contain exactly one [1..1] **id** (CONF:3346-34797).
 5. **SHALL** contain exactly one [1..1] **quantity** (CONF:3346-34800).
- Note: QDM Attribute: Supply

Figure 77: Supply Example

```
<supplyCriteria classCode="SPLY" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.129" extension="2017-08-01"/>
  </templateId>
  <id root="5ab17ed3-166c-4265-9c61-d254e30c8e83"/>
  <title value="Supply"/>
  <quantity xsi:type="IVL_PQ">
    <low value="50" unit="mL"/>
  </quantity>
</supplyCriteria>
```

5.74 Symptom (V3)

[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.116:2019-05-01 (open)]

Table 159: Symptom (V3) Contexts

Contained By:	Contains:
Data Criteria Section (V4) (optional)	Severity Observation (V2) (optional) Entity - Practitioner (optional) Entity - Organization (optional) Entity - Patient (optional) Entity - Care Partner (optional)

This template represents the QDM data type: Symptom.

A symptom is a patient's reported perception of departure from normal functioning that is present at the time indicated.

Timing: The Prevalence Period references the time from the onset date to the abatement date.

The onset datetime corresponds to the implicit start datetime of the datatype and the abatement datetime corresponds to the implicit stop datetime of the datatype. If the abatement datetime is null, then the symptom is considered to still be active. When this datatype is used with timing relationships, the criterion is looking for whether the symptom was active for the time frame indicated by the timing relationships.

Table 160: Symptom (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.116:2019-05-01)					
@classCode	1..1	SHALL		4423-34108	OBS
@moodCode	1..1	SHALL		4423-34109	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4423-34079	
item	1..1	SHALL		4423-34080	
@root	1..1	SHALL		4423-34093	2.16.840.1.113883.10.20.28.4.116
@extension	1..1	SHALL		4423-34480	2019-05-01
id	1..1	SHALL		4423-34112	
code	1..1	SHALL		4423-34081	
@code	1..1	SHALL		4423-34095	418799008
@codeSystem	1..1	SHALL		4423-34096	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
title	1..1	SHALL		4423-34111	
statusCode	1..1	SHALL		4423-34082	
@code	1..1	SHALL		4423-34097	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	4423-34083	
low	0..1	MAY		4423-34098	
high	0..1	MAY		4423-34099	
value	1..1	SHALL	CD	4423-34088	
@valueSet	0..1	SHOULD		4423-34105	
participation	0..1	MAY		4423-35382	
@typeCode	1..1	SHALL		4423-35386	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-	Entity - Practitioner (identifier:

XPath	Card.	Verb	Data Type	CONF#	Value
				35383	urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.137:2019-05-01
participation	0..1	MAY		4423-35384	
@typeCode	1..1	SHALL		4423-35387	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35385	Entity - Organization (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.135:2019-05-01
participation	0..1	MAY		4423-35921	
@typeCode	1..1	SHALL		4423-35923	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
role	1..1	SHALL		4423-35922	Entity - Care Partner (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.134:2019-05-01
participation	0..1	MAY		4423-35388	
@typeCode	1..1	SHALL		4423-35390	urn:oid:2.16.840.1.113883.5.9 0 (HL7ParticipationType) = PART
patient	1..1	SHALL		4423-35389	Entity - Patient (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.136:2019-05-01
outboundRelationship	0..1	MAY		4423-34078	
@typeCode	1..1	SHALL		4423-34092	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		4423-34091	Severity Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.28.4.93:2017-08-01

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CONF:4423-34108).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:4423-34109).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:4423-34079) such that it
 - a. **SHALL** contain exactly one [1..1] **item** (CONF:4423-34080).
 - i. This item **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.28.4.116"** (CONF:4423-34093).

- ii. This item **SHALL** contain exactly one [1..1] `@extension="2019-05-01"` (CONF:4423-34480).
- 4. **SHALL** contain exactly one [1..1] **id** (CONF:4423-34112).
- 5. **SHALL** contain exactly one [1..1] **code** (CONF:4423-34081).
 - a. This code **SHALL** contain exactly one [1..1] `@code="418799008"` Symptom (CONF:4423-34095).
 - 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:4423-34096).
- 6. **SHALL** contain exactly one [1..1] **title** (CONF:4423-34111).
- 7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4423-34082).
 - a. This statusCode **SHALL** contain exactly one [1..1] `@code="completed"` Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-34097).
- 8. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4423-34083) such that it

Note: QDM Attribute: Prevalence Period (References the time from the onset date to the abatement date)

 - a. **MAY** contain zero or one [0..1] **low** (CONF:4423-34098).

Note: Onset dateTime
 - b. **MAY** contain zero or one [0..1] **high** (CONF:4423-34099).

Note: Abatement dateTime (If the abatement datetime is null, then the symptom is considered to still be active)
- 9. **SHALL** contain exactly one [1..1] **value** with `@xsi:type="CD"` (CONF:4423-34088).

Note: QDM Attribute: Code

 - a. This value **SHOULD** contain zero or one [0..1] `@valueSet` (CONF:4423-34105).
- 10. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35382).

Note: QDM Attribute: Recorder

 - a. The participation, if present, **SHALL** contain exactly one [1..1] `@typeCode="PART"` participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35386).
 - b. The participation, if present, **SHALL** contain exactly one [1..1] **Entity - Practitioner** (`identifier:urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01`) (CONF:4423-35383).
- 11. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35384).

Note: QDM Attribute: Recorder

 - a. The participation, if present, **SHALL** contain exactly one [1..1] `@typeCode="PART"` participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35387).
 - b. The participation, if present, **SHALL** contain exactly one [1..1] **Entity - Organization** (`identifier:urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01`) (CONF:4423-35385).
- 12. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35921).

Note: QDM Attribute: Recorder

- a. The participation, if present, **SHALL** contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35923).
 - b. The participation, if present, **SHALL** contain exactly one [1..1] [Entity - Care Partner](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01) (CONF:4423-35922).
13. **MAY** contain zero or one [0..1] **participation** (CONF:4423-35388).
 Note: QDM Attribute: Recorder
- a. The participation, if present, **SHALL** contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35390).
 - b. The participation, if present, **SHALL** contain exactly one [1..1] [Entity - Patient](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01) (CONF:4423-35389).
14. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:4423-34078) 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:4423-34092).
 - b. **SHALL** contain exactly one [1..1] [Severity Observation \(v2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.93:2017-08-01) (CONF:4423-34091).

Figure 78: Symptom (V3) Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.116" extension="2019-05-01"/>
  </templateId>
  <id root="9e4e810d-3c3e-461e-86f8-6fe7a0b1ca2b"/>
  <code code="418799008" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT">
    <displayName value="Symptom"/>
  </code>
  <title value="Symptom"/>
  <statusCode code="completed"/>
  <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

5.75 Target Outcome

[observationCriteria: identifier
 urn:hl7ii:2.16.840.1.113883.10.20.28.4.128:2017-08-01 (open)]

Table 161: Target Outcome Contexts

Contained By:	Contains:
<u>Care Goal (V3)</u> (optional)	

This template represents the QDM attribute: Target Outcome.
The expected outcome that will indicate the care goal is achieved, or met.

Table 162: Target Outcome Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.128:2017-08-01)					
@classCode	1..1	SHALL		3346-29112	OBS
@moodCode	1..1	SHALL		3346-29113	GOL
templateId	1..1	SHALL		3346-29104	
item	1..1	SHALL		3346-29105	
@root	1..1	SHALL		3346-29108	2.16.840.1.113883.10.20.28.4.128
@extension	1..1	SHALL		3346-29109	2017-08-01
id	1..1	SHALL		3346-29114	
code	1..1	SHALL		3346-29106	
@code	1..1	SHALL		3346-29110	385676005
@codeSystem	1..1	SHALL		3346-29111	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
title	1..1	SHALL		3346-29116	
value	1..1	SHALL		3346-29107	

1. **SHALL** contain exactly one [1..1] **@classCode**= "OBS" Observation (CONF:3346-29112).
2. **SHALL** contain exactly one [1..1] **@moodCode**= "GOL" Goal (CONF:3346-29113).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:3346-29104).
 - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:3346-29105) such that it
 - i. **SHALL** contain exactly one [1..1] **@root**= "2.16.840.1.113883.10.20.28.4.128" (CONF:3346-29108).
 - ii. **SHALL** contain exactly one [1..1] **@extension**= "2017-08-01" (CONF:3346-29109).
4. **SHALL** contain exactly one [1..1] **id** (CONF:3346-29114).
5. **SHALL** contain exactly one [1..1] **code** (CONF:3346-29106).
 - a. This code **SHALL** contain exactly one [1..1] **@code**= "385676005" Outcome of action (CONF:3346-29110).

- 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:3346-29111).
- 6. **SHALL** contain exactly one [1..1] **title** (CONF:3346-29116).
- 7. **SHALL** contain exactly one [1..1] **value** (CONF:3346-29107).

