



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

**HL7 Standard for Trial Use**

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**Volume 3 – QDM Templates for CQL-based HQMF**

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NUCC Health Care Provider Taxonomy code set	American Medical Association. Please see <a href="http://www.nucc.org">www.nucc.org</a> . AMA licensing contact: 312-464-5022 (AMA IP services)

## Table of Contents

1	STRUCTURE OF THIS GUIDE .....	14
2	CONFORMANCE CONVENTIONS .....	15
2.1	Templates and Conformance Statements .....	15
2.2	Template Versioning.....	15
2.3	Open and Closed Templates .....	16
2.4	Conformance Verbs .....	16
2.5	Cardinality .....	16
2.6	Vocabulary Conformance .....	17
2.7	Data Types .....	17
2.8	QDM Attribute Mappings .....	17
2.9	Asserting an ActCriteria Not Met with a Reason .....	17
2.10	XPath Notation.....	17
2.11	XML Examples and Sample Documents.....	18
3	DOCUMENT .....	19
3.1	QDM Templates for CQL-Based HQMF Header (V3).....	19
4	SECTION.....	42
4.1	Data Criteria Section (V3).....	42
4.2	Measure Description Section .....	62
4.3	Measure Observations Section (V2).....	64
4.4	Population Criteria Section (V2).....	67
5	ENTRY .....	77
5.1	Admission Source .....	77
5.2	Adverse Event (V2) .....	78
5.3	Allergy Intolerance (V2) .....	84
5.4	Assessment, Order .....	90
5.5	Assessment, Performed (V2) .....	93
5.6	Assessment, Recommended (V2).....	97
5.7	Care Goal (V2).....	100
5.8	Cause .....	104
5.9	Communication, Performed .....	106
5.10	Component .....	111
5.10.1	Laboratory Test Component .....	113
5.11	Device, Applied (V2) .....	115

5.12	Device, Order .....	120
5.13	Device, Recommended.....	124
5.14	Diagnosis (V2).....	128
5.15	Diagnostic Study, Order (V3) .....	131
5.16	Diagnostic Study, Performed (V2) .....	134
5.17	Diagnostic Study, Recommended (V3).....	140
5.18	Dosage.....	143
5.19	Encounter, Order .....	144
5.20	Encounter, Performed (V2) .....	147
5.21	Encounter, Recommended.....	153
5.22	Facility Location.....	157
5.23	Family History .....	159
5.24	Immunization, Administered (V3) .....	162
5.25	Immunization, Order (V2).....	167
5.26	Incision Datetime .....	172
5.27	Intervention, Order .....	173
5.28	Intervention, Performed (V2) .....	177
5.29	Intervention, Recommended .....	181
5.30	Laboratory Test Reference Range .....	184
5.31	Laboratory Test, Order (V2) .....	186
5.32	Laboratory Test, Performed (V2).....	189
5.33	Laboratory Test, Recommended (V2) .....	194
5.34	Medication, Active (V3) .....	197
5.35	Medication, Administered (V3) .....	201
5.36	Medication, Discharge (V2) .....	206
5.37	Medication, Dispensed (V2) .....	211
5.38	Medication, Order (V3) .....	217
5.39	Patient Care Experience .....	223
5.40	Patient Characteristic (V2).....	226
5.41	Patient Characteristic Birth Date .....	228
5.42	Patient Characteristic Clinical Trial Participant.....	230
5.43	Patient Characteristic Ethnicity .....	233
5.44	Patient Characteristic Expired .....	235
5.45	Patient Characteristic Payer .....	238
5.46	Patient Characteristic Race .....	241
5.47	Patient Characteristic Sex .....	243

5.48	Physical Exam, Order (V2).....	245
5.49	Physical Exam, Performed (V2) .....	250
5.50	Physical Exam, Recommended (V2) .....	255
5.51	Principal Diagnosis .....	259
5.52	Procedure, Order (V3).....	261
5.53	Procedure, Performed (V3) .....	264
5.54	Procedure, Recommended (V2) .....	270
5.55	Program Participation (V2).....	273
5.56	Provider Care Experience .....	276
5.57	Provider Characteristic (V2) .....	279
5.58	Reason .....	283
5.59	Related To.....	285
5.60	Result (V2) .....	287
5.61	Severity Observation (V2) .....	289
5.62	Status (V2).....	291
5.63	Substance, Administered (V3).....	293
5.64	Substance, Order (V3) .....	298
5.65	Substance, Recommended (V3).....	303
5.66	Supply .....	308
5.67	Symptom (V2) .....	309
5.68	Target Outcome .....	312
6	TEMPLATE IDS IN THIS GUIDE .....	315
7	VALUE SETS IN THIS GUIDE.....	325
8	CODE SYSTEMS IN THIS GUIDE .....	327
9	RETIRED TEMPLATES.....	328
10	NEW TEMPLATES .....	329
11	CHANGES FROM PREVIOUS VERSION.....	330
11.1	QDM Templates for CQL-Based HQMF Header (V3).....	330
11.2	Assessment, Recommended (V2).....	331
11.3	Communication: From Patient to Provider (V3) - RETIRED .....	331
11.4	Communication: From Provider to Patient (V3) - RETIRED .....	332
11.5	Communication: From Provider to Provider (V3) - RETIRED .....	332
11.6	Device, Applied (V2) .....	333
11.7	Diagnostic Study, Order (V3) .....	334

11.8	Diagnostic Study, Recommended (V3).....	335
11.9	Immunization, Administered (V3) .....	336
11.10	Laboratory Test, Order (V2) .....	337
11.11	Laboratory Test, Recommended (V2).....	337
11.12	Medication, Active (V3) .....	338
11.13	Medication, Administered (V3) .....	339
11.14	Medication, Order (V3) .....	341
11.15	Physical Exam, Order (V2).....	343
11.16	Physical Exam, Recommended (V2) .....	343
11.17	Procedure, Order (V3).....	344
11.18	Procedure, Performed (V3) .....	345
11.19	Procedure, Recommended (V2) .....	346
11.20	Program Participation (V2).....	347
11.21	Substance, Administered (V3).....	348
11.22	Substance, Order (V3) .....	350
11.23	Substance, Recommended (V3).....	351
11.24	Data Criteria Section (V3).....	352
11.25	Measure Observations Section (V2).....	354

## Table of Figures

Figure 1: Relationship between QDM, CQL, eCQM, and the volumes of this IG.....	14
Figure 2: Measure Description Section Example .....	64
Figure 3: Measure Observations Section (V2) Example.....	67
Figure 4: Admission Source Example .....	78
Figure 5: Adverse Event (V2) Example .....	84
Figure 6: Allergy Intolerance (V2) Example .....	89
Figure 5: Assessment, Order Example .....	93
Figure 8: Assessment, Performed (V2) Example .....	97
Figure 9: Assessment, Recommended Example .....	100
Figure 10: Care Goal (V2) Example.....	104
Figure 11: Cause Example .....	106
Figure 12: Communication, Performed Example .....	111
Figure 13: Component Example .....	113

Figure 14: Laboratory Test Component Example .....	115
Figure 15: Device, Applied (V2) Example .....	119
Figure 16: Device, Order Example .....	124
Figure 17: Device, Recommended Example.....	128
Figure 18: Diagnosis (V2) Example.....	131
Figure 19: Diagnostic Study, Order (V3) Example .....	134
Figure 20: Diagnostic Study, Performed (V2) Example .....	140
Figure 21: Diagnostic Study, Recommended (V3) Example.....	142
Figure 22: Dosage Example .....	144
Figure 23: Encounter, Order Example .....	147
Figure 24: Encounter, Performed (V2) Example .....	153
Figure 25: Encounter, Recommended Example .....	157
Figure 26: Facility Location Example.....	159
Figure 27: Family History Example .....	162
Figure 28: Immunization, Administered (V3) Example .....	167
Figure 29: Immunization, Order (V2) Example.....	171
Figure 30: Incision Datetime Example .....	173
Figure 31: Intervention, Order Example .....	177
Figure 32: Intervention, Performed (V2) Example.....	181
Figure 33: Intervention, Recommended Example .....	184
Figure 34: Laboratory Test Reference Range Example.....	186
Figure 35: Laboratory Test, Order (V2) Example .....	189
Figure 36: Laboratory Test, Performed (V2) Example .....	194
Figure 37: Laboratory Test, Recommended (V2) Example.....	197
Figure 38: Medication, Active (V3) Example .....	200
Figure 39: Medication, Administered (V3) Example .....	206
Figure 40: Medication, Discharge (V2) Example .....	211
Figure 41: Medication, Dispensed (V2) Example .....	217
Figure 42: Medication, Order (V3) Example .....	223
Figure 43: Patient Care Experience Example .....	225
Figure 44: Patient Characteristic (V2) Example.....	228
Figure 45: Patient Characteristic Birth Date Example.....	230
Figure 46: Patient Characteristic Clinical Trial Participant Example.....	233

Figure 47: Patient Characteristic Ethnicity Example .....	235
Figure 48: Patient Characteristic Expired Example .....	238
Figure 49: Patient Characteristic Payer Example .....	240
Figure 50: Patient Characteristic Race Example .....	243
Figure 51: Patient Characteristic Sex Example .....	245
Figure 52: Physical Exam, Order (V2) Example .....	249
Figure 53: Physical Exam, Performed (V2) Example .....	254
Figure 54: Physical Exam, Recommended (V2) Example .....	258
Figure 55: Principal Diagnosis Example .....	261
Figure 56: Procedure, Order (V3) Example .....	264
Figure 57: Procedure, Performed (V3) Example .....	270
Figure 58: Procedure, Recommended (V2) Example .....	273
Figure 59: Program Participation (V2) Example .....	275
Figure 60: Provider Care Experience Example .....	278
Figure 61: Provider Characteristic (V2) Example .....	282
Figure 62: Reason Example .....	285
Figure 63: Related To Example .....	287
Figure 64: Result (V2) Example .....	289
Figure 65: Severity Observation (V2) Example .....	291
Figure 66: Status (V2) Example .....	293
Figure 67: Substance, Administered (V3) Example .....	297
Figure 68: Substance, Order (V3) Example .....	302
Figure 69: Substance, Recommended (V3) Example .....	307
Figure 70: Supply Example .....	309
Figure 71: Symptom (V2) Example .....	312
Figure 72: Target Outcome Example .....	314

## Table of Tables

Table 1: QDM Templates for CQL-Based HQMF Header (V3) Contexts .....	19
Table 2: QDM Templates for CQL-Based HQMF Header (V3) Constraints Overview .....	20
Table 3: Data Criteria Section (V3) Contexts .....	42
Table 4: Data Criteria Section (V3) Constraints Overview .....	44



Table 5: Measure Description Section Contexts .....	62
Table 6: Measure Description Section Constraints Overview .....	63
Table 7: Measure Observations Section (V2) Contexts .....	64
Table 8: Measure Observations Section (V2) Constraints Overview.....	65
Table 9: Population Criteria Section (V2) Contexts .....	67
Table 10: Population Criteria Section (V2) Constraints Overview .....	68
Table 11: Admission Source Contexts .....	77
Table 12: Admission Source Constraints Overview .....	77
Table 13: Adverse Event (V2) Contexts .....	78
Table 14: Adverse Event (V2) Constraints Overview .....	79
Table 15: Allergy Intolerance (V2) Contexts.....	84
Table 16: Allergy Intolerance (V2) Constraints Overview.....	85
Table 17: Assessment, Order Contexts .....	90
Table 18: Assessment, Order Constraints Overview .....	91
Table 19: Assessment, Performed (V2) Contexts .....	93
Table 20: Assessment, Performed (V2) Constraints Overview.....	94
Table 21: Assessment, Recommended (V2) Contexts .....	97
Table 22: Assessment, Recommended (V2) Constraints Overview .....	98
Table 23: Care Goal (V2) Contexts.....	100
Table 24: Care Goal (V2) Constraints Overview.....	102
Table 25: Cause Contexts .....	104
Table 26: Cause Constraints Overview .....	105
Table 27: Communication, Performed Contexts .....	106
Table 28: Communication, Performed Constraints Overview .....	107
Table 29: Component Contexts .....	111
Table 30: Component Constraints Overview .....	112
Table 31: Laboratory Test Component Contexts.....	113
Table 32: Laboratory Test Component Constraints Overview.....	114
Table 33: Device, Applied (V2) Contexts.....	115
Table 34: Device, Applied (V2) Constraints Overview.....	116
Table 35: Device, Order Contexts .....	120
Table 36: Device, Order Constraints Overview .....	121
Table 37: Device, Recommended Contexts .....	124

Table 38: Device, Recommended Constraints Overview .....	125
Table 39: Diagnosis (V2) Contexts .....	128
Table 40: Diagnosis (V2) Constraints Overview .....	129
Table 41: Diagnostic Study, Order (V3) Contexts .....	131
Table 42: Diagnostic Study, Order (V3) Constraints Overview .....	132
Table 43: Diagnostic Study, Performed (V2) Contexts.....	134
Table 44: Diagnostic Study, Performed (V2) Constraints Overview.....	136
Table 45: Diagnostic Study, Recommended (V3) Contexts .....	140
Table 46: Diagnostic Study, Recommended (V3) Constraints Overview .....	141
Table 47: Dosage Contexts.....	143
Table 48: Dosage Constraints Overview.....	143
Table 49: Encounter, Order Contexts .....	144
Table 50: Encounter, Order Constraints Overview .....	145
Table 51: Encounter, Performed (V2) Contexts .....	147
Table 52: Encounter, Performed (V2) Constraints Overview .....	149
Table 53: Encounter, Recommended Contexts.....	153
Table 54: Encounter, Recommended Constraints Overview.....	155
Table 55: Facility Location Contexts.....	157
Table 56: Facility Location Constraints Overview.....	158
Table 57: Family History Contexts .....	159
Table 58: Family History Constraints Overview.....	160
Table 59: Immunization, Administered (V3) Contexts.....	162
Table 60: Immunization, Administered (V3) Constraints Overview.....	164
Table 61: Immunization, Order (V2) Contexts .....	167
Table 62: Immunization, Order (V2) Constraints Overview .....	168
Table 63: Incision Datetime Contexts .....	172
Table 64: Incision Datetime Constraints Overview .....	172
Table 65: Intervention, Order Contexts.....	173
Table 66: Intervention, Order Constraints Overview.....	175
Table 67: Intervention, Performed (V2) Contexts .....	177
Table 68: Intervention, Performed (V2) Constraints Overview .....	178
Table 69: Intervention, Recommended Contexts .....	181
Table 70: Intervention, Recommended Constraints Overview .....	182

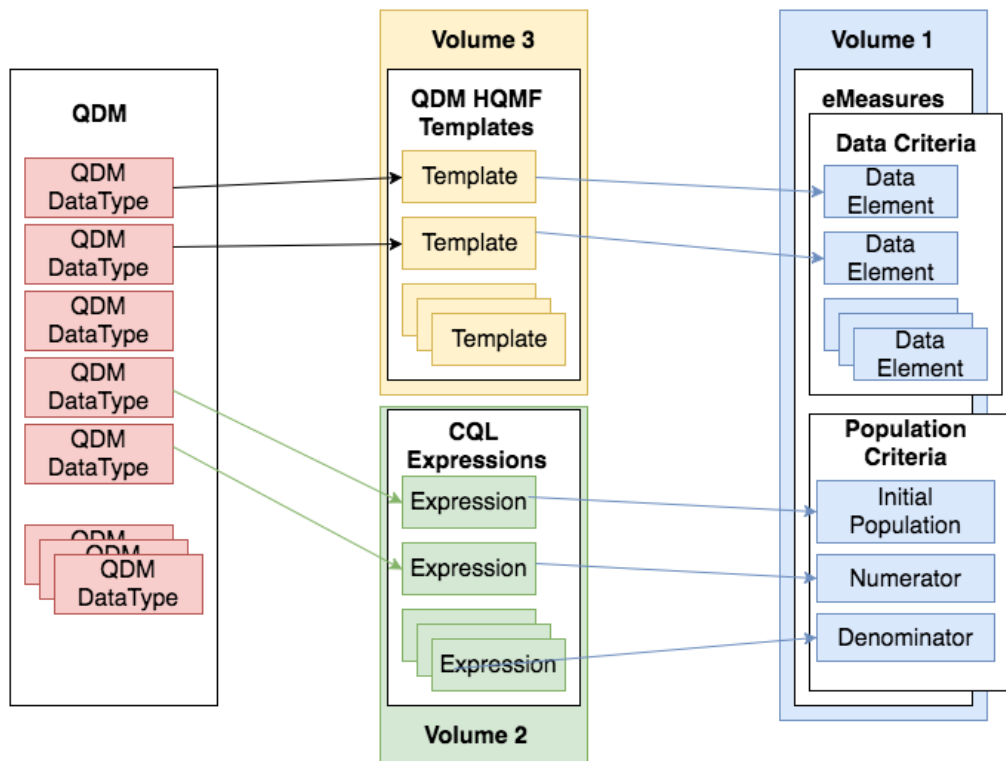
Table 71: Laboratory Test Reference Range Contexts .....	184
Table 72: Laboratory Test Reference Range Constraints Overview .....	185
Table 73: Laboratory Test, Order (V2) Contexts .....	186
Table 74: Laboratory Test, Order (V2) Constraints Overview .....	187
Table 75: Laboratory Test, Performed (V2) Contexts.....	189
Table 76: Laboratory Test, Performed (V2) Constraints Overview .....	190
Table 77: Laboratory Test, Recommended (V2) Contexts .....	194
Table 78: Laboratory Test, Recommended (V2) Constraints Overview .....	195
Table 79: Medication, Active (V3) Contexts .....	197
Table 80: Medication, Active (V3) Constraints Overview .....	198
Table 81: Medication, Administered (V3) Contexts .....	201
Table 82: Medication, Administered (V3) Constraints Overview .....	202
Table 83: Medication, Discharge (V2) Contexts .....	206
Table 84: Medication, Discharge (V2) Constraints Overview .....	207
Table 85: Medication, Dispensed (V2) Contexts .....	211
Table 86: Medication, Dispensed (V2) Constraints Overview.....	213
Table 87: Medication, Order (V3) Contexts .....	217
Table 88: Medication, Order (V3) Constraints Overview.....	219
Table 89: Patient Care Experience Contexts .....	223
Table 90: Patient Care Experience Constraints Overview .....	224
Table 91: Patient Characteristic (V2) Contexts .....	226
Table 92: Patient Characteristic (V2) Constraints Overview .....	227
Table 93: Patient Characteristic Birth Date Contexts .....	228
Table 94: Patient Characteristic Birth Date Constraints Overview .....	229
Table 95: Patient Characteristic Clinical Trial Participant Contexts .....	230
Table 96: Patient Characteristic Clinical Trial Participant Constraints Overview .....	231
Table 97: Patient Characteristic Ethnicity Contexts .....	233
Table 98: Patient Characteristic Ethnicity Constraints Overview .....	234
Table 99: Patient Characteristic Expired Contexts .....	235
Table 100: Patient Characteristic Expired Constraints Overview .....	236
Table 101: Patient Characteristic Payer Contexts.....	238
Table 102: Patient Characteristic Payer Constraints Overview.....	239
Table 103: Patient Characteristic Race Contexts.....	241

Table 104: Patient Characteristic Race Constraints Overview.....	242
Table 105: Patient Characteristic Sex Contexts .....	243
Table 106: Patient Characteristic Sex Constraints Overview.....	244
Table 107: Physical Exam, Order (V2) Contexts .....	245
Table 108: Physical Exam, Order (V2) Constraints Overview .....	247
Table 109: Physical Exam, Performed (V2) Contexts .....	250
Table 110: Physical Exam, Performed (V2) Constraints Overview .....	251
Table 111: Physical Exam, Recommended (V2) Contexts.....	255
Table 112: Physical Exam, Recommended (V2) Constraints Overview.....	256
Table 113: Principal Diagnosis Contexts.....	259
Table 114: Principal Diagnosis Constraints Overview.....	260
Table 115: Procedure, Order (V3) Contexts .....	261
Table 116: Procedure, Order (V3) Constraints Overview .....	262
Table 117: Procedure, Performed (V3) Contexts .....	264
Table 118: Procedure, Performed (V3) Constraints Overview .....	266
Table 119: Procedure, Recommended (V2) Contexts.....	270
Table 120: Procedure, Recommended (V2) Constraints Overview.....	271
Table 121: Program Participation (V2) Contexts .....	273
Table 122: Program Participation (V2) Constraints Overview .....	274
Table 123: Provider Care Experience Contexts.....	276
Table 124: Provider Care Experience Constraints Overview.....	277
Table 125: Provider Characteristic (V2) Contexts .....	279
Table 126: Provider Characteristic (V2) Constraints Overview .....	280
Table 127: Reason Contexts.....	283
Table 128: Reason Constraints Overview.....	284
Table 129: Related To Contexts .....	285
Table 129: Related To Constraints Overview .....	286
Table 131: Result (V2) Contexts .....	287
Table 132: Result (V2) Constraints Overview .....	288
Table 133: Severity Observation (V2) Contexts.....	289
Table 134: Severity Observation (V2) Constraints Overview.....	290
Table 135: Status (V2) Contexts.....	291
Table 136: Status (V2) Constraints Overview .....	292

Table 137: Substance, Administered (V3) Contexts .....	293
Table 138: Substance, Administered (V3) Constraints Overview .....	294
Table 139: Substance, Order (V3) Contexts .....	298
Table 139: Substance, Order (V3) Constraints Overview .....	299
Table 141: Substance, Recommended (V3) Contexts .....	303
Table 141: Substance, Recommended (V3) Constraints Overview .....	304
Table 143: Supply Contexts .....	308
Table 144: Supply Constraints Overview .....	308
Table 145: Symptom (V2) Contexts .....	309
Table 146: Symptom (V2) Constraints Overview.....	310
Table 147: Target Outcome Contexts.....	312
Table 148: Target Outcome Constraints Overview.....	313
Table 149: Template List.....	315
Table 147: Template Containments.....	319
Table 151: ObservationMeasureScoring.....	325
Table 152: ObservationMeasureType .....	325
Table 153: RoleClassServiceDeliveryLocation.....	326
Table 154: Code Systems .....	327
Table 155 Retired Templates.....	328
Table 156 New Templates .....	329

# 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 (US Realm), Standard for Trial Use (STU) 3:



**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 5.4 of the Quality Data Model into a CQL- based eCQM in accordance with accepted formatting and usage conventions.
- Volume 3** : Contains the QDM templates for the CQL-based HQMF for QDM data types, necessary for constructing CQL-based HQMF measures that use the QDM.

## 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)<sup>1</sup>.

## 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

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.

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



## 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<sup>®</sup> and SNOMED CT<sup>®</sup> 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 “RSN” 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 (V3)

[QualityMeasureDocument: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.1.2:2018-05-01 (open)]

**Table 1: QDM Templates for CQL-Based HQMF Header (V3) Contexts**

Contained By:	Contains:
	<a href="#">Measure Description Section</a> (optional) <a href="#">Population Criteria Section (V2)</a> (required) <a href="#">Measure Observations Section (V2)</a> (optional) <a href="#">Data Criteria Section (V3)</a> (required)

This is the document header template for a CQL-based HQMF document that contains QDM-based entry templates (QDM Version 5.4).

**Table 2: QDM Templates for CQL-Based HQMF Header (V3) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
QualityMeasureDocument (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.1.2:2018-05-01)					
typeId	1..1	SHALL		<a href="#">3372-18786</a>	
@root	1..1	SHALL		<a href="#">3372-18787</a>	2.16.840.1.113883.1.3
@extension	1..1	SHALL		<a href="#">3372-18788</a>	POQM_HD000001UV02
templateId	1..1	SHALL		<a href="#">3372-18771</a>	
item	1..1	SHALL		<a href="#">3372-18772</a>	
@root	1..1	SHALL		<a href="#">3372-18773</a>	2.16.840.1.113883.10.20.28.1.2
@extension	0..1	SHALL		<a href="#">3372-33755</a>	2018-05-01
id	1..1	SHALL		<a href="#">3372-18542</a>	
code	1..1	SHALL		<a href="#">3372-18575</a>	
@code	1..1	SHALL		<a href="#">3372-18576</a>	57024-2
@codeSystem	1..1	SHALL		<a href="#">3372-33757</a>	urn:oid:2.16.840.1.113883.6.1 (LOINC)
title	1..1	SHALL		<a href="#">3372-18541</a>	
text	0..1	SHOULD		<a href="#">3372-18578</a>	
statusCode	1..1	SHALL		<a href="#">3372-18579</a>	
@code	1..1	SHALL		<a href="#">3372-32666</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY		<a href="#">3372-18789</a>	
availabilityTime	0..1	MAY		<a href="#">3372-18790</a>	
languageCode	0..1	MAY		<a href="#">3372-18791</a>	
setId	1..1	SHALL		<a href="#">3372-18543</a>	
versionNumber	0..1	SHOULD		<a href="#">3372-18544</a>	
author	0..*	SHOULD		<a href="#">3372-18563</a>	

responsibleParty	1..1	SHALL		<a href="#">3372-18564</a>	
representedResponsibleOrganization	1..1	SHALL		<a href="#">3372-18565</a>	
id	1..1	SHALL		<a href="#">3372-18566</a>	
item	1..1	SHALL		<a href="#">3372-18567</a>	
name	1..1	SHALL		<a href="#">3372-18568</a>	
custodian	1..1	SHALL		<a href="#">3372-18555</a>	
responsibleParty	1..1	SHALL		<a href="#">3372-18556</a>	
@classCode	1..1	SHALL		<a href="#">3372-29933</a>	ASSIGNED
representedResponsibleOrganization	1..1	SHALL		<a href="#">3372-18557</a>	
id	1..1	SHALL		<a href="#">3372-18558</a>	
item	1..1	SHALL		<a href="#">3372-18559</a>	
name	1..1	SHALL		<a href="#">3372-18560</a>	
verifier	0..1	SHOULD		<a href="#">3372-18754</a>	
responsibleParty	1..1	SHALL		<a href="#">3372-18755</a>	
representedResponsibleOrganization	1..1	SHALL		<a href="#">3372-18756</a>	
id	1..1	SHALL		<a href="#">3372-18757</a>	
item	1..1	SHALL		<a href="#">3372-18758</a>	
name	1..1	SHALL		<a href="#">3372-18759</a>	
relatedDocument	1..*	SHALL		<a href="#">3372-34627</a>	
expressionDocument	1..1	SHALL		<a href="#">3372-34628</a>	
text	1..1	SHALL		<a href="#">3372-34629</a>	
@mediaType	1..1	SHALL		<a href="#">3372-34631</a>	text/cql
reference	1..1	SHALL		<a href="#">3372-</a>	