Figure 79: Target Outcome Example

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.128" extension="2017-08-01"/>
  </templateId>
  <code code="385676005" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT">
    <displayName value="Outcome of action"/>
  </code>
  <title value="Target Outcome"/>
  <value xsi:type="CD" valueSet="{$QDMElementValueSetOID}"/>
</observationCriteria>
```

6 TEMPLATE IDS IN THIS GUIDE

Table 163: Template List

Template Title	Template Type	templateId
QDM Templates for CQL-Based HQMF Header (V4)	Document	urn:hl7ii:2.16.840.1.113883.10.20.28.1.2:2019-05-01
Data Criteria Section (V4)	Section	urn:hl7ii:2.16.840.1.113883.10.20.28.2.6:2019-05-01
Measure Description Section	Section	urn:oid:2.16.840.1.113883.10.20.28.2.3
Measure Observations Section (V2)	Section	urn:hl7ii:2.16.840.1.113883.10.20.28.2.4:2018-05-01
Population Criteria Section (V2)	Section	urn:hl7ii:2.16.840.1.113883.10.20.28.2.7:2017-08-01
Admission Source	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.123:2017-05-01
Adverse Event (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.120:2019-05-01
Allergy Intolerance (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.119:2019-05-01
Assessment, Order (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.131:2019-05-01
Assessment, Performed (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.117:2019-05-01
Assessment, Recommended (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.118:2019-05-01
Care Goal (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.7:2019-05-01
Cause	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.105:2017-05-01
Communication, Performed (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.132:2019-05-01
Component	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.121:2017-05-01
Days Supplied	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.133:2018-05-01
Device, Applied (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.13:2019-05-01
Device, Order (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.15:2019-05-01
Device, Recommended (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.16:2019-05-01
Diagnosis (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.110:2019-05-01
Diagnostic Study, Order (V4)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.

Template Title	Template Type	templateId
		28.4.22:2019-05-01
Diagnostic Study, Performed (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.23:2019-05-01
Diagnostic Study, Recommended (V4)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.24:2019-05-01
Dosage	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.125:2017-05-01
Encounter Diagnosis	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.138:2019-05-01
Encounter, Order (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.27:2019-05-01
Encounter, Performed (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.5:2019-05-01
Encounter, Recommended (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.28:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.134:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.136:2019-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.137:2019-05-01
Facility Location	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.92:2017-05-01
Family History (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.111:2019-05-01
Immunization, Administered (V4)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.112:2019-05-01
Immunization, Order (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.113:2019-05-01
Incision Datetime	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.89:2017-05-01
Intervention, Order (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.35:2019-05-01
Intervention, Performed (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.36:2019-05-01
Intervention, Recommended (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.37:2019-05-01
Laboratory Test Component	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.126:2017-05-01
Laboratory Test Reference Range	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.124:2017-05-01
Laboratory Test, Order (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.41:2019-05-01
Laboratory Test, Performed (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.

Template Title	Template Type	templateId
		28.4.42:2019-05-01
<u>Laboratory Test, Recommended (V3)</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.43:2019-05-01
<u>Medication, Active (V4)</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.44:2019-05-01
<u>Medication, Administered (V4)</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.45:2019-05-01
<u>Medication, Discharge (V3)</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.48:2019-05-01
<u>Medication, Dispensed (V3)</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.49:2019-05-01
<u>Medication, Order (V4)</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.51:2019-05-01
Ordinality (RETIRED)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.97:2019-05-01
<u>Patient Care Experience (V2)</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.52:2019-05-01
<u>Patient Characteristic (V2)</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.53:2017-08-01
<u>Patient Characteristic Birth Date</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.54:2017-05-01
<u>Patient Characteristic Clinical Trial Participant</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.6:2017-05-01
<u>Patient Characteristic Ethnicity</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.56:2017-05-01
<u>Patient Characteristic Expired</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.57:2017-05-01
<u>Patient Characteristic Payer</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.58:2017-05-01
<u>Patient Characteristic Race</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.59:2017-05-01
<u>Patient Characteristic Sex</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.55:2017-05-01
<u>Physical Exam, Order (V3)</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.61:2019-05-01
<u>Physical Exam, Performed (V3)</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.62:2019-05-01
<u>Physical Exam, Recommended (V3)</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.63:2019-05-01
<u>Present On Admission Indicator</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.140:2019-05-01
Principal Diagnosis (RETIRED)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.122:2019-05-01
<u>Procedure, Order (V4)</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.66:2019-05-01
<u>Procedure, Performed (V4)</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.

Template Title	Template Type	templateId
		28.4.67:2019-05-01
Procedure, Recommended (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.68:2019-05-01
Program Participation (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.130:2019-05-01
Provider Care Experience (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.70:2019-05-01
Provider Characteristic (RETIRED)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.71:2019-05-01
Rank	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.139:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.88:2017-05-01
Related Person	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.141:2019-05-01
Related To	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.127:2017-08-01
Result (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.101:2017-08-01
Severity Observation (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.93:2017-08-01
Status (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.94:2017-08-01
Substance, Administered (V4)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.73:2019-05-01
Substance, Order (V4)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.77:2019-05-01
Substance, Recommended (V4)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.78:2019-05-01
Supply	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.129:2017-08-01
Symptom (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.116:2019-05-01
Target Outcome	Entry	urn:hl7ii:2.16.840.1.113883.10.20. 28.4.128:2017-08-01

Table 164: Template Containments

Template Title	Template Type	templateId
QDM Templates for CQL-Based HQMF Header (V4)	Document	urn:hl7ii:2.16.840.1.113883.10.20.28.1.2:2019-05-01
Measure Description Section	Section	urn:oid:2.16.840.1.113883.10.20.28.2.3
Population Criteria Section (V2)	Section	urn:hl7ii:2.16.840.1.113883.10.20.28.2.7:2017-08-01
Measure Observations Section (V2)	Section	urn:hl7ii:2.16.840.1.113883.10.20.28.2.4:2018-05-01
Ordinality (RETIRED)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.97:2019-05-01
Principal Diagnosis (RETIRED)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.122:2019-05-01
Provider Characteristic (RETIRED)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.71:2019-05-01
Data Criteria Section (V4)	Section	urn:hl7ii:2.16.840.1.113883.10.20.28.2.6:2019-05-01
Patient Characteristic Clinical Trial Participant	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.6:2017-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Patient Characteristic Birth Date	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.54:2017-05-01
Patient Characteristic Ethnicity	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.56:2017-05-01
Patient Characteristic Expired	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.57:2017-05-01
Cause	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.105:2017-05-01
Patient Characteristic Payer	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.58:2017-05-01
Patient Characteristic Race	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.59:2017-05-01
Patient Characteristic Sex	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.55:2017-05-01
Patient Characteristic (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.53:2017-08-01
Adverse Event (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.120:2019-05-01
Facility Location	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01
Severity Observation (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.93:2017-08-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01

Template Title	Template Type	templateId
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Allergy Intolerance (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.119:2019-05-01
Severity Observation (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.93:2017-08-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Assessment, Order (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.131:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Assessment, Performed (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.117:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Component	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.121:2017-05-01
Related To	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.127:2017-08-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01

Template Title	Template Type	templateId
Assessment, Recommended (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.118:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Care Goal (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.7:2019-05-01
Related To	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.127:2017-08-01
Target Outcome	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.128:2017-08-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Communication, Performed (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.132:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Related To	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.127:2017-08-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Device, Applied (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.13:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01

Template Title	Template Type	templateId
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Device, Order (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.15:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Device, Recommended (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.16:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Diagnostic Study, Order (V4)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.22:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Diagnostic Study, Performed (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.23:2019-05-01
Facility Location	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01

Template Title	Template Type	templateId
<u>Reason</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<u>Component</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.121:2017-05-01
<u>Result (V2)</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01
<u>Status (V2)</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.94:2017-08-01
<u>Entity - Practitioner</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
<u>Entity - Organization</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
<u>Entity - Patient</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
<u>Entity - Care Partner</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
<u>Diagnosis (V3)</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.110:2019-05-01
<u>Severity Observation (V2)</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.93:2017-08-01
<u>Entity - Practitioner</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
<u>Entity - Organization</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
<u>Entity - Patient</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
<u>Entity - Care Partner</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
<u>Diagnostic Study, Recommended (V4)</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.24:2019-05-01
<u>Entity - Practitioner</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
<u>Entity - Organization</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
<u>Entity - Patient</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
<u>Entity - Care Partner</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
<u>Encounter, Order (V2)</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.27:2019-05-01
<u>Facility Location</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01
<u>Reason</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<u>Entity - Practitioner</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01

Template Title	Template Type	templateId
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Encounter, Performed (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.5:2019-05-01
Admission Source	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.123:2017-05-01
Facility Location	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Encounter Diagnosis	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.138:2019-05-01
Present On Admission Indicator	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.140:2019-05-01
Rank	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.139:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Encounter, Recommended (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.28:2019-05-01
Facility Location	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Family History (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.111:2019-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01

Template Title	Template Type	templateId
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Immunization, Administered (V4)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.112:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Immunization, Order (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.113:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Supply	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Intervention, Order (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.35:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Intervention, Performed (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.36:2019-05-01

Template Title	Template Type	templateId
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Result (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01
Status (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.94:2017-08-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Intervention, Recommended (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.37:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Laboratory Test, Order (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.41:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Laboratory Test, Performed (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.42:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Laboratory Test Component	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.126:2017-05-01
Laboratory Test Reference Range	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.124:2017-05-01

Template Title	Template Type	templateId
Laboratory Test Reference Range	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.124:2017-05-01
Result (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01
Status (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.94:2017-08-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Laboratory Test, Recommended (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.43:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Medication, Active (V4)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.44:2019-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Medication, Administered (V4)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.45:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01

Template Title	Template Type	templateId
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Medication, Discharge (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.48:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Supply	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01
Days Supplied	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.133:2018-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Medication, Dispensed (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.49:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Dosage	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.125:2017-05-01
Days Supplied	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.133:2018-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Medication, Order (V4)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.51:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Supply	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01
Days Supplied	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.133:2018-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01

Template Title	Template Type	templateId
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Patient Care Experience (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.52:2019-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Provider Care Experience (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.70:2019-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Physical Exam, Performed (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.62:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Component	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.121:2017-05-01
Result (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Physical Exam, Order (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.61:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01

Template Title	Template Type	templateId
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Symptom (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.116:2019-05-01
Severity Observation (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.93:2017-08-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Substance, Recommended (V4)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.78:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Supply	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Substance, Order (V4)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.77:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Supply	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Substance, Administered (V4)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.73:2019-05-01

Template Title	Template Type	templateId
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Program Participation (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.130:2019-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Procedure, Recommended (V3)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.68:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
Entity - Organization	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
Entity - Patient	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
Rank	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.139:2019-05-01
Entity - Care Partner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
Procedure, Performed (V4)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.67:2019-05-01
Reason	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
Component	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.121:2017-05-01
Incision Datetime	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.89:2017-05-01
Result (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01
Status (V2)	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.94:2017-08-01
Entity - Practitioner	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01

Template Title	Template Type	templateId
<u>Entity - Organization</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
<u>Entity - Patient</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
<u>Rank</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.139:2019-05-01
<u>Entity - Care Partner</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
<u>Procedure, Order (V4)</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.66:2019-05-01
<u>Reason</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<u>Entity - Practitioner</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
<u>Entity - Organization</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
<u>Entity - Patient</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
<u>Rank</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.139:2019-05-01
<u>Entity - Care Partner</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
<u>Physical Exam, Recommended (V3)</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.63:2019-05-01
<u>Reason</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<u>Entity - Practitioner</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.137:2019-05-01
<u>Entity - Organization</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.135:2019-05-01
<u>Entity - Patient</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.136:2019-05-01
<u>Entity - Care Partner</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.134:2019-05-01
<u>Related Person</u>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.141:2019-05-01

7 CODE SYSTEMS IN THIS GUIDE

Table 165: Code Systems

Name	OID
EntityDeterminer	urn:oid:2.16.840.1.113883.5.30
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
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
HL7EntityClass	urn:oid:2.16.840.1.113883.5.41
HL7EntityDeterminer	urn:oid:2.16.840.1.113883.5.30
HL7ObservationValue	urn:oid:2.16.840.1.113883.5.1063
HL7ParticipationType	urn:oid:2.16.840.1.113883.5.90
HL7RoleClass	urn:oid:2.16.840.1.113883.5.110
HL7RoleCode	urn:oid:2.16.840.1.113883.5.111
HL7RoleLinkType	urn:oid:2.16.840.1.113883.5.107
LOINC	urn:oid:2.16.840.1.113883.6.1
SNOMED CT	urn:oid:2.16.840.1.113883.6.96
UCUM	urn:oid:2.16.840.1.113883.6.8

8 RETIRED TEMPLATES

Table 166: Retired Templates

Name	OID	Description
Ordinality (RETIRED)	urn:hl7ii:2.16.840.1.113883.10 .20.28.4.97:2019-05-01	This template represents the QDM attribute: Ordinality
Principal Diagnosis (RETIRED)	urn:hl7ii:2.16.840.1.113883.10 .20.28.4.122:2019-05-01	The coded diagnosis/problem established after study to be chiefly responsible for occasioning the admission of the patient to the hospital for care.
Provider Characteristic (RETIRED)	urn:hl7ii:2.16.840.1.113883.10 .20.28.4.71:2019-05-01	<p>This template represents the QDM data type: Provider Characteristic.</p> <p>Provider characteristics refer to specific factors about a provider. Included are demographics, behavioral factors, social, or cultural factors, available resources, and preferences.</p> <p>Timing: The time the characteristic is authored.</p> <p>Provider Characteristic data type is retired in QDM 5.5</p>

9 CHANGES FROM PREVIOUS VERSION

9.1 QDM Templates for CQL-Based HQMF Header (V4)

[QDM Templates for CQL-Based HQMF Header \(V4\)](#)

[\(urn:hl7ii:2.16.840.1.113883.10.20.28.1.2:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	QDM Templates for CQL-Based HQMF Header (V3)	QDM Templates for CQL-Based HQMF Header (V4)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.1.2:2018-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.1.2:2019-05-01
Description	This is the document header template for a CQL-based HQMF document that contains QDM-based entry templates (QDM Version 5.4).	This is the document header template for a CQL-based HQMF document that contains QDM-based entry templates (QDM Version 5.5).
CONF #: 4423-34908 Added		This setId SHALL contain exactly one [1..1] @root (CONF:4423-34908).
CONF #: 4423-34909 Added		This setId SHALL contain exactly one [1..1] @extension (CONF:4423-34909).
CONF #: 4423-34910 Added		This id SHALL contain exactly one [1..1] @root (CONF:4423-34910). Note: The id of the component eCQM
CONF #: 4423-34911 Added		This id SHOULD contain zero or one [0..1] @identifierName (CONF:4423-34911). Note: The title of the component eCQM
CONF #: 4423-34912 Added		The setId, if present, SHALL contain exactly one [1..1] @root (CONF:4423-34912). Note: The setId of the component eCQM
CONF #: 4423-34913 Added		VersionNumber SHALL be present if the setId element is present and if present, it SHALL have a value attribute that is the versionNumber of the component eCQM (CONF:4423-34913).
CONF #: 4423-35955 Added		SHALL contain exactly one [1..1] dataCriteriaSection (CONF:4423-35955).
CONF #: 3372-18833 Removed	SHALL contain exactly one [1..1] dataCriteriaSection (CONF:3372-	

Change	Old	New
	18833).	
CONF #: 3372-34899 Removed	SHALL contain exactly one [1..1] parentQualityMeasureDocument (CONF:3372-34899).	
CONF #: 3372-34900 Removed	This parentQualityMeasureDocument SHALL contain exactly one [1..1] id (CONF:3372-34900).	
CONF #: 3372-34901 Removed	This parentQualityMeasureDocument SHOULD contain zero or one [0..1] versionNumber (CONF:3372-34901).	
CONF #: 4423-33755 Modified	SHALL contain zero or one [0..1] @extension="2018-05-01" (CONF:3372-33755).	SHALL contain zero or one [0..1] @extension="2019-05-01" (CONF:4423-33755).
CONF #: 4423-34898 Modified	SHALL contain at least one [1..*] relatedDocument (CONF:3372-34898) such that it	MAY contain at least one [1..*] relatedDocument (CONF:4423-34898) such that it
CONF #: 4423-34903 Modified	This id SHALL contain exactly one [1..1] @root (CONF:3372-34903). Note: The id of the component eCQM	This expressionDocument SHALL contain exactly one [1..1] setId (CONF:4423-34903).
CONF #: 4423-34904 Modified	This id SHOULD contain zero or one [0..1] @identifierName (CONF:3372-34904). Note: The title of the component eCQM	SHALL contain exactly one [1..1] componentQualityMeasureDocument (CONF:4423-34904).
CONF #: 4423-34905 Modified	This parentQualityMeasureDocument SHOULD contain zero or one [0..1] setId (CONF:3372-34905).	This componentQualityMeasureDocument SHALL contain exactly one [1..1] id (CONF:4423-34905).
CONF #: 4423-34906 Modified	VersionNumber SHALL be present if the setId element is present and if present, it SHALL have a value attribute that is the versionNumber of the component eCQM (CONF:3372-34906).	This componentQualityMeasureDocument SHOULD contain zero or one [0..1] setId (CONF:4423-34906).
CONF #: 4423-34907 Modified	The setId, if present, SHALL contain exactly one [1..1] @root (CONF:3372-34907). Note: The setId of the component eCQM	This componentQualityMeasureDocument SHOULD contain zero or one [0..1] versionNumber (CONF:4423-34907).

9.2 Adverse Event (V3)

[Adverse Event \(V3\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.120:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Adverse Event (V2)	Adverse Event (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.120:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.120:2019-05-01
Description	<p>This template represents the QDM data type: Adverse Event</p> <p>Adverse Event is used to define any untoward medical occurrence associated with the clinical care delivery, whether or not considered drug related.</p> <p>Timing: The Prevalence Period references the time from the onset date to the abatement date.</p>	<p>This template represents the QDM data type: Adverse Event</p> <p>Adverse Event is used to define any untoward medical occurrence associated with the clinical care delivery, whether or not considered drug related.</p> <p>Timing: The Relevant date/Time references the adverse event occurred. The Author date/Time references the time the adverse event was recorded.</p>
CONF #: 4423-34966 Added		<p>MAY contain zero or one [0..1] participation (CONF:4423-34966) such that it</p> <p>Note: QDM Attribute: Recorder</p>
CONF #: 4423-34967 Added		SHALL contain exactly one [1..1] role (CONF:4423-34967).
CONF #: 4423-34968 Added		<p>MAY contain zero or one [0..1] participation (CONF:4423-34968) such that it</p> <p>Note: QDM Attribute: Recorder</p>
CONF #: 4423-34969 Added		SHALL contain exactly one [1..1] role (CONF:4423-34969).
CONF #: 4423-34970 Added		<p>SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34970).</p>
CONF #: 4423-34971 Added		<p>SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34971).</p>
CONF #: 4423-34972 Added		<p>MAY contain zero or one [0..1] participation (CONF:4423-34972) such that it</p> <p>Note: QDM Attribute: Recorder</p>
CONF #: 4423-34973 Added		SHALL contain exactly one [1..1] patient (CONF:4423-34973).

Change	Old	New
CONF #: 4423-34974 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34974).
CONF #: 4423-35795 Added		MAY contain zero or one [0..1] participation (CONF:4423-35795) such that it Note: QDM Attribute: Recorder
CONF #: 4423-35796 Added		SHALL contain exactly one [1..1] role (CONF:4423-35796).
CONF #: 4423-35797 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35797).
CONF #: 3346-34200 Removed	MAY contain zero or one [0..1] high (CONF:3346-34200). Note: StopTime – the time the adverse event completed	
CONF #: 4423-34531 Modified	SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-34531).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-34531).
CONF #: 4423-34199 Modified	MAY contain zero or one [0..1] low (CONF:3346-34199). Note: StartTime – the time the adverse event began	SHALL contain exactly one [1..1] low (CONF:4423-34199). Note: QDM Attribute: Relevant dateTime (references the adverse event occurred)
CONF #: 4423-34501 Modified	SHALL contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3346-34501).	SHALL contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34501).

9.3 Allergy Intolerance (V3)

Allergy Intolerance (V3) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.119:2019-05-01)

Change	Old	New
Status	Published	Ballot
Name	Allergy Intolerance (V2)	Allergy Intolerance (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.119:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.119:2019-05-01
CONF #: 4423-34979 Added		MAY contain zero or one [0..1] participation (CONF:4423-34979) such that it Note: QDM Attribute: Recorder
CONF #: 4423-34980 Added		SHALL contain exactly one [1..1] role (CONF:4423-34980).
CONF #: 4423-34981 Added		MAY contain zero or one [0..1] participation (CONF:4423-34981) such that it Note: QDM Attribute: Recorder
CONF #: 4423-34982 Added		SHALL contain exactly one [1..1] patient (CONF:4423-34982).
CONF #: 4423-34983 Added		MAY contain zero or one [0..1] participation (CONF:4423-34983) such that it Note: QDM Attribute: Recorder
CONF #: 4423-34984 Added		SHALL contain exactly one [1..1] role (CONF:4423-34984).
CONF #: 4423-34985 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34985).
CONF #: 4423-34986 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34986).
CONF #: 4423-34987 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34987).
CONF #: 4423-35798 Added		MAY contain zero or one [0..1] participation (CONF:4423-35798) such that it Note: QDM Attribute: Recorder
CONF #: 4423-35799 Added		SHALL contain exactly one [1..1] role (CONF:4423-35799).

Change	Old	New
CONF #: 4423-35800 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35800).
CONF #: 4423-34532 Modified	SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-34532).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-34532).

9.4 Assessment, Order (V2)

[Assessment, Order \(V2\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.131:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Assessment, Order	Assessment, Order (V2)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.131:2018-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.131:2019-05-01
CONF #: 4423-34988 Added		MAY contain zero or one [0..1] participation (CONF:4423-34988) such that it Note: QDM Attribute: Requester
CONF #: 4423-34989 Added		SHALL contain exactly one [1..1] role (CONF:4423-34989).
CONF #: 4423-34990 Added		MAY contain zero or one [0..1] participation (CONF:4423-34990) such that it Note: QDM Attribute: Requester
CONF #: 4423-34991 Added		SHALL contain exactly one [1..1] patient (CONF:4423-34991).
CONF #: 4423-34992 Added		MAY contain zero or one [0..1] participation (CONF:4423-34992) such that it Note: QDM Attribute: Requester
CONF #: 4423-34993 Added		SHALL contain exactly one [1..1] role (CONF:4423-34993).
CONF #: 4423-34994 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34994).
CONF #: 4423-34995 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34995).
CONF #: 4423-34996 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34996).
CONF #: 4423-35801 Added		MAY contain zero or one [0..1] participation (CONF:4423-35801) such that it Note: QDM Attribute: Requester
CONF #: 4423-35802 Added		SHALL contain exactly one [1..1] role (CONF:4423-35802).

Change	Old	New
CONF #: 4423-35803 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35803).
CONF #: 4423-34665 Modified	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-34665).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-34665).

9.5 Assessment, Performed (V3)

[Assessment, Performed \(V3\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.117:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Assessment, Performed (V2)	Assessment, Performed (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.117:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.117:2019-05-01
Description	<p>This template represents the QDM data type: Assessment, Performed. Assessment is a resource used to define specific observations that clinicians use to guide treatment of the patient. An assessment can be a single question, or observable entity with an expected response, an organized collection of questions intended to solicit information from patients, providers or other individuals, or a single observable entity that is part of such a collection of questions. The Assessment Performed template represents the completion of an assessment.</p> <p>Timing: The time the assessment is completed; author time.</p>	<p>This template represents the QDM data type: Assessment, Performed. Assessment is a resource used to define specific observations that clinicians use to guide treatment of the patient. An assessment can be a single question, or observable entity with an expected response, an organized collection of questions intended to solicit information from patients, providers or other individuals, or a single observable entity that is part of such a collection of questions. The Assessment Performed template represents the completion of an assessment.</p> <p>Timing: The time the assessment is performed; Relevant dateTime references timing for an assessment that occurs at a single point in time. Relevant Period references a start and stop time for an assessment that occurs over a time interval. author time. Author dateTime references the time the assessment was recorded and applies only when the record has no reference to the time the assessment was performed and only the recorded time is available. Negation of QDM datatype-related actions for a reason always use the author dateTime attribute to reference timing and must not use Relevant Period.</p>
CONF #: 4423-34997 Added		MAY contain zero or one [0..1] participation (CONF:4423-34997) such that it Note: QDM Attribute: Performer
CONF #: 4423-34998 Added		SHALL contain exactly one [1..1] role (CONF:4423-34998).
CONF #: 4423-34999 Added		MAY contain zero or one [0..1] participation (CONF:4423-34999)

Change	Old	New
		such that it Note: QDM Attribute: Performer
CONF #: 4423-35000 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35000).
CONF #: 4423-35001 Added		MAY contain zero or one [0..1] participation (CONF:4423-35001) such that it Note: QDM Attribute: Performer
CONF #: 4423-35002 Added		SHALL contain exactly one [1..1] role (CONF:4423-35002).
CONF #: 4423-35003 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35003).
CONF #: 4423-35004 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35004).
CONF #: 4423-35005 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35005).
CONF #: 4423-35804 Added		MAY contain zero or one [0..1] participation (CONF:4423-35804) such that it Note: QDM Attribute: Performer
CONF #: 4423-35805 Added		SHALL contain exactly one [1..1] role (CONF:4423-35805).
CONF #: 4423-35806 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35806).
CONF #: 4423-35956 Added		MAY contain zero or one [0..1] effectiveTime (CONF:4423-35956) such that it Note: QDM Attribute: Relevant Period (The Relevant Period references the time from the onset date to the abatement date)
CONF #: 4423-35957 Added		MAY contain zero or one [0..1] low (CONF:4423-35957). Note: start time of Relevant Period. QDM Attribute: Relevant dateTime.

Change	Old	New
CONF #: 4423-35958 Added		MAY contain zero or one [0..1] high (CONF:4423-35958). Note: stop time of Relevant Period
CONF #: 4423-34254 Modified	SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-34254).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-34254).

9.6 Assessment, Recommended (V3)

Assessment, Recommended (V3) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.118:2019-05-01)

Change	Old	New
Status	Published	Ballot
Name	Assessment, Recommended (V2)	Assessment, Recommended (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.118:2018-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.118:2019-05-01
CONF #: 4423-35006 Added		MAY contain zero or one [0..1] participation (CONF:4423-35006) such that it Note: QDM Attribute: Requester
CONF #: 4423-35007 Added		SHALL contain exactly one [1..1] role (CONF:4423-35007).
CONF #: 4423-35008 Added		MAY contain zero or one [0..1] participation (CONF:4423-35008) such that it Note: QDM Attribute: Requester
CONF #: 4423-35009 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35009).
CONF #: 4423-35010 Added		MAY contain zero or one [0..1] participation (CONF:4423-35010) such that it Note: QDM Attribute: Requester
CONF #: 4423-35011 Added		SHALL contain exactly one [1..1] role (CONF:4423-35011).
CONF #: 4423-35012 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35012).
CONF #: 4423-35013 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35013).
CONF #: 4423-35014 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35014).
CONF #: 4423-35807 Added		MAY contain zero or one [0..1] participation (CONF:4423-35807) such that it Note: QDM Attribute: Requester
CONF #: 4423-35808 Added		SHALL contain exactly one [1..1]

Change	Old	New
		role (CONF:4423-35808).
CONF #: 4423-35809 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35809).
CONF #: 3372-34277 Removed	This role MAY contain zero or one [0..1] id (CONF:3372-34277).	
CONF #: 4423-34273 Modified	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-34273).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-34273).

9.7 Care Goal (V3)

Care Goal (V3) (<urn:hl7ii:2.16.840.1.113883.10.20.28.4.7:2019-05-01>)

Change	Old	New
Status	Published	Ballot
Name	Care Goal (V2)	Care Goal (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.7:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.7:2019-05-01
CONF #: 4423-35015 Added		MAY contain zero or one [0..1] participation (CONF:4423-35015). Note: QDM Attribute: Performer
CONF #: 4423-35016 Added		The participation, if present, SHALL contain exactly one [1..1] role (CONF:4423-35016).
CONF #: 4423-35017 Added		MAY contain zero or one [0..1] participation (CONF:4423-35017). Note: QDM Attribute: Performer
CONF #: 4423-35018 Added		The participation, if present, SHALL contain exactly one [1..1] role (CONF:4423-35018).
CONF #: 4423-35019 Added		MAY contain zero or one [0..1] participation (CONF:4423-35019). Note: QDM Attribute: Performer
CONF #: 4423-35020 Added		The participation, if present, SHALL contain exactly one [1..1] patient (CONF:4423-35020).
CONF #: 4423-35021 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35021).
CONF #: 4423-35022 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35022).
CONF #: 4423-35023 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35023).
CONF #: 4423-35810 Added		MAY contain zero or one [0..1] participation (CONF:4423-35810). Note: QDM Attribute: Performer

Change	Old	New
CONF #: 4423-35811 Added		The participation, if present, SHALL contain exactly one [1..1] role (CONF:4423-35811).
CONF #: 4423-35812 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35812).
CONF #: 4423-35959 Added		MAY contain zero or one [0..1] activityTime (CONF:4423-35959).
CONF #: 4423-35960 Added		The activityTime, if present, SHALL contain exactly one [1..1] low (CONF:4423-35960). Note: QDM Attribute: statusDate (when the goal took effect)
CONF #: 4423-33051 Modified	SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-33051).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33051).

9.8 Communication, Performed (V2)

[Communication, Performed \(V2\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.132:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Communication, Performed	Communication, Performed (V2)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.132:2018-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.132:2019-05-01
Description	<p>This template represents the QDM data type: Communication, Performed</p> <p>Communication is a conveyance of information from one entity (e.g., person, organization, or device) to another.</p> <p>Timing:</p> <p>Relevant Period: The time the communication is sent (start time) to the time the communication is received (end time)</p> <p>Author dateTime the time the communication is documented (specifically significant for negation rationale, i.e., Communication Not Performed).</p>	<p>This template represents the QDM data type: Communication, Performed</p> <p>Communication is a conveyance of information from one entity (e.g., person, organization, or device) to another.</p> <p>Timing: sent dateTime – when the communication was sent; received dateTime – when the communication was received.</p> <p>Author dateTime the time the communication is documented (specifically significant for negation rationale, i.e., Communication Not Performed).</p>
CONF #: 4423-35024 Added		SHALL contain exactly one [1..1] observationCriteria (CONF:4423-35024).
CONF #: 4423-35025 Added		SHALL contain exactly one [1..1] templateId (CONF:4423-35025).
CONF #: 4423-35026 Added		This templateId SHALL contain exactly one [1..1] item (CONF:4423-35026) such that it
CONF #: 4423-35027 Added		SHALL contain exactly one [1..1] statusCode (CONF:4423-35027).
CONF #: 4423-35028 Added		<p>MAY contain zero or one [0..1] code (CONF:4423-35028).</p> <p>Note: QDM Attribute: Category - The type of message conveyed by a communication (e.g., notification, alert, reminder, instruction, etc.).</p>
CONF #: 4423-35029 Added		<p>MAY contain zero or more [0..*] outboundRelationship (CONF:4423-35029) such that it</p> <p>Note: QDM Attribute: Related To</p>
CONF #: 4423-35030 Added		SHALL contain exactly one [1..1] observationCriteria (CONF:4423-35030).
CONF #: 4423-35031 Added		MAY contain zero or one [0..1] effectiveTime (CONF:4423-35031)

Change	Old	New
		such that it
CONF #: 4423-35032 Added		MAY contain zero or one [0..1] participation (CONF:4423-35032) such that it
CONF #: 4423-35033 Added		SHALL contain exactly one [1..1] role (CONF:4423-35033).
CONF #: 4423-35034 Added		SHALL contain exactly one [1..1] @typeCode="RSON" Has Reason (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-35034).
CONF #: 4423-35035 Added		SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.2 8.4.132" (CONF:4423-35035).
CONF #: 4423-35036 Added		SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-35036).