				<a href="#">34630</a>	
@value	1..1	SHALL		<a href="#">3372-34632</a>	
controlVariable	1..1	SHALL		<a href="#">3372-18545</a>	
measurePeriod	1..1	SHALL		<a href="#">3372-18546</a>	
code	1..1	SHALL		<a href="#">3372-18547</a>	
@code	1..1	SHALL		<a href="#">3372-18548</a>	MSRTP
@codeSystem	1..1	SHALL		<a href="#">3372-30056</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL		<a href="#">3372-18550</a>	
subjectOf	1..1	SHALL		<a href="#">3372-18580</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-18581</a>	
code	1..1	SHALL		<a href="#">3372-18582</a>	
@code	1..1	SHALL		<a href="#">3372-18583</a>	MSRSCORE
@codeSystem	1..1	SHALL		<a href="#">3372-30057</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	CD	<a href="#">3372-29935</a>	
@code	1..1	SHALL		<a href="#">3372-29936</a>	urn:oid:2.16.840.1.113883.1.11.20367 (ObservationMeasureScoring)
subjectOf	1..*	SHALL		<a href="#">3372-18588</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-18590</a>	
code	1..1	SHALL		<a href="#">3372-18591</a>	
@code	1..1	SHALL		<a href="#">3372-29934</a>	MSRSTYPE
@codeSystem	1..1	SHALL		<a href="#">3372-30058</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	CD	<a href="#">3372-29938</a>	
@code	1..1	SHALL		<a href="#">3372-29939</a>	urn:oid:2.16.840.1.113883.1.11.20368 (ObservationMeasureType)
subjectOf	0..1	SHOULD		<a href="#">3372-18603</a>	

measureAttribute	1..1	SHALL		<a href="#">3372-18604</a>	
code	1..1	SHALL		<a href="#">3372-18605</a>	
@code	1..1	SHALL		<a href="#">3372-29941</a>	COPY
@codeSystem	1..1	SHALL		<a href="#">3372-30060</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	<a href="#">3372-18609</a>	
subjectOf	0..1	SHOULD		<a href="#">3372-18610</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-18611</a>	
code	1..1	SHALL		<a href="#">3372-18612</a>	
@code	1..1	SHALL		<a href="#">3372-18613</a>	CRS
@codeSystem	1..1	SHALL		<a href="#">3372-30061</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	<a href="#">3372-29942</a>	
subjectOf	0..1	SHOULD		<a href="#">3372-18617</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-18618</a>	
code	1..1	SHALL		<a href="#">3372-18619</a>	
@code	1..1	SHALL		<a href="#">3372-18620</a>	GUIDE
@codeSystem	1..1	SHALL		<a href="#">3372-30062</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	<a href="#">3372-29943</a>	
subjectOf	0..1	SHOULD		<a href="#">3372-18624</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-18625</a>	
code	1..1	SHALL		<a href="#">3372-18626</a>	
@code	1..1	SHALL		<a href="#">3372-18627</a>	DEF
@codeSystem	1..1	SHALL		<a href="#">3372-30063</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	<a href="#">3372-18690</a>	
subjectOf	0..1	SHOULD		<a href="#">3372-</a>	

				<a href="#">18630</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-18631</a>	
code	1..1	SHALL		<a href="#">3372-18632</a>	
@code	1..1	SHALL		<a href="#">3372-18633</a>	IDUR
@codeSystem	1..1	SHALL		<a href="#">3372-30064</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	<a href="#">3372-18636</a>	
subjectOf	0..1	SHOULD		<a href="#">3372-18637</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-18638</a>	
code	1..1	SHALL		<a href="#">3372-18639</a>	
@code	1..1	SHALL		<a href="#">3372-18640</a>	KEY
@codeSystem	1..1	SHALL		<a href="#">3372-30065</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
subjectOf	0..1	SHOULD		<a href="#">3372-18644</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-18645</a>	
code	1..1	SHALL		<a href="#">3372-18646</a>	
@code	1..1	SHALL		<a href="#">3372-18647</a>	MSRAGG
@codeSystem	1..1	SHALL		<a href="#">3372-30066</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	<a href="#">3372-18649</a>	
subjectOf	0..1	SHOULD		<a href="#">3372-18650</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-18651</a>	
code	1..1	SHALL		<a href="#">3372-18652</a>	
@code	1..1	SHALL		<a href="#">3372-18653</a>	MSRADJ
@codeSystem	1..1	SHALL		<a href="#">3372-30067</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	<a href="#">3372-18656</a>	
subjectOf	0..1	SHOULD		<a href="#">3372-18657</a>	



measureAttribute	1..1	SHALL		<a href="#">3372-18658</a>	
code	1..1	SHALL		<a href="#">3372-18659</a>	
@code	1..1	SHALL		<a href="#">3372-18663</a>	RAT
@codeSystem	1..1	SHALL		<a href="#">3372-30068</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	<a href="#">3372-18662</a>	
subjectOf	0..*	SHOULD		<a href="#">3372-18664</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-18665</a>	
code	1..1	SHALL		<a href="#">3372-18666</a>	
@code	1..1	SHALL		<a href="#">3372-18667</a>	REF
@codeSystem	1..1	SHALL		<a href="#">3372-30069</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	<a href="#">3372-18668</a>	
subjectOf	0..*	SHOULD		<a href="#">3372-18669</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-18670</a>	
code	1..1	SHALL		<a href="#">3372-18671</a>	
@code	1..1	SHALL		<a href="#">3372-18672</a>	MSRSET
@codeSystem	1..1	SHALL		<a href="#">3372-30070</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	CD	<a href="#">3372-29950</a>	urn:oid:2.16.840.1.113883.1.11.16927 (RoleClassServiceDeliveryLocation)
subjectOf	0..1	SHOULD		<a href="#">3372-18674</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-18675</a>	
code	1..1	SHALL		<a href="#">3372-18676</a>	
@code	1..1	SHALL		<a href="#">3372-18677</a>	MSRJUR
@codeSystem	1..1	SHALL		<a href="#">3372-30071</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	CD	<a href="#">3372-29951</a>	

subjectOf	0..1	SHOULD		<a href="#">3372-18679</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-18680</a>	
code	1..1	SHALL		<a href="#">3372-18681</a>	
@code	1..1	SHALL		<a href="#">3372-29952</a>	MSRTOPIC
@codeSystem	1..1	SHALL		<a href="#">3372-30072</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	CD	<a href="#">3372-29953</a>	
subjectOf	0..1	SHOULD		<a href="#">3372-18691</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-18692</a>	
code	1..1	SHALL		<a href="#">3372-18693</a>	
@code	1..1	SHALL		<a href="#">3372-18694</a>	MSRRPTR
@codeSystem	1..1	SHALL		<a href="#">3372-30073</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	CD	<a href="#">3372-29954</a>	
subjectOf	0..1	SHOULD		<a href="#">3372-18698</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-18699</a>	
code	1..1	SHALL		<a href="#">3372-18700</a>	
@code	1..1	SHALL		<a href="#">3372-18701</a>	MSRRPTIME
@codeSystem	1..1	SHALL		<a href="#">3372-30074</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	PQ	<a href="#">3372-29955</a>	
subjectOf	0..1	SHOULD		<a href="#">3372-18705</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-18706</a>	
code	1..1	SHALL		<a href="#">3372-18707</a>	
@code	1..1	SHALL		<a href="#">3372-30075</a>	USE
@codeSystem	1..1	SHALL		<a href="#">3372-30076</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	<a href="#">3372-</a>	

				<a href="#">18711</a>	
subjectOf	0..1	SHOULD		<a href="#">3372-18712</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-18713</a>	
code	1..1	SHALL		<a href="#">3372-18714</a>	
@code	1..1	SHALL		<a href="#">3372-18715</a>	SDE
@codeSystem	1..1	SHALL		<a href="#">3372-30077</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	<a href="#">3372-18718</a>	
subjectOf	0..1	SHOULD		<a href="#">3372-18719</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-18720</a>	
code	1..1	SHALL		<a href="#">3372-18721</a>	
@code	1..1	SHALL		<a href="#">3372-29956</a>	TRANF
@codeSystem	1..1	SHALL		<a href="#">3372-30078</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	<a href="#">3372-18725</a>	
subjectOf	0..1	SHOULD		<a href="#">3372-18726</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-18727</a>	
code	1..1	SHALL		<a href="#">3372-18728</a>	
@code	1..1	SHALL		<a href="#">3372-18729</a>	STRAT
@codeSystem	1..1	SHALL		<a href="#">3372-30079</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	<a href="#">3372-18732</a>	
subjectOf	0..1	SHOULD		<a href="#">3372-18733</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-18734</a>	
code	1..1	SHALL		<a href="#">3372-18735</a>	
@code	1..1	SHALL		<a href="#">3372-18736</a>	IPOP
@codeSystem	1..1	SHALL		<a href="#">3372-30080</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)

value	1..1	SHALL	ED	<a href="#">3372-18739</a>	
subjectOf	0..1	SHOULD		<a href="#">3372-18740</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-18741</a>	
code	1..1	SHALL		<a href="#">3372-18742</a>	
@code	1..1	SHALL		<a href="#">3372-29957</a>	DENOM
@codeSystem	1..1	SHALL		<a href="#">3372-30081</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	<a href="#">3372-18746</a>	
subjectOf	0..1	SHOULD		<a href="#">3372-18747</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-18748</a>	
code	1..1	SHALL		<a href="#">3372-18749</a>	
@code	1..1	SHALL		<a href="#">3372-29958</a>	DENEX
@codeSystem	1..1	SHALL		<a href="#">3372-30082</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	<a href="#">3372-18753</a>	
subjectOf	0..1	SHOULD		<a href="#">3372-29959</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-29960</a>	
code	1..1	SHALL		<a href="#">3372-30083</a>	
@code	1..1	SHALL		<a href="#">3372-30084</a>	NUMER
@codeSystem	1..1	SHALL		<a href="#">3372-30085</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	<a href="#">3372-29962</a>	
subjectOf	0..1	SHOULD		<a href="#">3372-29963</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-29964</a>	
code	1..1	SHALL		<a href="#">3372-29965</a>	
@code	1..1	SHALL		<a href="#">3372-29967</a>	NUMEX
@codeSystem	1..1	SHALL		<a href="#">3372-</a>	urn:oid:2.16.840.1.113883.5.4

				<a href="#">30086</a>	(HL7ActCode)
value	1..1	SHALL	ED	<a href="#">3372-29966</a>	
subjectOf	0..1	SHOULD		<a href="#">3372-29968</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-29969</a>	
code	1..1	SHALL		<a href="#">3372-29970</a>	
@code	1..1	SHALL		<a href="#">3372-29971</a>	DENEXCEP
@codeSystem	1..1	SHALL		<a href="#">3372-30087</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	<a href="#">3372-29972</a>	
subjectOf	0..1	SHOULD		<a href="#">3372-29973</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-29974</a>	
code	1..1	SHALL		<a href="#">3372-29975</a>	
@code	1..1	SHALL		<a href="#">3372-29976</a>	MSRPOPL
@codeSystem	1..1	SHALL		<a href="#">3372-30088</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	<a href="#">3372-29977</a>	
subjectOf	0..1	SHOULD		<a href="#">3372-29978</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-29979</a>	
code	1..1	SHALL		<a href="#">3372-29980</a>	
@code	1..1	SHALL		<a href="#">3372-29981</a>	MSRPOPLEX
@codeSystem	1..1	SHALL		<a href="#">3372-30089</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	<a href="#">3372-29982</a>	
subjectOf	0..1	SHOULD		<a href="#">3372-29984</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-29985</a>	
code	1..1	SHALL		<a href="#">3372-29986</a>	
@code	1..1	SHALL		<a href="#">3372-29987</a>	DISC

@codeSystem	1..1	SHALL		<a href="#">3372-30090</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
value	1..1	SHALL	ED	<a href="#">3372-29988</a>	
subjectOf	0..1	MAY		<a href="#">3372-34637</a>	
measureAttribute	1..1	SHALL		<a href="#">3372-34638</a>	
code	1..1	SHALL		<a href="#">3372-34639</a>	
@code	1..1	SHALL		<a href="#">3372-34640</a>	CMPMSRSCR
@codeSystem	1..1	SHALL		<a href="#">3372-34641</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
value	1..1	SHALL	CD	<a href="#">3372-34642</a>	
@code	1..1	SHALL		<a href="#">3372-34643</a>	
component	1..*	SHALL		<a href="#">3372-18813</a>	
component	1..1	SHALL		<a href="#">3372-18815</a>	
dataCriteriaSection	1..1	SHALL		<a href="#">3372-18833</a>	<a href="#">Data Criteria Section (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.2.6:2018-05-01)</a>
component	1..*	SHALL		<a href="#">3372-19057</a>	
populationCriteriaSection	1..1	SHALL		<a href="#">3372-19058</a>	<a href="#">Population Criteria Section (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.2.7:2017-08-01)</a>
component	0..1	MAY		<a href="#">3372-29989</a>	
measureDescriptionSection	1..1	SHALL		<a href="#">3372-29990</a>	<a href="#">Measure Description Section (identifier: urn:oid:2.16.840.1.113883.10.20.28.2.3)</a>
component	0..1	MAY		<a href="#">3372-29991</a>	
measureObservationsSection	1..1	SHALL		<a href="#">3372-29992</a>	<a href="#">Measure Observations Section (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.2.4:2018-05-01)</a>

1. **SHALL** contain exactly one [1..1] **typeId** (CONF:3372-18786).

- a. This typeId **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.1.3" (CONF:3372-18787).
  - b. This typeId **SHALL** contain exactly one [1..1] @extension="POQM\_HD000001UV02" (CONF:3372-18788).
- 2. **SHALL** contain exactly one [1..1] **templateId** (CONF:3372-18771).
  - a. This templateId **SHALL** contain exactly one [1..1] **item** (CONF:3372-18772) such that it
    - i. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.1.2" (CONF:3372-18773).
    - ii. **SHALL** contain zero or one [0..1] @extension="2018-05-01" (CONF:3372-33755).
- 3. **SHALL** contain exactly one [1..1] **id** (CONF:3372-18542).
- 4. **SHALL** contain exactly one [1..1] **code** (CONF:3372-18575).
  - a. This code **SHALL** contain exactly one [1..1] @code="57024-2" Health Quality Measure Document (CONF:3372-18576).
  - b. This code **SHALL** contain exactly one [1..1] @codeSystem (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:3372-33757).
- 5. **SHALL** contain exactly one [1..1] **title** (CONF:3372-18541).
- 6. **SHOULD** contain zero or one [0..1] **text** (CONF:3372-18578).
- 7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3372-18579).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3372-32666).
- 8. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3372-18789).
- 9. **MAY** contain zero or one [0..1] **availabilityTime** (CONF:3372-18790).
- 10. **MAY** contain zero or one [0..1] **languageCode** (CONF:3372-18791).
- 11. **SHALL** contain exactly one [1..1] **setId** (CONF:3372-18543).
- 12. **SHOULD** contain zero or one [0..1] **versionNumber** (CONF:3372-18544).
- 13. **SHOULD** contain zero or more [0..\*] **author** (CONF:3372-18563).
  - a. The author, if present, **SHALL** contain exactly one [1..1] **responsibleParty** (CONF:3372-18564).
    - i. This responsibleParty **SHALL** contain exactly one [1..1] **representedResponsibleOrganization** (CONF:3372-18565).
      - 1. This representedResponsibleOrganization **SHALL** contain exactly one [1..1] **id** (CONF:3372-18566).
        - a. This id **SHALL** contain exactly one [1..1] **item** (CONF:3372-18567).
      - 2. This representedResponsibleOrganization **SHALL** contain exactly one [1..1] **name** (CONF:3372-18568).
- 14. **SHALL** contain exactly one [1..1] **custodian** (CONF:3372-18555).
  - a. This custodian **SHALL** contain exactly one [1..1] **responsibleParty** (CONF:3372-18556).
    - i. This responsibleParty **SHALL** contain exactly one [1..1] @classCode="ASSIGNED" (CONF:3372-29933).

- ii. This **responsibleParty** **SHALL** contain exactly one [1..1] **representedResponsibleOrganization** (CONF:3372-18557).
    - 1. This **representedResponsibleOrganization** **SHALL** contain exactly one [1..1] **id** (CONF:3372-18558).
      - a. This **id** **SHALL** contain exactly one [1..1] **item** (CONF:3372-18559).
    - 2. This **representedResponsibleOrganization** **SHALL** contain exactly one [1..1] **name** (CONF:3372-18560).
- 15. **SHOULD** contain zero or one [0..1] **verifier** (CONF:3372-18754).
  - a. The **verifier**, if present, **SHALL** contain exactly one [1..1] **responsibleParty** (CONF:3372-18755).
    - i. This **responsibleParty** **SHALL** contain exactly one [1..1] **representedResponsibleOrganization** (CONF:3372-18756).
      - 1. This **representedResponsibleOrganization** **SHALL** contain exactly one [1..1] **id** (CONF:3372-18757).
        - a. This **id** **SHALL** contain exactly one [1..1] **item** (CONF:3372-18758).
      - 2. This **representedResponsibleOrganization** **SHALL** contain exactly one [1..1] **name** (CONF:3372-18759).
- 16. **SHALL** contain at least one [1..\*] **relatedDocument** (CONF:3372-34627).
  - a. Such **relatedDocuments** **SHALL** contain exactly one [1..1] **expressionDocument** (CONF:3372-34628).
    - i. This **expressionDocument** **SHALL** contain exactly one [1..1] **text** (CONF:3372-34629).
      - 1. This **text** **SHALL** contain exactly one [1..1] **@mediaType="text/cql"** (CONF:3372-34631).
      - 2. This **text** **SHALL** contain exactly one [1..1] **reference** (CONF:3372-34630).
        - a. This **reference** **SHALL** contain exactly one [1..1] **@value** (CONF:3372-34632).  
 Note: This value contains a URI (relative or absolute) that identifies the CQL expression document.
- 17. **SHALL** contain exactly one [1..1] **controlVariable** (CONF:3372-18545).
  - a. This **controlVariable** **SHALL** contain exactly one [1..1] **measurePeriod** (CONF:3372-18546).
    - i. This **measurePeriod** **SHALL** contain exactly one [1..1] **code** (CONF:3372-18547).
      - 1. This **code** **SHALL** contain exactly one [1..1] **@code="MSRTP"** **Measurement Period** (CONF:3372-18548).
      - 2. This **code** **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30056).
    - ii. This **measurePeriod** **SHALL** contain exactly one [1..1] **value** (CONF:3372-18550).



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.

18. **SHALL** contain exactly one [1..1] **subjectOf** (CONF:3372-18580) such that it
  - a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18581).
    - i. This **measureAttribute SHALL** contain exactly one [1..1] **code** (CONF:3372-18582).
      1. This **code SHALL** contain exactly one [1..1] **@code="MSRSCORE"** Measure Scoring (CONF:3372-18583).
      2. This **code SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30057).
    - ii. This **measureAttribute SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:3372-29935).
      1. This **value SHALL** contain exactly one [1..1] **@code** (ValueSet: ObservationMeasureScoring urn:oid:2.16.840.1.113883.1.11.20367) (CONF:3372-29936).
19. **SHALL** contain at least one [1..\*] **subjectOf** (CONF:3372-18588) such that it
  - a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18590).
    - i. This **measureAttribute SHALL** contain exactly one [1..1] **code** (CONF:3372-18591).
      1. This **code SHALL** contain exactly one [1..1] **@code="MSRSTYPE"** Measure Type (CONF:3372-29934).
      2. This **code SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30058).
    - ii. This **measureAttribute SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:3372-29938).
      1. This **value SHALL** contain exactly one [1..1] **@code** (ValueSet: ObservationMeasureType urn:oid:2.16.840.1.113883.1.11.20368) (CONF:3372-29939).
20. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-18603) such that it
  - a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18604).
    - i. This **measureAttribute SHALL** contain exactly one [1..1] **code** (CONF:3372-18605).
      1. This **code SHALL** contain exactly one [1..1] **@code="COPY"** Copyright (CONF:3372-29941).
      2. This **code SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30060).
    - ii. This **measureAttribute SHALL** contain exactly one [1..1] **value** with **@xsi:type="ED"** (CONF:3372-18609).
21. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-18610) such that it
  - a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18611).
    - i. This **measureAttribute SHALL** contain exactly one [1..1] **code** (CONF:3372-18612).

1. This code **SHALL** contain exactly one [1..1] **@code**="CRS" Clinical Recommendation Statement (CONF:3372-18613).
  2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30061).
  - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="ED" (CONF:3372-29942).
22. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-18617) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18618).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-18619).
      1. This code **SHALL** contain exactly one [1..1] **@code**="GUIDE" Guide (CONF:3372-18620).
      2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30062).
    - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="ED" (CONF:3372-29943).
23. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-18624) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18625).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-18626).
      1. This code **SHALL** contain exactly one [1..1] **@code**="DEF" Definition (CONF:3372-18627).
      2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30063).
    - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="ED" (CONF:3372-18690).
24. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-18630) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18631).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-18632).
      1. This code **SHALL** contain exactly one [1..1] **@code**="IDUR" Improvement Notation (CONF:3372-18633).
      2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30064).
    - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="ED" (CONF:3372-18636).
25. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-18637) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18638).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-18639).

1. This code **SHALL** contain exactly one [1..1] **@code="KEY"** Keyword (CONF:3372-18640).
  2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30065).
26. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-18644) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18645).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-18646).
      1. This code **SHALL** contain exactly one [1..1] **@code="MSRAGG"** Rate Aggregation (CONF:3372-18647).
      2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30066).
    - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with **@xsi:type="ED"** (CONF:3372-18649).
27. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-18650) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18651).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-18652).
      1. This code **SHALL** contain exactly one [1..1] **@code="MSRADJ"** Risk Adjustment (CONF:3372-18653).
      2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30067).
    - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with **@xsi:type="ED"** (CONF:3372-18656).
28. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-18657) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18658).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-18659).
      1. This code **SHALL** contain exactly one [1..1] **@code="RAT"** Rationale (CONF:3372-18663).
      2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30068).
    - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with **@xsi:type="ED"** (CONF:3372-18662).
29. **SHOULD** contain zero or more [0..\*] **subjectOf** (CONF:3372-18664) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18665).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-18666).
      1. This code **SHALL** contain exactly one [1..1] **@code="REF"** Reference (CONF:3372-18667).

2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30069).
  - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with **@xsi:type="ED"** (CONF:3372-18668).
30. **SHOULD** contain zero or more [0..\*] **subjectOf** (CONF:3372-18669) such that it
  - a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18670).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-18671).
      1. This code **SHALL** contain exactly one [1..1] **@code="MSRSET"** Care Setting (CONF:3372-18672).
      2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30070).
    - 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:3372-29950).
31. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-18674) such that it
  - a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18675).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-18676).
      1. This code **SHALL** contain exactly one [1..1] **@code="MSRJUR"** Jurisdiction (CONF:3372-18677).
      2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30071).
    - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:3372-29951).
32. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-18679) such that it
  - a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18680).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-18681).
      1. This code **SHALL** contain exactly one [1..1] **@code="MSRTOPIC"** Topic Type (CONF:3372-29952).
      2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30072).
    - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:3372-29953).
33. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-18691) such that it
  - a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18692).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-18693).
      1. This code **SHALL** contain exactly one [1..1] **@code="MSRRPTR"** Reporter Type (CONF:3372-18694).

2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30073).
  - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:3372-29954).
34. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-18698) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18699).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-18700).
      1. This code **SHALL** contain exactly one [1..1] **@code="MSRRPTTIME"** Timeframe for Reporting (CONF:3372-18701).
      2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30074).
    - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with **@xsi:type="PQ"** (CONF:3372-29955).
35. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-18705) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18706).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-18707).
      1. This code **SHALL** contain exactly one [1..1] **@code="USE"** Notice of Use (CONF:3372-30075).
      2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30076).
    - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with **@xsi:type="ED"** (CONF:3372-18711).
36. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-18712) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18713).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-18714).
      1. This code **SHALL** contain exactly one [1..1] **@code="SDE"** Supplemental Data Elements (CONF:3372-18715).
      2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30077).
    - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with **@xsi:type="ED"** (CONF:3372-18718).
37. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-18719) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18720).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-18721).
      1. This code **SHALL** contain exactly one [1..1] **@code="TRANF"** Transmission Format (CONF:3372-29956).

2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30078).
  - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with **@xsi:type="ED"** (CONF:3372-18725).
38. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-18726) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18727).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-18728).
      1. This code **SHALL** contain exactly one [1..1] **@code="STRAT"** Stratification (CONF:3372-18729).
      2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30079).
    - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with **@xsi:type="ED"** (CONF:3372-18732).
39. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-18733) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18734).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-18735).
      1. This code **SHALL** contain exactly one [1..1] **@code="IPOP"** Initial Population (CONF:3372-18736).
      2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30080).
    - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with **@xsi:type="ED"** (CONF:3372-18739).
40. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-18740) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18741).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-18742).
      1. This code **SHALL** contain exactly one [1..1] **@code="DENOM"** Denominator (CONF:3372-29957).
      2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30081).
    - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with **@xsi:type="ED"** (CONF:3372-18746).
41. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-18747) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-18748).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-18749).
      1. This code **SHALL** contain exactly one [1..1] **@code="DENEX"** Denominator Exclusion (CONF:3372-29958).

2. This code **SHALL** contain exactly one [1..1] **@codeSystem**  
(CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4)  
(CONF:3372-30082).
  - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with  
**@xsi:type="ED"** (CONF:3372-18753).
42. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-29959) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-29960).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-30083).
      1. This code **SHALL** contain exactly one [1..1] **@code="NUMER"**  
Numerator (CONF:3372-30084).
      2. This code **SHALL** contain exactly one [1..1] **@codeSystem**  
(CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4)  
(CONF:3372-30085).
    - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with  
**@xsi:type="ED"** (CONF:3372-29962).
43. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-29963) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-29964).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-29965).
      1. This code **SHALL** contain exactly one [1..1] **@code="NUMEX"**  
Numerator Exclusion (CONF:3372-29967).
      2. This code **SHALL** contain exactly one [1..1] **@codeSystem**  
(CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4)  
(CONF:3372-30086).
    - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with  
**@xsi:type="ED"** (CONF:3372-29966).
44. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-29968) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-29969).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-29970).
      1. This code **SHALL** contain exactly one [1..1] **@code="DENEXCEP"**  
Denominator Exception (CONF:3372-29971).
      2. This code **SHALL** contain exactly one [1..1] **@codeSystem**  
(CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4)  
(CONF:3372-30087).
    - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with  
**@xsi:type="ED"** (CONF:3372-29972).
45. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-29973) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-29974).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-29975).
      1. This code **SHALL** contain exactly one [1..1] **@code="MSRPOPL"**  
Measure Population (CONF:3372-29976).

2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30088).
  - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with **@xsi:type="ED"** (CONF:3372-29977).
46. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-29978) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-29979).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-29980).
      1. This code **SHALL** contain exactly one [1..1] **@code="MSRPOPLEX"** Measure Population Exclusions (CONF:3372-29981).
      2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30089).
    - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with **@xsi:type="ED"** (CONF:3372-29982).
47. **SHOULD** contain zero or one [0..1] **subjectOf** (CONF:3372-29984) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-29985).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-29986).
      1. This code **SHALL** contain exactly one [1..1] **@code="DISC"** Disclaimer (CONF:3372-29987).
      2. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-30090).
    - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with **@xsi:type="ED"** (CONF:3372-29988).
48. **MAY** contain zero or one [0..1] **subjectOf** (CONF:3372-34637) such that it
- a. **SHALL** contain exactly one [1..1] **measureAttribute** (CONF:3372-34638).
    - i. This measureAttribute **SHALL** contain exactly one [1..1] **code** (CONF:3372-34639).
      1. This code **SHALL** contain exactly one [1..1] **@code="CMPMSRSCR"** Composite measure scoring (CONF:3372-34640).
      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:3372-34641).
    - ii. This measureAttribute **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:3372-34642).
      1. This value **SHALL** contain exactly one [1..1] **@code** (CONF:3372-34643).  
Note: Will add a valueset that contain the following codes:  
"OPPORSCR","ALLORNONESCR","LINEARSCR","WEIGHTSCR"
49. **SHALL** contain at least one [1..\*] **component** (CONF:3372-18813).
50. **SHALL** contain exactly one [1..1] **component** (CONF:3372-18815) such that it



- a. **SHALL** contain exactly one [1..1] [Data Criteria Section \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.2.6:2018-05-01) (CONF:3372-18833).
- 51. **SHALL** contain at least one [1..\*] **component** (CONF:3372-19057) 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:3372-19058).
- 52. **MAY** contain zero or one [0..1] **component** (CONF:3372-29989) 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:3372-29990).
- 53. **MAY** contain zero or one [0..1] **component** (CONF:3372-29991) 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:3372-29992).