CONF #: 4423-35037 Added		This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4423-35037).
CONF #: 4423-35038 Added		The code, if present, SHOULD contain zero or one [0..1] @valueSet (CONF:4423-35038).
CONF #: 4423-35039 Added		SHALL contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-35039).
CONF #: 4423-35040 Added		MAY contain zero or one [0..1] low (CONF:4423-35040). Note: QDM Attribute: sent dateTime – The time the communication is sent
CONF #: 4423-35041 Added		MAY contain zero or one [0..1] high (CONF:4423-35041). Note: QDM Attribute: received dateTime – The time the communication is received
CONF #: 4423-35042 Added		SHALL contain exactly one [1..1] @classCode="ACT" Act (CONF:4423-35042).
CONF #: 4423-35043 Added		SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001)

Change	Old	New
		(CONF:4423-35043).
CONF #: 4423-35044 Added		MAY contain zero or one [0..1] @actionNegationInd (CONF:4423-35044). Note: QDM Attribute: Negation Rationale
CONF #: 4423-35045 Added		SHALL contain exactly one [1..1] id (CONF:4423-35045).
CONF #: 4423-35046 Added		SHALL contain exactly one [1..1] title (CONF:4423-35046).
CONF #: 4423-35047 Added		SHALL contain exactly one [1..1] @typeCode="AUT" Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35047).
CONF #: 4423-35048 Added		MAY contain zero or one [0..1] participation (CONF:4423-35048) such that it Note: QDM Attribute: Recipient
CONF #: 4423-35049 Added		SHALL contain exactly one [1..1] role (CONF:4423-35049).
CONF #: 4423-35050 Added		SHALL contain exactly one [1..1] @typeCode="IRCP" Information Recipient (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35050).
CONF #: 4423-35052 Added		MAY contain zero or one [0..1] participation (CONF:4423-35052) such that it Note: QDM Attribute: Recipient
CONF #: 4423-35053 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35053).
CONF #: 4423-35054 Added		SHALL contain exactly one [1..1] @typeCode="IRCP" Information Recipient (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35054).
CONF #: 4423-35055 Added		MAY contain zero or one [0..1] participation (CONF:4423-35055) such that it Note: QDM Attribute: Sender
CONF #: 4423-35056 Added		SHALL contain exactly one [1..1] role (CONF:4423-35056).
CONF #: 4423-35057 Added		MAY contain zero or one [0..1] participation (CONF:4423-35057) such that it Note: QDM Attribute: Sender

Change	Old	New
CONF #: 4423-35058 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35058).
CONF #: 4423-35059 Added		SHALL contain exactly one [1..1] @typeCode="DIST" distributor (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35059).
CONF #: 4423-35060 Added		SHALL contain exactly one [1..1] @typeCode="DIST" distributor (CONF:4423-35060).
CONF #: 4423-35813 Added		MAY contain zero or one [0..1] participation (CONF:4423-35813) such that it Note: QDM Attribute: Recipient
CONF #: 4423-35814 Added		SHALL contain exactly one [1..1] role (CONF:4423-35814).
CONF #: 4423-35815 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35815).
CONF #: 3372-34682 Removed	SHALL contain exactly one [1..1] observationCriteria (CONF:3372-34682).	
CONF #: 3372-34683 Removed	SHALL contain exactly one [1..1] templateId (CONF:3372-34683).	
CONF #: 3372-34684 Removed	This templateId SHALL contain exactly one [1..1] item (CONF:3372-34684) such that it	
CONF #: 3372-34690 Removed	SHALL contain exactly one [1..1] statusCode (CONF:3372-34690).	
CONF #: 3372-34691 Removed	MAY contain zero or one [0..1] code (CONF:3372-34691). Note: QDM Attribute: Category - The type of message conveyed by a communication (e.g., notification, alert, reminder, instruction, etc.).	
CONF #: 3372-34692 Removed	MAY contain zero or more [0..*] outboundRelationship (CONF:3372-34692) such that it Note: QDM Attribute: Related To	
CONF #: 3372-34693 Removed	SHALL contain exactly one [1..1] observationCriteria (CONF:3372-34693).	
CONF #: 3372-34694 Removed	MAY contain zero or one [0..1] effectiveTime (CONF:3372-34694) such that it Note: QDM Attribute: Relevant Period - the time the	

Change	Old	New
	communication is sent (start time) to the time the communication is received (end time)	
CONF #: 3372-34695 Removed	SHALL contain exactly one [1..1] @typeCode="RSON" Has Reason (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3372-34695).	
CONF #: 3372-34696 Removed	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.2 8.4.132" (CONF:3372-34696).	
CONF #: 3372-34697 Removed	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-34697).	
CONF #: 3372-34704 Removed	This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3372-34704).	
CONF #: 3372-34705 Removed	The code, if present, SHOULD contain zero or one [0..1] @valueSet (CONF:3372-34705).	
CONF #: 3372-34706 Removed	SHALL contain exactly one [1..1] @classCode="ACT" Act (CONF:3372-34706).	
CONF #: 3372-34707 Removed	SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3372-34707).	
CONF #: 3372-34708 Removed	MAY contain zero or one [0..1] @actionNegationInd (CONF:3372-34708). Note: QDM Attribute: Negation Rationale	
CONF #: 3372-34709 Removed	SHALL contain exactly one [1..1] id (CONF:3372-34709).	
CONF #: 3372-34710 Removed	SHALL contain exactly one [1..1] title (CONF:3372-34710).	
CONF #: 3372-34711 Removed	SHALL contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3372-34711).	
CONF #: 3372-34712 Removed	MAY contain zero or one [0..1] low (CONF:3372-34712). Note: StartTime – The time the	

Change	Old	New
	communication is sent	
CONF #: 3372-34713 Removed	MAY contain zero or one [0..1] high (CONF:3372-34713). Note: EndTime – The time the communication is received	
CONF #: 3372-34714 Removed	MAY contain zero or one [0..1] participation (CONF:3372-34714) such that it	
CONF #: 3372-34715 Removed	SHALL contain exactly one [1..1] role (CONF:3372-34715).	
CONF #: 3372-34716 Removed	SHALL contain exactly one [1..1] @typeCode="AUT" Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:3372-34716).	
CONF #: 3372-34855 Removed	This role SHALL contain exactly one [1..1] @classCode="ASSIGNED" Assigned (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3372-34855).	
CONF #: 3372-34856 Removed	This role SHALL contain exactly one [1..1] code (CONF:3372-34856). Note: QDM Attribute: Sender - The entity (e.g., person, organization, clinical information system, or device) that is the source of a communication	
CONF #: 3372-34858 Removed	This role SHALL contain exactly one [1..1] code (CONF:3372-34858). Note: QDM Attribute:Recipient - The entity (e.g., person, organization, clinical information system, or device) which is the target of a communication	
CONF #: 4423-34854 Modified	SHALL contain exactly one [1..1] @typeCode="PRF" Performer (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:3372-34854).	SHALL contain exactly one [1..1] @typeCode="DIST" distributor (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-34854).

9.9 Device, Applied (V3)

Device, Applied (V3) ([urn:hl7ii:2.16.840.1.113883.10.20.28.4.13:2019-05-01](#))

Change	Old	New
Status	Published	Ballot
Name	Device, Applied (V2)	Device, Applied (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.13:2018-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.13:2019-05-01
Description	<p>This template represents the QDM data type: Device, Applied.</p> <p>This represents the application of an instrument, apparatus, implement, machine, contrivance, implant, in-vitro reagent, or other similar or related article, including a component part or accessory, intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease and that is not dependent on being metabolized to achieve any of its primary intended purposes.</p> <p>Timing: The Relevant Period addresses: startTime – When the device is inserted or first used; stopTime – when the device is removed or last used.</p>	<p>This template represents the QDM data type: Device, Applied.</p> <p>This represents the application of an instrument, apparatus, implement, machine, contrivance, implant, in-vitro reagent, or other similar or related article, including a component part or accessory, intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease and that is not dependent on being metabolized to achieve any of its primary intended purposes.</p> <p>Timing: Relevant dateTime addresses The time the device is applied if it was used at a single point in time; Relevant Period references a start and stop time for a device if the application occurred over a time interval. Author dateTime references the time the device application was recorded and applies only when the record has no reference to the actual time the device was applied and only the recorded time is available.</p>
CONF #: 4423-35061 Added		MAY contain zero or one [0..1] participation (CONF:4423-35061) such that it Note: QDM Attribute: Performer
CONF #: 4423-35062 Added		SHALL contain exactly one [1..1] role (CONF:4423-35062).
CONF #: 4423-35063 Added		MAY contain zero or one [0..1] participation (CONF:4423-35063) such that it Note: QDM Attribute: Performer
CONF #: 4423-35064 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35064).
CONF #: 4423-35065 Added		MAY contain zero or one [0..1] participation (CONF:4423-35065) such that it

Change	Old	New
		Note: QDM Attribute: Performer
CONF #: 4423-35066 Added		SHALL contain exactly one [1..1] role (CONF:4423-35066).
CONF #: 4423-35067 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35067).
CONF #: 4423-35068 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CONF:4423-35068).
CONF #: 4423-35069 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35069).
CONF #: 4423-35816 Added		MAY contain zero or one [0..1] participation (CONF:4423-35816) such that it Note: QDM Attribute: Performer
CONF #: 4423-35817 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35817).
CONF #: 4423-35818 Added		SHALL contain exactly one [1..1] id (CONF:4423-35818).
CONF #: 4423-35819 Added		SHALL contain exactly one [1..1] role (CONF:4423-35819).
CONF #: 3372-31308 Removed	SHALL contain exactly one [1..1] id (CONF:3372-31308).	
CONF #: 4423-33361 Modified	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33361).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33361).

9.10 Device, Order (V2)

[Device, Order \(V2\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.15:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Device, Order	Device, Order (V2)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.15:2017-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.15:2019-05-01
CONF #: 4423-35070 Added		MAY contain zero or one [0..1] participation (CONF:4423-35070) such that it Note: QDM Attribute: Requester
CONF #: 4423-35071 Added		SHALL contain exactly one [1..1] role (CONF:4423-35071).
CONF #: 4423-35072 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35072).
CONF #: 4423-35073 Added		MAY contain zero or one [0..1] participation (CONF:4423-35073) such that it Note: QDM Attribute: Requester
CONF #: 4423-35074 Added		SHALL contain exactly one [1..1] role (CONF:4423-35074).
CONF #: 4423-35075 Added		MAY contain zero or one [0..1] participation (CONF:4423-35075) such that it Note: QDM Attribute: Requester
CONF #: 4423-35076 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35076).
CONF #: 4423-35077 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CONF:4423-35077).
CONF #: 4423-35078 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35078).
CONF #: 4423-35820 Added		MAY contain zero or one [0..1] participation (CONF:4423-35820) such that it Note: QDM Attribute: Requester
CONF #: 4423-35821 Added		SHALL contain exactly one [1..1] role (CONF:4423-35821).
CONF #: 4423-35822 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType

Change	Old	New
		urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35822).
CONF #: 4423-33642 Modified	SHALL contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-33642).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33642).

9.11 Device, Recommended (V2)

[Device, Recommended \(V2\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.16:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Device, Recommended	Device, Recommended (V2)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.16:2017-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.16:2019-05-01
CONF #: 4423-35079 Added		MAY contain zero or one [0..1] participation (CONF:4423-35079) such that it Note: QDM Attribute: Requester
CONF #: 4423-35080 Added		SHALL contain exactly one [1..1] role (CONF:4423-35080).
CONF #: 4423-35081 Added		MAY contain zero or one [0..1] participation (CONF:4423-35081) such that it Note: QDM Attribute: Requester
CONF #: 4423-35082 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35082).
CONF #: 4423-35083 Added		MAY contain zero or one [0..1] participation (CONF:4423-35083) such that it Note: QDM Attribute: Requester
CONF #: 4423-35084 Added		SHALL contain exactly one [1..1] role (CONF:4423-35084).
CONF #: 4423-35085 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35085).
CONF #: 4423-35086 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35086).
CONF #: 4423-35087 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CONF:4423-35087).
CONF #: 4423-35823 Added		MAY contain zero or one [0..1] participation (CONF:4423-35823) such that it Note: QDM Attribute: Requester
CONF #: 4423-35824 Added		SHALL contain exactly one [1..1] role (CONF:4423-35824).
CONF #: 4423-35825 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ActRelationshipType

Change	Old	New
		urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-35825).
CONF #: 4423-33699 Modified	SHALL contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-33699).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33699).

9.12 Diagnosis (V3)

[Diagnosis \(V3\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.110:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Diagnosis (V2)	Diagnosis (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.110:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.110:2019-05-01
CONF #: 4423-35106 Added		MAY contain zero or one [0..1] participation (CONF:4423-35106). Note: QDM Attribute: Recorder
CONF #: 4423-35107 Added		The participation, if present, SHALL contain exactly one [1..1] role (CONF:4423-35107).
CONF #: 4423-35108 Added		MAY contain zero or one [0..1] participation (CONF:4423-35108). Note: QDM Attribute: Recorder
CONF #: 4423-35109 Added		The participation, if present, SHALL contain exactly one [1..1] role (CONF:4423-35109).
CONF #: 4423-35110 Added		MAY contain zero or one [0..1] participation (CONF:4423-35110). Note: QDM Attribute: Recorder
CONF #: 4423-35111 Added		The participation, if present, SHALL contain exactly one [1..1] patient (CONF:4423-35111).
CONF #: 4423-35112 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35112).
CONF #: 4423-35113 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35113).
CONF #: 4423-35114 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35114).
CONF #: 4423-35826 Added		MAY contain zero or one [0..1] participation (CONF:4423-35826). Note: QDM Attribute: Recorder

Change	Old	New
CONF #: 4423-35827 Added		The participation, if present, SHALL contain exactly one [1..1] role (CONF:4423-35827).
CONF #: 4423-35828 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35828).
CONF #: 4423-34321 Modified	SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-34321).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-34321).

9.13 Diagnostic Study, Order (V4)

[Diagnostic Study, Order \(V4\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.22:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Diagnostic Study, Order (V3)	Diagnostic Study, Order (V4)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.22:2018-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.22:2019-05-01
CONF #: 4423-35088 Added		MAY contain zero or one [0..1] participation (CONF:4423-35088) such that it Note: QDM Attribute: Requester
CONF #: 4423-35089 Added		SHALL contain exactly one [1..1] role (CONF:4423-35089).
CONF #: 4423-35090 Added		MAY contain zero or one [0..1] participation (CONF:4423-35090) such that it Note: QDM Attribute: Requester
CONF #: 4423-35091 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35091).
CONF #: 4423-35092 Added		MAY contain zero or one [0..1] participation (CONF:4423-35092) such that it Note: QDM Attribute: Requester
CONF #: 4423-35093 Added		SHALL contain exactly one [1..1] role (CONF:4423-35093).
CONF #: 4423-35094 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35094).
CONF #: 4423-35095 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35095).
CONF #: 4423-35096 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35096).
CONF #: 4423-35829 Added		MAY contain zero or one [0..1] participation (CONF:4423-35829) such that it Note: QDM Attribute: Requester
CONF #: 4423-35830 Added		SHALL contain exactly one [1..1] role (CONF:4423-35830).

Change	Old	New
CONF #: 4423-35831 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35831).
CONF #: 4423-35938 Added		SHALL contain exactly one [1..1] title (CONF:4423-35938).
CONF #: 3372-30112 Removed	SHALL contain exactly one [1..1] title (CONF:3372-30112).	
CONF #: 4423-33643 Modified	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33643).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33643).

9.14 Diagnostic Study, Performed (V3)

[Diagnostic Study, Performed \(v3\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.23:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Diagnostic Study, Performed (V2)	Diagnostic Study, Performed (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.23:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.23:2019-05-01
Description	<p>This template represents the QDM data type: Diagnostic Study, Performed.</p> <p>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. Diagnostic studies may make use of digital images and textual reports. Such studies include but are not limited to imaging studies, cardiology studies (electrocardiogram, treadmill stress testing), pulmonary-function testing, vascular laboratory testing, and others.</p> <p>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. Diagnostic studies may make use of digital images and textual reports. Such studies include but are not limited to imaging studies, cardiology studies (electrocardiogram, treadmill stress testing), pulmonary-function testing, vascular laboratory testing, and others.</p> <p>Timing: The Relevant Period addresses: startTime – when the diagnostic study is initiated; stopTime – when the diagnostic</p>	<p>This template represents the QDM data type: Diagnostic Study, Performed.</p> <p>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. Diagnostic studies may make use of digital images and textual reports. Such studies include but are not limited to imaging studies, cardiology studies (electrocardiogram, treadmill stress testing), pulmonary-function testing, vascular laboratory testing, and others.</p> <p>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. Diagnostic studies may make use of digital images and textual reports. Such studies include but are not limited to imaging studies, cardiology studies (electrocardiogram, treadmill stress testing), pulmonary-function testing, vascular laboratory testing, and others.</p> <p>Timing: The Relevant Period addresses: startTime – when the diagnostic study is initiated; stopTime – when the diagnostic</p>

Change	Old	New
	<p>study is completed.</p> <p>Examples:</p> <ul style="list-style-type: none"> • Initiation of a treadmill stress test to the time the treadmill stress test has completed • Initiation of the ultrasound study until completion of the ultrasound study <p>QDM Attributes: Result and Result dateTime are represented using the Result (V2) template</p>	<p>study is completed.</p> <p>Relevant dateTime references the time the diagnostic study is performed if it occurs at a single point in time.</p> <p>Author dateTime references the time the diagnostic study was recorded and applies only when the record has no reference to the time the diagnostic study was performed and only the recorded time is available.</p> <p>Examples:</p> <ul style="list-style-type: none"> • Initiation of a treadmill stress test to the time the treadmill stress test has completed • Initiation of the ultrasound study until completion of the ultrasound study <p>QDM Attributes: Result and Result dateTime are represented using the Result (V2) template</p>
CONF #: 4423-35097 Added		MAY contain zero or one [0..1] participation (CONF:4423-35097) such that it Note: QDM Attribute: Requester
CONF #: 4423-35098 Added		SHALL contain exactly one [1..1] role (CONF:4423-35098).
CONF #: 4423-35099 Added		MAY contain zero or one [0..1] participation (CONF:4423-35099) such that it Note: QDM Attribute: Requester
CONF #: 4423-35100 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35100).
CONF #: 4423-35101 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35101).
CONF #: 4423-35102 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35102).
CONF #: 4423-35103 Added		MAY contain zero or one [0..1] participation (CONF:4423-35103) such that it Note: QDM Attribute: Requester
CONF #: 4423-35104 Added		SHALL contain exactly one [1..1] role (CONF:4423-35104).

Change	Old	New
CONF #: 4423-35105 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35105).
CONF #: 4423-35832 Added		MAY contain zero or one [0..1] participation (CONF:4423-35832) such that it Note: QDM Attribute: Requester
CONF #: 4423-35833 Added		SHALL contain exactly one [1..1] role (CONF:4423-35833).
CONF #: 4423-35834 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35834).
CONF #: 4423-35939 Added		SHALL contain exactly one [1..1] title (CONF:4423-35939).
CONF #: 3346-30784 Removed	SHALL contain exactly one [1..1] title (CONF:3346-30784).	
CONF #: 4423-33605 Modified	SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-33605).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33605).

9.15 Diagnostic Study, Recommended (V4)

[Diagnostic Study, Recommended \(v4\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.24:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Diagnostic Study, Recommended (V3)	Diagnostic Study, Recommended (V4)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.24:2018-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.24:2019-05-01
CONF #: 4423-35115 Added		MAY contain zero or one [0..1] participation (CONF:4423-35115) such that it Note: QDM Attribute: Requester
CONF #: 4423-35116 Added		SHALL contain exactly one [1..1] role (CONF:4423-35116).
CONF #: 4423-35117 Added		MAY contain zero or one [0..1] participation (CONF:4423-35117) such that it Note: QDM Attribute: Requester