## 4 SECTION

### 4.1 Data Criteria Section (V3)

[dataCriteriaSection: identifier

urn:hl7ii:2.16.840.1.113883.10.20.28.2.6:2018-05-01 (open)]

**Table 3: Data Criteria Section (V3) Contexts**

Contained By:	Contains:
<a href="#">QDM Templates for CQL-Based HQMF Header (V3)</a> (required)	<a href="#">Device, Order</a> (optional) <a href="#">Device, Recommended</a> (optional) <a href="#">Encounter, Order</a> (optional) <a href="#">Encounter, Recommended</a> (optional) <a href="#">Family History</a> (optional) <a href="#">Intervention, Order</a> (optional) <a href="#">Intervention, Recommended</a> (optional) <a href="#">Patient Care Experience</a> (optional) <a href="#">Patient Characteristic Clinical Trial Participant</a> (optional) <a href="#">Patient Characteristic Birth Date</a> (optional) <a href="#">Patient Characteristic Ethnicity</a> (optional) <a href="#">Patient Characteristic Expired</a> (optional) <a href="#">Patient Characteristic Payer</a> (optional) <a href="#">Patient Characteristic Race</a> (optional) <a href="#">Patient Characteristic Sex</a> (optional) <a href="#">Provider Care Experience</a> (optional) <a href="#">Adverse Event (V2)</a> (optional) <a href="#">Allergy Intolerance (V2)</a> (optional) <a href="#">Assessment, Performed (V2)</a> (optional) <a href="#">Care Goal (V2)</a> (optional) <a href="#">Diagnostic Study, Performed (V2)</a> (optional) <a href="#">Encounter, Performed (V2)</a> (optional) <a href="#">Laboratory Test, Performed (V2)</a> (optional) <a href="#">Immunization, Order (V2)</a> (optional) <a href="#">Medication, Discharge (V2)</a> (optional) <a href="#">Patient Characteristic (V2)</a> (optional) <a href="#">Provider Characteristic (V2)</a> (optional) <a href="#">Symptom (V2)</a> (optional) <a href="#">Diagnosis (V2)</a> (optional) <a href="#">Intervention, Performed (V2)</a> (optional) <a href="#">Physical Exam, Performed (V2)</a> (optional) <a href="#">Medication, Dispensed (V2)</a> (optional) <a href="#">Assessment, Order</a> (optional) <a href="#">Assessment, Recommended (V2)</a> (optional) <a href="#">Communication: Performed</a> (optional) <a href="#">Device, Applied (V2)</a> (optional)

Contained By:	Contains:
	<a href="#">Diagnostic Study, Order (V3)</a> (optional) <a href="#">Diagnostic Study, Recommended (V3)</a> (optional) <a href="#">Immunization, Administered (V3)</a> (optional) <a href="#">Laboratory Test, Order (V2)</a> (optional) <a href="#">Laboratory Test, Recommended (V2)</a> (optional) <a href="#">Medication, Active (V3)</a> (optional) <a href="#">Medication, Administered (V3)</a> (optional) <a href="#">Physical Exam, Order (V2)</a> (optional) <a href="#">Physical Exam, Recommended (V2)</a> (optional) <a href="#">Procedure, Order (V3)</a> (optional) <a href="#">Procedure, Recommended (V2)</a> (optional) <a href="#">Procedure, Performed (V3)</a> (optional) <a href="#">Substance, Administered (V3)</a> (optional) <a href="#">Substance, Order (V3)</a> (optional) <a href="#">Substance, Recommended (V3)</a> (optional) <a href="#">Medication, Order (V3)</a> (optional) <a href="#">Program Participation (V2)</a> (optional)

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

**Table 4: Data Criteria Section (V3) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF #	Value
dataCriteriaSection (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.2.6:2018-05-01)					
templateId	1..1	SHALL		<a href="#">3372-18804</a>	
item	1..1	SHALL		<a href="#">3372-18805</a>	
@root	1..1	SHALL		<a href="#">3372-18806</a>	2.16.840.1.113883.10.20.28.2.6
@extension	1..1	SHALL		<a href="#">3372-33440</a>	2018-05-01
id	0..1	MAY		<a href="#">3372-18856</a>	
code	1..1	SHALL		<a href="#">3372-18807</a>	
@code	1..1	SHALL		<a href="#">3372-18808</a>	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 57025-9
@codeSystem	1..1	SHALL		<a href="#">3372-30091</a>	urn:oid:2.16.840.1.113883.6.1 (LOINC)
title	1..1	SHALL		<a href="#">3372-18857</a>	
@value	1..1	SHALL		<a href="#">3372-18964</a>	Data Criteria Section
text	1..1	SHALL		<a href="#">3372-18858</a>	
entry	1..*	SHALL		<a href="#">3372-18853</a>	
entry	0..*	MAY		<a href="#">3372-34258</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34259</a>	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-34260</a>	<a href="#">Adverse Event (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.120:2017-08-01)</a>
entry	0..*	MAY		<a href="#">3372-34261</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34262</a>	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-34263</a>	<a href="#">Allergy Intolerance (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.119:2017-08-01)</a>
entry	0..*	MAY		<a href="#">3372-34176</a>	

@typeCode	1..1	SHALL		<a href="#">3372-34177</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-34178</a>	<a href="#">Assessment, Performed (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.117:2017-08-01)</a>
entry	0..*	MAY		<a href="#">3372-34179</a>	
typeId	1..1	SHALL		<a href="#">3372-34180</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-34181</a>	<a href="#">Assessment, Recommended (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.118:2018-05-01)</a>
entry	0..*	MAY		<a href="#">3372-34678</a>	
typeId	1..1	SHALL		<a href="#">3372-34680</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-34679</a>	<a href="#">Assessment, Order (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.131:2018-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32667</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32668</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-32669</a>	<a href="#">Care Goal (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.7:2017-08-01)</a>
entry	0..*	MAY		<a href="#">3372-34850</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34852</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
actCriteria	1..1	SHALL		<a href="#">3372-34851</a>	<a href="#">Communication: Performed (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.132:2018-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32685</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32686</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
procedureCriteria	1..1	SHALL		<a href="#">3372-32687</a>	<a href="#">Device, Applied (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.13:2018-05-01)</a>
entry	0..*	MAY		<a href="#">3372-</a>	

				<a href="#">32691</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32692</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
supplyCriteria	1..1	SHALL		<a href="#">3372-32693</a>	<a href="#">Device, Order (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.15:2017-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32694</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32695</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
supplyCriteria	1..1	SHALL		<a href="#">3372-32696</a>	<a href="#">Device, Recommended (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.16:2017-05-01)</a>
entry	0..*	MAY		<a href="#">3372-34055</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34056</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-34057</a>	<a href="#">Diagnosis (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.110:2017-08-01)</a>
entry	0..*	MAY		<a href="#">3372-34038</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34039</a>	DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-34040</a>	<a href="#">Family History (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.111:2017-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32715</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32716</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-32717</a>	<a href="#">Diagnostic Study, Order (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.22:2018-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32718</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32719</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-32720</a>	<a href="#">Diagnostic Study, Performed (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.23:2017-08-01)</a>

entry	0..*	MAY		<a href="#">3372-32721</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32722</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-32723</a>	<a href="#">Diagnostic Study, Recommended (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.24:2018-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32730</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32731</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
encounterCriteria	1..1	SHALL		<a href="#">3372-32732</a>	<a href="#">Encounter, Order (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.27:2017-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32733</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32734</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
encounterCriteria	1..1	SHALL		<a href="#">3372-32735</a>	<a href="#">Encounter, Performed (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.5:2017-08-01)</a>
entry	0..*	MAY		<a href="#">3372-32736</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32737</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
encounterCriteria	1..1	SHALL		<a href="#">3372-32738</a>	<a href="#">Encounter, Recommended (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.28:2017-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32757</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32758</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
actCriteria	1..1	SHALL		<a href="#">3372-32759</a>	<a href="#">Intervention, Order (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.35:2017-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32760</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32761</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
actCriteria	1..1	SHALL		<a href="#">3372-32762</a>	<a href="#">Intervention, Performed (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.36:2017-05-01)</a>

					<a href="urn:hl7ii:2.16.840.1.113883.10.20.28.4.36:2017-08-01">urn:hl7ii:2.16.840.1.113883.10.20.28.4.36:2017-08-01</a>
entry	0..*	MAY		<a href="#">3372-32763</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32764</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
actCriteria	1..1	SHALL		<a href="#">3372-32765</a>	<a href="#">Intervention, Recommended (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.37:2017-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32775</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32776</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
procedureCriteria	1..1	SHALL		<a href="#">3372-32777</a>	<a href="#">Laboratory Test, Order (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.41:2018-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32778</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32779</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-32780</a>	<a href="#">Laboratory Test, Performed (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.42:2017-08-01)</a>
entry	0..*	MAY		<a href="#">3372-32781</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32782</a>	DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-32783</a>	<a href="#">Laboratory Test, Recommended (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.43:2018-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32787</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32788</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
substanceAdministrationCriteria	1..1	SHALL		<a href="#">3372-32789</a>	<a href="#">Medication, Active (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.44:2018-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32790</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32791</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) =



					DRIV
substanceAdministrationCriteria	1..1	SHALL		<a href="#">3372-32792</a>	<a href="#">Medication, Administered (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.45:2018-05-01)</a>
entry	0..*	MAY		<a href="#">3372-33949</a>	
@typeCode	1..1	SHALL		<a href="#">3372-33950</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
substanceAdministrationCriteria	1..1	SHALL		<a href="#">3372-33951</a>	<a href="#">Immunization, Administered (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.112:2018-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32797</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32803</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
substanceAdministrationCriteria	1..1	SHALL		<a href="#">3372-32804</a>	<a href="#">Medication, Discharge (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.48:2017-08-01)</a>
entry	0..*	MAY		<a href="#">3372-32798</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32805</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
substanceAdministrationCriteria	1..1	SHALL		<a href="#">3372-32806</a>	<a href="#">Medication, Order (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.51:2018-05-01)</a>
entry	0..*	MAY		<a href="#">3372-33955</a>	
@typeCode	1..1	SHALL		<a href="#">3372-33956</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
substanceAdministrationCriteria	1..1	SHALL		<a href="#">3372-34037</a>	<a href="#">Immunization, Order (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.113:2017-08-01)</a>
entry	0..*	MAY		<a href="#">3372-32799</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32807</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
supplyCriteria	1..1	SHALL		<a href="#">3372-32808</a>	<a href="#">Medication, Dispensed (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.49:2017-08-01)</a>

entry	0..*	MAY		<a href="#">3372-32811</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32821</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-32822</a>	<a href="#">Patient Care Experience (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.52:2017-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32812</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32823</a>	DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-32824</a>	<a href="#">Patient Characteristic (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.53:2017-08-01)</a>
entry	0..*	MAY		<a href="#">3372-32813</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32825</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-32826</a>	<a href="#">Patient Characteristic Clinical Trial Participant (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.6:2017-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32814</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32827</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-32828</a>	<a href="#">Patient Characteristic Birth Date (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.54:2017-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32815</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32829</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-32830</a>	<a href="#">Patient Characteristic Ethnicity (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.56:2017-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32816</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32831</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-</a>	<a href="#">Patient Characteristic Expired</a>

				<a href="#">32832</a>	<a href="#">(identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.57:2017-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32817</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32833</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-32834</a>	<a href="#">Patient Characteristic Payer (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.58:2017-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32818</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32835</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-32836</a>	<a href="#">Patient Characteristic Race (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.59:2017-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32819</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32837</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-32838</a>	<a href="#">Patient Characteristic Sex (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.55:2017-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32844</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32845</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-32846</a>	<a href="#">Physical Exam, Order (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.61:2018-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32847</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32848</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-32849</a>	<a href="#">Physical Exam, Performed (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.62:2017-08-01)</a>
entry	0..*	MAY		<a href="#">3372-32850</a>	

@typeCode	1..1	SHALL		<a href="#">3372-32851</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-32852</a>	<a href="#">Physical Exam, Recommended (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.63:2018-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32856</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32857</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
procedureCriteria	1..1	SHALL		<a href="#">3372-32858</a>	<a href="#">Procedure, Performed (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.67:2018-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32859</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32860</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
procedureCriteria	1..1	SHALL		<a href="#">3372-32861</a>	<a href="#">Procedure, Recommended (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.68:2018-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32862</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32863</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
procedureCriteria	1..1	SHALL		<a href="#">3372-32864</a>	<a href="#">Procedure, Order (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.66:2018-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32868</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32869</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-32870</a>	<a href="#">Provider Care Experience (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.70:2017-05-01)</a>
entry	0..*	MAY		<a href="#">3372-32871</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32872</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-32873</a>	<a href="#">Provider Characteristic (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.</a>

					<a href="#">20.28.4.71:2017-08-01</a>
entry	0..*	MAY		<a href="#">3372-32996</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32997</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
substanceAdministrationCriteria	1..1	SHALL		<a href="#">3372-32998</a>	<a href="#">Substance, Administered (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.73:2018-05-01)</a>
entry	0..*	MAY		<a href="#">3372-33005</a>	
@typeCode	1..1	SHALL		<a href="#">3372-33006</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
substanceAdministrationCriteria	1..1	SHALL		<a href="#">3372-33007</a>	<a href="#">Substance, Order (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.77:2018-05-01)</a>
entry	0..*	MAY		<a href="#">3372-33011</a>	
@typeCode	1..1	SHALL		<a href="#">3372-33012</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
substanceAdministrationCriteria	1..1	SHALL		<a href="#">3372-33013</a>	<a href="#">Substance, Recommended (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.78:2018-05-01)</a>
entry	0..*	MAY		<a href="#">3372-34058</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34059</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-34113</a>	<a href="#">Symptom (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.116:2017-08-01)</a>
entry	0..*	MAY		<a href="#">3372-34878</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34880</a>	DRIV
observationCriteria	1..1	SHALL		<a href="#">3372-34879</a>	<a href="#">Program Participation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.130:2018-05-01)</a>

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:3372-18804).
  - a. **SHALL** contain exactly one [1..1] **item** (CONF:3372-18805) such that it
    - i. **SHALL** contain exactly one [1..1]
 

**@root**="2.16.840.1.113883.10.20.28.2.6" (CONF:3372-18806).

- ii. **SHALL** contain exactly one [1..1] **@extension**="2018-05-01" (CONF:3372-33440).
- 2. **MAY** contain zero or one [0..1] **id** (CONF:3372-18856).
- 3. **SHALL** contain exactly one [1..1] **code** (CONF:3372-18807).
  - 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:3372-18808).
  - b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:3372-30091).
- 4. **SHALL** contain exactly one [1..1] **title** (CONF:3372-18857).
  - a. This title **SHALL** contain exactly one [1..1] **@value**="Data Criteria Section" (CONF:3372-18964).
- 5. **SHALL** contain exactly one [1..1] **text** (CONF:3372-18858).
- 6. **SHALL** contain at least one [1..\*] **entry** (CONF:3372-18853).
- 7. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-34258) 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:3372-34259).
  - b. **SHALL** contain exactly one [1..1] Adverse Event (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.120:2017-08-01) (CONF:3372-34260).
- 8. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-34261) 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:3372-34262).
  - b. **SHALL** contain exactly one [1..1] Allergy Intolerance (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.119:2017-08-01) (CONF:3372-34263).
- 9. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-34176) 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:3372-34177).
  - b. **SHALL** contain exactly one [1..1] Assessment, Performed (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.117:2017-08-01) (CONF:3372-34178).
- 10. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-34179) 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:3372-34180).
  - b. **SHALL** contain exactly one [1..1] Assessment, Recommended (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.118:2018-05-01) (CONF:3372-34181).
- 11. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-34678) 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:3372-34680).
  - b. **SHALL** contain exactly one [1..1] Assessment, Order (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.131:2018-05-01) (CONF:3372-34679).
- 12. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32667) 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:3372-32668).
  - b. **SHALL** contain exactly one [1..1] Care Goal (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.7:2017-08-01) (CONF:3372-32669).
- 13. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-34850) 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:3372-34852).
  - b. **SHALL** contain exactly one [1..1] Communication: Performed (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.132:2018-05-01) (CONF:3372-34851).
- 14. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32685) 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:3372-32686).
  - b. **SHALL** contain exactly one [1..1] Device, Applied (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.13:2018-05-01) (CONF:3372-32687).
- 15. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32691) 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:3372-32692).
  - b. **SHALL** contain exactly one [1..1] Device, Order (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.15:2017-05-01) (CONF:3372-32693).
- 16. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32694) 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:3372-32695).
  - b. **SHALL** contain exactly one [1..1] Device, Recommended (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.16:2017-05-01) (CONF:3372-32696).
- 17. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-34055) 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:3372-34056).

- b. **SHALL** contain exactly one [1..1] [Diagnosis \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.110:2017-08-01) (CONF:3372-34057).
- 18. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-34038) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** Is Derived From (CONF:3372-34039).
  - b. **SHALL** contain exactly one [1..1] [Family History](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.111:2017-05-01) (CONF:3372-34040).
- 19. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32715) 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:3372-32716).
  - b. **SHALL** contain exactly one [1..1] [Diagnostic Study, Order \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.22:2018-05-01) (CONF:3372-32717).
- 20. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32718) 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:3372-32719).
  - b. **SHALL** contain exactly one [1..1] [Diagnostic Study, Performed \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.23:2017-08-01) (CONF:3372-32720).
- 21. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32721) 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:3372-32722).
  - b. **SHALL** contain exactly one [1..1] [Diagnostic Study, Recommended \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.24:2018-05-01) (CONF:3372-32723).
- 22. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32730) 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:3372-32731).
  - b. **SHALL** contain exactly one [1..1] [Encounter, Order](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.27:2017-05-01) (CONF:3372-32732).
- 23. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32733) 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:3372-32734).
  - b. **SHALL** contain exactly one [1..1] [Encounter, Performed \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.5:2017-08-01) (CONF:3372-32735).
- 24. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32736) 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:3372-32737).
  - b. **SHALL** contain exactly one [1..1] [Encounter, Recommended](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.28:2017-05-01) (CONF:3372-32738).
25. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32757) 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:3372-32758).
  - b. **SHALL** contain exactly one [1..1] [Intervention, Order](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.35:2017-05-01) (CONF:3372-32759).
26. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32760) 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:3372-32761).
  - b. **SHALL** contain exactly one [1..1] [Intervention, Performed \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.36:2017-08-01) (CONF:3372-32762).
27. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32763) 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:3372-32764).
  - b. **SHALL** contain exactly one [1..1] [Intervention, Recommended](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.37:2017-05-01) (CONF:3372-32765).
28. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32775) 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:3372-32776).
  - b. **SHALL** contain exactly one [1..1] [Laboratory Test, Order \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.41:2018-05-01) (CONF:3372-32777).
29. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32778) 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:3372-32779).
  - b. **SHALL** contain exactly one [1..1] [Laboratory Test, Performed \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.42:2017-08-01) (CONF:3372-32780).
30. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32781) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="DRIV" Is Derived From (CONF:3372-32782).

- b. **SHALL** contain exactly one [1..1] [Laboratory Test, Recommended \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.43:2018-05-01) (CONF:3372-32783).
- 31. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32787) 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:3372-32788).
  - b. **SHALL** contain exactly one [1..1] [Medication, Active \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.44:2018-05-01) (CONF:3372-32789).
- 32. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32790) 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:3372-32791).
  - b. **SHALL** contain exactly one [1..1] [Medication, Administered \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.45:2018-05-01) (CONF:3372-32792).
- 33. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-33949) 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:3372-33950).
  - b. **SHALL** contain exactly one [1..1] [Immunization, Administered \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.112:2018-05-01) (CONF:3372-33951).
- 34. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32797) 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:3372-32803).
  - b. **SHALL** contain exactly one [1..1] [Medication, Discharge \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.48:2017-08-01) (CONF:3372-32804).
- 35. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32798) 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:3372-32805).
  - b. **SHALL** contain exactly one [1..1] [Medication, Order \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.51:2018-05-01) (CONF:3372-32806).
- 36. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-33955) 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:3372-33956).
  - b. **SHALL** contain exactly one [1..1] [Immunization, Order \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.113:2017-08-01) (CONF:3372-34037).

37. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32799) 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:3372-32807).
  - b. **SHALL** contain exactly one [1..1] [Medication, Dispensed \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.49:2017-08-01) (CONF:3372-32808).
38. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32811) 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:3372-32821).
  - b. **SHALL** contain exactly one [1..1] [Patient Care Experience](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.52:2017-05-01) (CONF:3372-32822).
39. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32812) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="DRIV"** Is Derived From (CONF:3372-32823).
  - 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:3372-32824).
40. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32813) 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:3372-32825).
  - 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:3372-32826).
41. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32814) 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:3372-32827).
  - 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:3372-32828).
42. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32815) 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:3372-32829).
  - 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:3372-32830).
43. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32816) 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:3372-32831).
  - 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:3372-32832).
- 44. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32817) 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:3372-32833).
  - 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:3372-32834).
- 45. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32818) 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:3372-32835).
  - 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:3372-32836).
- 46. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32819) 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:3372-32837).
  - 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:3372-32838).
- 47. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32844) 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:3372-32845).
  - b. **SHALL** contain exactly one [1..1] Physical Exam, Order (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.61:2018-05-01) (CONF:3372-32846).
- 48. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32847) 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:3372-32848).
  - b. **SHALL** contain exactly one [1..1] Physical Exam, Performed (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.62:2017-08-01) (CONF:3372-32849).
- 49. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32850) 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:3372-32851).

- b. **SHALL** contain exactly one [1..1] [Physical Exam, Recommended \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.63:2018-05-01) (CONF:3372-32852).
- 50. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32856) 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:3372-32857).
  - b. **SHALL** contain exactly one [1..1] [Procedure, Performed \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.67:2018-05-01) (CONF:3372-32858).
- 51. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32859) 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:3372-32860).
  - b. **SHALL** contain exactly one [1..1] [Procedure, Recommended \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.68:2018-05-01) (CONF:3372-32861).
- 52. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32862) 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:3372-32863).
  - b. **SHALL** contain exactly one [1..1] [Procedure, Order \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.66:2018-05-01) (CONF:3372-32864).
- 53. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32868) 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:3372-32869).
  - b. **SHALL** contain exactly one [1..1] [Provider Care Experience](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.70:2017-05-01) (CONF:3372-32870).
- 54. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32871) 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:3372-32872).
  - b. **SHALL** contain exactly one [1..1] [Provider Characteristic \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.71:2017-08-01) (CONF:3372-32873).
- 55. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-32996) 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:3372-32997).
  - b. **SHALL** contain exactly one [1..1] [Substance, Administered \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.73:2018-05-01) (CONF:3372-32998).

56. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-33005) 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:3372-33006).
  - SHALL** contain exactly one [1..1] [Substance, Order \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.77:2018-05-01) (CONF:3372-33007).
57. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-33011) 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:3372-33012).
  - SHALL** contain exactly one [1..1] [Substance, Recommended \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.78:2018-05-01) (CONF:3372-33013).
58. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-34058) 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:3372-34059).
  - SHALL** contain exactly one [1..1] [Symptom \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.116:2017-08-01) (CONF:3372-34113).
59. **MAY** contain zero or more [0..\*] **entry** (CONF:3372-34878) such that it
- SHALL** contain exactly one [1..1] **@typeCode="DRIV"** Is Derived From (CONF:3372-34880).
  - SHALL** contain exactly one [1..1] [Program Participation \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.130:2018-05-01) (CONF:3372-34879).

## 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:
<a href="#">QDM Templates for CQL-Based HQMF Header (V3)</a> (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		<a href="#">87-18897</a>	
item	1..1	SHALL		<a href="#">87-18898</a>	
@root	1..1	SHALL		<a href="#">87-18899</a>	2.16.840.1.113883.10.20.28.2.3
id	0..1	MAY		<a href="#">87-18913</a>	
code	1..1	SHALL		<a href="#">87-18914</a>	
@code	1..1	SHALL		<a href="#">87-19064</a>	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 74045-6
@codeSystem	1..1	SHALL		<a href="#">87-30102</a>	urn:oid:2.16.840.1.113883.6.1 (LOINC)
title	1..1	SHALL		<a href="#">87-18918</a>	
@value	1..1	SHALL		<a href="#">87-18919</a>	Measure Description Section
text	1..1	SHALL		<a href="#">87-18920</a>	

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:
<a href="#">QDM Templates for CQL-Based HQMF Header (V3) - Draft</a> (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		<a href="#">3372-18901</a>	
item	1..1	SHALL		<a href="#">3372-18902</a>	
@root	1..1	SHALL		<a href="#">3372-18903</a>	2.16.840.1.113883.10.20.28.2.4
@extension	1..1	SHALL		<a href="#">3372-30104</a>	2018-05-01
id	0..1	MAY		<a href="#">3372-18904</a>	
code	1..1	SHALL		<a href="#">3372-18905</a>	
@code	1..1	SHALL		<a href="#">3372-18906</a>	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 57027-5
@codeSystem	1..1	SHALL		<a href="#">3372-30103</a>	urn:oid:2.16.840.1.113883.6.1 (LOINC)
title	1..1	SHALL		<a href="#">3372-18910</a>	
@value	1..1	SHALL		<a href="#">3372-18965</a>	Measure Observations Section
text	1..1	SHALL		<a href="#">3372-18911</a>	
definition	1..*	SHALL		<a href="#">3372-30105</a>	
measureObservationDefinition	1..1	SHALL		<a href="#">3372-34644</a>	
code	1..1	SHALL		<a href="#">3372-34650</a>	
value	1..1	SHALL		<a href="#">3372-34651</a>	
methodCode	1..1	SHALL		<a href="#">3372-34649</a>	
component	1..1	SHALL		<a href="#">3372-34645</a>	
criteriaReference	1..1	SHALL		<a href="#">3372-34646</a>	
@classCode	1..1	SHALL		<a href="#">3372-34647</a>	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">3372-34648</a>	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = EVN

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).
    - iv. This `measureObservationDefinition` **SHALL** contain exactly one [1..1] `component` (CONF:3372-34645).
      1. This `component` **SHALL** contain exactly one [1..1] `criteriaReference` (CONF:3372-34646).
        - a. This `criteriaReference` **SHALL** contain exactly one [1..1] `@classCode="OBS"` Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3372-34647).
        - b. This `criteriaReference` **SHALL** contain exactly one [1..1] `@moodCode="EVN"` Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3372-34648).

**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>
        <component typeCode="COMP">
          <criteriaReference classCode="OBS" moodCode="EVN">
            <id extension="measurePopulation"
root="DFAAF6C1-0609-49C7-BCEA-8EEDFB65DCFF"/>
          </criteriaReference>
        </component>
      </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:
<a href="#">QDM Templates for CQL-Based HQMF Header (V3)</a> (required)	

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

Please refer to Volume 1 and Volume 2 of this IG for additional constraints and examples for the Population Criteria Section.