CONF #: 4423-35118 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35118).
CONF #: 4423-35119 Added		MAY contain zero or one [0..1] participation (CONF:4423-35119) such that it Note: QDM Attribute: Requester
CONF #: 4423-35120 Added		SHALL contain exactly one [1..1] role (CONF:4423-35120).
CONF #: 4423-35121 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35121).
CONF #: 4423-35122 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35122).
CONF #: 4423-35123 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35123).
CONF #: 4423-35835 Added		MAY contain zero or one [0..1] participation (CONF:4423-35835) such that it Note: QDM Attribute: Requester

Change	Old	New
CONF #: 4423-35836 Added		SHALL contain exactly one [1..1] role (CONF:4423-35836).
CONF #: 4423-35837 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35837).
CONF #: 4423-33751 Modified	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33751).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33751).

9.16 Encounter, Order (V2)

[Encounter, Order \(V2\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.27:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Encounter, Order	Encounter, Order (V2)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.27:2017-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.27:2019-05-01
CONF #: 4423-35124 Added		MAY contain zero or one [0..1] participation (CONF:4423-35124) such that it Note: QDM Attribute: Requester
CONF #: 4423-35125 Added		SHALL contain exactly one [1..1] role (CONF:4423-35125).
CONF #: 4423-35126 Added		MAY contain zero or one [0..1] participation (CONF:4423-35126) such that it Note: QDM Attribute: Requester
CONF #: 4423-35127 Added		SHALL contain exactly one [1..1] role (CONF:4423-35127).
CONF #: 4423-35128 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35128).
CONF #: 4423-35129 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35129).
CONF #: 4423-35130 Added		MAY contain zero or one [0..1] participation (CONF:4423-35130) such that it Note: QDM Attribute: Requester
CONF #: 4423-35131 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35131).
CONF #: 4423-35132 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35132).
CONF #: 4423-35133 Added		MAY contain zero or one [0..1] priorityCode (CONF:4423-35133). Note: QDM Attribute: Priority
CONF #: 4423-35134 Added		The priorityCode, if present, SHALL contain exactly one [1..1] item (CONF:4423-35134).

Change	Old	New
CONF #: 4423-35135 Added		This item SHOULD contain zero or one [0..1] @valueSet (CONF:4423-35135).
CONF #: 4423-35838 Added		MAY contain zero or one [0..1] participation (CONF:4423-35838) such that it Note: QDM Attribute: Requester
CONF #: 4423-35839 Added		SHALL contain exactly one [1..1] role (CONF:4423-35839).
CONF #: 4423-35840 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35840).
CONF #: 4423-35940 Added		SHALL contain exactly one [1..1] title (CONF:4423-35940).
CONF #: 3335-30869 Removed	SHALL contain exactly one [1..1] title (CONF:3335-30869).	
CONF #: 4423-33645 Modified	SHALL contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-33645).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33645).

9.17 Encounter, Performed (V3)

[Encounter, Performed \(V3\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.5:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Encounter, Performed (V2)	Encounter, Performed (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.5:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.5:2019-05-01
CONF #: 4423-35136 Added		MAY contain zero or one [0..1] participation (CONF:4423-35136) such that it
CONF #: 4423-35137 Added		SHALL contain exactly one [1..1] time (CONF:4423-35137).
CONF #: 4423-35138 Added		This time SHALL contain exactly one [1..1] low (CONF:4423-35138). Note: QDM Attribute: Author dateTime (The Author dateTime addresses when an Encounter is documented. Documentation can occur at the beginning, during, at the end or subsequent to the end of an Encounter. The Author dateTime should be used only if the Relevant Period cannot be obtained)
CONF #: 4423-35139 Added		This role SHALL contain exactly one [1..1] @classCode="ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-35139).
CONF #: 4423-35140 Added		This role MAY contain zero or one [0..1] id (CONF:4423-35140).
CONF #: 4423-35141 Added		MAY contain zero or one [0..1] priorityCode (CONF:4423-35141). Note: QDM Attribute: Priority
CONF #: 4423-35142 Added		The priorityCode, if present, SHALL contain exactly one [1..1] item (CONF:4423-35142).
CONF #: 4423-35143 Added		MAY contain zero or one [0..1] participation (CONF:4423-35143) such that it Note: QDM Attribute: Participant
CONF #: 4423-35144 Added		SHALL contain exactly one [1..1] role (CONF:4423-35144).
CONF #: 4423-35145 Added		MAY contain zero or one [0..1] participation (CONF:4423-35145) such that it Note: QDM Attribute: Participant
CONF #: 4423-35146 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35146).

Change	Old	New
CONF #: 4423-35147 Added		MAY contain zero or one [0..1] participation (CONF:4423-35147) such that it Note: QDM Attribute: Participant
CONF #: 4423-35148 Added		SHALL contain exactly one [1..1] role (CONF:4423-35148).
CONF #: 4423-35149 Added		This item SHOULD contain zero or one [0..1] @valueSet (CONF:4423-35149).
CONF #: 4423-35150 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35150).
CONF #: 4423-35151 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35151).
CONF #: 4423-35152 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35152).
CONF #: 4423-35760 Added		SHALL contain exactly one [1..1] observationCriteria (CONF:4423-35760).
CONF #: 4423-35841 Added		MAY contain zero or one [0..1] participation (CONF:4423-35841) such that it Note: QDM Attribute: Participant
CONF #: 4423-35842 Added		SHALL contain exactly one [1..1] role (CONF:4423-35842).
CONF #: 4423-35843 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35843).
CONF #: 4423-35941 Added		SHALL contain exactly one [1..1] title (CONF:4423-35941).
CONF #: 3346-33756 Removed	MAY contain zero or one [0..1] outboundRelationship (CONF:3346-33756) such that it Note: QDM Attribute: Principal Diagnosis	
CONF #: 3346-34656 Removed	MAY contain zero or one [0..1] participation (CONF:3346-34656)	

Change	Old	New
	such that it	
CONF #: 3346-34657 Removed	SHALL contain exactly one [1..1] time (CONF:3346-34657).	
CONF #: 3346-33760 Removed	SHALL contain exactly one [1..1] @typeCode="REFR" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3346-33760).	
CONF #: 3346-34374 Removed	SHALL contain exactly one [1..1] observationCriteria (CONF:3346-34374).	
CONF #: 3346-34375 Removed	SHALL contain exactly one [1..1] observationCriteria (CONF:3346-34375).	
CONF #: 3346-31014 Removed	SHALL contain exactly one [1..1] title (CONF:3346-31014).	
CONF #: 3346-34660 Removed	This time SHALL contain exactly one [1..1] low (CONF:3346-34660). Note: QDM Attribute: Author dateTime (The Author dateTime addresses when an Encounter is documented. Documentation can occur at the beginning, during, at the end or subsequent to the end of an Encounter. The Author dateTime should be used only if the Relevant Period cannot be obtained)	
CONF #: 3346-34661 Removed	This role SHALL contain exactly one [1..1] @classCode="ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3346-34661).	
CONF #: 3346-34662 Removed	This role MAY contain zero or one [0..1] id (CONF:3346-34662).	
CONF #: 4423-33397 Modified	SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-33397).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33397).

9.18 Encounter, Recommended (V2)

[Encounter, Recommended \(v2\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.28:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Encounter, Recommended	Encounter, Recommended (V2)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.28:2017-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.28:2019-05-01
CONF #: 4423-35160 Added		This role SHALL contain exactly one [1..1] @classCode="ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-35160).
CONF #: 4423-35161 Added		MAY contain zero or one [0..1] participation (CONF:4423-35161) such that it Note: QDM Attribute: Requester
CONF #: 4423-35162 Added		SHALL contain exactly one [1..1] role (CONF:4423-35162).
CONF #: 4423-35163 Added		MAY contain zero or one [0..1] participation (CONF:4423-35163) such that it Note: QDM Attribute: Requester
CONF #: 4423-35164 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35164).
CONF #: 4423-35165 Added		MAY contain zero or one [0..1] participation (CONF:4423-35165) such that it Note: QDM Attribute: Requester
CONF #: 4423-35166 Added		SHALL contain exactly one [1..1] role (CONF:4423-35166).
CONF #: 4423-35167 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35167).
CONF #: 4423-35168 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35168).
CONF #: 4423-35169 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35169).
CONF #: 4423-35844 Added		MAY contain zero or one [0..1]

Change	Old	New
		participation (CONF:4423-35844) such that it Note: QDM Attribute: Requester
CONF #: 4423-35845 Added		SHALL contain exactly one [1..1] role (CONF:4423-35845).
CONF #: 4423-35846 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35846).
CONF #: 4423-35942 Added		SHALL contain exactly one [1..1] title (CONF:4423-35942).
CONF #: 3335-30526 Removed	SHALL contain exactly one [1..1] title (CONF:3335-30526).	
CONF #: 3335-34713 Removed	This role SHALL contain exactly one [1..1] @classCode="ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3335-34713).	
CONF #: 4423-33694 Modified	SHALL contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-33694).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33694).

9.19 Family History (V2)

[Family History \(V2\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.111:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Family History	Family History (V2)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.111:2017-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.111:2019-05-01
CONF #: 4423-35170 Added		MAY contain zero or one [0..1] participation (CONF:4423-35170) such that it Note: QDM Attribute: Recorder
CONF #: 4423-35171 Added		SHALL contain exactly one [1..1] role (CONF:4423-35171).
CONF #: 4423-35172 Added		MAY contain zero or one [0..1] participation (CONF:4423-35172) such that it Note: QDM Attribute: Recorder
CONF #: 4423-35173 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35173).
CONF #: 4423-35174 Added		MAY contain zero or one [0..1] participation (CONF:4423-35174) such that it Note: QDM Attribute: Recorder
CONF #: 4423-35175 Added		SHALL contain exactly one [1..1] role (CONF:4423-35175).
CONF #: 4423-35176 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35176).
CONF #: 4423-35177 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35177).
CONF #: 4423-35178 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35178).
CONF #: 4423-35847 Added		MAY contain zero or one [0..1] participation (CONF:4423-35847) such that it Note: QDM Attribute: Recorder
CONF #: 4423-35848 Added		SHALL contain exactly one [1..1] role (CONF:4423-35848).

Change	Old	New
CONF #: 4423-35849 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35849).
CONF #: 4423-34383 Modified	SHALL contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-34383).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-34383).

9.20 Immunization, Administered (V4)

[Immunization, Administered \(V4\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.112:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Immunization, Administered (V3)	Immunization, Administered (V4)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.112:2018-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.112:2019-05-01
Description	<p>This template represents the QDM data type: Immunization, Administered.</p> <p>Immunization represents vaccines administered to patients in healthcare settings but does not include non-vaccine agents.</p> <p>Timing: The time the immunization is administered, i.e., a single point in time, or author datetime.</p>	<p>This template represents the QDM data type: Immunization, Administered.</p> <p>Immunization represents vaccines administered to patients in healthcare settings but does not include non-vaccine agents.</p> <p>Timing: The relevant dateTime references the point in time the immunization is administered.</p> <p>Author dateTime is used only for Negation Rationale, which indicates a one-time documentation of a reason an activity is not performed. Negation of QDM datatype-related actions for a reason always use the author dateTime attribute to reference timing.</p>
CONF #: 4423-35179 Added		MAY contain zero or one [0..1] participation (CONF:4423-35179) such that it Note: QDM Attribute: Practitioner
CONF #: 4423-35180 Added		SHALL contain exactly one [1..1] role (CONF:4423-35180).
CONF #: 4423-35181 Added		MAY contain zero or one [0..1] participation (CONF:4423-35181) such that it Note: QDM Attribute: Practitioner
CONF #: 4423-35182 Added		SHALL contain exactly one [1..1] role (CONF:4423-35182).
CONF #: 4423-35184 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CONF:4423-35184).
CONF #: 4423-35185 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35185).
CONF #: 4423-35186 Added		MAY contain zero or one [0..1]

Change	Old	New
		participation (CONF:4423-35186) such that it Note: QDM Attribute: Practitioner
CONF #: 4423-35187 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35187).
CONF #: 4423-35188 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35188).
CONF #: 4423-35560 Added		MAY contain zero or one [0..1] participation (CONF:4423-35560) such that it
CONF #: 4423-35561 Added		SHALL contain exactly one [1..1] time (CONF:4423-35561).
CONF #: 4423-35562 Added		SHALL contain exactly one [1..1] role (CONF:4423-35562).
CONF #: 4423-35563 Added		SHALL contain exactly one [1..1] @typeCode="AUT" Author (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35563).
CONF #: 4423-35564 Added		This time SHALL contain exactly one [1..1] low (CONF:4423-35564). Note: QDM Attribute: Author dateTime
CONF #: 4423-35565 Added		This role SHALL contain exactly one [1..1] @classCode="ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-35565).
CONF #: 4423-35850 Added		MAY contain zero or one [0..1] participation (CONF:4423-35850) such that it Note: QDM Attribute: Practitioner
CONF #: 4423-35851 Added		SHALL contain exactly one [1..1] role (CONF:4423-35851).
CONF #: 4423-35852 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35852).
CONF #: 4423-34384 Modified	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-34384).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-34384).

9.21 Immunization, Order (V3)

[Immunization, Order \(V3\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.113:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Immunization, Order (V2)	Immunization, Order (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.113:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.113:2019-05-01
CONF #: 4423-35189 Added		MAY contain zero or one [0..1] participation (CONF:4423-35189) such that it Note: QDM Attribute: Requester
CONF #: 4423-35190 Added		SHALL contain exactly one [1..1] role (CONF:4423-35190).
CONF #: 4423-35191 Added		MAY contain zero or one [0..1] participation (CONF:4423-35191) such that it Note: QDM Attribute: Requester
CONF #: 4423-35192 Added		SHALL contain exactly one [1..1] role (CONF:4423-35192).
CONF #: 4423-35193 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35193).
CONF #: 4423-35194 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35194).
CONF #: 4423-35195 Added		MAY contain zero or one [0..1] participation (CONF:4423-35195) such that it Note: QDM Attribute: Requester
CONF #: 4423-35196 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35196).
CONF #: 4423-35197 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35197).
CONF #: 4423-35853 Added		MAY contain zero or one [0..1] participation (CONF:4423-35853) such that it Note: QDM Attribute: Requester
CONF #: 4423-35854 Added		SHALL contain exactly one [1..1] role (CONF:4423-35854).

Change	Old	New
CONF #: 4423-35855 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35855).
CONF #: 4423-35943 Added		SHALL contain exactly one [1..1] title (CONF:4423-35943).
CONF #: 3346-34029 Removed	SHALL contain exactly one [1..1] title (CONF:3346-34029).	
CONF #: 4423-34385 Modified	SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-34385).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-34385).
CONF #: 4423-34018 Modified	MAY contain zero or one [0..1] low (CONF:3346-34018). Note: QDM Attribute: Active datetime	SHALL contain exactly one [1..1] low (CONF:4423-34018). Note: QDM Attribute: Active dateTime

9.22 Intervention, Order (V2)

[Intervention, Order \(V2\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.35:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Intervention, Order	Intervention, Order (V2)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.35:2017-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.35:2019-05-01
CONF #: 4423-35210 Added		MAY contain zero or one [0..1] participation (CONF:4423-35210) such that it Note: QDM Attribute: Requester
CONF #: 4423-35211 Added		SHALL contain exactly one [1..1] role (CONF:4423-35211).
CONF #: 4423-35212 Added		MAY contain zero or one [0..1] participation (CONF:4423-35212) such that it Note: QDM Attribute: Requester
CONF #: 4423-35213 Added		SHALL contain exactly one [1..1] role (CONF:4423-35213).
CONF #: 4423-35214 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35214).
CONF #: 4423-35215 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35215).
CONF #: 4423-35216 Added		MAY contain zero or one [0..1] participation (CONF:4423-35216) such that it Note: QDM Attribute: Requester
CONF #: 4423-35217 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35217).
CONF #: 4423-35218 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35218).
CONF #: 4423-35856 Added		MAY contain zero or one [0..1] participation (CONF:4423-35856) such that it Note: QDM Attribute: Requester
CONF #: 4423-35857 Added		SHALL contain exactly one [1..1] role (CONF:4423-35857).

Change	Old	New
CONF #: 4423-35858 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35858).
CONF #: 4423-35944 Added		SHALL contain exactly one [1..1] title (CONF:4423-35944).
CONF #: 3335-30651 Removed	SHALL contain exactly one [1..1] title (CONF:3335-30651).	
CONF #: 4423-33383 Modified	SHALL contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-33383).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33383).

9.23 Intervention, Performed (V3)

[Intervention, Performed \(V3\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.36:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Intervention, Performed (V2)	Intervention, Performed (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.36:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.36:2019-05-01
Description	<p>This template represents the QDM data type: Intervention, Performed.</p> <p>Intervention performed represents an intervention that has been completed. Intervention represents a course of action intended to achieve a result in the care of persons with health problems that does not involve direct physical contact with a patient.</p> <p>Timing: The Relevant Period addresses: startTime – The time the intervention begins; stopTime – The time the intervention ends.</p>	<p>This template represents the QDM data type: Intervention, Performed.</p> <p>Intervention performed represents an intervention that has been completed. Intervention represents a course of action intended to achieve a result in the care of persons with health problems that does not involve direct physical contact with a patient.</p> <p>Timing: The Relevant Period addresses: startTime – The time the intervention begins; stopTime – The time the intervention ends. Relevant Period references a start and stop time for an intervention that occurs over a time interval.</p> <p>Relevant dateTime references the time the intervention is performed when the intervention occurs at a single point in time.</p> <p>Author dateTime references the time the intervention was recorded and applies only when the record has no reference to the time the intervention was performed and only the recorded time is available.</p>
CONF #: 4423-35219 Added		MAY contain zero or one [0..1] participation (CONF:4423-35219) such that it Note: QDM Attribute: Performer
CONF #: 4423-35220 Added		SHALL contain exactly one [1..1] role (CONF:4423-35220).
CONF #: 4423-35221 Added		MAY contain zero or one [0..1] participation (CONF:4423-35221) such that it Note: QDM Attribute: Performer
CONF #: 4423-35222 Added		SHALL contain exactly one [1..1] role (CONF:4423-35222).
CONF #: 4423-35223 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem:

Change	Old	New
		HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35223).
CONF #: 4423-35224 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35224).
CONF #: 4423-35225 Added		MAY contain zero or one [0..1] participation (CONF:4423-35225) such that it Note: QDM Attribute: Performer
CONF #: 4423-35226 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35226).
CONF #: 4423-35227 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35227).
CONF #: 4423-35859 Added		MAY contain zero or one [0..1] participation (CONF:4423-35859) such that it Note: QDM Attribute: Performer
CONF #: 4423-35860 Added		SHALL contain exactly one [1..1] role (CONF:4423-35860).
CONF #: 4423-35861 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35861).
CONF #: 4423-35945 Added		SHALL contain exactly one [1..1] title (CONF:4423-35945).
CONF #: 3346-31159 Removed	SHALL contain exactly one [1..1] title (CONF:3346-31159).	
CONF #: 4423-33384 Modified	SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-33384).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33384).

9.24 Intervention, Recommended (V2)

[Intervention, Recommended \(V2\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.37:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Intervention, Recommended	Intervention, Recommended (V2)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.37:2017-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.37:2019-05-01
CONF #: 4423-35228 Added		MAY contain zero or one [0..1] participation (CONF:4423-35228) such that it Note: QDM Attribute: Requester
CONF #: 4423-35229 Added		SHALL contain exactly one [1..1] role (CONF:4423-35229).
CONF #: 4423-35230 Added		MAY contain zero or one [0..1] participation (CONF:4423-35230) such that it Note: QDM Attribute: Requester
CONF #: 4423-35231 Added		SHALL contain exactly one [1..1] role (CONF:4423-35231).
CONF #: 4423-35232 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35232).
CONF #: 4423-35233 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35233).
CONF #: 4423-35234 Added		MAY contain zero or one [0..1] participation (CONF:4423-35234) such that it Note: QDM Attribute: Requester
CONF #: 4423-35235 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35235).
CONF #: 4423-35236 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35236).
CONF #: 4423-35862 Added		MAY contain zero or one [0..1] participation (CONF:4423-35862) such that it Note: QDM Attribute: Requester
CONF #: 4423-35863 Added		SHALL contain exactly one [1..1]

Change	Old	New
		role (CONF:4423-35863).
CONF #: 4423-35864 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35864).
CONF #: 4423-35946 Added		SHALL contain exactly one [1..1] title (CONF:4423-35946).
CONF #: 3335-30810 Removed	SHALL contain exactly one [1..1] title (CONF:3335-30810).	
CONF #: 4423-33385 Modified	SHALL contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-33385).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33385).

9.25 Laboratory Test, Order (V3)

Laboratory Test, Order (V3) (<urn:hl7ii:2.16.840.1.113883.10.20.28.4.41:2019-05-01>)

Change	Old	New
Status	Published	Ballot
Name	Laboratory Test, Order (V2)	Laboratory Test, Order (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.41:2018-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.41:2019-05-01
CONF #: 4423-35237 Added		MAY contain zero or one [0..1] participation (CONF:4423-35237) such that it Note: QDM Attribute: Requester
CONF #: 4423-35238 Added		SHALL contain exactly one [1..1] role (CONF:4423-35238).
CONF #: 4423-35239 Added		MAY contain zero or one [0..1] participation (CONF:4423-35239) such that it Note: QDM Attribute: Requester
CONF #: 4423-35240 Added		SHALL contain exactly one [1..1] role (CONF:4423-35240).
CONF #: 4423-35241 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35241).
CONF #: 4423-35242 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35242).
CONF #: 4423-35243 Added		MAY contain zero or one [0..1] participation (CONF:4423-35243) such that it Note: QDM Attribute: Requester
CONF #: 4423-35244 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35244).
CONF #: 4423-35245 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35245).
CONF #: 4423-35865 Added		MAY contain zero or one [0..1] participation (CONF:4423-35865) such that it Note: QDM Attribute: Requester
CONF #: 4423-35866 Added		SHALL contain exactly one [1..1] role (CONF:4423-35866).

Change	Old	New
CONF #: 4423-35867 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35867).
CONF #: 4423-35947 Added		SHALL contain exactly one [1..1] title (CONF:4423-35947).
CONF #: 3372-30398 Removed	SHALL contain exactly one [1..1] title (CONF:3372-30398).	
CONF #: 4423-33649 Modified	SHALL contain exactly one [1..1] @extension="2017-05-01" (CONF:3372-33649).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33649).

9.26 Laboratory Test, Performed (V3)

Laboratory Test, Performed (V3) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.42:2019-05-01)

Change	Old	New
Status	Published	Ballot
Name	Laboratory Test, Performed (V2)	Laboratory Test, Performed (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.42:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.42:2019-05-01
Description	<p>This template represents the QDM data type: Laboratory Test, Performed.</p> <p>Laboratory Test represents 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 to see if treatment is working, or monitor the disease over time. Laboratory tests may be performed on specimens not derived from patients (electrolytes or contents of water or consumed fluids, cultures of environment, pets, other animals).</p> <p>Timing: The Relevant Period addresses: startTime – When the laboratory test is initiated (i.e., the time the specimen collection begins); stopTime – when the laboratory test is completed (i.e., the time the specimen collection ends).</p> <p>QDM Attributes: Result and Result dateTime are represented using the Result (V2) template.</p>	<p>This template represents the QDM data type: Laboratory Test, Performed.</p> <p>Laboratory Test represents 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 to see if treatment is working, or monitor the disease over time. Laboratory tests may be performed on specimens not derived from patients (electrolytes or contents of water or consumed fluids, cultures of environment, pets, other animals).</p> <p>Timing: Relevant dateTime references the time the laboratory test is performed if it occurs at a single point in time.</p> <p>Relevant Period references a start and stop time for a laboratory that occurs over a time interval:</p> <p>The Relevant Period addresses: startTime – When the laboratory test is initiated (i.e., the time the specimen collection begins); stopTime – when the laboratory test is completed (i.e., the time the specimen collection ends)</p> <p>QDM Attributes: Result and Result dateTime are represented using the Result (V2) template.</p>
CONF #: 4423-35246 Added		MAY contain zero or one [0..1] participation (CONF:4423-35246) such that it Note: QDM Attribute: Performer
CONF #: 4423-35247 Added		SHALL contain exactly one [1..1] role (CONF:4423-35247).
CONF #: 4423-35248 Added		MAY contain zero or one [0..1] participation (CONF:4423-35248) such that it Note: QDM Attribute: Performer

Change	Old	New
CONF #: 4423-35249 Added		SHALL contain exactly one [1..1] role (CONF:4423-35249).
CONF #: 4423-35250 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CONF:4423-35250).
CONF #: 4423-35251 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CONF:4423-35251).
CONF #: 4423-35252 Added		MAY contain zero or one [0..1] participation (CONF:4423-35252) such that it Note: QDM Attribute: Performer
CONF #: 4423-35253 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35253).
CONF #: 4423-35254 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35254).
CONF #: 4423-35871 Added		MAY contain zero or one [0..1] participation (CONF:4423-35871) such that it Note: QDM Attribute: Performer
CONF #: 4423-35872 Added		SHALL contain exactly one [1..1] role (CONF:4423-35872).
CONF #: 4423-35873 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35873).
CONF #: 4423-35948 Added		SHALL contain exactly one [1..1] title (CONF:4423-35948).
CONF #: 3346-30372 Removed	SHALL contain exactly one [1..1] title (CONF:3346-30372).	
CONF #: 4423-33373 Modified	SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-33373).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33373).

9.27 Laboratory Test, Recommended (V3)

[Laboratory Test, Recommended \(V3\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.43:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Laboratory Test, Recommended (V2)	Laboratory Test, Recommended (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.43:2018-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.43:2019-05-01
CONF #: 4423-35255 Added		MAY contain zero or one [0..1] participation (CONF:4423-35255) such that it Note: QDM Attribute: Requester
CONF #: 4423-35256 Added		SHALL contain exactly one [1..1] role (CONF:4423-35256).
CONF #: 4423-35257 Added		MAY contain zero or one [0..1] participation (CONF:4423-35257) such that it Note: QDM Attribute: Requester
CONF #: 4423-35258 Added		SHALL contain exactly one [1..1] role (CONF:4423-35258).
CONF #: 4423-35259 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CONF:4423-35259).
CONF #: 4423-35260 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CONF:4423-35260).
CONF #: 4423-35261 Added		MAY contain zero or one [0..1] participation (CONF:4423-35261) such that it Note: QDM Attribute: Requester
CONF #: 4423-35262 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35262).
CONF #: 4423-35263 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35263).
CONF #: 4423-35868 Added		MAY contain zero or one [0..1] participation (CONF:4423-35868) such that it Note: QDM Attribute: Requester
CONF #: 4423-35869 Added		SHALL contain exactly one [1..1] role (CONF:4423-35869).
CONF #: 4423-35870 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90)

Change	Old	New
		(CONF:4423-35870).
CONF #: 4423-35949 Added		SHALL contain exactly one [1..1] title (CONF:4423-35949).
CONF #: 3372-30423 Removed	SHALL contain exactly one [1..1] title (CONF:3372-30423).	
CONF #: 4423-33692 Modified	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33692).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33692).

9.28 Medication, Active (V4)

[Medication, Active \(V4\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.44:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Medication, Active (V3)	Medication, Active (V4)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.44:2018-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.44:2019-05-01
Description	<p>This template represents the QDM data type: Medication, Active. Medication represents clinical drugs or chemical substances intended for use in the medical diagnosis, cure, treatment, or prevention of disease. Medication active represents medication that is currently being taken by the patient.</p> <p>Timing: The Relevant Period addresses: StartTime = when the medication is first known to be used (generally the time of entry on the medication list); StopTime = when the medication is discontinued (generally the time discontinuation is recorded on the medication list).</p> <p>Dosage: Details of how medication is/is to be taken, i.e., the quantity (mg, cc, tablets) to be taken at a single administration.</p>	<p>This template represents the QDM data type: Medication, Active. Medication represents clinical drugs or chemical substances intended for use in the medical diagnosis, cure, treatment, or prevention of disease. Medication active represents medication that is currently being taken by the patient.</p> <p>Timing: Relevant dateTime references the time the medication is active on the medication record if it was given or taken at a single point in time.</p> <p>Relevant Period references a start and stop time for an active medication on the medication record that is given or taken over a time interval: StartTime = when the medication is first known to be used (generally the time of entry on the medication list); StopTime = when the medication is discontinued (generally the time discontinuation is recorded on the medication list).</p> <p>Dosage: Details of how medication is/is to be taken, i.e., the quantity (mg, cc, tablets) to be taken at a single administration.</p>
CONF #: 4423-35264 Added		MAY contain zero or one [0..1] participation (CONF:4423-35264) such that it Note: QDM Attribute: Recorder
CONF #: 4423-35265 Added		SHALL contain exactly one [1..1] role (CONF:4423-35265).
CONF #: 4423-35266 Added		MAY contain zero or one [0..1] participation (CONF:4423-35266) such that it Note: QDM Attribute: Recorder
CONF #: 4423-35267 Added		SHALL contain exactly one [1..1] role (CONF:4423-35267).
CONF #: 4423-35268 Added		SHALL contain exactly one [1..1]

Change	Old	New
		@typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35268).
CONF #: 4423-35269 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35269).
CONF #: 4423-35270 Added		MAY contain zero or one [0..1] participation (CONF:4423-35270) such that it Note: QDM Attribute: Recorder
CONF #: 4423-35271 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35271).
CONF #: 4423-35272 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35272).
CONF #: 4423-35874 Added		MAY contain zero or one [0..1] participation (CONF:4423-35874) such that it Note: QDM Attribute: Recorder
CONF #: 4423-35875 Added		SHALL contain exactly one [1..1] role (CONF:4423-35875).
CONF #: 4423-35876 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35876).
CONF #: 4423-35950 Added		SHALL contain exactly one [1..1] title (CONF:4423-35950).
CONF #: 3372-31957 Removed	SHALL contain exactly one [1..1] title (CONF:3372-31957).	
CONF #: 4423-33376 Modified	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33376).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33376).

9.29 Medication, Administered (V4)

[Medication, Administered \(V4\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.45:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Medication, Administered (V3)	Medication, Administered (V4)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.45:2018-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.45:2019-05-01
Description	<p>This template represents the QDM data type: Medication, Administered.</p> <p>A medication refers to clinical drugs or chemical substances intended for use in the medical diagnosis, cure, treatment, or prevention of disease. This template represents a medication that was administered.</p> <p>Timing: The Relevant Period addresses: StartTime = 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); StopTime = 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). Dosage: Details of how medication is/is to be taken, i.e., the quantity (mg, cc, tablets) to be taken at a single administration.</p>	<p>This template represents the QDM data type: Medication, Administered.</p> <p>A medication refers to clinical drugs or chemical substances intended for use in the medical diagnosis, cure, treatment, or prevention of disease. This template represents a medication that was administered.</p> <p>Timing: Relevant dateTime references the time the medication is administered if it was given or taken at a single point in time. Relevant Period references a start and stop time for medication administration if the administration event occurred over a time interval (e.g., an intravenous infusion). StartTime = 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); StopTime = 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). Author dateTime references the time the medication administration was recorded and applies only when the record has no reference to the time the medication administration occurred and only the recorded time is available. Dosage: Details of how medication is/is to be taken, i.e., the quantity (mg, cc, tablets) to be taken at a single administration.</p>

Change	Old	New
CONF #: 4423-35273 Added		MAY contain zero or one [0..1] participation (CONF:4423-35273) such that it Note: QDM Attribute: Performer
CONF #: 4423-35274 Added		SHALL contain exactly one [1..1] role (CONF:4423-35274).
CONF #: 4423-35275 Added		MAY contain zero or one [0..1] participation (CONF:4423-35275) such that it Note: QDM Attribute: Performer
CONF #: 4423-35276 Added		SHALL contain exactly one [1..1] role (CONF:4423-35276).
CONF #: 4423-35277 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35277).
CONF #: 4423-35278 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35278).
CONF #: 4423-35279 Added		MAY contain zero or one [0..1] participation (CONF:4423-35279) such that it Note: QDM Attribute: Performer
CONF #: 4423-35280 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35280).
CONF #: 4423-35281 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35281).
CONF #: 4423-35877 Added		MAY contain zero or one [0..1] participation (CONF:4423-35877) such that it Note: QDM Attribute: Performer
CONF #: 4423-35878 Added		SHALL contain exactly one [1..1] role (CONF:4423-35878).
CONF #: 4423-35879 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35879).
CONF #: 4423-35951 Added		SHALL contain exactly one [1..1] title (CONF:4423-35951).
CONF #: 3372-32057 Removed	SHALL contain exactly one [1..1]	

Change	Old	New
	title (CONF:3372-32057).	
CONF #: 4423-33386 Modified	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33386).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33386).

9.30 Medication, Discharge (V3)

[Medication, Discharge \(V3\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.48:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Medication, Discharge (V2)	Medication, Discharge (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.48:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.48:2019-05-01
CONF #: 4423-35282 Added		MAY contain zero or one [0..1] outboundRelationship (CONF:4423-35282) such that it Note: QDM Attribute: daysSupplied
CONF #: 4423-35283 Added		SHALL contain exactly one [1..1] supplyCriteria (CONF:4423-35283).
CONF #: 4423-35284 Added		SHALL contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-35284).
CONF #: 4423-35285 Added		MAY contain zero or one [0..1] participation (CONF:4423-35285) such that it Note: QDM Attribute: Prescriber
CONF #: 4423-35286 Added		SHALL contain exactly one [1..1] role (CONF:4423-35286).
CONF #: 4423-35287 Added		MAY contain zero or one [0..1] participation (CONF:4423-35287) such that it Note: QDM Attribute: Prescriber
CONF #: 4423-35288 Added		SHALL contain exactly one [1..1] role (CONF:4423-35288).
CONF #: 4423-35289 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35289).
CONF #: 4423-35290 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35290).
CONF #: 4423-35291 Added		MAY contain zero or one [0..1] participation (CONF:4423-35291) such that it Note: QDM Attribute: Prescriber
CONF #: 4423-35292 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35292).

Change	Old	New
CONF #: 4423-35293 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35293).
CONF #: 4423-35294 Added		MAY contain zero or one [0..1] participation (CONF:4423-35294) such that it Note: QDM Attribute: Recorder
CONF #: 4423-35295 Added		SHALL contain exactly one [1..1] role (CONF:4423-35295).
CONF #: 4423-35296 Added		MAY contain zero or one [0..1] participation (CONF:4423-35296) such that it Note: QDM Attribute: Recorder
CONF #: 4423-35297 Added		SHALL contain exactly one [1..1] role (CONF:4423-35297).
CONF #: 4423-35298 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35298).
CONF #: 4423-35299 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35299).
CONF #: 4423-35300 Added		MAY contain zero or one [0..1] participation (CONF:4423-35300) such that it Note: QDM Attribute: Recorder
CONF #: 4423-35301 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35301).
CONF #: 4423-35302 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35302).
CONF #: 4423-35880 Added		MAY contain zero or one [0..1] participation (CONF:4423-35880) such that it Note: QDM Attribute: Prescriber
CONF #: 4423-35881 Added		SHALL contain exactly one [1..1] role (CONF:4423-35881).
CONF #: 4423-35882 Added		MAY contain zero or one [0..1] participation (CONF:4423-35882)

Change	Old	New
		such that it Note: QDM Attribute: Recorder
CONF #: 4423-35883 Added		SHALL contain exactly one [1..1] role (CONF:4423-35883).
CONF #: 4423-35884 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35884).
CONF #: 4423-35885 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35885).
CONF #: 4423-35952 Added		SHALL contain exactly one [1..1] title (CONF:4423-35952).
CONF #: 3346-32530 Removed	SHALL contain exactly one [1..1] title (CONF:3346-32530).	
CONF #: 3346-34908 Removed	MAY contain zero or one [0..1] outboundRelationship (CONF:3346-34908) such that it Note: QDM Attribute: daysSupplied	
CONF #: 3346-34909 Removed	SHALL contain exactly one [1..1] supplyCriteria (CONF:3346-34909).	
CONF #: 3346-34910 Removed	SHALL contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3346-34910).	
CONF #: 4423-33439 Modified	SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-33439).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33439).

9.31 Medication, Dispensed (V3)

[Medication, Dispensed \(V3\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.49:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Medication, Dispensed (V2)	Medication, Dispensed (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.49:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.49:2019-05-01
Description	<p>This template represents the QDM data type: Medication, Dispensed. Medication dispensed is to give medications to a patient or patient proxy based on a prescription. Typically, in the ambulatory setting, medications are primarily taken directly by patients and not directly observed. Hence, medications dispensed are the closest health provider documentation of medication compliance.</p> <p>Timing: The time the medication dispensing event occurs; the author dateTime.</p> <p>Timing: The Relevant Period addresses:</p> <ul style="list-style-type: none"> 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). stopTime = when the medication supply provided by the dispensing event is expected to be completed. <p>Dosage: Details of how medication is/is to be taken, i.e., the quantity (mg, cc, tablets) to be taken at a single administration.</p> <p>Supply: The quantity (amount) of therapeutic agent that was provided to a patient (i.e., number of doses, number of tablets or pills, volume of medication). Dispensed to a patient to be taken at a later time.</p>	<p>This template represents the QDM data type: Medication, Dispensed. Medication dispensed is to give medications to a patient or patient proxy based on a prescription. Typically, in the ambulatory setting, medications are primarily taken directly by patients and not directly observed. Hence, medications dispensed are the closest health provider documentation of medication compliance.</p> <p>Timing: Relevant Period references the validity period, i.e., the time period for which the ordered supply is authorized by the prescription authorizing the dispensing event. Relevant dateTime references the dateTime the prescription dispensing event occurred, i.e., the time the prescription was handed over to the patient or patient's representative. Author dateTime references the date and time the dispensing event is recorded.</p> <p>Dosage: Details of how medication is/is to be taken, i.e., the quantity (mg, cc, tablets) to be taken at a single administration.</p> <p>Supply: The quantity (amount) of therapeutic agent that was provided to a patient (i.e., number of doses, number of tablets or pills, volume of medication). Dispensed to a patient to be taken at a later time.</p>
CONF #: 4423-35303 Added		MAY contain zero or one [0..1] participation (CONF:4423-35303) such that it Note: QDM Attribute: Dispenser
CONF #: 4423-35304 Added		SHALL contain exactly one [1..1] role (CONF:4423-35304).
CONF #: 4423-35305 Added		MAY contain zero or one [0..1]

Change	Old	New
		outboundRelationship (CONF:4423-35305) such that it Note: QDM Attribute: daysSupplied
CONF #: 4423-35306 Added		SHALL contain exactly one [1..1] supplyCriteria (CONF:4423-35306).