**Table 10: Population Criteria Section (V2) Constraints Overview**

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

component	0..*	MAY		<a href="#">3346-30024</a>	
numeratorCriteria	1..1	SHALL		<a href="#">3346-30025</a>	
code	1..1	SHALL		<a href="#">3346-30028</a>	
@code	1..1	SHALL		<a href="#">3346-30029</a>	NUMER
@codeSystem	1..1	SHALL		<a href="#">3346-30094</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
precondition	1..*	SHALL		<a href="#">3346-34871</a>	
criteriaReference	1..1	SHALL		<a href="#">3346-34872</a>	
id	1..1	SHALL		<a href="#">3346-34873</a>	
@root	1..1	SHALL		<a href="#">3346-34888</a>	
@extension	1..1	SHALL		<a href="#">3346-34889</a>	
component	0..*	MAY		<a href="#">3346-30026</a>	
denominatorCriteria	1..1	SHALL		<a href="#">3346-30027</a>	
code	1..1	SHALL		<a href="#">3346-30030</a>	
@code	1..1	SHALL		<a href="#">3346-30031</a>	DENOM
@codeSystem	1..1	SHALL		<a href="#">3346-30095</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
precondition	1..*	SHALL		<a href="#">3346-34874</a>	
criteriaReference	1..1	SHALL		<a href="#">3346-34875</a>	
id	1..1	SHALL		<a href="#">3346-34876</a>	
@root	1..1	SHALL		<a href="#">3346-34890</a>	
@extension	1..1	SHALL		<a href="#">3346-34891</a>	
component	0..*	MAY		<a href="#">3346-30032</a>	
measurePopulationCriteria	1..1	SHALL		<a href="#">3346-30033</a>	
code	1..1	SHALL		<a href="#">3346-30034</a>	
@code	1..1	SHALL		<a href="#">3346-</a>	MSRPOPL

				<a href="#">30035</a>	
@codeSystem	1..1	SHALL		<a href="#">3346-30096</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
precondition	1..*	SHALL		<a href="#">3346-34877</a>	
criteriaReference	1..1	SHALL		<a href="#">3346-34878</a>	
id	1..1	SHALL		<a href="#">3346-34879</a>	
@root	1..1	SHALL		<a href="#">3346-34892</a>	
@extension	1..1	SHALL		<a href="#">3346-34893</a>	
component	0..*	MAY		<a href="#">3346-30036</a>	
denominatorExceptionCriteria	1..1	SHALL		<a href="#">3346-30037</a>	
code	1..1	SHALL		<a href="#">3346-30038</a>	
@code	1..1	SHALL		<a href="#">3346-30039</a>	DENEXCEP
@codeSystem	1..1	SHALL		<a href="#">3346-30097</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
precondition	1..*	SHALL		<a href="#">3346-34880</a>	
criteriaReference	1..1	SHALL		<a href="#">3346-34881</a>	
id	1..1	SHALL		<a href="#">3346-34882</a>	
@root	1..1	SHALL		<a href="#">3346-34894</a>	
@extension	1..1	SHALL		<a href="#">3346-34895</a>	
component	0..*	MAY		<a href="#">3346-30040</a>	
denominatorExclusionCriteria	1..1	SHALL		<a href="#">3346-30041</a>	
code	1..1	SHALL		<a href="#">3346-30042</a>	
@code	1..1	SHALL		<a href="#">3346-30043</a>	DENEX
@codeSystem	1..1	SHALL		<a href="#">3346-30098</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
precondition	1..*	SHALL		<a href="#">3346-34883</a>	
criteriaReference	1..1	SHALL		<a href="#">3346-34884</a>	

id	1..1	SHALL		<a href="#">3346-34885</a>	
@root	1..1	SHALL		<a href="#">3346-34896</a>	
@extension	1..1	SHALL		<a href="#">3346-34897</a>	
component	0..*	MAY		<a href="#">3346-30044</a>	
numeratorExclusionCriteria	1..1	SHALL		<a href="#">3346-30045</a>	
code	1..1	SHALL		<a href="#">3346-30046</a>	
@code	1..1	SHALL		<a href="#">3346-30047</a>	NUMEX
@codeSystem	1..1	SHALL		<a href="#">3346-30099</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
precondition	1..*	SHALL		<a href="#">3346-34898</a>	
criteriaReference	1..1	SHALL		<a href="#">3346-34899</a>	
id	1..1	SHALL		<a href="#">3346-34900</a>	
@root	1..1	SHALL		<a href="#">3346-34904</a>	
@extension	1..1	SHALL		<a href="#">3346-34905</a>	
component	0..*	MAY		<a href="#">3346-30048</a>	
measurePopulationExclusionCriteria	1..1	SHALL		<a href="#">3346-30049</a>	
code	1..1	SHALL		<a href="#">3346-30050</a>	
@code	1..1	SHALL		<a href="#">3346-30051</a>	MSRPOPLEX
@codeSystem	1..1	SHALL		<a href="#">3346-30100</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
precondition	1..*	SHALL		<a href="#">3346-34901</a>	
criteriaReference	1..1	SHALL		<a href="#">3346-34902</a>	
id	1..1	SHALL		<a href="#">3346-34903</a>	
@root	1..1	SHALL		<a href="#">3346-34906</a>	
@extension	1..1	SHALL		<a href="#">3346-34907</a>	

component	0..*	MAY		<a href="#">3346-30052</a>	
stratifierCriteria	1..1	SHALL		<a href="#">3346-30053</a>	
code	0..1	MAY		<a href="#">3346-30054</a>	
@code	1..1	SHALL		<a href="#">3346-30055</a>	STRAT
@codeSystem	1..1	SHALL		<a href="#">3346-30101</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
precondition	1..*	SHALL		<a href="#">3346-34634</a>	
criteriaReference	1..1	SHALL		<a href="#">3346-34635</a>	
id	1..1	SHALL		<a href="#">3346-34644</a>	
@root	1..1	SHALL		<a href="#">3346-34645</a>	
@extension	1..1	SHALL		<a href="#">3346-34646</a>	

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
  - a. **SHALL** contain exactly one [1..1] **initialPopulationCriteria** (CONF:3346-29996).
    - i. This initialPopulationCriteria **SHALL** contain exactly one [1..1] **code** (CONF:3346-30022).
      1. This code **SHALL** contain exactly one [1..1] **@code**="IPOP" Initial Population (CONF:3346-30023).



2. This code **SHALL** contain exactly one [1..1] **@codeSystem**  
(CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4)  
(CONF:3346-30093).
- ii. This initialPopulationCriteria **SHALL** contain at least one [1..\*] **precondition**  
(CONF:3346-34868).
  1. Such preconditions **SHALL** contain exactly one [1..1] **criteriaReference** (CONF:3346-34869).
    - a. This criteriaReference **SHALL** contain exactly one [1..1] **id**  
(CONF:3346-34870).
      - i. This id **SHALL** contain exactly one [1..1] **@root**  
(CONF:3346-34886).
      - ii. This id **SHALL** contain exactly one [1..1] **@extension**  
(CONF:3346-34887).
7. **MAY** contain zero or more [0..\*] **component** (CONF:3346-30024) such that it
  - a. **SHALL** contain exactly one [1..1] **numeratorCriteria** (CONF:3346-30025).
    - i. This numeratorCriteria **SHALL** contain exactly one [1..1] **code** (CONF:3346-30028).
      1. This code **SHALL** contain exactly one [1..1] **@code="NUMER"**  
Numerator (CONF:3346-30029).
      2. This code **SHALL** contain exactly one [1..1] **@codeSystem**  
(CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4)  
(CONF:3346-30094).
    - ii. This numeratorCriteria **SHALL** contain at least one [1..\*] **precondition**  
(CONF:3346-34871).
      1. Such preconditions **SHALL** contain exactly one [1..1] **criteriaReference** (CONF:3346-34872).
        - a. This criteriaReference **SHALL** contain exactly one [1..1] **id**  
(CONF:3346-34873).
          - i. This id **SHALL** contain exactly one [1..1] **@root**  
(CONF:3346-34888).
          - ii. This id **SHALL** contain exactly one [1..1] **@extension**  
(CONF:3346-34889).
  8. **MAY** contain zero or more [0..\*] **component** (CONF:3346-30026) such that it
    - a. **SHALL** contain exactly one [1..1] **denominatorCriteria** (CONF:3346-30027).
      - i. This denominatorCriteria **SHALL** contain exactly one [1..1] **code** (CONF:3346-30030).
        1. 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:
<a href="#">Encounter, Performed (V2)</a> (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		<a href="#">3335-34344</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = SDLOC
templateId	1..1	SHALL		<a href="#">3335-34340</a>	
item	1..1	SHALL		<a href="#">3335-34341</a>	
@root	1..1	SHALL		<a href="#">3335-34345</a>	2.16.840.1.113883.10.20.28.3.123
@extension	1..1	SHALL		<a href="#">3335-34530</a>	2017-05-01
code	1..1	SHALL		<a href="#">3335-34342</a>	
@valueSet	0..1	SHOULD		<a href="#">3335-34346</a>	

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. **SHALL** contain exactly one [1..1] **item** (CONF:3335-34341) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.3.123" (CONF:3335-34345).
    - ii. This item **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 (V2)

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.120:2017-08-01 (open)]

**Table 13: Adverse Event (V2) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Facility Location</a> (optional) <a href="#">Severity Observation (V2)</a> (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 Prevalence Period references the time from the onset date to the abatement date.

**Table 14: Adverse Event (V2) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.120:2017-08-01)					
@classCode	1..1	SHALL		<a href="#">3346-34210</a>	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">3346-34211</a>	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		<a href="#">3346-34758</a>	
templateId	1..1	SHALL		<a href="#">3346-34183</a>	
item	1..1	SHALL		<a href="#">3346-34184</a>	
@root	1..1	SHALL		<a href="#">3346-34194</a>	2.16.840.1.113883.10.20.28.4.1 20
@extension	1..1	SHALL		<a href="#">3346-34531</a>	2017-08-01
id	1..1	SHALL		<a href="#">3346-34212</a>	
code	1..1	SHALL		<a href="#">3346-34185</a>	
@code	1..1	SHALL		<a href="#">3346-34196</a>	ASSERTION
@codeSystem	1..1	SHALL		<a href="#">3346-34197</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
title	1..1	SHALL		<a href="#">3346-34213</a>	
statusCode	1..1	SHALL		<a href="#">3346-34186</a>	
@code	1..1	SHALL		<a href="#">3346-34198</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3346-34187</a>	
low	0..1	MAY		<a href="#">3346-34199</a>	
high	0..1	MAY		<a href="#">3346-34200</a>	
value	1..1	SHALL	CD	<a href="#">3346-34188</a>	
@code	1..1	SHALL		<a href="#">3346-34201</a>	281647001
@codeSystem	1..1	SHALL		<a href="#">3346-34202</a>	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
participation	1..1	SHALL		<a href="#">3346-</a>	

				<a href="#">34189</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34207</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
role	1..1	SHALL		<a href="#">3346-34190</a>	
@classCode	1..1	SHALL		<a href="#">3346-34206</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = MANU
playingEntity	1..1	SHALL		<a href="#">3346-34191</a>	
@classCode	1..1	SHALL		<a href="#">3346-34204</a>	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = MMAT
@determinerCode	1..1	SHALL		<a href="#">3346-34205</a>	urn:oid:2.16.840.1.113883.5.30 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		<a href="#">3346-34192</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-34203</a>	
participation	0..1	MAY		<a href="#">3346-34692</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34694</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3346-34695</a>	
role	1..1	SHALL		<a href="#">3346-34693</a>	
@classCode	1..1	SHALL		<a href="#">3346-34696</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3346-34697</a>	
participation	0..*	MAY		<a href="#">3346-34500</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34501</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = LOC
role	1..1	SHALL		<a href="#">3346-34502</a>	<a href="#">Facility Location (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01)</a>
outboundRelationship	0..1	MAY		<a href="#">3346-34497</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34498</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		<a href="#">3346-34499</a>	<a href="#">Severity Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.93:2017-08-01)</a>
outboundRelationship	0..1	MAY		<a href="#">3346-34682</a>	
@typeCode	1..1	SHALL		<a href="#">3346-</a>	urn:oid:2.16.840.1.113883.5.10



				<a href="#">34686</a>	02 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		<a href="#">3346-34683</a>	
@classCode	1..1	SHALL		<a href="#">3346-34687</a>	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">3346-34688</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
code	1..1	SHALL		<a href="#">3346-34684</a>	
@code	1..1	SHALL		<a href="#">3346-34689</a>	ASSERTION
@codeSystem	1..1	SHALL		<a href="#">3346-34690</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
value	1..1	SHALL	CD	<a href="#">3346-34685</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-34691</a>	

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3346-34210).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3346-34211).
3. **SHALL NOT** contain [0..0] **@actionNegationInd** (CONF:3346-34758).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3346-34183).
  - a. **SHALL** contain exactly one [1..1] **item** (CONF:3346-34184) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.120" (CONF:3346-34194).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3346-34531).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3346-34212).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3346-34185).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CONF:3346-34196).
  - 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:3346-34197).
7. **SHALL** contain exactly one [1..1] **title** (CONF:3346-34213).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3346-34186).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3346-34198).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3346-34187) such that it  
 Note: QDM Attribute: Relevant Period (The Relevant Period references the time from the adverse event began to the time the adverse event completed)

- a. **MAY** contain zero or one [0..1] **low** (CONF:3346-34199).  
Note: StartTime – the time the adverse event began
  - b. **MAY** contain zero or one [0..1] **high** (CONF:3346-34200).  
Note: StopTime – the time the adverse event completed
10. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:3346-34188).
- a. This value **SHALL** contain exactly one [1..1] **@code**="281647001" Adverse Reaction (CONF:3346-34201).
  - 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:3346-34202).
11. **SHALL** contain exactly one [1..1] **participation** (CONF:3346-34189) 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:3346-34207).
  - b. **SHALL** contain exactly one [1..1] **role** (CONF:3346-34190).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode**="MANU" Manufactured (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3346-34206).
    - ii. This role **SHALL** contain exactly one [1..1] **playingEntity** (CONF:3346-34191).
      - 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:3346-34204).
      - 2. This playingEntity **SHALL** contain exactly one [1..1] **@determinerCode**="KIND" Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:3346-34205).
      - 3. This playingEntity **SHALL** contain exactly one [1..1] **code** (CONF:3346-34192).  
Note: QDM Attribute: Code
        - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-34203).
12. **MAY** contain zero or one [0..1] **participation** (CONF:3346-34692) 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:3346-34694).
  - b. **SHALL** contain exactly one [1..1] **time** (CONF:3346-34695).  
Note: QDM Attribute: Author dateTime
  - c. **SHALL** contain exactly one [1..1] **role** (CONF:3346-34693).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode**="ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3346-34696).
    - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3346-34697).
13. **MAY** contain zero or more [0..\*] **participation** (CONF:3346-34500) such that it  
Note: QDM Attribute: FacilityLocations

- a. **SHALL** contain exactly one [1..1] **@typeCode="LOC"** Location (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3346-34501).
  - 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:3346-34502).
14. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-34497) 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:3346-34498).
  - 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:3346-34499).
15. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-34682) 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:3346-34686).
  - b. **SHALL** contain exactly one [1..1] **observationCriteria** (CONF:3346-34683).
    - i. This observationCriteria **SHALL** contain exactly one [1..1] **@classCode="OBS"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3346-34687).
    - ii. This observationCriteria **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3346-34688).
    - iii. This observationCriteria **SHALL** contain exactly one [1..1] **code** (CONF:3346-34684).
      - 1. This code **SHALL** contain exactly one [1..1] **@code="ASSERTION"** Assertion (CONF:3346-34689).
      - 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:3346-34690).
    - iv. This observationCriteria **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:3346-34685).
      - 1. This value **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-34691).

**Figure 5: Adverse Event (V2) Example**

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.120" extension="2017-08-01"/>
  </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 (V2)

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.119:2017-08-01 (open)]

**Table 15: Allergy Intolerance (V2) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Severity Observation (V2)</a> (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 (V2) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.119:2017-08-01)					
@classCode	1..1	SHALL		<a href="#">3346-34241</a>	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">3346-34242</a>	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		<a href="#">3346-34759</a>	
templateId	1..1	SHALL		<a href="#">3346-34215</a>	
item	1..1	SHALL		<a href="#">3346-34216</a>	
@root	1..1	SHALL		<a href="#">3346-34228</a>	2.16.840.1.113883.10.20.28.4.1 19
@extension	1..1	SHALL		<a href="#">3346-34532</a>	2017-08-01
id	1..1	SHALL		<a href="#">3346-34243</a>	
code	1..1	SHALL		<a href="#">3346-34217</a>	
@code	1..1	SHALL		<a href="#">3346-34229</a>	ASSERTION
@codeSystem	1..1	SHALL		<a href="#">3346-34230</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
title	1..1	SHALL		<a href="#">3346-34244</a>	
statusCode	1..1	SHALL		<a href="#">3346-34218</a>	
@code	1..1	SHALL		<a href="#">3346-34231</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3346-34219</a>	
low	0..1	MAY		<a href="#">3346-34232</a>	
high	0..1	MAY		<a href="#">3346-34233</a>	
value	1..1	SHALL	CD	<a href="#">3346-34220</a>	
@code	1..1	SHALL		<a href="#">3346-34234</a>	106190000
@codeSystem	1..1	SHALL		<a href="#">3346-34235</a>	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
participation	1..1	SHALL		<a href="#">3346-</a>	

				<a href="#">34221</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34240</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
role	1..1	SHALL		<a href="#">3346-34222</a>	
@classCode	1..1	SHALL		<a href="#">3346-34239</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = MANU
playingEntity	1..1	SHALL		<a href="#">3346-34223</a>	
@classCode	1..1	SHALL		<a href="#">3346-34237</a>	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = MMAT
@determinerCode	1..1	SHALL		<a href="#">3346-34238</a>	urn:oid:2.16.840.1.113883.5.30 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		<a href="#">3346-34224</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-34236</a>	
participation	0..1	MAY		<a href="#">3346-34710</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34713</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3346-34711</a>	
low	1..1	SHALL		<a href="#">3346-34714</a>	
role	1..1	SHALL		<a href="#">3346-34712</a>	
@classCode	1..1	SHALL		<a href="#">3346-34715</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3346-34716</a>	
outboundRelationship	0..1	MAY		<a href="#">3346-34214</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34226</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		<a href="#">3346-34225</a>	<a href="#">Severity Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.93:2017-08-01)</a>
outboundRelationship	0..1	MAY		<a href="#">3346-34704</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34709</a>	REFR
observationCriteria	1..1	SHALL		<a href="#">3346-34705</a>	
@classCode	1..1	SHALL		<a href="#">3346-34707</a>	OBS

@moodCode	1..1	SHALL		<a href="#">3346-34708</a>	EVN
code	1..1	SHALL		<a href="#">3346-34706</a>	
@code	1..1	SHALL		<a href="#">3346-34698</a>	ASSERTION
@codeSystem	1..1	SHALL		<a href="#">3346-34699</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
value	1..1	SHALL	CD	<a href="#">3346-34700</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-34701</a>	

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:3346-34241).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3346-34242).
3. **SHALL NOT** contain [0..0] @actionNegationInd (CONF:3346-34759).
4. **SHALL** contain exactly one [1..1] templateId (CONF:3346-34215).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3346-34216) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.119" (CONF:3346-34228).
    - ii. This item **SHALL** contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-34532).
5. **SHALL** contain exactly one [1..1] id (CONF:3346-34243).
6. **SHALL** contain exactly one [1..1] code (CONF:3346-34217).
  - a. This code **SHALL** contain exactly one [1..1] @code="ASSERTION" Assertion (CONF:3346-34229).
  - 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:3346-34230).
7. **SHALL** contain exactly one [1..1] title (CONF:3346-34244).
8. **SHALL** contain exactly one [1..1] statusCode (CONF:3346-34218).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3346-34231).
9. **MAY** contain zero or one [0..1] effectiveTime (CONF:3346-34219) 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:3346-34232).  
 Note: Onset Date
  - b. **MAY** contain zero or one [0..1] high (CONF:3346-34233).  
 Note: Abatement Date
10. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:3346-34220).

- a. This value **SHALL** contain exactly one [1..1] **@code**="106190000" Allergy (CONF:3346-34234).
  - 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:3346-34235).
11. **SHALL** contain exactly one [1..1] **participation** (CONF:3346-34221) 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:3346-34240).
  - b. **SHALL** contain exactly one [1..1] **role** (CONF:3346-34222).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode**="MANU" Manufactured (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3346-34239).
    - ii. This role **SHALL** contain exactly one [1..1] **playingEntity** (CONF:3346-34223).
      - 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:3346-34237).
      - 2. This playingEntity **SHALL** contain exactly one [1..1] **@determinerCode**="KIND" Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:3346-34238).
      - 3. This playingEntity **SHALL** contain exactly one [1..1] **code** (CONF:3346-34224).
 

Note: QDM Attribute: Code

        - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-34236).
12. **MAY** contain zero or one [0..1] **participation** (CONF:3346-34710) 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:3346-34713).
  - b. **SHALL** contain exactly one [1..1] **time** (CONF:3346-34711).
    - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3346-34714).
 

Note: QDM Attribute: Author dateTime
  - c. **SHALL** contain exactly one [1..1] **role** (CONF:3346-34712).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode**="ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3346-34715).
    - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3346-34716).
13. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-34214) 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:3346-34226).



- 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:3346-34225).
- 14. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-34704) 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 (CONF:3346-34709).
  - b. **SHALL** contain exactly one [1..1] **observationCriteria** (CONF:3346-34705).
    - i. This observationCriteria **SHALL** contain exactly one [1..1] **@classCode="OBS"** (CONF:3346-34707).
    - ii. This observationCriteria **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CONF:3346-34708).
    - iii. This observationCriteria **SHALL** contain exactly one [1..1] **code** (CONF:3346-34706).
      - 1. This code **SHALL** contain exactly one [1..1] **@code="ASSERTION"** Assertion (CONF:3346-34698).
      - 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:3346-34699).
    - iv. This observationCriteria **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:3346-34700).
      - 1. This value **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-34701).

**Figure 6: Allergy Intolerance (V2) Example**

```

<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.119" extension="2017-08-01"/>
  </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

```
[observationCriteria: identifier
urn:hl7ii:2.16.840.1.113883.10.20.28.4.131:2018-05-01 (open)]
```

Table 17: Assessment, Order Contexts

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (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 Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.131:2018-05-01)					
@classCode	1..1	SHALL		<a href="#">3372-34673</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3372-34674</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		<a href="#">3372-34675</a>	
templateId	1..1	SHALL		<a href="#">3372-34654</a>	
item	1..1	SHALL		<a href="#">3372-34655</a>	
@root	1..1	SHALL		<a href="#">3372-34664</a>	2.16.840.1.113883.10.20.28.4.131
@extension	1..1	SHALL		<a href="#">3372-34665</a>	2018-05-01
id	1..1	SHALL		<a href="#">3372-34676</a>	
code	1..1	SHALL		<a href="#">3372-34656</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-34666</a>	
title	1..1	SHALL		<a href="#">3372-34677</a>	
statusCode	1..1	SHALL		<a href="#">3372-34657</a>	
@code	1..1	SHALL		<a href="#">3372-34667</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
participation	0..1	MAY		<a href="#">3372-34660</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34672</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3372-34661</a>	
low	1..1	SHALL		<a href="#">3372-34669</a>	
role	1..1	SHALL		<a href="#">3372-34662</a>	
@classCode	1..1	SHALL		<a href="#">3372-34670</a>	ROL
id	0..1	MAY		<a href="#">3372-34671</a>	
outboundRelationship	0..1	MAY		<a href="#">3372-34652</a>	

@typeCode	1..1	SHALL		<a href="#">3372-34663</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3372-34653</a>	<a href="#">Reason [identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01]</a>

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:3372-34673).
2. **SHALL** contain exactly one [1..1] @moodCode="RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3372-34674).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:3372-34675).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:3372-34654).
  - a. This templateId **SHALL** contain exactly one [1..1] item (CONF:3372-34655) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.131" (CONF:3372-34664).
    - ii. This item **SHALL** contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-34665).
5. **SHALL** contain exactly one [1..1] id (CONF:3372-34676).
6. **SHALL** contain exactly one [1..1] code (CONF:3372-34656).  
Note: QDM Attribute: Code
  - a. This code **SHOULD** contain zero or one [0..1] @valueSet (CONF:3372-34666).
7. **SHALL** contain exactly one [1..1] title (CONF:3372-34677).
8. **SHALL** contain exactly one [1..1] statusCode (CONF:3372-34657).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3372-34667).
9. **MAY** contain zero or one [0..1] participation (CONF:3372-34660) 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:3372-34672).
  - b. **SHALL** contain exactly one [1..1] time (CONF:3372-34661).
    - i. This time **SHALL** contain exactly one [1..1] low (CONF:3372-34669).  
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:3372-34662).
    - i. This role **SHALL** contain exactly one [1..1] @classCode="ROL" Role (CONF:3372-34670).
    - ii. This role **MAY** contain zero or one [0..1] id (CONF:3372-34671).
10. **MAY** contain zero or one [0..1] outboundRelationship (CONF:3372-34652) 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:3372-34663).

- 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:3372-34653).

**Figure 7: Assessment, Order Example**