CONF #: 4423-35307 Added		MAY contain zero or one [0..1] period (CONF:4423-35307).
CONF #: 4423-35308 Added		This time SHALL contain exactly one [1..1] low (CONF:4423-35308). Note: QDM Attribute: Author dateTime
CONF #: 4423-35309 Added		This role SHALL contain exactly one [1..1] @classCode="ROL" Role (CONF:4423-35309).
CONF #: 4423-35313 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35313).
CONF #: 4423-35314 Added		SHALL contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-35314).
CONF #: 4423-35315 Added		MAY contain zero or one [0..1] participation (CONF:4423-35315) such that it Note: QDM Attribute: Dispenser
CONF #: 4423-35316 Added		SHALL contain exactly one [1..1] role (CONF:4423-35316).
CONF #: 4423-35317 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35317).
CONF #: 4423-35318 Added		MAY contain zero or one [0..1] participation (CONF:4423-35318) such that it Note: QDM Attribute: Dispenser
CONF #: 4423-35319 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35319).
CONF #: 4423-35320 Added		MAY contain zero or one [0..1] participation (CONF:4423-35320) such that it Note: QDM Attribute: Prescriber
CONF #: 4423-35321 Added		SHALL contain exactly one [1..1] role (CONF:4423-35321).

Change	Old	New
CONF #: 4423-35322 Added		MAY contain zero or one [0..1] participation (CONF:4423-35322) such that it Note: QDM Attribute: Prescriber
CONF #: 4423-35323 Added		SHALL contain exactly one [1..1] role (CONF:4423-35323).
CONF #: 4423-35324 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CONF:4423-35324).
CONF #: 4423-35325 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35325).
CONF #: 4423-35326 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35326).
CONF #: 4423-35327 Added		MAY contain zero or one [0..1] participation (CONF:4423-35327) such that it Note: QDM Attribute: Prescriber
CONF #: 4423-35328 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35328).
CONF #: 4423-35329 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35329).
CONF #: 4423-35886 Added		MAY contain zero or one [0..1] participation (CONF:4423-35886) such that it Note: QDM Attribute: Dispenser
CONF #: 4423-35887 Added		SHALL contain exactly one [1..1] role (CONF:4423-35887).
CONF #: 4423-35888 Added		MAY contain zero or one [0..1] participation (CONF:4423-35888) such that it Note: QDM Attribute: Prescriber
CONF #: 4423-35889 Added		SHALL contain exactly one [1..1] role (CONF:4423-35889).
CONF #: 4423-35890 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35890).

Change	Old	New
CONF #: 4423-35891 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35891).
CONF #: 4423-35953 Added		SHALL contain exactly one [1..1] title (CONF:4423-35953).
CONF #: 3346-32567 Removed	SHALL contain exactly one [1..1] title (CONF:3346-32567).	
CONF #: 3346-34857 Removed	MAY contain zero or one [0..1] period (CONF:3346-34857).	
CONF #: 3346-34865 Removed	This time SHALL contain exactly one [1..1] low (CONF:3346-34865). Note: QDM Attribute: Author dateTime	
CONF #: 3346-34866 Removed	This role SHALL contain exactly one [1..1] @classCode="ROL" Role (CONF:3346-34866).	
CONF #: 3346-34867 Removed	This role MAY contain zero or one [0..1] id (CONF:3346-34867). Note: QDM Attribute: dispenserIdentifier	
CONF #: 3346-34911 Removed	MAY contain zero or one [0..1] participation (CONF:3346-34911) such that it	
CONF #: 3346-34912 Removed	SHALL contain exactly one [1..1] role (CONF:3346-34912).	
CONF #: 3346-34913 Removed	MAY contain zero or one [0..1] outboundRelationship (CONF:3346-34913) such that it Note: QDM Attribute: daysSupplied	
CONF #: 3346-34914 Removed	SHALL contain exactly one [1..1] supplyCriteria (CONF:3346-34914).	
CONF #: 3346-34915 Removed	SHALL contain exactly one [1..1] @typeCode="PRF" Performer (CONF:3346-34915).	
CONF #: 3346-34916 Removed	This role SHALL contain exactly one [1..1] @classCode="ROL" Role (CONF:3346-34916).	
CONF #: 3346-34917 Removed	This role MAY contain zero or one [0..1] id (CONF:3346-34917). Note: QDM Attribute: prescriberIdentifier	
CONF #: 3346-34918 Removed	SHALL contain exactly one [1..1] @typeCode="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3346-34918).	

Change	Old	New
CONF #: 4423-33752 Modified	SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-33752).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33752).

9.32 Medication, Order (V4)

[Medication, Order \(V4\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.51:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Medication, Order (V3)	Medication, Order (V4)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.51:2018-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.51:2019-05-01
Description	<p>This template represents the QDM data type: Medication, Order.</p> <p>This represents an order for a medication, intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease and that is not dependent on being metabolized to achieve any of its primary intended purposes.</p> <p>Timing: The time the order is signed; author dateTime.</p> <p>Timing: The Relevant Period addresses:</p> <p>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).</p> <p>stopTime = when the medication supply provided by the medication order is expected to be completed, including all fulfillments covered by the number of refills.</p> <p>Dosage: Details of how medication is/is to be taken, i.e., the quantity (mg, cc, tablets) to be taken at a single administration.</p> <p>Supply: The quantity (amount) of therapeutic agent that was provided to a patient (i.e., number of doses, number of tablets or pills, volume of medication). Dispensed to a patient to be taken at a later time.</p> <p>daysSupplied: number of days supplied.</p> <p>id: The unique identifier of a specific instance of any QDM data element for internal reference</p>	<p>This template represents the QDM data type: Medication, Order.</p> <p>This represents an order for a medication, intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease and that is not dependent on being metabolized to achieve any of its primary intended purposes.</p> <p>Timing: The time the order is signed; author dateTime.</p> <p>Timing: The Relevant Period addresses:</p> <p>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).</p> <p>stopTime = when the medication supply provided by the medication order is expected to be completed, including all fulfillments covered by the number of refills.</p> <p>Author dateTime references the date and time the medication order (prescription) is authored.</p> <p>Dosage: Details of how medication is/is to be taken, i.e., the quantity (mg, cc, tablets) to be taken at a single administration.</p> <p>Supply: The quantity (amount) of therapeutic agent that was provided to a patient (i.e., number of doses, number of tablets or pills, volume of medication). Dispensed to a patient to be taken at a later time.</p> <p>daysSupplied: number of days supplied.</p>

Change	Old	New
	<p>within the logic expression.</p> <p>prescriberIdentifier: Identifier is different than id, which is used to differentiate the specific instance of any QDM data element within the CQL logic expression – id does not indicate an identifier for the element; rather it indicates the instance of the element (avoids the need for Occurrence).</p> <p>For example, the prescriberIdentifier attribute allows use of the provider NPI number identifier to track prescription drug payment and utilization by provider or pharmacist in Medicare Part D payment programs.</p>	<p>id: The unique identifier of a specific instance of any QDM data element for internal reference within the logic expression.</p>
CONF #: 4423-35330 Added		MAY contain zero or one [0..1] participation (CONF:4423-35330) such that it
CONF #: 4423-35331 Added		SHALL contain exactly one [1..1] role (CONF:4423-35331).
CONF #: 4423-35332 Added		This role SHALL contain exactly one [1..1] @classCode="EXLOC" event location (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:4423-35332).
CONF #: 4423-35333 Added		<p>This role SHALL contain exactly one [1..1] code (CONF:4423-35333).</p> <p>Note: QDM Attribute:Setting - Where the medication is expected to be consumed or administered.</p>
CONF #: 4423-35334 Added		SHALL contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35334).
CONF #: 4423-35335 Added		<p>MAY contain zero or one [0..1] participation (CONF:4423-35335) such that it</p> <p>Note: QDM Attribute: Prescriber</p>
CONF #: 4423-35336 Added		SHALL contain exactly one [1..1] role (CONF:4423-35336).
CONF #: 4423-35337 Added		<p>MAY contain zero or one [0..1] participation (CONF:4423-35337) such that it</p> <p>Note: QDM Attribute: Prescriber</p>
CONF #: 4423-35338 Added		SHALL contain exactly one [1..1] role (CONF:4423-35338).

Change	Old	New
CONF #: 4423-35339 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35339).
CONF #: 4423-35340 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35340).
CONF #: 4423-35341 Added		MAY contain zero or one [0..1] participation (CONF:4423-35341) such that it Note: QDM Attribute: Prescriber
CONF #: 4423-35342 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35342).
CONF #: 4423-35343 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35343).
CONF #: 4423-35892 Added		MAY contain zero or one [0..1] participation (CONF:4423-35892) such that it Note: QDM Attribute: Prescriber
CONF #: 4423-35893 Added		SHALL contain exactly one [1..1] role (CONF:4423-35893).
CONF #: 4423-35894 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35894).
CONF #: 4423-35954 Added		SHALL contain exactly one [1..1] title (CONF:4423-35954).
CONF #: 3372-33594 Removed	This role MAY contain zero or one [0..1] id (CONF:3372-33594). Note: QDM Attribute: prescriberIdentifier	
CONF #: 3372-30186 Removed	SHALL contain exactly one [1..1] title (CONF:3372-30186).	
CONF #: 3372-34860 Removed	MAY contain zero or one [0..1] participation (CONF:3372-34860) such that it	
CONF #: 3372-34861 Removed	SHALL contain exactly one [1..1] role (CONF:3372-34861).	
CONF #: 3372-34862 Removed	SHALL contain exactly one [1..1] @typeCode="LOC" Location	

Change	Old	New
	(CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:3372-34862).	
CONF #: 3372-34863 Removed	This role SHALL contain exactly one [1..1] @classCode="EXLOC" event location (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3372-34863).	
CONF #: 3372-34864 Removed	This role SHALL contain exactly one [1..1] code (CONF:3372-34864). Note: QDM Attribute:Setting - Where the medication is expected to be consumed or administered.	
CONF #: 4423-33443 Modified	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33443).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33443).

9.33 Patient Care Experience (V2)

Patient Care Experience (V2) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.52:2019-05-01)

Change	Old	New
Status	Published	Ballot
Name	Patient Care Experience	Patient Care Experience (V2)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.52:2017-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.52:2019-05-01
CONF #: 4423-35344 Added		SHALL NOT contain [0..0] @actionNegationInd (CONF:4423-35344).
CONF #: 4423-35345 Added		MAY contain zero or one [0..1] participation (CONF:4423-35345). Note: QDM Attribute: Recorder
CONF #: 4423-35346 Added		The participation, if present, SHALL contain exactly one [1..1] role (CONF:4423-35346).
CONF #: 4423-35347 Added		MAY contain zero or one [0..1] participation (CONF:4423-35347). Note: QDM Attribute: Recorder
CONF #: 4423-35348 Added		The participation, if present, SHALL contain exactly one [1..1] role (CONF:4423-35348).
CONF #: 4423-35349 Added		MAY contain zero or one [0..1] participation (CONF:4423-35349). Note: QDM Attribute: Recorder
CONF #: 4423-35350 Added		The participation, if present, SHALL contain exactly one [1..1] patient (CONF:4423-35350).
CONF #: 4423-35351 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35351).
CONF #: 4423-35352 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35352).
CONF #: 4423-35353 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35353).

Change	Old	New
CONF #: 4423-35895 Added		MAY contain zero or one [0..1] participation (CONF:4423-35895). Note: QDM Attribute: Recorder
CONF #: 4423-35896 Added		The participation, if present, SHALL contain exactly one [1..1] role (CONF:4423-35896).
CONF #: 4423-35897 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35897).
CONF #: 4423-35937 Added		SHALL contain exactly one [1..1] title (CONF:4423-35937).
CONF #: 3335-32213 Removed	SHALL contain exactly one [1..1] title (CONF:3335-32213).	
CONF #: 3335-34707 Removed	SHALL NOT contain [0..0] @actionNegationInd (CONF:3335-34707).	
CONF #: 4423-33700 Modified	SHALL contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-33700).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33700).

9.34 Physical Exam, Order (V3)

[Physical Exam, Order \(V3\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.61:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Physical Exam, Order (V2)	Physical Exam, Order (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.61:2018-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.61:2019-05-01
CONF #: 4423-35373 Added		MAY contain zero or one [0..1] participation (CONF:4423-35373) such that it Note: QDM Attribute: Requester
CONF #: 4423-35374 Added		SHALL contain exactly one [1..1] role (CONF:4423-35374).
CONF #: 4423-35375 Added		MAY contain zero or one [0..1] participation (CONF:4423-35375) such that it Note: QDM Attribute: Requester
CONF #: 4423-35376 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35376).
CONF #: 4423-35377 Added		MAY contain zero or one [0..1] participation (CONF:4423-35377) such that it Note: QDM Attribute: Requester
CONF #: 4423-35378 Added		SHALL contain exactly one [1..1] role (CONF:4423-35378).
CONF #: 4423-35379 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35379).
CONF #: 4423-35380 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35380).
CONF #: 4423-35381 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35381).
CONF #: 4423-35898 Added		MAY contain zero or one [0..1] participation (CONF:4423-35898) such that it Note: QDM Attribute: Requester
CONF #: 4423-35899 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem:

Change	Old	New
		HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35899).
CONF #: 4423-33437 Modified	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33437).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33437).

9.35 Physical Exam, Performed (V3)

Physical Exam, Performed (V3) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.62:2019-05-01)

Change	Old	New
Status	Published	Ballot
Name	Physical Exam, Performed (V2)	Physical Exam, Performed (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.62:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.62:2019-05-01
Description	<p>This template represents the QDM data type: Physical Exam, Performed.</p> <p>This represents that a physical exam has been completed.</p> <p>Timing: The Relevant Period addresses: startTime – The time the physical examination activity begins; stopTime – The time the physical examination activity ends.</p> <p>QDM Attribute: Result is represented using the Result (V2) template</p>	<p>This template represents the QDM data type: Physical Exam, Performed.</p> <p>This represents that a physical exam has been completed.</p> <p>Timing: Relevant dateTime references the time the physical exam is performed if it occurs at a single point in time.</p> <p>Relevant Period references a start and stop time for physical exam procedure that occurs over a time interval: startTime – The time the physical examination activity begins; stopTime – The time the physical examination activity ends.</p> <p>Author dateTime references the time the physical exam event was recorded and applies only when the record has no reference to the time the physical exam event was performed and only the recorded time is available.</p> <p>QDM Attribute: Result is represented using the Result (V2) template</p>
CONF #: 4423-35364 Added		MAY contain zero or one [0..1] participation (CONF:4423-35364) such that it Note: QDM Attribute: Performer
CONF #: 4423-35365 Added		SHALL contain exactly one [1..1] role (CONF:4423-35365).
CONF #: 4423-35366 Added		MAY contain zero or one [0..1] participation (CONF:4423-35366) such that it Note: QDM Attribute: Performer
CONF #: 4423-35367 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35367).
CONF #: 4423-35368 Added		MAY contain zero or one [0..1] participation (CONF:4423-35368) such that it Note: QDM Attribute: Performer

Change	Old	New
CONF #: 4423-35369 Added		SHALL contain exactly one [1..1] role (CONF:4423-35369).
CONF #: 4423-35370 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35370).
CONF #: 4423-35371 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35371).
CONF #: 4423-35372 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35372).
CONF #: 4423-35900 Added		MAY contain zero or one [0..1] participation (CONF:4423-35900) such that it Note: QDM Attribute: Performer
CONF #: 4423-35901 Added		SHALL contain exactly one [1..1] role (CONF:4423-35901).
CONF #: 4423-35902 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35902).
CONF #: 4423-33428 Modified	SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-33428).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33428).

9.36 Physical Exam, Recommended (V3)

[Physical Exam, Recommended \(V3\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.63:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Physical Exam, Recommended (V2)	Physical Exam, Recommended (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.63:2018-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.63:2019-05-01
CONF #: 4423-35478 Added		MAY contain zero or one [0..1] participation (CONF:4423-35478) such that it Note: QDM Attribute: Requeseter
CONF #: 4423-35479 Added		SHALL contain exactly one [1..1] role (CONF:4423-35479).
CONF #: 4423-35480 Added		MAY contain zero or one [0..1] participation (CONF:4423-35480) such that it Note: QDM Attribute: Requeseter
CONF #: 4423-35481 Added		SHALL contain exactly one [1..1] role (CONF:4423-35481).
CONF #: 4423-35482 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35482).
CONF #: 4423-35483 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35483).
CONF #: 4423-35484 Added		MAY contain zero or one [0..1] participation (CONF:4423-35484) such that it Note: QDM Attribute: Requeseter
CONF #: 4423-35485 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35485).
CONF #: 4423-35486 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35486).
CONF #: 4423-35903 Added		MAY contain zero or one [0..1] participation (CONF:4423-35903) such that it Note: QDM Attribute: Requeseter
CONF #: 4423-35904 Added		SHALL contain exactly one [1..1]

Change	Old	New
		role (CONF:4423-35904).
CONF #: 4423-35905 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35905).
CONF #: 4423-33449 Modified	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33449).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33449).

9.37 Principal Diagnosis (RETIRED)

Principal Diagnosis (RETIRED) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.122:2019-05-01)

Change	Old	New
Status	Published	Retired
Name	Principal Diagnosis	Principal Diagnosis (RETIRED)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.122:2017-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.122:2019-05-01

9.38 Procedure, Order (V4)

[Procedure, Order \(V4\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.66:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Procedure, Order (V3)	Procedure, Order (V4)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.66:2018-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.66:2019-05-01
CONF #: 4423-35463 Added		MAY contain zero or one [0..1] priorityCode (CONF:4423-35463). Note: QDM Attribute: Priority
CONF #: 4423-35464 Added		The priorityCode, if present, SHALL contain exactly one [1..1] item (CONF:4423-35464).
CONF #: 4423-35465 Added		MAY contain zero or one [0..1] participation (CONF:4423-35465) such that it Note: QDM Attribute: Requester
CONF #: 4423-35466 Added		SHALL contain exactly one [1..1] role (CONF:4423-35466).
CONF #: 4423-35467 Added		MAY contain zero or one [0..1] participation (CONF:4423-35467) such that it Note: QDM Attribute: Requester
CONF #: 4423-35468 Added		SHALL contain exactly one [1..1] role (CONF:4423-35468).
CONF #: 4423-35471 Added		This item SHOULD contain zero or one [0..1] @valueSet (CONF:4423-35471).
CONF #: 4423-35472 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35472).
CONF #: 4423-35473 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35473).
CONF #: 4423-35475 Added		MAY contain zero or one [0..1] participation (CONF:4423-35475) such that it Note: QDM Attribute: Requester
CONF #: 4423-35476 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35476).
CONF #: 4423-35477 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem:

Change	Old	New
		HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35477).
CONF #: 4423-35764 Added		MAY contain zero or one [0..1] outboundRelationship (CONF:4423-35764) such that it Note: QDM Attribute: Rank
CONF #: 4423-35765 Added		SHALL contain exactly one [1..1] observationCriteria (CONF:4423-35765).
CONF #: 4423-35766 Added		SHALL contain exactly one [1..1] @typeCode="REFR" (CONF:4423-35766).
CONF #: 4423-35906 Added		MAY contain zero or one [0..1] participation (CONF:4423-35906) such that it Note: QDM Attribute: Requester
CONF #: 4423-35907 Added		SHALL contain exactly one [1..1] role (CONF:4423-35907).
CONF #: 4423-35908 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35908).
CONF #: 3372-31133 Removed	MAY contain zero or one [0..1] priorityCode (CONF:3372-31133). Note: QDM Attribute: Ordinality	
CONF #: 3372-31134 Removed	The priorityCode, if present, SHOULD contain zero or one [0..1] item (CONF:3372-31134).	
CONF #: 4423-33422 Modified	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33422).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33422).

9.39 Procedure, Performed (V4)

[Procedure, Performed \(V4\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.67:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Procedure, Performed (V3)	Procedure, Performed (V4)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.67:2018-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.67:2019-05-01