```
<observationCriteria classCode="OBS" moodCode="RQO">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.131" extension="2018-05-01"/>
  </templateId>
  <id root="904c1629-8a5d-4a33-846e-994a97a3caf0"/>
  <code valueSet="{ $QDMElementValueSetOID }"/>
  <title value="Assessment, Order"/>
  <statusCode code="active"/>
</observationCriteria>
```

## 5.5 Assessment, Performed (V2)

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.117:2017-08-01 (open)]

**Table 19: Assessment, Performed (V2) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (optional) <a href="#">Component</a> (optional) <a href="#">Related To</a> (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 completed; author time.

**Table 20: Assessment, Performed (V2) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.117:2017-08-01)					
@classCode	1..1	SHALL		<a href="#">3346-34142</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3346-34143</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		<a href="#">3346-34144</a>	
templateId	1..1	SHALL		<a href="#">3346-34126</a>	
item	1..1	SHALL		<a href="#">3346-34127</a>	
@root	1..1	SHALL		<a href="#">3346-34134</a>	2.16.840.1.113883.10.20.28.4.117
@extension	1..1	SHALL		<a href="#">3346-34254</a>	2017-08-01
id	1..1	SHALL		<a href="#">3346-34145</a>	
code	1..1	SHALL		<a href="#">3346-34128</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-34136</a>	
title	1..1	SHALL		<a href="#">3346-34146</a>	
statusCode	1..1	SHALL		<a href="#">3346-34129</a>	
@code	1..1	SHALL		<a href="#">3346-34137</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
value	0..1	MAY		<a href="#">3346-34147</a>	
methodCode	0..1	MAY		<a href="#">3346-34246</a>	
item	0..1	SHOULD		<a href="#">3346-34247</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-34249</a>	
participation	0..1	MAY		<a href="#">3346-34735</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34738</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3346-34736</a>	
low	1..1	SHALL		<a href="#">3346-34739</a>	

role	1..1	SHALL		<a href="#">3346-34737</a>	
@classCode	1..1	SHALL		<a href="#">3346-34741</a>	ROL
id	0..1	MAY		<a href="#">3346-34740</a>	
outboundRelationship	0..1	MAY		<a href="#">3346-34245</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34250</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3346-34248</a>	<a href="#">Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01)</a>
outboundRelationship	0..*	MAY		<a href="#">3346-34608</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34609</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		<a href="#">3346-34610</a>	<a href="#">Component (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.121:2017-05-01)</a>
outboundRelationship	0..*	MAY		<a href="#">3346-34732</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34733</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		<a href="#">3346-34734</a>	<a href="#">Related To (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.127:2017-08-01)</a>

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:3346-34142).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3346-34143).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:3346-34144).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:3346-34126).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3346-34127) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.117" (CONF:3346-34134).
    - ii. This item **SHALL** contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-34254).
5. **SHALL** contain exactly one [1..1] id (CONF:3346-34145).
6. **SHALL** contain exactly one [1..1] code (CONF:3346-34128).  
Note: QDM Attribute: Code
  - a. This code **SHOULD** contain zero or one [0..1] @valueSet (CONF:3346-34136).
7. **SHALL** contain exactly one [1..1] title (CONF:3346-34146).

8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3346-34129).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3346-34137).
9. **MAY** contain zero or one [0..1] **value** (CONF:3346-34147).  
Note: QDM Attribute: Result
10. **MAY** contain zero or one [0..1] **methodCode** (CONF:3346-34246).  
Note: QDM Attribute: Method
  - a. The methodCode, if present, **SHOULD** contain zero or one [0..1] **item** (CONF:3346-34247).
    - i. The item, if present, **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-34249).
11. **MAY** contain zero or one [0..1] **participation** (CONF:3346-34735) 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:3346-34738).
  - b. **SHALL** contain exactly one [1..1] **time** (CONF:3346-34736).  
Note: QDM Attribute: Author dateTime (The time the assessment is completed)
    - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3346-34739).
  - c. **SHALL** contain exactly one [1..1] **role** (CONF:3346-34737).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CONF:3346-34741).
    - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3346-34740).
12. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-34245) 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:3346-34250).
  - 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:3346-34248).
13. **MAY** contain zero or more [0..\*] **outboundRelationship** (CONF:3346-34608) such that it  
Note: QDM Attribute: Components
  - a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers To (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3346-34609).
  - 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:3346-34610).
14. **MAY** contain zero or more [0..\*] **outboundRelationship** (CONF:3346-34732) 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:3346-34733).



- 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:3346-34734).

**Figure 8: Assessment, Performed (V2) Example**

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.117" extension="2017-08-01"/>
  </templateId>
  <id root="08f25bc3-5eff-49a5-b2ec-f66f1027574c"/>
  <code valueSet="{ $QDMElementValueSetOID }"/>
  <title value="Assessment, Performed"/>
  <statusCode code="completed"/>
</observationCriteria>
```

## 5.6 Assessment, Recommended (V2)

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.118:2018-05-01 (open)]

**Table 21: Assessment, Recommended (V2) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (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 (V2) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.118:2018-05-01)					
@classCode	1..1	SHALL		<a href="#">3372-34165</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3372-34166</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = INT
@actionNegationInd	0..1	MAY		<a href="#">3372-34167</a>	
templateId	1..1	SHALL		<a href="#">3372-34149</a>	
item	1..1	SHALL		<a href="#">3372-34150</a>	
@root	1..1	SHALL		<a href="#">3372-34157</a>	2.16.840.1.113883.10.20.28.4.118
@extension	1..1	SHALL		<a href="#">3372-34273</a>	2018-05-01
id	1..1	SHALL		<a href="#">3372-34168</a>	
code	1..1	SHALL		<a href="#">3372-34151</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-34159</a>	
title	1..1	SHALL		<a href="#">3372-34169</a>	
statusCode	1..1	SHALL		<a href="#">3372-34152</a>	
@code	1..1	SHALL		<a href="#">3372-34160</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
participation	0..1	MAY		<a href="#">3372-34270</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34274</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3372-34271</a>	
low	1..1	SHALL		<a href="#">3372-34275</a>	
role	1..1	SHALL		<a href="#">3372-34272</a>	
@classCode	1..1	SHALL		<a href="#">3372-34276</a>	ROL
id	0..1	MAY		<a href="#">3372-34277</a>	
outboundRelationship	0..1	MAY		<a href="#">3372-34264</a>	

@typeCode	1..1	SHALL		<a href="#">3372-34269</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3372-34269</a>	<a href="#">Reason identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01</a>

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:3372-34165).
2. **SHALL** contain exactly one [1..1] @moodCode="INT" intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3372-34166).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:3372-34167).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:3372-34149).
  - a. This templateId **SHALL** contain exactly one [1..1] item (CONF:3372-34150) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.118" (CONF:3372-34157).
    - ii. This item **SHALL** contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-34273).
5. **SHALL** contain exactly one [1..1] id (CONF:3372-34168).
6. **SHALL** contain exactly one [1..1] code (CONF:3372-34151).  
Note: QDM Attribute: Code
  - a. This code **SHOULD** contain zero or one [0..1] @valueSet (CONF:3372-34159).
7. **SHALL** contain exactly one [1..1] title (CONF:3372-34169).
8. **SHALL** contain exactly one [1..1] statusCode (CONF:3372-34152).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3372-34160).
9. **MAY** contain zero or one [0..1] participation (CONF:3372-34270) 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:3372-34274).
  - b. **SHALL** contain exactly one [1..1] time (CONF:3372-34271).
    - i. This time **SHALL** contain exactly one [1..1] low (CONF:3372-34275).  
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:3372-34272).
    - i. This role **SHALL** contain exactly one [1..1] @classCode="ROL" Role (CONF:3372-34276).
    - ii. This role **MAY** contain zero or one [0..1] id (CONF:3372-34277).
10. **MAY** contain zero or one [0..1] outboundRelationship (CONF:3372-34264) 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:3372-34269).

- 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:3372-34267).

**Figure 9: Assessment, Recommended Example**

```
<observationCriteria classCode="OBS" moodCode="INT">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.118" extension="2017-05-01"/>
  </templateId>
  <id root="904c1629-8a5d-4a33-846e-994a97a3caf0"/>
  <code valueSet="{ $QDMElementValueSetOID }"/>
  <title value="Assessment, Recommended"/>
  <statusCode code="active"/>
</observationCriteria>
```

## 5.7 Care Goal (V2)

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.7:2017-08-01 (open)]

**Table 23: Care Goal (V2) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Related To</a> (optional)
	<a href="#">Target Outcome</a> (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 (V2) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.7:2017-08-01)					
@classCode	1..1	SHALL		<a href="#">3346-27869</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3346-27870</a>	urn:oid:2.16.840.1.113883.5.10 01 (HL7ActMood) = GOL
@actionNegationInd	0..0	SHALL NOT		<a href="#">3346-34760</a>	
templateId	1..1	SHALL		<a href="#">3346-27872</a>	
item	1..1	SHALL		<a href="#">3346-28447</a>	
@root	1..1	SHALL		<a href="#">3346-28448</a>	2.16.840.1.113883.10.20.28.4.7
@extension	1..1	SHALL		<a href="#">3346-33051</a>	2017-08-01
id	1..1	SHALL		<a href="#">3346-32479</a>	
code	1..1	SHALL		<a href="#">3346-27873</a>	
@code	1..1	SHALL		<a href="#">3346-27874</a>	ASSERTION
@codeSystem	1..1	SHALL		<a href="#">3346-27875</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
title	1..1	SHALL		<a href="#">3346-32480</a>	
statusCode	1..1	SHALL		<a href="#">3346-32481</a>	
@code	1..1	SHALL		<a href="#">3346-32482</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3346-32488</a>	
low	0..1	MAY		<a href="#">3346-32489</a>	
high	0..1	MAY		<a href="#">3346-32490</a>	
value	1..1	SHALL	CD	<a href="#">3346-27876</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-32483</a>	
outboundRelationship	0..*	MAY		<a href="#">3346-33032</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34743</a>	urn:oid:2.16.840.1.113883.5.10 02 (HL7ActRelationshipType) =

					REFR
observationCriteria	1..1	SHALL		<a href="#">3346-34744</a>	<a href="#">Related To (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.127:2017-08-01)</a>
outboundRelationship	0..1	MAY		<a href="#">3346-34742</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34745</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		<a href="#">3346-34746</a>	<a href="#">Target Outcome (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.128:2017-08-01)</a>

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CONF:3346-27869).
2. **SHALL** contain exactly one [1..1] **@moodCode**="GOL" Goal (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3346-27870).
3. **SHALL NOT** contain [0..0] **@actionNegationInd** (CONF:3346-34760).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3346-27872).
  - a. **SHALL** contain exactly one [1..1] **item** (CONF:3346-28447) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.7" (CONF:3346-28448).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3346-33051).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3346-32479).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3346-27873).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" (CONF:3346-27874).
  - 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:3346-27875).
7. **SHALL** contain exactly one [1..1] **title** (CONF:3346-32480).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3346-32481).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="active" (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3346-32482).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3346-32488) 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:3346-32489).  
Note: Start dateTime (when the goal is recorded, and therefore should be considered effective)
  - b. **MAY** contain zero or one [0..1] **high** (CONF:3346-32490).  
Note: Stop dateTime (when the target outcome is expected to be met)
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:3346-27876).  
Note: QDM Attribute: Code
  - a. This value **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-32483).

11. **MAY** contain zero or more [0..\*] **outboundRelationship** (CONF:3346-33032) such that it  
Note: QDM Attribute: Related To
- SHALL** contain exactly one [1..1] @**typeCode**="REFR" refers to (CodeSystem:  
HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3346-34743).
  - 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:3346-34744).
12. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-34742) such that it  
Note: QDM Attribute: Target Outcome
- SHALL** contain exactly one [1..1] @**typeCode**="REFR" refers to (CodeSystem:  
HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3346-34745).
  - 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:3346-34746).

**Figure 10: Care Goal (V2) Example**

```
<observationCriteria classCode="OBS" moodCode="GOL">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.7" extension="2017-08-01"/>
  </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:
<a href="#">Patient Characteristic Expired</a> (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		<a href="#">3335-33456</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3335-33457</a>	EVN
templateId	1..1	SHALL		<a href="#">3335-33453</a>	
item	1..1	SHALL		<a href="#">3335-33454</a>	
@root	1..1	SHALL		<a href="#">3335-33458</a>	2.16.840.1.113883.10.20.28.4.105
@extension	1..1	SHALL		<a href="#">3335-34647</a>	2017-05-01
id	1..1	SHALL		<a href="#">3335-33459</a>	
code	1..1	SHALL		<a href="#">3335-33455</a>	
@code	1..1	SHALL		<a href="#">3335-33460</a>	42752001
@codeSystem	1..1	SHALL		<a href="#">3335-33461</a>	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
title	1..1	SHALL		<a href="#">3335-33463</a>	
value	1..1	SHALL	CD	<a href="#">3335-33462</a>	
@valueSet	0..1	SHOULD		<a href="#">3335-34663</a>	

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. **SHALL** contain exactly one [1..1] **item** (CONF:3335-33454) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.105" (CONF:3335-33458).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2017-05-01" (CONF:3335-34647).
4. **SHALL** contain exactly one [1..1] **id** (CONF:3335-33459).
5. **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).
6. **SHALL** contain exactly one [1..1] **title** (CONF:3335-33463).
7. **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

[actCriteria: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.132:2018-05-01 (open)]

**Table 27: Communication, Performed Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (optional)
	<a href="#">Related To</a> (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:

Relevant Period: The time the communication is sent (start time) to the time the communication is received (end time)

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

**Table 28: Communication, Performed Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
actCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.132:2018-05-01)					
@classCode	1..1	SHALL		<a href="#">3372-34706</a>	ACT
@moodCode	1..1	SHALL		<a href="#">3372-34707</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		<a href="#">3372-34708</a>	
templateId	1..1	SHALL		<a href="#">3372-34683</a>	
item	1..1	SHALL		<a href="#">3372-34684</a>	
@root	1..1	SHALL		<a href="#">3372-34696</a>	2.16.840.1.113883.10.20.28.4.132
@extension	1..1	SHALL		<a href="#">3372-34697</a>	2018-05-01
id	1..1	SHALL		<a href="#">3372-34709</a>	
code	0..1	MAY		<a href="#">3372-34691</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-34705</a>	
title	1..1	SHALL		<a href="#">3372-34710</a>	
statusCode	1..1	SHALL		<a href="#">3372-34690</a>	
@code	1..1	SHALL		<a href="#">3372-34704</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3372-34694</a>	
low	0..1	MAY		<a href="#">3372-34712</a>	
high	0..1	MAY		<a href="#">3372-34713</a>	
participation	0..1	MAY		<a href="#">3372-34714</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34716</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3372-34717</a>	
role	1..1	SHALL		<a href="#">3372-34715</a>	
@classCode	1..1	SHALL		<a href="#">3372-34718</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL

id	0..1	MAY		<a href="#">3372-34719</a>	
participation	0..1	MAY		<a href="#">3372-34720</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34854</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = PRF
role	1..1	SHALL		<a href="#">3372-34721</a>	
@classCode	1..1	SHALL		<a href="#">3372-34855</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ASSIGNED
code	1..1	SHALL		<a href="#">3372-34856</a>	
participation	0..1	MAY		<a href="#">3372-34722</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34857</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = IRCP
role	1..1	SHALL		<a href="#">3372-34853</a>	
code	1..1	SHALL		<a href="#">3372-34858</a>	
participation	0..1	MAY		<a href="#">3372-34865</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34866</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = VIA
modeCode	1..1	SHALL		<a href="#">3372-34867</a>	
role	1..1	SHALL		<a href="#">3372-34868</a>	
@classCode	1..1	SHALL		<a href="#">3372-34870</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ASSIGNED
outboundRelationship	1..1	SHALL		<a href="#">3372-34681</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34695</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3372-34682</a>	<a href="#">Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01)</a>
outboundRelationship	0..*	MAY		<a href="#">3372-34692</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34711</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		<a href="#">3372-34693</a>	<a href="#">Related To (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.127:2017-08-01)</a>

1. **SHALL** contain exactly one [1..1] @**classCode**="ACT" Act (CONF:3372-34706).

2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3372-34707).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:3372-34708).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3372-34683).
  - a. **SHALL** contain exactly one [1..1] **item** (CONF:3372-34684) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.132" (CONF:3372-34696).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2018-05-01" (CONF:3372-34697).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3372-34709).
6. **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.).
  - a. The code, if present, **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3372-34705).
7. **SHALL** contain exactly one [1..1] **title** (CONF:3372-34710).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3372-34690).
  - a. 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).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3372-34694) such that it  
Note: QDM Attribute: Relevant Period - the time the communication is sent (start time) to the time the communication is received (end time)
  - a. **MAY** contain zero or one [0..1] **low** (CONF:3372-34712).  
Note: StartTime – The time the communication is sent
  - b. **MAY** contain zero or one [0..1] **high** (CONF:3372-34713).  
Note: EndTime – The time the communication is received
10. **MAY** contain zero or one [0..1] **participation** (CONF:3372-34714) 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:3372-34716).
  - b. **SHALL** contain exactly one [1..1] **time** (CONF:3372-34717).  
Note: QDM Attribute: Author dateTime
  - c. **SHALL** contain exactly one [1..1] **role** (CONF:3372-34715).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode**="ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3372-34718).
    - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3372-34719).
11. **MAY** contain zero or one [0..1] **participation** (CONF:3372-34720) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode**="PRF" Performer (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:3372-34854).
  - b. **SHALL** contain exactly one [1..1] **role** (CONF:3372-34721).
    - i. 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).

- ii. 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
- 12. **MAY** contain zero or one [0..1] **participation** (CONF:3372-34722) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode="IRCP"** Information Recipient (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:3372-34857).
  - b. **SHALL** contain exactly one [1..1] **role** (CONF:3372-34853).
    - i. 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
- 13. **MAY** contain zero or one [0..1] **participation** (CONF:3372-34865) 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:3372-34866).
  - b. **SHALL** contain exactly one [1..1] **modeCode** (CONF:3372-34867).  
 Note: QDM Attribute: Medium - A channel used for a communication (e.g., fax, email, etc.)
  - c. **SHALL** contain exactly one [1..1] **role** (CONF:3372-34868).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode="ASSIGNED"** Assigned (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3372-34870).
- 14. **SHALL** contain exactly one [1..1] **outboundRelationship** (CONF:3372-34681) 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:3372-34695).
  - 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:3372-34682).
- 15. **MAY** contain zero or more [0..\*] **outboundRelationship** (CONF:3372-34692) 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:3372-34711).
  - 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:3372-34693).

**Figure 12: Communication, Performed Example**

```
<actCriteria classCode="ACT" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.132" extension="2018-05-01"/>
  </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:
<a href="#">Assessment, Performed (V2)</a> (optional) <a href="#">Diagnostic Study, Performed (V2)</a> (optional) <a href="#">Physical Exam, Performed (V2)</a> (optional) <a href="#">Procedure, Performed (V3)</a> (optional)	

This template represents the QDM attribute: Components.

Components represent 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		<a href="#">3335-34576</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3335-34577</a>	EVN
templateId	1..1	SHALL		<a href="#">3335-34570</a>	
item	1..1	SHALL		<a href="#">3335-34571</a>	
@root	1..1	SHALL		<a href="#">3335-34573</a>	2.16.840.1.113883.10.20.28.4.121
@extension	1..1	SHALL		<a href="#">3335-34580</a>	2017-05-01
id	1..1	SHALL		<a href="#">3335-34578</a>	
code	1..1	SHALL		<a href="#">3335-34572</a>	
title	1..1	SHALL		<a href="#">3335-34607</a>	
value	1..1	SHALL		<a href="#">3335-34579</a>	

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).
  - a. **SHALL** contain exactly one [1..1] **item** (CONF:3335-34571) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.121" (CONF:3335-34573).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2017-05-01" (CONF:3335-34580).
4. **SHALL** contain exactly one [1..1] **id** (CONF:3335-34578).
5. **SHALL** contain exactly one [1..1] **code** (CONF:3335-34572).  
Note: Code
6. **SHALL** contain exactly one [1..1] **title** (CONF:3335-34607).
7. **SHALL** contain exactly one [1..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>
  <id root="dccce626-74a2-41ef-9add-60070b6bb936"/>
  <code code="32412-9" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">
    <displayName value="5 minute Apgar Heart rate"/>
  </code>
  <title value="Component"/>
  <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:
<a href="#">Laboratory Test, Performed (V2)</a> (optional)	<a href="#">Laboratory Test Reference Range</a>

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		<a href="#">3335-34588</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3335-34589</a>	EVN
templateId	1..1	SHALL		<a href="#">3335-34581</a>	
item	1..1	SHALL		<a href="#">3335-34582</a>	
@root	1..1	SHALL		<a href="#">3335-34584</a>	2.16.840.1.113883.10.20.28.4.126
@extension	1..1	SHALL		<a href="#">3335-34585</a>	2017-05-01
outboundRelationship	0..1	MAY		<a href="#">3335-34604</a>	
@typeCode	1..1	SHALL		<a href="#">3335-34605</a>	REFR
observationCriteria	1..1	SHALL		<a href="#">3335-34616</a>	<a href="#">Laboratory Test Reference Range (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.124:2017-05-01)</a>

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).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3335-34582) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.126" (CONF:3335-34584).
    - ii. This item **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 Device, Applied (V2)

[procedureCriteria: identifier

urn:hl7ii:2.16.840.1.113883.10.20.28.4.13:2018-05-01 (open)]

**Table 33: Device, Applied (V2) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (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: The Relevant Period addresses: startTime – When the device is inserted or first used; stopTime – when the device is removed or last used.

**Table 34: Device, Applied (V2) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
procedureCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.13:2018-05-01)					
@classCode	1..1	SHALL		<a href="#">3372-31302</a>	PROC
@moodCode	1..1	SHALL		<a href="#">3372-31303</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		<a href="#">3372-31304</a>	
templateId	1..1	SHALL		<a href="#">3372-31305</a>	
item	1..1	SHALL		<a href="#">3372-31306</a>	
@root	1..1	SHALL		<a href="#">3372-31307</a>	2.16.840.1.113883.10.20.28.4.13
@extension	1..1	SHALL		<a href="#">3372-33361</a>	2018-05-01
id	1..1	SHALL		<a href="#">3372-31308</a>	
code	1..1	SHALL		<a href="#">3372-31517</a>	
@code	1..1	SHALL		<a href="#">3372-33062</a>	360030002
@codeSystem	1..1	SHALL		<a href="#">3372-33063</a>	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
title	1..1	SHALL		<a href="#">3372-31309</a>	
statusCode	1..1	SHALL		<a href="#">3372-31310</a>	
@code	1..1	SHALL		<a href="#">3372-31311</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3372-31312</a>	
low	0..1	MAY		<a href="#">3372-31313</a>	
high	0..1	MAY		<a href="#">3372-31314</a>	
targetSiteCode	0..1	MAY		<a href="#">3372-31485</a>	
item	1..1	SHALL		<a href="#">3372-33060</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-33061</a>	
participation	1..1	SHALL		<a href="#">3372-31315</a>	

@typeCode	1..1	SHALL		<a href="#">3372-31316</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV
role	1..1	SHALL		<a href="#">3372-31317</a>	
@classCode	1..1	SHALL		<a href="#">3372-31318</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = MANU
playingDevice	1..1	SHALL		<a href="#">3372-31319</a>	
@classCode	1..1	SHALL		<a href="#">3372-31320</a>	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = DEV
@determinerCode	1..1	SHALL		<a href="#">3372-31321</a>	urn:oid:2.16.840.1.113883.5.30 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		<a href="#">3372-31322</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-31323</a>	
participation	1..1	SHALL		<a href="#">3372-34503</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34506</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3372-34504</a>	
low	1..1	SHALL		<a href="#">3372-34507</a>	
role	1..1	SHALL		<a href="#">3372-34505</a>	
@classCode	1..1	SHALL		<a href="#">3372-34508</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3372-34509</a>	
outboundRelationship	0..1	MAY		<a href="#">3372-31330</a>	
@typeCode	1..1	SHALL		<a href="#">3372-31331</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3372-31332</a>	<a href="#">Reason identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01</a>

1. **SHALL** contain exactly one [1..1] @classCode="PROC" Procedure (CONF:3372-31302).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3372-31303).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:3372-31304).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:3372-31305).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3372-31306) such that it

- i. This item **SHALL** contain exactly one [1..1]  
@root="2.16.840.1.113883.10.20.28.4.13" (CONF:3372-31307).
  - ii. This item **SHALL** contain exactly one [1..1] @extension="2018-05-01"  
(CONF:3372-33361).
- 5. **SHALL** contain exactly one [1..1] **id** (CONF:3372-31308).
- 6. **SHALL** contain exactly one [1..1] **code** (CONF:3372-31517).
  - a. This code **SHALL** contain exactly one [1..1] @code="360030002" Application of Device  
(CONF:3372-33062).
  - 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:3372-33063).
- 7. **SHALL** contain exactly one [1..1] **title** (CONF:3372-31309).
- 8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3372-31310).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed  
(CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3372-31311).
- 9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3372-31312) such that it  
Note: QDM Attribute: Relevant Period
  - a. **MAY** contain zero or one [0..1] **low** (CONF:3372-31313).  
Note: startTime (When the device is inserted or first used)
  - b. **MAY** contain zero or one [0..1] **high** (CONF:3372-31314).  
Note: stopTime (When the device is removed or last used)
- 10. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:3372-31485).  
Note: QDM Attribute: Anatomical Location Site
  - a. The targetSiteCode, if present, **SHALL** contain exactly one [1..1] **item** (CONF:3372-33060).
    - i. The item, if present, **SHOULD** contain zero or one [0..1] @valueSet  
(CONF:3372-33061).
- 11. **SHALL** contain exactly one [1..1] **participation** (CONF:3372-31315) 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:3372-31316).
  - b. **SHALL** contain exactly one [1..1] **role** (CONF:3372-31317).
    - 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:3372-31318).
    - ii. This role **SHALL** contain exactly one [1..1] **playingDevice** (CONF:3372-31319).
      - 1. This playingDevice **SHALL** contain exactly one [1..1]  
@classCode="DEV" Device (CodeSystem: HL7EntityClass  
urn:oid:2.16.840.1.113883.5.41) (CONF:3372-31320).
      - 2. This playingDevice **SHALL** contain exactly one [1..1]  
@determinerCode="KIND" Kind (CodeSystem:  
HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30)  
(CONF:3372-31321).

3. This playingDevice **SHALL** contain exactly one [1..1] **code** (CONF:3372-31322).

Note: QDM Attribute: Code

- a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3372-31323).

12. **SHALL** contain exactly one [1..1] **participation** (CONF:3372-34503) 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:3372-34506).
- b. **SHALL** contain exactly one [1..1] **time** (CONF:3372-34504).
  - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3372-34507).  
Note: QDM Attribute: Author dateTime
- c. **SHALL** contain exactly one [1..1] **role** (CONF:3372-34505).
  - i. This role **SHALL** contain exactly one [1..1] **@classCode**="ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3372-34508).
  - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3372-34509).

13. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3372-31330) 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:3372-31331).
- 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:3372-31332).

**Figure 15: Device, Applied (V2) Example**

```
<procedureCriteria classCode="PROC" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.13" extension="2018-05-01"/>
  </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>
```

## 5.12 Device, Order

[supplyCriteria: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.15:2017-05-01 (open)]

**Table 35: Device, Order Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (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 36: Device, Order Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
supplyCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.15:2017-05-01)					
@classCode	1..1	SHALL		<a href="#">3335-29840</a>	SPLY
@moodCode	1..1	SHALL		<a href="#">3335-29841</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		<a href="#">3335-31002</a>	
templateId	1..1	SHALL		<a href="#">3335-29842</a>	
item	1..1	SHALL		<a href="#">3335-29843</a>	
@root	1..1	SHALL		<a href="#">3335-29844</a>	2.16.840.1.113883.10.20.28.4.15
@extension	1..1	SHALL		<a href="#">3335-33642</a>	2017-05-01
id	1..1	SHALL		<a href="#">3335-29845</a>	
title	1..1	SHALL		<a href="#">3335-29846</a>	
statusCode	1..1	SHALL		<a href="#">3335-31003</a>	
@code	1..1	SHALL		<a href="#">3335-31004</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
participation	1..1	SHALL		<a href="#">3335-29847</a>	
@typeCode	1..1	SHALL		<a href="#">3335-29848</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV
role	1..1	SHALL		<a href="#">3335-29849</a>	
@classCode	1..1	SHALL		<a href="#">3335-29850</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = MANU
playingDevice	1..1	SHALL		<a href="#">3335-29851</a>	
@classCode	1..1	SHALL		<a href="#">3335-29852</a>	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = DEV
@determinerCode	1..1	SHALL		<a href="#">3335-29853</a>	urn:oid:2.16.840.1.113883.5.30 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		<a href="#">3335-29854</a>	
@valueSet	0..1	SHOULD		<a href="#">3335-29855</a>	
participation	0..1	MAY		<a href="#">3335-33475</a>	

@typeCode	1..1	SHALL		<a href="#">3335-33477</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3335-33476</a>	
low	1..1	SHALL		<a href="#">3335-33478</a>	
role	1..1	SHALL		<a href="#">3335-33569</a>	
@classCode	1..1	SHALL		<a href="#">3335-33570</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3335-33571</a>	
outboundRelationship	0..1	MAY		<a href="#">3335-29888</a>	
@typeCode	1..1	SHALL		<a href="#">3335-29892</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3335-29889</a>	<a href="#">Reason identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01</a>

1. **SHALL** contain exactly one [1..1] @classCode="SPLY" Supply (CONF:3335-29840).
2. **SHALL** contain exactly one [1..1] @moodCode="RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3335-29841).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:3335-31002).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:3335-29842).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3335-29843) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.15" (CONF:3335-29844).
    - ii. This item **SHALL** contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-33642).
5. **SHALL** contain exactly one [1..1] id (CONF:3335-29845).
6. **SHALL** contain exactly one [1..1] title (CONF:3335-29846).
7. **SHALL** contain exactly one [1..1] statusCode (CONF:3335-31003).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3335-31004).
8. **SHALL** contain exactly one [1..1] participation (CONF:3335-29847) 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:3335-29848).
  - b. **SHALL** contain exactly one [1..1] role (CONF:3335-29849).
    - 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:3335-29850).