Description	<p>This template represents the QDM data type: Procedure, Performed. 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 or providing treatment.</p> <p>This template represents a procedure that has been performed.</p> <p>Timing: The Relevant Period addresses: StartTime = the time the procedure begins; StopTime = the time the procedure is completed.</p>	<p>This template represents the QDM data type: Procedure, Performed. 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 or providing treatment.</p> <p>This template represents a procedure that has been performed.</p> <p>Timing: Relevant dateTime references the time the procedure is performed when the procedure occurs at a single point in time. Relevant Period references a start and stop time for a procedure that occurs over a time interval: StartTime = the time the procedure begins; StopTime = the time the procedure is completed. Author dateTime references the time the procedure was recorded and applies only when the record has no reference to the time the procedure was performed and only the recorded time is available.</p>
CONF #: 4423-35448 Added		MAY contain zero or one [0..1] participation (CONF:4423-35448) such that it Note: QDM Attribute: Performer
CONF #: 4423-35449 Added		SHALL contain exactly one [1..1] role (CONF:4423-35449).
CONF #: 4423-35450 Added		MAY contain zero or one [0..1] participation (CONF:4423-35450) such that it Note: QDM Attribute: Performer
CONF #: 4423-35451 Added		SHALL contain exactly one [1..1] role (CONF:4423-35451).
CONF #: 4423-35452 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem:

Change	Old	New
		HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35452).
CONF #: 4423-35453 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35453).
CONF #: 4423-35454 Added		MAY contain zero or one [0..1] priorityCode (CONF:4423-35454). Note: QDM Attribute: Priority
CONF #: 4423-35455 Added		The priorityCode, if present, SHALL contain exactly one [1..1] item (CONF:4423-35455).
CONF #: 4423-35456 Added		MAY contain zero or one [0..1] participation (CONF:4423-35456) such that it Note: QDM Attribute: Performer
CONF #: 4423-35457 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35457).
CONF #: 4423-35460 Added		This item SHOULD contain zero or one [0..1] @valueSet (CONF:4423-35460).
CONF #: 4423-35461 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35461).
CONF #: 4423-35767 Added		MAY contain zero or one [0..1] outboundRelationship (CONF:4423-35767) such that it Note: QDM Attribute: Rank
CONF #: 4423-35768 Added		SHALL contain exactly one [1..1] observationCriteria (CONF:4423-35768).
CONF #: 4423-35769 Added		SHALL contain exactly one [1..1] @typeCode="REFR" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-35769).
CONF #: 4423-35909 Added		MAY contain zero or one [0..1] participation (CONF:4423-35909) such that it Note: QDM Attribute: Performer
CONF #: 4423-35910 Added		SHALL contain exactly one [1..1] role (CONF:4423-35910).
CONF #: 4423-35911 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem:

Change	Old	New
		HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35911).
CONF #: 3372-31349 Removed	MAY contain zero or one [0..1] priorityCode (CONF:3372-31349). Note: QDM Attribute: Ordinality	
CONF #: 3372-31350 Removed	The priorityCode, if present, SHALL contain exactly one [1..1] item (CONF:3372-31350).	
CONF #: 3372-33151 Removed	This item SHOULD contain zero or one [0..1] @valueSet (CONF:3372- 33151).	
CONF #: 4423-33398 Modified	This item SHALL contain exactly one [1..1] @extension="2018-05- 01" (CONF:3372-33398).	This item SHALL contain exactly one [1..1] @extension="2019-05- 01" (CONF:4423-33398).

9.40 Procedure, Recommended (V3)

[Procedure, Recommended \(V3\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.68:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Procedure, Recommended (V2)	Procedure, Recommended (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.68:2018-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.68:2019-05-01
CONF #: 4423-35425 Added		MAY contain zero or one [0..1] participation (CONF:4423-35425) such that it Note: QDM Attribute: Requester
CONF #: 4423-35426 Added		SHALL contain exactly one [1..1] role (CONF:4423-35426).
CONF #: 4423-35427 Added		MAY contain zero or one [0..1] participation (CONF:4423-35427) such that it Note: QDM Attribute: Requester
CONF #: 4423-35428 Added		SHALL contain exactly one [1..1] role (CONF:4423-35428).
CONF #: 4423-35429 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35429).
CONF #: 4423-35430 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35430).
CONF #: 4423-35431 Added		MAY contain zero or one [0..1] participation (CONF:4423-35431) such that it Note: QDM Attribute: Requester
CONF #: 4423-35432 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35432).
CONF #: 4423-35433 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35433).
CONF #: 4423-35770 Added		MAY contain zero or one [0..1] outboundRelationship (CONF:4423-35770) such that it Note: QDM Attribute: Rank
CONF #: 4423-35771 Added		SHALL contain exactly one [1..1] observationCriteria (CONF:4423-

Change	Old	New
		35771).
CONF #: 4423-35772 Added		SHALL contain exactly one [1..1] @typeCode="REFR" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-35772).
CONF #: 4423-35912 Added		MAY contain zero or one [0..1] participation (CONF:4423-35912) such that it Note: QDM Attribute: Requester
CONF #: 4423-35913 Added		SHALL contain exactly one [1..1] role (CONF:4423-35913).
CONF #: 4423-35914 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35914).
CONF #: 3372-31222 Removed	MAY contain zero or one [0..1] priorityCode (CONF:3372-31222). Note: QDM Attribute: Ordinality	
CONF #: 3372-31223 Removed	The priorityCode, if present, SHALL contain exactly one [1..1] item (CONF:3372-31223).	
CONF #: 3372-33156 Removed	This item SHOULD contain zero or one [0..1] @valueSet (CONF:3372-33156).	
CONF #: 4423-33417 Modified	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33417).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33417).

9.41 Program Participation (V3)

[Program Participation \(V3\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.130:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Program Participation (V2)	Program Participation (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.130:2018-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.130:2019-05-01
CONF #: 4423-35416 Added		MAY contain zero or more [0..*] participation (CONF:4423-35416). Note: QDM Attribute: Recorder
CONF #: 4423-35417 Added		The participation, if present, SHALL contain exactly one [1..1] role (CONF:4423-35417).
CONF #: 4423-35418 Added		MAY contain zero or more [0..*] participation (CONF:4423-35418). Note: QDM Attribute: Recorder
CONF #: 4423-35419 Added		The participation, if present, SHALL contain exactly one [1..1] role (CONF:4423-35419).
CONF #: 4423-35420 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35420).
CONF #: 4423-35421 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35421).
CONF #: 4423-35422 Added		MAY contain zero or more [0..*] participation (CONF:4423-35422). Note: QDM Attribute: Recorder
CONF #: 4423-35423 Added		The participation, if present, SHALL contain exactly one [1..1] patient (CONF:4423-35423).
CONF #: 4423-35424 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35424).
CONF #: 4423-35918 Added		MAY contain zero or more [0..*] participation (CONF:4423-35918). Note: QDM Attribute: Recorder

Change	Old	New
CONF #: 4423-35919 Added		The participation, if present, SHALL contain exactly one [1..1] role (CONF:4423-35919).
CONF #: 4423-35920 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35920).
CONF #: 4423-34825 Modified	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-34825).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-34825).

9.42 Provider Care Experience (V2)

Provider Care Experience (V2) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.70:2019-05-01)

Change	Old	New
Status	Published	Ballot
Name	Provider Care Experience	Provider Care Experience (V2)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.70:2017-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.70:2019-05-01
CONF #: 4423-35354 Added		SHALL NOT contain [0..0] @actionNegationInd (CONF:4423-35354).
CONF #: 4423-35355 Added		MAY contain zero or one [0..1] participation (CONF:4423-35355). Note: QDM Attribute: Recorder
CONF #: 4423-35356 Added		The participation, if present, SHALL contain exactly one [1..1] role (CONF:4423-35356).
CONF #: 4423-35357 Added		MAY contain zero or one [0..1] participation (CONF:4423-35357). Note: QDM Attribute: Recorder
CONF #: 4423-35358 Added		The participation, if present, SHALL contain exactly one [1..1] role (CONF:4423-35358).
CONF #: 4423-35359 Added		MAY contain zero or one [0..1] participation (CONF:4423-35359). Note: QDM Attribute: Recorder
CONF #: 4423-35360 Added		The participation, if present, SHALL contain exactly one [1..1] patient (CONF:4423-35360).
CONF #: 4423-35361 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35361).
CONF #: 4423-35362 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35362).
CONF #: 4423-35363 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90)

Change	Old	New
CONF #: 4423-35915 Added		(CONF:4423-35363). MAY contain zero or one [0..1] participation (CONF:4423-35915). Note: QDM Attribute: Recorder
CONF #: 4423-35916 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35916).
CONF #: 4423-35917 Added		The participation, if present, SHALL contain exactly one [1..1] role (CONF:4423-35917).
CONF #: 3335-34708 Removed	SHALL NOT contain [0..0] @actionNegationInd (CONF:3335-34708).	
CONF #: 4423-33701 Modified	SHALL contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-33701).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33701).

9.43 Provider Characteristic (RETIRED)

Provider Characteristic (RETIRED) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.71:2019-05-01)

Change	Old	New
Status	Published	Retired
Name	Provider Characteristic (V2)	Provider Characteristic (RETIRED)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.71:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.71:2019-05-01
Description	<p>This template represents the QDM data type: Provider Characteristic.</p> <p>Provider characteristics refer to specific factors about a provider. Included are demographics, behavioral factors, social, or cultural factors, available resources, and preferences.</p> <p>Timing: The time the characteristic is authored.</p>	<p>This template represents the QDM data type: Provider Characteristic.</p> <p>Provider characteristics refer to specific factors about a provider. Included are demographics, behavioral factors, social, or cultural factors, available resources, and preferences.</p> <p>Timing: The time the characteristic is authored.</p> <p>Provider Characteristic data type is retired in QDM 5.5</p>

9.44 Substance, Administered (V4)

[Substance, Administered \(V4\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.73:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Substance, Administered (V3)	Substance, Administered (V4)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.73:2018-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.73:2019-05-01
Description	<p>This template represents the QDM data type: Substance, Administered.</p> <p>A substance is a chemical element and its compounds in the natural state or obtained by any manufacturing process (other than pharmaceutical drugs), including any additive necessary to preserve its stability and any impurity deriving from the process used, but excluding any solvent that may be separated without affecting the stability of the substance or changing its composition. Examples of a substance may include but are not limited to: environmental agents (e.g., pollen, dust) and food (e.g., vitamins).</p> <p>This template represents a substance that has been administered.</p> <p>Timing: The Relevant Period addresses: StartTime = when a single substance administration event starts (e.g., the initiation of an intravenous infusion, or administering a the substance orally or topically to a patient); StopTime = when a single substance administration event ends (e.g., the end time of the intravenous infusion, or the administration of a substance orally or topically is completed - for oral or topical administration, the start and stop times are the same). Dosage: Details of how medication is/is to be taken, i.e., the quantity (mg, cc, tablets) to be taken at a single administration.</p>	<p>This template represents the QDM data type: Substance, Administered.</p> <p>A substance is a chemical element and its compounds in the natural state or obtained by any manufacturing process (other than pharmaceutical drugs), including any additive necessary to preserve its stability and any impurity deriving from the process used, but excluding any solvent that may be separated without affecting the stability of the substance or changing its composition. Examples of a substance may include but are not limited to: environmental agents (e.g., pollen, dust) and food (e.g., vitamins).</p> <p>This template represents a substance that has been administered.</p> <p>Timing: Relevant dateTime references the time the substance is administered if it was given or taken at a single point in time. Relevant Period references a start and stop time for substance administration if the administration event occurred over a time interval. The Relevant Period addresses: StartTime = when a single substance administration event starts (e.g., the initiation of an intravenous infusion, or administering a the substance orally or topically to a patient); StopTime = when a single substance administration event ends (e.g., the end time of the intravenous infusion, or the administration of a substance orally or topically is completed - for oral or topical administration, the</p>

Change	Old	New
		start and stop times are the same). Dosage: Details of how medication is/is to be taken, i.e., the quantity (mg, cc, tablets) to be taken at a single administration.
CONF #: 4423-35407 Added		MAY contain zero or one [0..1] participation (CONF:4423-35407) such that it Note: QDM Attribute: Performer
CONF #: 4423-35408 Added		SHALL contain exactly one [1..1] role (CONF:4423-35408).
CONF #: 4423-35409 Added		MAY contain zero or one [0..1] participation (CONF:4423-35409) such that it Note: QDM Attribute: Performer
CONF #: 4423-35410 Added		SHALL contain exactly one [1..1] role (CONF:4423-35410).
CONF #: 4423-35411 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35411).
CONF #: 4423-35412 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35412).
CONF #: 4423-35413 Added		MAY contain zero or one [0..1] participation (CONF:4423-35413) such that it Note: QDM Attribute: Performer
CONF #: 4423-35414 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35414).
CONF #: 4423-35415 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35415).
CONF #: 4423-35933 Added		MAY contain zero or one [0..1] participation (CONF:4423-35933) such that it Note: QDM Attribute: Performer
CONF #: 4423-35934 Added		SHALL contain exactly one [1..1] role (CONF:4423-35934).
CONF #: 4423-35935 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90)

Change	Old	New
		(CONF:4423-35935).
CONF #: 4423-33393 Modified	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33393).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33393).

9.45 Substance, Order (V4)

[Substance, Order \(V4\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.77:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Substance, Order (V3)	Substance, Order (V4)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.77:2018-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.77:2019-05-01
CONF #: 4423-35400 Added		MAY contain zero or one [0..1] participation (CONF:4423-35400) such that it Note: QDM Attribute: Requester
CONF #: 4423-35401 Added		SHALL contain exactly one [1..1] role (CONF:4423-35401).
CONF #: 4423-35402 Added		MAY contain zero or one [0..1] participation (CONF:4423-35402) such that it Note: QDM Attribute: Requester
CONF #: 4423-35404 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35404).
CONF #: 4423-35405 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35405).
CONF #: 4423-35406 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35406).
CONF #: 4423-35566 Added		MAY contain zero or one [0..1] effectiveTime (CONF:4423-35566) such that it Note: QDM Attribute: Frequency
CONF #: 4423-35567 Added		MAY contain zero or one [0..1] period (CONF:4423-35567).
CONF #: 4423-35927 Added		MAY contain zero or one [0..1] participation (CONF:4423-35927) such that it Note: QDM Attribute: Requester
CONF #: 4423-35928 Added		SHALL contain exactly one [1..1] role (CONF:4423-35928).
CONF #: 4423-35929 Added		MAY contain zero or one [0..1] participation (CONF:4423-35929) such that it Note: QDM Attribute: Requester
CONF #: 4423-35930 Added		SHALL contain exactly one [1..1] role (CONF:4423-35930).

Change	Old	New
CONF #: 4423-35931 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35931).
CONF #: 4423-35932 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35932).
CONF #: 4423-33652 Modified	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33652).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33652).

9.46 Substance, Recommended (V4)

[Substance, Recommended \(v4\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.78:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Substance, Recommended (V3)	Substance, Recommended (V4)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.78:2018-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.78:2019-05-01
CONF #: 4423-35391 Added		MAY contain zero or one [0..1] participation (CONF:4423-35391) such that it Note: QDM Attribute: Requester
CONF #: 4423-35392 Added		SHALL contain exactly one [1..1] role (CONF:4423-35392).
CONF #: 4423-35393 Added		MAY contain zero or one [0..1] participation (CONF:4423-35393) such that it Note: QDM Attribute: Requester
CONF #: 4423-35394 Added		SHALL contain exactly one [1..1] role (CONF:4423-35394).
CONF #: 4423-35395 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CONF:4423-35395).
CONF #: 4423-35396 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35396).
CONF #: 4423-35397 Added		MAY contain zero or one [0..1] participation (CONF:4423-35397) such that it Note: QDM Attribute: Requester
CONF #: 4423-35398 Added		SHALL contain exactly one [1..1] patient (CONF:4423-35398).
CONF #: 4423-35399 Added		SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35399).
CONF #: 4423-35568 Added		MAY contain zero or one [0..1] effectiveTime (CONF:4423-35568) such that it Note: QDM Attribute: Frequency
CONF #: 4423-35569 Added		MAY contain zero or one [0..1] period (CONF:4423-35569).
CONF #: 4423-35924 Added		MAY contain zero or one [0..1] participation (CONF:4423-35924) such that it

Change	Old	New
		Note: QDM Attribute: Requester
CONF #: 4423-35925 Added		SHALL contain exactly one [1..1] role (CONF:4423-35925).
CONF #: 4423-35926 Added		SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35926).
CONF #: 3372-34479 Removed	This role MAY contain zero or one [0..1] id (CONF:3372-34479).	
CONF #: 4423-33693 Modified	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33693).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33693).

9.47 Symptom (V3)

[Symptom \(V3\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.116:2019-05-01\)](#)

Change	Old	New
Status	Published	Ballot
Name	Symptom (V2)	Symptom (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.116:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.116:2019-05-01
CONF #: 4423-35382 Added		MAY contain zero or one [0..1] participation (CONF:4423-35382). Note: QDM Attribute: Recorder
CONF #: 4423-35383 Added		The participation, if present, SHALL contain exactly one [1..1] role (CONF:4423-35383).
CONF #: 4423-35384 Added		MAY contain zero or one [0..1] participation (CONF:4423-35384). Note: QDM Attribute: Recorder
CONF #: 4423-35385 Added		The participation, if present, SHALL contain exactly one [1..1] role (CONF:4423-35385).
CONF #: 4423-35386 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35386).
CONF #: 4423-35387 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35387).
CONF #: 4423-35388 Added		MAY contain zero or one [0..1] participation (CONF:4423-35388). Note: QDM Attribute: Recorder
CONF #: 4423-35389 Added		The participation, if present, SHALL contain exactly one [1..1] patient (CONF:4423-35389).
CONF #: 4423-35390 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" participation (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35390).
CONF #: 4423-35921 Added		MAY contain zero or one [0..1] participation (CONF:4423-35921). Note: QDM Attribute: Recorder

Change	Old	New
CONF #: 4423-35922 Added		The participation, if present, SHALL contain exactly one [1..1] role (CONF:4423-35922).
CONF #: 4423-35923 Added		The participation, if present, SHALL contain exactly one [1..1] @typeCode="PART" (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:4423-35923).
CONF #: 4423-34480 Modified	This item SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-34480).	This item SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-34480).

9.48 Data Criteria Section (V4)

Data Criteria Section (V4) (<urn:hl7ii:2.16.840.1.113883.10.20.28.2.6:2019-05-01>)

Change	Old	New
Status	Published	Ballot
Name	Data Criteria Section (V3)	Data Criteria Section (V4)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.2.6:2018-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.2.6:2019-05-01
CONF #: 4423-35739 Added		MAY contain zero or more [0..*] entry (CONF:4423-35739) such that it
CONF #: 4423-35740 Added		SHALL contain exactly one [1..1] observationCriteria (CONF:4423-35740).
CONF #: 4423-35741 Added		SHALL contain exactly one [1..1] @typeCode="DRIV" Is Derived From (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-35741).
CONF #: 3372-32871 Removed	MAY contain zero or more [0..*] entry (CONF:3372-32871) such that it	
CONF #: 3372-32873 Removed	SHALL contain exactly one [1..1] observationCriteria (CONF:3372-32873).	
CONF #: 3372-32872 Removed	SHALL contain exactly one [1..1] @typeCode="DRIV" Is Derived From (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3372-32872).	
CONF #: 4423-33440 Modified	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33440).	SHALL contain exactly one [1..1] @extension="2019-05-01" (CONF:4423-33440).
CONF #: 4423-34880 Modified	SHALL contain exactly one [1..1] @typeCode="DRIV" Is Derived From (CONF:3372-34880).	SHALL contain exactly one [1..1] @typeCode="DRIV" Is Derived From (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4423-34880).