- ii. This role **SHALL** contain exactly one [1..1] **playingDevice** (CONF:3335-29851).
    - 1. This playingDevice **SHALL** contain exactly one [1..1] **@classCode="DEV"** Device (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:3335-29852).
    - 2. This playingDevice **SHALL** contain exactly one [1..1] **@determinerCode="KIND"** Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:3335-29853).
    - 3. This playingDevice **SHALL** contain exactly one [1..1] **code** (CONF:3335-29854).
      - Note: QDM Attribute: Code
        - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3335-29855).
- 9. **MAY** contain zero or one [0..1] **participation** (CONF:3335-33475) 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:3335-33477).
  - b. **SHALL** contain exactly one [1..1] **time** (CONF:3335-33476).
    - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3335-33478).
      - Note: QDM Attribute: Author dateTime (The time the order is signed)
  - c. **SHALL** contain exactly one [1..1] **role** (CONF:3335-33569).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3335-33570).
    - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3335-33571).
- 10. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3335-29888) 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:3335-29892).
  - 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:3335-29889).

**Figure 16: Device, Order Example**

```
<supplyCriteria classCode="SPLY" moodCode="RQO">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.15" extension="2017-05-01"/>
  </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>
```

### 5.13 Device, Recommended

[supplyCriteria: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.16:2017-05-01 (open)]

**Table 37: Device, Recommended Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (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 38: Device, Recommended Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
supplyCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.16:2017-05-01)					
@classCode	1..1	SHALL		<a href="#">3335-31708</a>	SPLY
@moodCode	1..1	SHALL		<a href="#">3335-31709</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = INT
@actionNegationInd	0..1	MAY		<a href="#">3335-31710</a>	
templateId	1..1	SHALL		<a href="#">3335-31711</a>	
item	1..1	SHALL		<a href="#">3335-31712</a>	
@root	1..1	SHALL		<a href="#">3335-31713</a>	2.16.840.1.113883.10.20.28.4.16
@extension	1..1	SHALL		<a href="#">3335-33699</a>	2017-05-01
id	1..1	SHALL		<a href="#">3335-31714</a>	
title	1..1	SHALL		<a href="#">3335-31715</a>	
statusCode	1..1	SHALL		<a href="#">3335-31716</a>	
@code	1..1	SHALL		<a href="#">3335-31717</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
participation	1..1	SHALL		<a href="#">3335-31721</a>	
@typeCode	1..1	SHALL		<a href="#">3335-31722</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV
role	1..1	SHALL		<a href="#">3335-31723</a>	
@classCode	1..1	SHALL		<a href="#">3335-31724</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = MANU
playingDevice	1..1	SHALL		<a href="#">3335-31725</a>	
@classCode	1..1	SHALL		<a href="#">3335-31726</a>	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = DEV
@determinerCode	1..1	SHALL		<a href="#">3335-31727</a>	urn:oid:2.16.840.1.113883.5.30 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		<a href="#">3335-31728</a>	
@valueSet	0..1	SHOULD		<a href="#">3335-31729</a>	
participation	0..1	MAY		<a href="#">3335-34322</a>	

@typeCode	1..1	SHALL		<a href="#">3335-34325</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3335-34323</a>	
low	1..1	SHALL		<a href="#">3335-34326</a>	
role	1..1	SHALL		<a href="#">3335-34324</a>	
@classCode	1..1	SHALL		<a href="#">3335-34327</a>	ROL
id	0..1	MAY		<a href="#">3335-34328</a>	
outboundRelationship	0..1	MAY		<a href="#">3335-31736</a>	
@typeCode	1..1	SHALL		<a href="#">3335-31737</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3335-31738</a>	<a href="#">Reason identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01</a>

1. **SHALL** contain exactly one [1..1] @classCode="SPLY" Supply (CONF:3335-31708).
2. **SHALL** contain exactly one [1..1] @moodCode="INT" Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3335-31709).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:3335-31710).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:3335-31711).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3335-31712) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.16" (CONF:3335-31713).
    - ii. This item **SHALL** contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-33699).
5. **SHALL** contain exactly one [1..1] id (CONF:3335-31714).
6. **SHALL** contain exactly one [1..1] title (CONF:3335-31715).
7. **SHALL** contain exactly one [1..1] statusCode (CONF:3335-31716).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3335-31717).
8. **SHALL** contain exactly one [1..1] participation (CONF:3335-31721) 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:3335-31722).
  - b. **SHALL** contain exactly one [1..1] role (CONF:3335-31723).
    - 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:3335-31724).

- ii. This role **SHALL** contain exactly one [1..1] **playingDevice** (CONF:3335-31725).
    - 1. This playingDevice **SHALL** contain exactly one [1..1] **@classCode="DEV"** Device (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:3335-31726).
    - 2. This playingDevice **SHALL** contain exactly one [1..1] **@determinerCode="KIND"** Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:3335-31727).
    - 3. This playingDevice **SHALL** contain exactly one [1..1] **code** (CONF:3335-31728).
      - Note: QDM Attribute: Code
        - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3335-31729).
- 9. **MAY** contain zero or one [0..1] **participation** (CONF:3335-34322) 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:3335-34325).
  - b. **SHALL** contain exactly one [1..1] **time** (CONF:3335-34323).
    - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3335-34326).
      - 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:3335-34324).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CONF:3335-34327).
    - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3335-34328).
- 10. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3335-31736) 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:3335-31737).
  - 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:3335-31738).

**Figure 17: Device, Recommended Example**

```
<supplyCriteria classCode="SPLY" moodCode="INT">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.16" extension="2017-05-01"/>
  </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>
```

## 5.14 Diagnosis (V2)

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.110:2017-08-01 (open)]

**Table 39: Diagnosis (V2) Contexts**

Contained By:	Contains:
<a href="#">Encounter, Performed (V2)</a> (optional) <a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Severity Observation (V2)</a> (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 40: Diagnosis (V2) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.110:2017-08-01)					
@classCode	1..1	SHALL		<a href="#">3346-33768</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3346-33769</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		<a href="#">3346-34702</a>	
templateId	1..1	SHALL		<a href="#">3346-33770</a>	
item	1..1	SHALL		<a href="#">3346-33771</a>	
@root	1..1	SHALL		<a href="#">3346-33776</a>	2.16.840.1.113883.10.20.28.4.110
@extension	1..1	SHALL		<a href="#">3346-34321</a>	2017-08-01
id	1..1	SHALL		<a href="#">3346-33777</a>	
code	1..1	SHALL		<a href="#">3346-33772</a>	
@code	1..1	SHALL		<a href="#">3346-33778</a>	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 282291009
@codeSystem	1..1	SHALL		<a href="#">3346-33779</a>	2.16.840.1.113883.6.96
title	1..1	SHALL		<a href="#">3346-33780</a>	
statusCode	1..1	SHALL		<a href="#">3346-33773</a>	
@code	1..1	SHALL		<a href="#">3346-33781</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3346-33774</a>	
low	0..1	MAY		<a href="#">3346-33782</a>	
high	0..1	MAY		<a href="#">3346-33783</a>	
value	1..1	SHALL	CD	<a href="#">3346-33775</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-33784</a>	
targetSiteCode	0..1	MAY		<a href="#">3346-33785</a>	
item	0..*	SHOULD		<a href="#">3346-33786</a>	

@valueSet	0..1	SHOULD		<a href="#">3346-33788</a>	
outboundRelationship	0..1	MAY		<a href="#">3346-33787</a>	
@typeCode	1..1	SHALL		<a href="#">3346-33789</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		<a href="#">3346-33790</a>	<a href="#">Severity Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.93:2017-08-01)</a>

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:3346-33768).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3346-33769).
3. **SHALL NOT** contain [0..0] @actionNegationInd (CONF:3346-34702).
4. **SHALL** contain exactly one [1..1] templateId (CONF:3346-33770).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3346-33771) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.110" (CONF:3346-33776).
    - ii. This item **SHALL** contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-34321).
5. **SHALL** contain exactly one [1..1] id (CONF:3346-33777).
6. **SHALL** contain exactly one [1..1] code (CONF:3346-33772).
  - 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:3346-33778).
  - b. This code **SHALL** contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.96" (SNOMED CT) (CONF:3346-33779).
7. **SHALL** contain exactly one [1..1] title (CONF:3346-33780).
8. **SHALL** contain exactly one [1..1] statusCode (CONF:3346-33773).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3346-33781).
9. **MAY** contain zero or one [0..1] effectiveTime (CONF:3346-33774) 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:3346-33782).  
 Note: Onset dateTime
  - b. **MAY** contain zero or one [0..1] high (CONF:3346-33783).  
 Note: Abatement dateTime
10. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:3346-33775).
  - a. This value **SHOULD** contain zero or one [0..1] @valueSet (CONF:3346-33784).
11. **MAY** contain zero or one [0..1] targetSiteCode (CONF:3346-33785).  
 Note: QDM attribute: Anatomical Location Site

- a. The targetSiteCode, if present, **SHALL** contain exactly one [1..1] **item** (CONF:3346-33786).
  - i. The item, if present, **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-33788).
- 12. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-33787) 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:3346-33789).
  - 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:3346-33790).

**Figure 18: Diagnosis (V2) Example**

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.110" extension="2017-08-01"/>
  </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>
```

## 5.15 Diagnostic Study, Order (V3)

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.22:2018-05-01 (open)]

**Table 41: Diagnostic Study, Order (V3) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (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 42: Diagnostic Study, Order (V3) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.22:2018-05-01)					
@classCode	1..1	SHALL		<a href="#">3372-34723</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3372-30106</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		<a href="#">3372-30485</a>	
templateId	1..1	SHALL		<a href="#">3372-30108</a>	
item	1..1	SHALL		<a href="#">3372-30109</a>	
@root	1..1	SHALL		<a href="#">3372-30117</a>	2.16.840.1.113883.10.20.28.4.22
@extension	1..1	SHALL		<a href="#">3372-33643</a>	2018-05-01
id	1..1	SHALL		<a href="#">3372-30110</a>	
code	1..1	SHALL		<a href="#">3372-30111</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-30126</a>	
title	1..1	SHALL		<a href="#">3372-30112</a>	
statusCode	1..1	SHALL		<a href="#">3372-30232</a>	
@code	1..1	SHALL		<a href="#">3372-30233</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
participation	0..1	MAY		<a href="#">3372-33480</a>	
@typeCode	1..1	SHALL		<a href="#">3372-33482</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3372-33481</a>	
low	1..1	SHALL		<a href="#">3372-33483</a>	
role	1..1	SHALL		<a href="#">3372-33572</a>	
@classCode	1..1	SHALL		<a href="#">3372-33573</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	1..1	SHALL		<a href="#">3372-33574</a>	
outboundRelationship	0..1	MAY		<a href="#">3372-30124</a>	

@typeCode	1..1	SHALL		<a href="#">3372-30912</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3372-30125</a>	<a href="#">Reason [identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01]</a>

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:3372-34723).
2. **SHALL** contain exactly one [1..1] @moodCode="RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:3372-30106).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:3372-30485).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:3372-30108).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3372-30109) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.22" (CONF:3372-30117).
    - ii. This item **SHALL** contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33643).
5. **SHALL** contain exactly one [1..1] id (CONF:3372-30110).
6. **SHALL** contain exactly one [1..1] code (CONF:3372-30111).  
Note: QDM Attribute: Code
  - a. This code **SHOULD** contain zero or one [0..1] @valueSet (CONF:3372-30126).
7. **SHALL** contain exactly one [1..1] title (CONF:3372-30112).
8. **SHALL** contain exactly one [1..1] statusCode (CONF:3372-30232).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3372-30233).
9. **MAY** contain zero or one [0..1] participation (CONF:3372-33480) 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:3372-33482).
  - b. **SHALL** contain exactly one [1..1] time (CONF:3372-33481).
    - i. This time **SHALL** contain exactly one [1..1] low (CONF:3372-33483).  
Note: QDM Attribute: Author dateTime (The time the order is signed)
  - c. **SHALL** contain exactly one [1..1] role (CONF:3372-33572).
    - i. This role **SHALL** contain exactly one [1..1] @classCode="ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3372-33573).
    - ii. This role **SHALL** contain exactly one [1..1] id (CONF:3372-33574).
10. **MAY** contain zero or one [0..1] outboundRelationship (CONF:3372-30124) 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:3372-30912).

- 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:3372-30125).

**Figure 19: Diagnostic Study, Order (V3) Example**

```
<observationCriteria classCode="OBS" moodCode="RQO">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.22" extension="2018-05-01"/>
  </templateId>
  <id root="628e7169-c8eb-448e-9d74-a59dc02844e9" />
  <code valueSet="{ $QDMElementValueSetOID }"/>
  <title value="Diagnostic Study, Order"/>
  <statusCode code="active"/>
</observationCriteria>
```

## 5.16 Diagnostic Study, Performed (V2)

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.23:2017-08-01 (open)]

**Table 43: Diagnostic Study, Performed (V2) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Facility Location</a> (optional) <a href="#">Reason</a> (optional) <a href="#">Component</a> (optional) <a href="#">Result (V2)</a> (optional) <a href="#">Status (V2)</a> (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.

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 44: Diagnostic Study, Performed (V2) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.23:2017-08-01)					
@classCode	1..1	SHALL		<a href="#">3346-30775</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3346-30776</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		<a href="#">3346-30777</a>	
templateId	1..1	SHALL		<a href="#">3346-30778</a>	
item	1..1	SHALL		<a href="#">3346-30779</a>	
@root	1..1	SHALL		<a href="#">3346-30780</a>	2.16.840.1.113883.10.20.28.4.23
@extension	1..1	SHALL		<a href="#">3346-33605</a>	2017-08-01
id	1..1	SHALL		<a href="#">3346-30781</a>	
code	1..1	SHALL		<a href="#">3346-30782</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-30783</a>	
title	1..1	SHALL		<a href="#">3346-30784</a>	
statusCode	1..1	SHALL		<a href="#">3346-30785</a>	
@code	1..1	SHALL		<a href="#">3346-30786</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3346-30787</a>	
low	0..1	MAY		<a href="#">3346-30788</a>	
high	0..1	MAY		<a href="#">3346-30789</a>	
value	0..0	SHALL NOT		<a href="#">3346-34764</a>	
methodCode	0..1	MAY		<a href="#">3346-30790</a>	
item	0..1	SHOULD		<a href="#">3346-30791</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-30917</a>	
participation	0..1	MAY		<a href="#">3346-30792</a>	



@typeCode	1..1	SHALL		<a href="#">3346-30993</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = LOC
role	1..1	SHALL		<a href="#">3346-30992</a>	<a href="#">Facility Location (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01)</a>
participation	0..1	MAY		<a href="#">3346-34510</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34513</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3346-34511</a>	
low	1..1	SHALL		<a href="#">3346-34514</a>	
role	1..1	SHALL		<a href="#">3346-34512</a>	
@classCode	1..1	SHALL		<a href="#">3346-34515</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3346-34516</a>	
outboundRelationship	0..1	MAY		<a href="#">3346-30799</a>	
@typeCode	1..1	SHALL		<a href="#">3346-30921</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3346-30800</a>	<a href="#">Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01)</a>
outboundRelationship	0..1	MAY		<a href="#">3346-34763</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34765</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = VALUE
observationCriteria	1..1	SHALL		<a href="#">3346-34766</a>	<a href="#">Result (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01)</a>
outboundRelationship	0..1	MAY		<a href="#">3346-33365</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34614</a>	REFR
observationCriteria	1..1	SHALL		<a href="#">3346-33366</a>	<a href="#">Status (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.94:2017-08-01)</a>
outboundRelationship	0..*	MAY		<a href="#">3346-34611</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34612</a>	REFR
observationCriteria	1..1	SHALL		<a href="#">3346-34613</a>	<a href="#">Component (identifier: urn:hl7ii:2.16.840.1.113883.10.</a>

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CONF:3346-30775).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:3346-30776).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:3346-30777).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3346-30778).
  - a. **SHALL** contain exactly one [1..1] **item** (CONF:3346-30779) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.28.4.23"** (CONF:3346-30780).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension="2017-08-01"** (CONF:3346-33605).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3346-30781).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3346-30782).
  - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-30783).
7. **SHALL** contain exactly one [1..1] **title** (CONF:3346-30784).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3346-30785).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3346-30786).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3346-30787) such that it  
Note: QDM Attribute: Relevant Period
  - a. **MAY** contain zero or one [0..1] **low** (CONF:3346-30788).  
Note: startTime (When the diagnostic study is initiated)
  - b. **MAY** contain zero or one [0..1] **high** (CONF:3346-30789).  
Note: stopTime (When the diagnostic study is completed)
10. **SHALL NOT** contain [0..0] **value** (CONF:3346-34764).  
Note: Use the Result (V2) template to represent Result
11. **MAY** contain zero or one [0..1] **methodCode** (CONF:3346-30790).  
Note: QDM Attribute: Method
  - a. The methodCode, if present, **SHOULD** contain zero or one [0..1] **item** (CONF:3346-30791).
    - i. The item, if present, **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-30917).
12. **MAY** contain zero or one [0..1] **participation** (CONF:3346-30792) 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:3346-30993).
  - 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:3346-30992).
13. **MAY** contain zero or one [0..1] **participation** (CONF:3346-34510) 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:3346-34513).
  - b. **SHALL** contain exactly one [1..1] **time** (CONF:3346-34511).
    - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3346-34514).  
Note: QDM Attribute: Author Time
  - c. **SHALL** contain exactly one [1..1] **role** (CONF:3346-34512).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3346-34515).
    - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3346-34516).
14. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-30799) 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:3346-30921).
  - 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:3346-30800).
15. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-34763) 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:3346-34765).
  - 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:3346-34766).
16. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-33365) such that it  
Note: QDM Attribute: Status
- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers To (CONF:3346-34614).
  - 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:3346-33366).
17. **MAY** contain zero or more [0..\*] **outboundRelationship** (CONF:3346-34611) such that it  
Note: QDM Attribute: Component
- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers To (CONF:3346-34612).
  - 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:3346-34613).

**Figure 20: Diagnostic Study, Performed (V2) Example**

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.23" extension="2017-08-01"/>
  </templateId>
  <id root="f584ead4-808b-43c2-93e3-b8606e156233"/>
  <code valueSet="{ $QDMElementValueSetOID }"/>
  <title value="Diagnostic Study, Performed"/>
  <statusCode code="completed"/>
</observationCriteria>
```

## 5.17 Diagnostic Study, Recommended (V3)

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.24:2018-05-01 (open)]

**Table 45: Diagnostic Study, Recommended (V3) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (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 46: Diagnostic Study, Recommended (V3) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF #	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.24:2018-05-01)					
@classCode	1..1	SHALL		<a href="#">3372-30572</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3372-30573</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = INT
@actionNegationInd	0..1	MAY		<a href="#">3372-30574</a>	
templateId	1..1	SHALL		<a href="#">3372-30575</a>	
item	1..1	SHALL		<a href="#">3372-30576</a>	
@root	1..1	SHALL		<a href="#">3372-30577</a>	2.16.840.1.113883.10.20.28.4.24
@extension	1..1	SHALL		<a href="#">3372-33751</a>	2018-05-01
id	1..1	SHALL		<a href="#">3372-30578</a>	
code	1..1	SHALL		<a href="#">3372-30579</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-30580</a>	
title	1..1	SHALL		<a href="#">3372-30581</a>	
statusCode	1..1	SHALL		<a href="#">3372-30582</a>	
@code	1..1	SHALL		<a href="#">3372-30583</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
participation	0..1	MAY		<a href="#">3372-34329</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34331</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3372-34330</a>	
low	1..1	SHALL		<a href="#">3372-34332</a>	
role	1..1	SHALL		<a href="#">3372-34333</a>	
@classCode	1..1	SHALL		<a href="#">3372-34334</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3372-34335</a>	

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:3372-30572).

2. **SHALL** contain exactly one [1..1] **@moodCode="INT"** Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:3372-30573).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:3372-30574).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3372-30575).
  - a. **SHALL** contain exactly one [1..1] **item** (CONF:3372-30576) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.28.4.24"** (CONF:3372-30577).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension="2018-05-01"** (CONF:3372-33751).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3372-30578).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3372-30579).  
Note: QDM Attribute: Code
  - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3372-30580).
7. **SHALL** contain exactly one [1..1] **title** (CONF:3372-30581).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3372-30582).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code="active"** Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3372-30583).
9. **MAY** contain zero or one [0..1] **participation** (CONF:3372-34329) 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:3372-34331).
  - b. **SHALL** contain exactly one [1..1] **time** (CONF:3372-34330).
    - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3372-34332).  
Note: QDM Attribute: Author dateTime (The time the recommendation is authored)
  - c. **SHALL** contain exactly one [1..1] **role** (CONF:3372-34333).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3372-34334).
    - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3372-34335).

**Figure 21: Diagnostic Study, Recommended (V3) Example**

```
<observationCriteria classCode="OBS" moodCode="INT">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.24" extension="2018-05-01"/>
  </templateId>
  <id root="f584ead4-808b-43c2-93e3-b8606e156233"/>
  <code valueSet="{QDMElementValueSetOID}"/>
  <title value="Diagnostic Study, Recommended"/>
  <statusCode code="active"/>
</observationCriteria>
```

## 5.18 Dosage

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

**Table 47: Dosage Contexts**

Contained By:	Contains:
<a href="#">Medication, Dispensed (V2)</a> (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 48: 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		<a href="#">3335-34423</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3335-34424</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		<a href="#">3335-34420</a>	
item	1..1	SHALL		<a href="#">3335-34421</a>	
@root	1..1	SHALL		<a href="#">3335-34425</a>	2.16.840.1.113883.10.20.28.4.125
@extension	1..1	SHALL		<a href="#">3335-34650</a>	2017-05-01
id	1..1	SHALL		<a href="#">3335-34426</a>	
code	1..1	SHALL		<a href="#">3335-34422</a>	
@code	1..1	SHALL		<a href="#">3335-34427</a>	260911001
@codeSystem	1..1	SHALL		<a href="#">3335-34428</a>	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
title	1..1	SHALL		<a href="#">3335-34429</a>	
value	1..1	SHALL	PQ	<a href="#">3335-34430</a>	

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. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.125" (CONF:3335-34425).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2017-05-01" (CONF:3335-34650).
4. **SHALL** contain exactly one [1..1] **id** (CONF:3335-34426).
5. **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).
6. **SHALL** contain exactly one [1..1] **title** (CONF:3335-34429).
7. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="PQ" (CONF:3335-34430).

**Figure 22: 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>
```

## 5.19 Encounter, Order

[EncounterCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.27:2017-05-01 (open)]

**Table 49: Encounter, Order Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Facility Location</a> (optional) <a href="#">Reason</a> (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 50: Encounter, Order Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
EncounterCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.27:2017-05-01)					
@classCode	1..1	SHALL		<a href="#">3335-30860</a>	ENC
@moodCode	1..1	SHALL		<a href="#">3335-30861</a>	urn:oid:2.16.840.1.113883.5.10.01 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		<a href="#">3335-30862</a>	
templateId	1..1	SHALL		<a href="#">3335-30863</a>	
item	1..1	SHALL		<a href="#">3335-30864</a>	
@root	1..1	SHALL		<a href="#">3335-30865</a>	2.16.840.1.113883.10.20.28.4.27
@extension	1..1	SHALL		<a href="#">3335-33645</a>	2017-05-01
id	1..1	SHALL		<a href="#">3335-30866</a>	
code	1..1	SHALL		<a href="#">3335-30867</a>	
@valueSet	0..1	SHOULD		<a href="#">3335-30868</a>	
title	1..1	SHALL		<a href="#">3335-30869</a>	
statusCode	1..1	SHALL		<a href="#">3335-30870</a>	
@code	1..1	SHALL		<a href="#">3335-30871</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
participation	0..1	MAY		<a href="#">3335-30875</a>	
@typeCode	1..1	SHALL		<a href="#">3335-30876</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActionCode) = LOC
role	1..1	SHALL		<a href="#">3335-30877</a>	<a href="#">Facility Location (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01)</a>
participation	0..1	MAY		<a href="#">3335-33485</a>	
@typeCode	1..1	SHALL		<a href="#">3335-33487</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3335-33486</a>	
low	1..1	SHALL		<a href="#">3335-33488</a>	
role	1..1	SHALL		<a href="#">3335-33575</a>	

@classCode	1..1	SHALL		<a href="#">3335-33576</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3335-33577</a>	
outboundRelationship	0..1	MAY		<a href="#">3335-30878</a>	
@typeCode	1..1	SHALL		<a href="#">3335-30879</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3335-30880</a>	<a href="#">Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01</a>

1. **SHALL** contain exactly one [1..1] @classCode="ENC" Encounter (CONF:3335-30860).
2. **SHALL** contain exactly one [1..1] @moodCode="RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3335-30861).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:3335-30862).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:3335-30863).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3335-30864) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.27" (CONF:3335-30865).
    - ii. This item **SHALL** contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-33645).
5. **SHALL** contain exactly one [1..1] id (CONF:3335-30866).
6. **SHALL** contain exactly one [1..1] code (CONF:3335-30867).  
Note: QDM Attribute: Code
  - a. This code **SHOULD** contain zero or one [0..1] @valueSet (CONF:3335-30868).
7. **SHALL** contain exactly one [1..1] title (CONF:3335-30869).
8. **SHALL** contain exactly one [1..1] statusCode (CONF:3335-30870).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3335-30871).
9. **MAY** contain zero or one [0..1] participation (CONF:3335-30875) 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:3335-30876).
  - 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:3335-30877).
10. **MAY** contain zero or one [0..1] participation (CONF:3335-33485) 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:3335-33487).
  - b. **SHALL** contain exactly one [1..1] time (CONF:3335-33486).

- i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3335-33488).  
Note: QDM Attribute: Author dateTime (The time the order is signed)
- c. **SHALL** contain exactly one [1..1] **role** (CONF:3335-33575).
  - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3335-33576).
  - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3335-33577).
- 11. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3335-30878) 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:3335-30879).
  - 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:3335-30880).

**Figure 23: Encounter, Order Example**

```
<encounterCriteria classCode="ENC" moodCode="RQO">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.27" extension="2017-05-01"/>
  </templateId>
  <id root="c4cb3abb-1e2e-4b3a-97c1-de1685b7da02"/>
  <code valueSet="{ $QDMElementValueSetOID }"/>
  <title value="Encounter, Order"/>
  <statusCode code="active"/>
</encounterCriteria>
```

## 5.20 Encounter, Performed (V2)

[EncounterCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.5:2017-08-01 (open)]

**Table 51: Encounter, Performed (V2) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Admission Source</a> (optional) <a href="#">Facility Location</a> (optional) <a href="#">Reason</a> (optional) <a href="#">Principal Diagnosis</a> (optional) <a href="#">Diagnosis (V2)</a> (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 52: Encounter, Performed (V2) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
EncounterCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.5:2017-08-01)					
@classCode	1..1	SHALL		<a href="#">3346-31005</a>	ENC
@moodCode	1..1	SHALL		<a href="#">3346-31006</a>	urn:oid:2.16.840.1.113883.5.10.01 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		<a href="#">3346-31007</a>	
templateId	1..1	SHALL		<a href="#">3346-31008</a>	
item	1..1	SHALL		<a href="#">3346-31009</a>	
@root	1..1	SHALL		<a href="#">3346-31010</a>	2.16.840.1.113883.10.20.28.4.5
@extension	1..1	SHALL		<a href="#">3346-33397</a>	2017-08-01
id	1..1	SHALL		<a href="#">3346-31011</a>	
code	1..1	SHALL		<a href="#">3346-31012</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-31013</a>	
title	1..1	SHALL		<a href="#">3346-31014</a>	
statusCode	1..1	SHALL		<a href="#">3346-31015</a>	
@code	1..1	SHALL		<a href="#">3346-31016</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3346-31017</a>	
low	0..1	MAY		<a href="#">3346-31018</a>	
high	0..1	MAY		<a href="#">3346-31019</a>	
lengthOfStayQuantity	0..1	MAY		<a href="#">3346-31033</a>	
dischargeDispositionCode	0..1	MAY		<a href="#">3346-31034</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-33105</a>	
participation	0..*	MAY		<a href="#">3346-31021</a>	
@typeCode	1..1	SHALL		<a href="#">3346-31022</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = LOC

role	1..1	SHALL		<a href="#">3346-31023</a>	<a href="#">Facility Location (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01)</a>
participation	0..1	MAY		<a href="#">3346-34371</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34372</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = LOC
role	1..1	SHALL		<a href="#">3346-34373</a>	<a href="#">Admission Source (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.123:2017-05-01)</a>
participation	0..1	MAY		<a href="#">3346-34656</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34659</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3346-34657</a>	
low	1..1	SHALL		<a href="#">3346-34660</a>	
role	1..1	SHALL		<a href="#">3346-34658</a>	
@classCode	1..1	SHALL		<a href="#">3346-34661</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3346-34662</a>	
outboundRelationship	0..1	MAY		<a href="#">3346-31024</a>	
@typeCode	1..1	SHALL		<a href="#">3346-31025</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3346-31026</a>	<a href="#">Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01)</a>
outboundRelationship	0..1	MAY		<a href="#">3346-33756</a>	
@typeCode	1..1	SHALL		<a href="#">3346-33760</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		<a href="#">3346-34374</a>	<a href="#">Principal Diagnosis (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.122:2017-05-01)</a>
outboundRelationship	0..*	MAY		<a href="#">3346-34041</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34045</a>	REFR
observationCriteria	1..1	SHALL		<a href="#">3346-34375</a>	<a href="#">Diagnosis (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.110:2017-08-01)</a>

1. **SHALL** contain exactly one [1..1] **@classCode="ENC"** Encounter (CONF:3346-31005).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3346-31006).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:3346-31007).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3346-31008).
  - a. **SHALL** contain exactly one [1..1] **item** (CONF:3346-31009) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.28.4.5"** (CONF:3346-31010).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension="2017-08-01"** (CONF:3346-33397).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3346-31011).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3346-31012).  
Note: QDM Attribute: Code
  - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-31013).
7. **SHALL** contain exactly one [1..1] **title** (CONF:3346-31014).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3346-31015).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3346-31016).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3346-31017) such that it  
Note: QDM Attribute: Relevant Period
  - a. **MAY** contain zero or one [0..1] **low** (CONF:3346-31018).  
Note: startTime – The time the encounter began (admission time)
  - b. **MAY** contain zero or one [0..1] **high** (CONF:3346-31019).  
Note: stopTime – The time the encounter ended (discharge time)
10. **MAY** contain zero or one [0..1] **lengthOfStayQuantity** (CONF:3346-31033).  
Note: QDM Attribute: Length of Stay
11. **MAY** contain zero or one [0..1] **dischargeDispositionCode** (CONF:3346-31034).  
Note: QDM Attribute: Discharge status
  - a. The dischargeDispositionCode, if present, **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-33105).
12. **MAY** contain zero or more [0..\*] **participation** (CONF:3346-31021) 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:3346-31022).
  - 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:3346-31023).
13. **MAY** contain zero or one [0..1] **participation** (CONF:3346-34371) 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:3346-34372).

- 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:3346-34373).
- 14. **MAY** contain zero or one [0..1] **participation** (CONF:3346-34656) 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:3346-34659).
  - b. **SHALL** contain exactly one [1..1] **time** (CONF:3346-34657).
    - i. 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)
  - c. **SHALL** contain exactly one [1..1] **role** (CONF:3346-34658).
    - i. 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).
    - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3346-34662).
- 15. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-31024) 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:3346-31025).
  - 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:3346-31026).
- 16. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-33756) such that it  
Note: QDM Attribute: Principal Diagnosis
  - a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3346-33760).
  - b. **SHALL** contain exactly one [1..1] [Principal Diagnosis](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.122:2017-05-01) (CONF:3346-34374).
- 17. **MAY** contain zero or more [0..\*] **outboundRelationship** (CONF:3346-34041) such that it  
Note: QDM Attribute: Diagnoses
  - a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** (CONF:3346-34045).
  - b. **SHALL** contain exactly one [1..1] [Diagnosis \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.110:2017-08-01) (CONF:3346-34375).



**Figure 24: Encounter, Performed (V2) Example**

```
<encounterCriteria classCode="ENC" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.5" extension="2017-08-01"/>
  </templateId>
  <id root="d7fbe089-ff04-4f58-b604-cb6d5ebce4cc"/>
  <code valueSet="{QDMElementValueSetOID}"/>
  <title value="Encounter, Performed"/>
  <statusCode code="completed"/>
  <outboundRelationship typeCode="REFR">
    <actCriteria classCode="ACT" moodCode="EVN">
      <id root="9f751ae5-edb2-4fb3-b49c-d0f0fdef3999"/>
      <code code="52534-5" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC">
        <displayName value="Principal Diagnosis"/>
      </code>
      <title value="Encounter Principal Diagnosis"/>
      <outboundRelationship typeCode="SUBJ">
        <observationCriteria classCode="OBS" moodCode="EVN">
          <templateId>
            <item root="2.16.840.1.113883.10.20.28.3.110"/>
          </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="{PrincipalDxValueSet}"/>
        </observationCriteria>
      </outboundRelationship>
    </actCriteria>
  </outboundRelationship>
</encounterCriteria>
```

## 5.21 Encounter, Recommended

[EncounterCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.28:2017-05-01 (open)]

**Table 53: Encounter, Recommended Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Facility Location</a> (optional) <a href="#">Reason</a> (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 54: Encounter, Recommended Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
EncounterCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.28:2017-05-01)					
@classCode	1..1	SHALL		<a href="#">3335-30854</a>	ENC
@moodCode	1..1	SHALL		<a href="#">3335-30518</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = INT
@actionNegationInd	0..1	MAY		<a href="#">3335-30855</a>	
templateId	1..1	SHALL		<a href="#">3335-30519</a>	
item	1..1	SHALL		<a href="#">3335-30520</a>	
@root	1..1	SHALL		<a href="#">3335-30521</a>	2.16.840.1.113883.10.20.28.4.28
@extension	1..1	SHALL		<a href="#">3335-33694</a>	2017-05-01
id	1..1	SHALL		<a href="#">3335-30522</a>	
code	1..1	SHALL		<a href="#">3335-30523</a>	
@valueSet	0..1	SHOULD		<a href="#">3335-30856</a>	
title	1..1	SHALL		<a href="#">3335-30526</a>	
statusCode	1..1	SHALL		<a href="#">3335-30857</a>	
@code	0..1	SHALL		<a href="#">3335-30858</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
participation	0..1	MAY		<a href="#">3335-30532</a>	
@typeCode	1..1	SHALL		<a href="#">3335-30859</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActionCode) = LOC
role	1..1	SHALL		<a href="#">3335-30533</a>	<a href="#">Facility Location (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01)</a>
participation	0..1	MAY		<a href="#">3335-34377</a>	
@typeCode	1..1	SHALL		<a href="#">3335-34380</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3335-34378</a>	
low	1..1	SHALL		<a href="#">3335-34381</a>	
role	1..1	SHALL		<a href="#">3335-34379</a>	

@classCode	1..1	SHALL		<a href="#">3335-34713</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3335-34382</a>	
outboundRelationship	0..1	MAY		<a href="#">3335-30534</a>	
@typeCode	1..1	SHALL		<a href="#">3335-30535</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3335-30536</a>	<a href="#">Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01)</a>

1. **SHALL** contain exactly one [1..1] @classCode="ENC" Encounter (CONF:3335-30854).
2. **SHALL** contain exactly one [1..1] @moodCode="INT" Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3335-30518).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:3335-30855).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:3335-30519).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3335-30520) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.28" (CONF:3335-30521).
    - ii. This item **SHALL** contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-33694).
5. **SHALL** contain exactly one [1..1] id (CONF:3335-30522).
6. **SHALL** contain exactly one [1..1] code (CONF:3335-30523).
  - a. This code **SHOULD** contain zero or one [0..1] @valueSet (CONF:3335-30856).
7. **SHALL** contain exactly one [1..1] title (CONF:3335-30526).
8. **SHALL** contain exactly one [1..1] statusCode (CONF:3335-30857).
  - 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:3335-30858).
9. **MAY** contain zero or one [0..1] participation (CONF:3335-30532) 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:3335-30859).
  - 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:3335-30533).
10. **MAY** contain zero or one [0..1] participation (CONF:3335-34377) 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:3335-34380).
  - b. **SHALL** contain exactly one [1..1] time (CONF:3335-34378).
    - i. This time **SHALL** contain exactly one [1..1] low (CONF:3335-34381).  
Note: QDM Attribute: Author Time

- c. **SHALL** contain exactly one [1..1] **role** (CONF:3335-34379).
  - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3335-34713).
  - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3335-34382).
- 11. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3335-30534) 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:3335-30535).
  - 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:3335-30536).

**Figure 25: Encounter, Recommended Example**

```
<encounterCriteria classCode="ENC" moodCode="INT">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.28" extension="2017-05-01"/>
  </templateId>
  <id root="0c2f3978-f615-4138-af4f-59ef78b46c62"/>
  <code valueSet="{ $QDMElementValueSetOID }"/>
  <title value="Encounter, Recommended"/>
  <statusCode code="active"/>
</encounterCriteria>
```

## 5.22 Facility Location

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

**Table 55: Facility Location Contexts**

Contained By:	Contains:
<a href="#">Encounter, Order</a> (optional) <a href="#">Encounter, Recommended</a> (optional) <a href="#">Adverse Event (V2)</a> (optional) <a href="#">Diagnostic Study, Performed (V2)</a> (optional) <a href="#">Encounter, Performed (V2)</a> (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 56: 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		<a href="#">3335-30514</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = SDLOC
templateId	1..1	SHALL		<a href="#">3335-30515</a>	
item	1..1	SHALL		<a href="#">3335-30516</a>	
@root	1..1	SHALL		<a href="#">3335-30517</a>	2.16.840.1.113883.10.20.28.4.92
@extension	1..1	SHALL		<a href="#">3335-34376</a>	2017-05-01
code	0..1	SHOULD		<a href="#">3335-30900</a>	
@valueSet	0..1	SHOULD		<a href="#">3335-30901</a>	
effectiveTime	0..1	MAY		<a href="#">3335-31926</a>	
low	0..1	MAY		<a href="#">3335-31927</a>	
high	0..1	MAY		<a href="#">3335-31928</a>	

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. **SHALL** contain exactly one [1..1] **item** (CONF:3335-30516) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.92" (CONF:3335-30517).
    - ii. This item **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 26: 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>
```

## 5.23 Family History

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.111:2017-05-01 (open)]

**Table 57: Family History Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (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 58: Family History Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.111:2017-05-01)					
@classCode	1..1	SHALL		<a href="#">3335-33797</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3335-33798</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		<a href="#">3335-34703</a>	
templateId	1..1	SHALL		<a href="#">3335-33791</a>	
item	1..1	SHALL		<a href="#">3335-33792</a>	
@root	1..1	SHALL		<a href="#">3335-33799</a>	2.16.840.1.113883.10.20.28.4.11
@extension	1..1	SHALL		<a href="#">3335-34383</a>	2017-05-01
id	1..1	SHALL		<a href="#">3335-33800</a>	
code	1..1	SHALL		<a href="#">3335-33793</a>	
@code	1..1	SHALL		<a href="#">3335-33801</a>	10157-6
@codeSystem	1..1	SHALL		<a href="#">3335-33802</a>	2.16.840.1.113883.6.1
title	1..1	SHALL		<a href="#">3335-33803</a>	
statusCode	1..1	SHALL		<a href="#">3335-33794</a>	
@code	1..1	SHALL		<a href="#">3335-33804</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">3335-33795</a>	
@valueSet	0..1	SHOULD		<a href="#">3335-33805</a>	
participation	0..1	MAY		<a href="#">3335-33796</a>	
@typeCode	1..1	SHALL		<a href="#">3335-33806</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3335-33807</a>	
low	1..1	SHALL		<a href="#">3335-33815</a>	
role	1..1	SHALL		<a href="#">3335-33808</a>	



@classCode	1..1	SHALL		<a href="#">3335-33817</a>	ROL
id	0..1	MAY		<a href="#">3335-33818</a>	
participation	0..1	MAY		<a href="#">3335-33809</a>	
@typeCode	1..1	SHALL		<a href="#">3335-33819</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = SUBJ
role	1..1	SHALL		<a href="#">3335-33810</a>	
@classCode	1..1	SHALL		<a href="#">3335-33820</a>	PRS
code	1..1	SHALL		<a href="#">3335-33811</a>	
@valueSet	0..1	SHOULD		<a href="#">3335-33821</a>	

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:3335-33797).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3335-33798).
3. **SHALL NOT** contain [0..0] @actionNegationInd (CONF:3335-34703).
4. **SHALL** contain exactly one [1..1] templateId (CONF:3335-33791).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3335-33792) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.111" (CONF:3335-33799).
    - ii. This item **SHALL** contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-34383).
5. **SHALL** contain exactly one [1..1] id (CONF:3335-33800).
6. **SHALL** contain exactly one [1..1] code (CONF:3335-33793).
  - a. This code **SHALL** contain exactly one [1..1] @code="10157-6" Family History (CONF:3335-33801).
  - b. This code **SHALL** contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.1" (LOINC) (CONF:3335-33802).
7. **SHALL** contain exactly one [1..1] title (CONF:3335-33803).
8. **SHALL** contain exactly one [1..1] statusCode (CONF:3335-33794).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3335-33804).
9. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:3335-33795).  
Note: QDM Attribute: Code
  - a. This value **SHOULD** contain zero or one [0..1] @valueSet (CONF:3335-33805).
10. **MAY** contain zero or one [0..1] participation (CONF:3335-33796) 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:3335-33806).
  - b. **SHALL** contain exactly one [1..1] time (CONF:3335-33807).

- i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3335-33815).  
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:3335-33808).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CONF:3335-33817).
    - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3335-33818).
11. **MAY** contain zero or one [0..1] **participation** (CONF:3335-33809) such that it  
Note: QDM Attribute: Relationships
- a. **SHALL** contain exactly one [1..1] **@typeCode="SUBJ"** Subject (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:3335-33819).
  - b. **SHALL** contain exactly one [1..1] **role** (CONF:3335-33810).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode="PRS"** Person (CONF:3335-33820).
    - ii. This role **SHALL** contain exactly one [1..1] **code** (CONF:3335-33811).
      - 1. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3335-33821).

**Figure 27: Family History Example**

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.111" extension="2017-05-01"/>
  </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>
```

## 5.24 Immunization, Administered (V3)

[substanceAdministrationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.112:2018-05-01 (open)]

**Table 59: Immunization, Administered (V3) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (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 time the immunization is administered, i.e., a single point in time, or author datetime.

**Table 60: Immunization, Administered (V3) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
substanceAdministrationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.112:2018-05-01)					
@classCode	1..1	SHALL		<a href="#">3372-33833</a>	SBADM
@moodCode	1..1	SHALL		<a href="#">3372-33834</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		<a href="#">3372-33835</a>	
templateId	1..1	SHALL		<a href="#">3372-33830</a>	
item	1..1	SHALL		<a href="#">3372-33831</a>	
@root	1..1	SHALL		<a href="#">3372-33836</a>	2.16.840.1.113883.10.20.28.4.112
@extension	1..1	SHALL		<a href="#">3372-34384</a>	2018-05-01
id	1..1	SHALL		<a href="#">3372-33837</a>	
code	1..1	SHALL		<a href="#">3372-33832</a>	
@code	1..1	SHALL		<a href="#">3372-33838</a>	416118004
@codeSystem	1..1	SHALL		<a href="#">3372-33839</a>	2.16.840.1.113883.6.96
title	1..1	SHALL		<a href="#">3372-33840</a>	
statusCode	1..1	SHALL		<a href="#">3372-33841</a>	
@code	1..1	SHALL		<a href="#">3372-33847</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3372-33842</a>	
low	1..1	SHALL		<a href="#">3372-33848</a>	
routeCode	0..1	MAY		<a href="#">3372-33843</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-33850</a>	
doseQuantity	0..1	MAY		<a href="#">3372-33851</a>	
participation	1..1	SHALL		<a href="#">3372-33844</a>	
@typeCode	1..1	SHALL		<a href="#">3372-33852</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM

role	1..1	SHALL		<a href="#">3372-33845</a>	
@classCode	1..1	SHALL		<a href="#">3372-33853</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = MANU
playingManufacturedMaterial	1..1	SHALL		<a href="#">3372-33846</a>	
@classCode	1..1	SHALL		<a href="#">3372-33854</a>	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = MMAT
@determinerCode	1..1	SHALL		<a href="#">3372-33855</a>	urn:oid:2.16.840.1.113883.5.30 (EntityDeterminer) = KIND
code	1..1	SHALL		<a href="#">3372-33856</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-33858</a>	
outboundRelationship	0..1	MAY		<a href="#">3372-33857</a>	
@typeCode	1..1	SHALL		<a href="#">3372-33859</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3372-33860</a>	<a href="#">Reason identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01</a>

1. **SHALL** contain exactly one [1..1] **@classCode**="SBADM" Substance Administration (CONF:3372-33833).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3372-33834).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:3372-33835).  
Note: QDM Attribute: Negation rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3372-33830).
  - a. **SHALL** contain exactly one [1..1] **item** (CONF:3372-33831) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.112" (CONF:3372-33836).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2018-05-01" (CONF:3372-34384).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3372-33837).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3372-33832).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="416118004" Administration (CONF:3372-33838).
  - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.96" (SNOMED CT) (CONF:3372-33839).
7. **SHALL** contain exactly one [1..1] **title** (CONF:3372-33840).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3372-33841).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3372-33847).

9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3372-33842) such that it
  - a. **SHALL** contain exactly one [1..1] **low** (CONF:3372-33848).  
 Note: QDM Attribute: Author dateTime (The time the immunization is administered, i.e., a single point in time))
10. **MAY** contain zero or one [0..1] **routeCode** (CONF:3372-33843).  
 Note: QDM Attribute: Route
  - a. The routeCode, if present, **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3372-33850).
11. **MAY** contain zero or one [0..1] **doseQuantity** (CONF:3372-33851).  
 Note: QDM Attribute: Dosage
12. **SHALL** contain exactly one [1..1] **participation** (CONF:3372-33844) 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:3372-33852).
  - b. **SHALL** contain exactly one [1..1] **role** (CONF:3372-33845).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode="MANU"** Manufactured (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3372-33853).
    - ii. This role **SHALL** contain exactly one [1..1] **playingManufacturedMaterial** (CONF:3372-33846).
      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:3372-33854).
      2. This playingManufacturedMaterial **SHALL** contain exactly one [1..1] **@determinerCode="KIND"** Kind (CodeSystem: EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:3372-33855).
      3. This playingManufacturedMaterial **SHALL** contain exactly one [1..1] **code** (CONF:3372-33856).  
 Note: QDM Attribute: Code
        - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3372-33858).
13. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3372-33857) 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:3372-33859).
  - 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:3372-33860).

**Figure 28: Immunization, Administered (V3) Example**

```
<substanceAdministrationCriteria classCode="SBADM" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.112" extension="2018-05-01"/>
  </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>
```

## 5.25 Immunization, Order (V2)

[substanceAdministrationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.113:2017-08-01 (open)]

**Table 61: Immunization, Order (V2) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (optional) <a href="#">Supply</a> (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 62: Immunization, Order (V2) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
substanceAdministrationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.113:2017-08-01)					
@classCode	1..1	SHALL		<a href="#">3346-34025</a>	SBADM
@moodCode	1..1	SHALL		<a href="#">3346-34026</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		<a href="#">3346-34027</a>	
templateId	1..1	SHALL		<a href="#">3346-34003</a>	
item	1..1	SHALL		<a href="#">3346-34004</a>	
@root	1..1	SHALL		<a href="#">3346-34016</a>	2.16.840.1.113883.10.20.28.4.113
@extension	1..1	SHALL		<a href="#">3346-34385</a>	2017-08-01
id	1..1	SHALL		<a href="#">3346-34028</a>	
title	1..1	SHALL		<a href="#">3346-34029</a>	
statusCode	1..1	SHALL		<a href="#">3346-34005</a>	
@code	1..1	SHALL		<a href="#">3346-34017</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3346-34006</a>	
low	0..1	MAY		<a href="#">3346-34018</a>	
routeCode	0..1	MAY		<a href="#">3346-34007</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-34019</a>	
doseQuantity	0..1	MAY		<a href="#">3346-34030</a>	
participation	1..1	SHALL		<a href="#">3346-34008</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34024</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
role	1..1	SHALL		<a href="#">3346-34009</a>	
@classCode	1..1	SHALL		<a href="#">3346-34020</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = MANU
playingManufacturedMaterial	1..1	SHALL		<a href="#">3346-34010</a>	



@classCode	1..1	SHALL		<a href="#">3346-34022</a>	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = MMAT
@determinerCode	1..1	SHALL		<a href="#">3346-34023</a>	urn:oid:2.16.840.1.113883.5.30 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		<a href="#">3346-34011</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-34021</a>	
participation	0..1	MAY		<a href="#">3346-34012</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34035</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3346-34013</a>	
low	1..1	SHALL		<a href="#">3346-34031</a>	
role	1..1	SHALL		<a href="#">3346-34014</a>	
@classCode	1..1	SHALL		<a href="#">3346-34033</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3346-34034</a>	
outboundRelationship	0..1	MAY		<a href="#">3346-34002</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34036</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3346-34015</a>	<a href="#">Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01)</a>
outboundRelationship	0..1	MAY		<a href="#">3346-34494</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34495</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
supplyCriteria	1..1	SHALL		<a href="#">3346-34802</a>	<a href="#">Supply (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01)</a>

1. **SHALL** contain exactly one [1..1] @classCode="SBADM" Substance Administration (CONF:3346-34025).
2. **SHALL** contain exactly one [1..1] @moodCode="RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3346-34026).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:3346-34027).  
Note: QDM Attribute: Negation rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:3346-34003).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3346-34004) such that it

- i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.113" (CONF:3346-34016).
  - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3346-34385).
- 5. **SHALL** contain exactly one [1..1] **id** (CONF:3346-34028).
- 6. **SHALL** contain exactly one [1..1] **title** (CONF:3346-34029).
- 7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3346-34005).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3346-34017).
- 8. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3346-34006) such that it
  - a. **MAY** contain zero or one [0..1] **low** (CONF:3346-34018).  
Note: QDM Attribute: Active datetime
- 9. **MAY** contain zero or one [0..1] **routeCode** (CONF:3346-34007).
  - a. The routeCode, if present, **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-34019).  
Note: QDM Attribute: Route
- 10. **MAY** contain zero or one [0..1] **doseQuantity** (CONF:3346-34030).  
Note: QDM Attribute: Dosage
- 11. **SHALL** contain exactly one [1..1] **participation** (CONF:3346-34008) 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:3346-34024).
  - b. **SHALL** contain exactly one [1..1] **role** (CONF:3346-34009).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode**="MANU" Manufactured (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3346-34020).
    - ii. This role **SHALL** contain exactly one [1..1] **playingManufacturedMaterial** (CONF:3346-34010).
      - 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:3346-34022).
      - 2. This playingManufacturedMaterial **SHALL** contain exactly one [1..1] **@determinerCode**="KIND" Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:3346-34023).
      - 3. This playingManufacturedMaterial **SHALL** contain exactly one [1..1] **code** (CONF:3346-34011).  
Note: QDM Attribute: Code
        - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-34021).
- 12. **MAY** contain zero or one [0..1] **participation** (CONF:3346-34012) 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:3346-34035).
  - b. **SHALL** contain exactly one [1..1] **time** (CONF:3346-34013).

- i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3346-34031).  
Note: QDM Attribute: Author dateTime (The time the order is signed)
  - c. **SHALL** contain exactly one [1..1] **role** (CONF:3346-34014).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3346-34033).
    - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3346-34034).
13. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-34002) 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:3346-34036).
  - 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:3346-34015).
14. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-34494) 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:3346-34495).
  - 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:3346-34802).

**Figure 29: Immunization, Order (V2) Example**

```

<substanceAdministrationCriteria classCode="SBADM" moodCode="RQO">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.113" extension="2017-08-01"/>
  </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>

```

## 5.26 Incision Datetime

[ProcedureCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.89:2017-05-01 (open)]

**Table 63: Incision Datetime Contexts**

Contained By:	Contains:
<a href="#">Procedure, Performed (V3)</a> (optional)	

This template represents the QDM attribute: Incision Datetime.

Incision datetime is the time the incision was made.

**Table 64: 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		<a href="#">3335-29907</a>	PROC
@moodCode	1..1	SHALL		<a href="#">3335-29908</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		<a href="#">3335-29909</a>	
item	1..1	SHALL		<a href="#">3335-29910</a>	
@root	1..1	SHALL		<a href="#">3335-29911</a>	2.16.840.1.113883.10.20.28.4.89
@extension	1..1	SHALL		<a href="#">3335-33648</a>	2017-05-01
code	1..1	SHALL		<a href="#">3335-29913</a>	
@code	1..1	SHALL		<a href="#">3335-29914</a>	34896006
@codeSystem	1..1	SHALL		<a href="#">3335-29915</a>	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
statusCode	1..1	SHALL		<a href="#">3335-29993</a>	
@code	1..1	SHALL		<a href="#">3335-33152</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3335-29916</a>	
low	0..1	MAY		<a href="#">3335-29917</a>	

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. **SHALL** contain exactly one [1..1] **item** (CONF:3335-29910) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.89" (CONF:3335-29911).
    - ii. This item **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. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3335-29993).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3335-33152).
6. **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 30: 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>
```

## 5.27 Intervention, Order

[actCriteria: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.35:2017-05-01 (open)]

**Table 65: Intervention, Order Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section [V3]</a> (optional)	<a href="#">Reason</a> (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 66: Intervention, Order Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
actCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.35:2017-05-01)					
@classCode	1..1	SHALL		<a href="#">3335-30631</a>	ACT
@moodCode	1..1	SHALL		<a href="#">3335-30632</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		<a href="#">3335-30633</a>	
templateId	1..1	SHALL		<a href="#">3335-30643</a>	
item	1..1	SHALL		<a href="#">3335-30644</a>	
@root	1..1	SHALL		<a href="#">3335-30645</a>	2.16.840.1.113883.10.20.28.4.35
@extension	1..1	SHALL		<a href="#">3335-33383</a>	2017-05-01
id	1..1	SHALL		<a href="#">3335-30650</a>	
code	1..1	SHALL		<a href="#">3335-30652</a>	
@valueSet	0..1	SHOULD		<a href="#">3335-30653</a>	
title	1..1	SHALL		<a href="#">3335-30651</a>	
statusCode	1..1	SHALL		<a href="#">3335-30654</a>	
@code	1..1	SHALL		<a href="#">3335-30655</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
participation	0..1	MAY		<a href="#">3335-33490</a>	
@typeCode	1..1	SHALL		<a href="#">3335-33492</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3335-33491</a>	
low	1..1	SHALL		<a href="#">3335-33493</a>	
role	1..1	SHALL		<a href="#">3335-33586</a>	
@classCode	1..1	SHALL		<a href="#">3335-33587</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3335-33588</a>	
outboundRelationship	0..1	MAY		<a href="#">3335-30647</a>	

@typeCode	1..1	SHALL		<a href="#">3335-30648</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3335-30649</a>	<a href="#">Reason {identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01}</a>

1. **SHALL** contain exactly one [1..1] **@classCode="ACT"** Act (CONF:3335-30631).
2. **SHALL** contain exactly one [1..1] **@moodCode="RQO"** Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3335-30632).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:3335-30633).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3335-30643).
  - a. **SHALL** contain exactly one [1..1] **item** (CONF:3335-30644) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.28.4.35"** (CONF:3335-30645).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension="2017-05-01"** (CONF:3335-33383).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3335-30650).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3335-30652).  
Note: QDM Attribute: Code
  - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3335-30653).
7. **SHALL** contain exactly one [1..1] **title** (CONF:3335-30651).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3335-30654).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code="active"** Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3335-30655).
9. **MAY** contain zero or one [0..1] **participation** (CONF:3335-33490) 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:3335-33492).
  - b. **SHALL** contain exactly one [1..1] **time** (CONF:3335-33491).
    - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3335-33493).  
Note: QDM Attribute: Author dateTime (The time the order is signed)
  - c. **SHALL** contain exactly one [1..1] **role** (CONF:3335-33586).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3335-33587).
    - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3335-33588).
10. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3335-30647) 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:3335-30648).



- 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:3335-30649).

**Figure 31: Intervention, Order Example**

```
<actCriteria classCode="ACT" moodCode="RQO">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.35" extension="2017-05-01"/>
  </templateId>
  <id root="A8951AC3-990F-43E4-970C-1F0F396D203E"/>
  <code valueSet="{ $QDMElementValueSetOID }"/>
  <title value="Intervention, Order"/>
  <statusCode code="active"/>
</actCriteria>
```

## 5.28 Intervention, Performed (V2)

[actCriteria: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.36:2017-08-01 (open)]

**Table 67: Intervention, Performed (V2) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (optional) <a href="#">Result (V2)</a> (optional) <a href="#">Status (V2)</a> (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.

**Table 68: Intervention, Performed (V2) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
actCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.36:2017-08-01)					
@classCode	1..1	SHALL		<a href="#">3346-31150</a>	ACT
@moodCode	1..1	SHALL		<a href="#">3346-31151</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		<a href="#">3346-31152</a>	
templateId	1..1	SHALL		<a href="#">3346-31153</a>	
item	1..1	SHALL		<a href="#">3346-31154</a>	
@root	1..1	SHALL		<a href="#">3346-31155</a>	2.16.840.1.113883.10.20.28.4.36
@extension	1..1	SHALL		<a href="#">3346-33384</a>	2017-08-01
id	1..1	SHALL		<a href="#">3346-31156</a>	
code	1..1	SHALL		<a href="#">3346-31157</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-31158</a>	
title	1..1	SHALL		<a href="#">3346-31159</a>	
statusCode	1..1	SHALL		<a href="#">3346-31160</a>	
@code	1..1	SHALL		<a href="#">3346-31161</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3346-31162</a>	
low	0..1	MAY		<a href="#">3346-31163</a>	
high	0..1	MAY		<a href="#">3346-31164</a>	
participation	0..1	MAY		<a href="#">3346-34523</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34526</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3346-34524</a>	
low	1..1	SHALL		<a href="#">3346-34527</a>	
role	1..1	SHALL		<a href="#">3346-34525</a>	

@classCode	1..1	SHALL		<a href="#">3346-34528</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3346-34529</a>	
outboundRelationship	0..1	MAY		<a href="#">3346-31171</a>	
@typeCode	1..1	SHALL		<a href="#">3346-31172</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3346-31173</a>	<a href="#">Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01)</a>
outboundRelationship	0..1	MAY		<a href="#">3346-33431</a>	
@typeCode	1..1	SHALL		<a href="#">3346-33433</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = VALUE
observationCriteria	1..1	SHALL		<a href="#">3346-33434</a>	<a href="#">Result (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01)</a>
outboundRelationship	0..1	MAY		<a href="#">3346-33432</a>	
@typeCode	1..1	SHALL		<a href="#">3346-33435</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		<a href="#">3346-33436</a>	<a href="#">Status (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.94:2017-08-01)</a>

1. **SHALL** contain exactly one [1..1] @classCode="ACT" Act (CONF:3346-31150).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3346-31151).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:3346-31152).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:3346-31153).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3346-31154) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.36" (CONF:3346-31155).
    - ii. This item **SHALL** contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-33384).
5. **SHALL** contain exactly one [1..1] id (CONF:3346-31156).
6. **SHALL** contain exactly one [1..1] code (CONF:3346-31157).  
Note: QDM Attribute: Code
  - a. This code **SHOULD** contain zero or one [0..1] @valueSet (CONF:3346-31158).
7. **SHALL** contain exactly one [1..1] title (CONF:3346-31159).
8. **SHALL** contain exactly one [1..1] statusCode (CONF:3346-31160).

- a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3346-31161).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3346-31162) such that it  
Note: QDM Attribute: Relevant Period
  - a. **MAY** contain zero or one [0..1] **low** (CONF:3346-31163).  
Note: startTime (The time the intervention begins)
  - b. **MAY** contain zero or one [0..1] **high** (CONF:3346-31164).  
Note: stopTime (The time the intervention ends)
10. **MAY** contain zero or one [0..1] **participation** (CONF:3346-34523) 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:3346-34526).
  - b. **SHALL** contain exactly one [1..1] **time** (CONF:3346-34524).
    - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3346-34527).  
Note: QDM Attribute: Author dateTime
  - c. **SHALL** contain exactly one [1..1] **role** (CONF:3346-34525).
    - i. This role **SHALL** contain exactly one [1..1] @classCode="ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3346-34528).
    - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3346-34529).
11. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-31171) 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:3346-31172).
  - 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:3346-31173).
12. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-33431) 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:3346-33433).
  - 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:3346-33434).
13. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-33432) 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:3346-33435).
  - 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:3346-33436).

**Figure 32: Intervention, Performed (V2) Example**

```
<actCriteria classCode="ACT" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.36" extension="2017-08-01"/>
  </templateId>
  <id root="a2faf205-f9c1-485c-8edc-c9c0021a218c" />
  <code valueSet="{ $QDMElementValueSetOID }"/>
  <title value="Intervention, Performed"/>
  <statusCode code="completed"/>
</actCriteria>
```

## 5.29 Intervention, Recommended

[actCriteria: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.37:2017-05-01 (open)]

**Table 69: Intervention, Recommended Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (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 70: Intervention, Recommended Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
actCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.37:2017-05-01)					
@classCode	1..1	SHALL		<a href="#">3335-30801</a>	ACT
@moodCode	1..1	SHALL		<a href="#">3335-30802</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = INT
@actionNegationInd	0..1	MAY		<a href="#">3335-30806</a>	
templateId	1..1	SHALL		<a href="#">3335-30803</a>	
item	1..1	SHALL		<a href="#">3335-30804</a>	
@root	1..1	SHALL		<a href="#">3335-30805</a>	2.16.840.1.113883.10.20.28.4.37
@extension	1..1	SHALL		<a href="#">3335-33385</a>	2017-05-01
id	1..1	SHALL		<a href="#">3335-30807</a>	
code	1..1	SHALL		<a href="#">3335-30808</a>	
@valueSet	0..1	SHOULD		<a href="#">3335-30809</a>	
title	1..1	SHALL		<a href="#">3335-30810</a>	
statusCode	1..1	SHALL		<a href="#">3335-30811</a>	
@code	1..1	SHALL		<a href="#">3335-30812</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
participation	0..1	MAY		<a href="#">3335-34392</a>	
@typeCode	1..1	SHALL		<a href="#">3335-34395</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3335-34393</a>	
low	1..1	SHALL		<a href="#">3335-34396</a>	
role	1..1	SHALL		<a href="#">3335-34394</a>	
@classCode	1..1	SHALL		<a href="#">3335-34534</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3335-34397</a>	
outboundRelationship	0..1	MAY		<a href="#">3335-30817</a>	

@typeCode	1..1	SHALL		<a href="#">3335-30818</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3335-30819</a>	<a href="#">Reason [identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01]</a>

1. **SHALL** contain exactly one [1..1] @classCode="ACT" Act (CONF:3335-30801).
2. **SHALL** contain exactly one [1..1] @moodCode="INT" Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3335-30802).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:3335-30806).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:3335-30803).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3335-30804) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.37" (CONF:3335-30805).
    - ii. This item **SHALL** contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-33385).
5. **SHALL** contain exactly one [1..1] id (CONF:3335-30807).
6. **SHALL** contain exactly one [1..1] code (CONF:3335-30808).  
Note: QDM Attribute: Code
  - a. This code **SHOULD** contain zero or one [0..1] @valueSet (CONF:3335-30809).
7. **SHALL** contain exactly one [1..1] title (CONF:3335-30810).
8. **SHALL** contain exactly one [1..1] statusCode (CONF:3335-30811).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3335-30812).
9. **MAY** contain zero or one [0..1] participation (CONF:3335-34392) 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:3335-34395).
  - b. **SHALL** contain exactly one [1..1] time (CONF:3335-34393).
    - i. This time **SHALL** contain exactly one [1..1] low (CONF:3335-34396).  
Note: QDM Attribute: Author dateTime (The time the recommendation is authored)
  - c. **SHALL** contain exactly one [1..1] role (CONF:3335-34394).
    - i. This role **SHALL** contain exactly one [1..1] @classCode="ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3335-34534).
    - ii. This role **MAY** contain zero or one [0..1] id (CONF:3335-34397).
10. **MAY** contain zero or one [0..1] outboundRelationship (CONF:3335-30817) 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:3335-30818).

- 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:3335-30819).

**Figure 33: Intervention, Recommended Example**

```
<actCriteria classCode="ACT" moodCode="INT">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.37" extension="2017-05-01"/>
  </templateId>
  <id root="e242b3ae-d300-4038-a039-f9cd511544c5"/>
  <code valueSet="{ $QDMElementValueSetOID }"/>
  <title value="Intervention, Recommended" />
  <statusCode code="active"/>
</actCriteria>
```

### 5.30 Laboratory Test Reference Range

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

**Table 71: Laboratory Test Reference Range Contexts**

Contained By:	Contains:
<a href="#">Laboratory Test Component</a> (optional) <a href="#">Laboratory Test, Performed [V2]</a> (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 72: 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		<a href="#">3335-34406</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3335-34407</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		<a href="#">3335-34398</a>	
item	1..1	SHALL		<a href="#">3335-34399</a>	
@root	1..1	SHALL		<a href="#">3335-34401</a>	2.16.840.1.113883.10.20.28.4.124
@extension	1..1	SHALL		<a href="#">3335-34615</a>	2017-05-01
id	1..1	SHALL		<a href="#">3335-34408</a>	
code	1..1	SHALL		<a href="#">3335-34400</a>	
@code	1..1	SHALL		<a href="#">3335-34403</a>	19147-8
@codeSystem	1..1	SHALL		<a href="#">3335-34404</a>	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
title	1..1	SHALL		<a href="#">3335-34409</a>	
value	1..1	SHALL	IVL_P Q	<a href="#">3335-34405</a>	
low	0..1	MAY		<a href="#">3335-34410</a>	
high	0..1	MAY		<a href="#">3335-34411</a>	

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. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.124" (CONF:3335-34401).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2017-05-01" (CONF:3335-34615).
4. **SHALL** contain exactly one [1..1] **id** (CONF:3335-34408).

5. **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).
6. **SHALL** contain exactly one [1..1] **title** (CONF:3335-34409).
7. **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 34: 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>
```

## 5.31 Laboratory Test, Order (V2)

[ProcedureCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.41:2018-05-01 (open)]

**Table 73: Laboratory Test, Order (V2) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (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 74: Laboratory Test, Order (V2) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
ProcedureCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.41:2018-05-01)					
@classCode	1..1	SHALL		<a href="#">3372-30389</a>	PROC
@moodCode	1..1	SHALL		<a href="#">3372-30390</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		<a href="#">3372-30391</a>	
templateId	1..1	SHALL		<a href="#">3372-30392</a>	
item	1..1	SHALL		<a href="#">3372-30393</a>	
@root	1..1	SHALL		<a href="#">3372-30394</a>	2.16.840.1.113883.10.20.28.4.41
@extension	1..1	SHALL		<a href="#">3372-33649</a>	2017-05-01
id	1..1	SHALL		<a href="#">3372-30395</a>	
code	1..1	SHALL		<a href="#">3372-30396</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-30397</a>	
title	1..1	SHALL		<a href="#">3372-30398</a>	
statusCode	1..1	SHALL		<a href="#">3372-33109</a>	
@code	1..1	SHALL		<a href="#">3372-33110</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
participation	0..1	MAY		<a href="#">3372-33495</a>	
@typeCode	1..1	SHALL		<a href="#">3372-33497</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3372-33496</a>	
low	1..1	SHALL		<a href="#">3372-33498</a>	
role	1..1	SHALL		<a href="#">3372-33589</a>	
@classCode	1..1	SHALL		<a href="#">3372-33590</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3372-33591</a>	
outboundRelationship	0..1	MAY		<a href="#">3372-30405</a>	

@typeCode	1..1	SHALL		<a href="#">3372-30406</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3372-30407</a>	<a href="#">Reason {identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01}</a>

1. **SHALL** contain exactly one [1..1] @classCode="PROC" Procedure (CONF:3372-30389).
2. **SHALL** contain exactly one [1..1] @moodCode="RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3372-30390).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:3372-30391).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:3372-30392).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3372-30393) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.41" (CONF:3372-30394).
    - ii. This item **SHALL** contain exactly one [1..1] @extension="2017-05-01" (CONF:3372-33649).
5. **SHALL** contain exactly one [1..1] id (CONF:3372-30395).
6. **SHALL** contain exactly one [1..1] code (CONF:3372-30396).  
Note: QDM Attribute: Code
  - a. This code **SHOULD** contain zero or one [0..1] @valueSet (CONF:3372-30397).
7. **SHALL** contain exactly one [1..1] title (CONF:3372-30398).
8. **SHALL** contain exactly one [1..1] statusCode (CONF:3372-33109).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3372-33110).
9. **MAY** contain zero or one [0..1] participation (CONF:3372-33495) 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:3372-33497).
  - b. **SHALL** contain exactly one [1..1] time (CONF:3372-33496).
    - i. This time **SHALL** contain exactly one [1..1] low (CONF:3372-33498).  
Note: QDM Attribute: Author dateTime (The time the order is signed)
  - c. **SHALL** contain exactly one [1..1] role (CONF:3372-33589).
    - i. This role **SHALL** contain exactly one [1..1] @classCode="ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3372-33590).
    - ii. This role **MAY** contain zero or one [0..1] id (CONF:3372-33591).
10. **MAY** contain zero or one [0..1] outboundRelationship (CONF:3372-30405) 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:3372-30406).

- 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:3372-30407).

**Figure 35: Laboratory Test, Order (V2) Example**

```
<procedureCriteria classCode="PROC" moodCode="RQO">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.41" extension="2018-05-01"/>
  </templateId>
  <id root="3a2a37c0-9abe-4c30-a254-8561a75d1cb4"/>
  <code valueSet="{ $QDMElementValueSetOID }"/>
  <title value="Laboratory Test, Order"/>
  <statusCode code="active"/>
</procedureCriteria>
```

## 5.32 Laboratory Test, Performed (V2)

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.42:2017-08-01 (open)]

**Table 75: Laboratory Test, Performed (V2) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (optional) <a href="#">Laboratory Test Component</a> (optional) <a href="#">Laboratory Test Reference Range</a> (optional) <a href="#">Result (V2)</a> (optional) <a href="#">Status (V2)</a> (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 (e.g., electrolytes or contents of water or consumed fluids, cultures of environment, pets, other animals).

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).

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

**Table 76: Laboratory Test, Performed (V2) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.42:2017-08-01)					
@classCode	1..1	SHALL		<a href="#">3346-30364</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3346-33237</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		<a href="#">3346-30365</a>	
templateId	1..1	SHALL		<a href="#">3346-30366</a>	
item	1..1	SHALL		<a href="#">3346-30367</a>	
@root	1..1	SHALL		<a href="#">3346-30368</a>	2.16.840.1.113883.10.20.28.4.42
@extension	1..1	SHALL		<a href="#">3346-33373</a>	2017-08-01
id	1..1	SHALL		<a href="#">3346-30369</a>	
code	1..1	SHALL		<a href="#">3346-30370</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-30371</a>	
title	1..1	SHALL		<a href="#">3346-30372</a>	
statusCode	1..1	SHALL		<a href="#">3346-30373</a>	
@code	1..1	SHALL		<a href="#">3346-30509</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3346-30374</a>	
low	0..1	MAY		<a href="#">3346-30375</a>	
high	0..1	MAY		<a href="#">3346-30376</a>	
value	0..0	SHALL NOT		<a href="#">3346-33611</a>	
methodCode	0..1	MAY		<a href="#">3346-30377</a>	
item	1..1	SHALL		<a href="#">3346-30378</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-30379</a>	
participation	0..1	MAY		<a href="#">3346-34535</a>	

@typeCode	1..1	SHALL		<a href="#">3346-34538</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3346-34536</a>	
low	1..1	SHALL		<a href="#">3346-34539</a>	
role	1..1	SHALL		<a href="#">3346-34537</a>	
@classCode	1..1	SHALL		<a href="#">3346-34540</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3346-34541</a>	
outboundRelationship	0..1	MAY		<a href="#">3346-30380</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34061</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3346-30382</a>	<a href="#">Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01)</a>
outboundRelationship	0..1	MAY		<a href="#">3346-34767</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34768</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = VALUE
observationCriteria	1..1	SHALL		<a href="#">3346-34769</a>	<a href="#">Result (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01)</a>
outboundRelationship	0..1	MAY		<a href="#">3346-33372</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34618</a>	REFR
observationCriteria	1..1	SHALL		<a href="#">3346-33375</a>	<a href="#">Status (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.94:2017-08-01)</a>
outboundRelationship	0..1	MAY		<a href="#">3346-34062</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34066</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFV
observationCriteria	1..1	SHALL		<a href="#">3346-34412</a>	<a href="#">Laboratory Test Reference Range (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.124:2017-05-01)</a>
outboundRelationship	0..*	MAY		<a href="#">3346-34617</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34619</a>	REFR

observationCriteria	1..1	SHALL		<a href="#">3346-34620</a>	<a href="#">Laboratory Test Component (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.126:2017-05-01)</a>
---------------------	------	-------	--	----------------------------	---------------------------------------------------------------------------------------------------------------

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CONF:3346-30364).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3346-33237).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:3346-30365).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3346-30366).
  - a. **SHALL** contain exactly one [1..1] **item** (CONF:3346-30367) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.42" (CONF:3346-30368).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3346-33373).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3346-30369).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3346-30370).  
Note: QDM Attribute: Code
  - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-30371).
7. **SHALL** contain exactly one [1..1] **title** (CONF:3346-30372).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3346-30373).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3346-30509).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3346-30374) such that it  
Note: QDM Attribute: Relevant Period
  - a. **MAY** contain zero or one [0..1] **low** (CONF:3346-30375).  
Note: startTime (When the laboratory test is initiated (i.e., the time the specimen collection begins))
  - b. **MAY** contain zero or one [0..1] **high** (CONF:3346-30376).  
Note: stopTime (When the laboratory test is completed (i.e., the time the specimen collection ends))
10. **SHALL NOT** contain [0..0] **value** (CONF:3346-33611).  
Note: Use Result (V2) template for the QDM Attribute: Result
11. **MAY** contain zero or one [0..1] **methodCode** (CONF:3346-30377).  
Note: QDM Attribute: Method
  - a. The methodCode, if present, **SHALL** contain exactly one [1..1] **item** (CONF:3346-30378).
    - i. This item **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-30379).
12. **MAY** contain zero or one [0..1] **participation** (CONF:3346-34535) 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:3346-34538).
  - b. **SHALL** contain exactly one [1..1] **time** (CONF:3346-34536).



- i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3346-34539).  
Note: QDM Attribute: Author Datetime
  - c. **SHALL** contain exactly one [1..1] **role** (CONF:3346-34537).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3346-34540).
    - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3346-34541).
13. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-30380) 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:3346-34061).
  - 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:3346-30382).
14. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-34767) 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:3346-34768).
  - 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:3346-34769).
15. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-33372) such that it  
Note: QDM Attribute: Status
- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers To (CONF:3346-34618).
  - 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:3346-33375).
16. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-34062) 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:3346-34066).
  - 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:3346-34412).
17. **MAY** contain zero or more [0..\*] **outboundRelationship** (CONF:3346-34617) such that it  
Note: QDM Attribute: Components
- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers To (CONF:3346-34619).
  - 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:3346-34620).

**Figure 36: Laboratory Test, Performed (V2) Example**

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.42" extension="2017-08-01"/>
  </templateId>
  <id root="05f0a7c8-371e-4e77-aad4-22ff9fdf7fa3"/>
  <code valueSet="{ $QDMElementValueSetOID }"/>
  <title value="Laboratory Test, Performed"/>
  <statusCode code="completed"/>
</observationCriteria>
```

### 5.33 Laboratory Test, Recommended (V2)

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.43:2018-05-01 (open)]

**Table 77: Laboratory Test, Recommended (V2) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section [V3]</a> (optional)	<a href="#">Reason</a> (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 78: Laboratory Test, Recommended (V2) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.43:2018-05-01)					
@classCode	1..1	SHALL		<a href="#">3372-30414</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3372-30415</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = INT
@actionNegationInd	0..1	MAY		<a href="#">3372-30416</a>	
templateId	1..1	SHALL		<a href="#">3372-30417</a>	
item	1..1	SHALL		<a href="#">3372-30418</a>	
@root	1..1	SHALL		<a href="#">3372-30419</a>	2.16.840.1.113883.10.20.28.4.43
@extension	1..1	SHALL		<a href="#">3372-33692</a>	2018-05-01
id	1..1	SHALL		<a href="#">3372-30420</a>	
code	1..1	SHALL		<a href="#">3372-30421</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-30422</a>	
title	1..1	SHALL		<a href="#">3372-30423</a>	
statusCode	1..1	SHALL		<a href="#">3372-30424</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus)
@code	1..1	SHALL		<a href="#">3372-30510</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
participation	0..1	MAY		<a href="#">3372-34413</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34416</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3372-34414</a>	
low	1..1	SHALL		<a href="#">3372-34417</a>	
role	1..1	SHALL		<a href="#">3372-34415</a>	
@classCode	1..1	SHALL		<a href="#">3372-34418</a>	ROL
id	0..1	MAY		<a href="#">3372-34419</a>	
outboundRelationship	0..1	MAY		<a href="#">3372-30431</a>	

@typeCode	1..1	SHALL		<a href="#">3372-34115</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3372-30433</a>	<a href="#">Reason {identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01}</a>

11. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:3372-30414).
12. **SHALL** contain exactly one [1..1] @moodCode="INT" Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3372-30415).
13. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:3372-30416).  
Note: QDM Attribute: Negation Rationale
14. **SHALL** contain exactly one [1..1] templateId (CONF:3372-30417).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3372-30418) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.43" (CONF:3372-30419).
    - ii. This item **SHALL** contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33692).
15. **SHALL** contain exactly one [1..1] id (CONF:3372-30420).
16. **SHALL** contain exactly one [1..1] code (CONF:3372-30421).  
Note: QDM Attribute: Code
  - a. This code **SHOULD** contain zero or one [0..1] @valueSet (CONF:3372-30422).
17. **SHALL** contain exactly one [1..1] title (CONF:3372-30423).
18. **SHALL** contain exactly one [1..1] statusCode (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3372-30424).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3372-30510).
19. **MAY** contain zero or one [0..1] participation (CONF:3372-34413) 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:3372-34416).
  - b. **SHALL** contain exactly one [1..1] time (CONF:3372-34414).
    - i. This time **SHALL** contain exactly one [1..1] low (CONF:3372-34417).  
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:3372-34415).
    - i. This role **SHALL** contain exactly one [1..1] @classCode="ROL" Role (CONF:3372-34418).
    - ii. This role **MAY** contain zero or one [0..1] id (CONF:3372-34419).
20. **MAY** contain zero or one [0..1] outboundRelationship (CONF:3372-30431) 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:3372-34115).

- 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:3372-30433).

**Figure 37: Laboratory Test, Recommended (V2) Example**

```
<observationCriteria classCode="OBS" moodCode="INT">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.43" extension="2018-05-01"/>
  </templateId>
  <id root="7a54587b-f1d6-4ce1-bb4c-30ffc5139565"/>
  <code valueSet="{ $QDMElementValueSetOID }"/>
  <title value="Laboratory Test, Recommended"/>
  <statusCode code="active"/>
</observationCriteria>
```

### 5.34 Medication, Active (V3)

[substanceAdministrationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.44:2018-05-01 (open)]

**Table 79: Medication, Active (V3) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (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: 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).

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 80: Medication, Active (V3) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
substanceAdministrationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.44:2018-05-01)					
@classCode	1..1	SHALL		<a href="#">3372-31950</a>	SBADM
@moodCode	1..1	SHALL		<a href="#">3372-31951</a>	urn:oid:2.16.840.1.113883.5.10.01 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		<a href="#">3372-34809</a>	
templateId	1..1	SHALL		<a href="#">3372-31953</a>	
item	1..1	SHALL		<a href="#">3372-31954</a>	
@root	1..1	SHALL		<a href="#">3372-31955</a>	2.16.840.1.113883.10.20.28.4.4
@extension	1..1	SHALL		<a href="#">3372-33376</a>	2018-05-01
id	1..1	SHALL		<a href="#">3372-31956</a>	
title	1..1	SHALL		<a href="#">3372-31957</a>	
statusCode	1..1	SHALL		<a href="#">3372-31958</a>	
@code	1..1	SHALL		<a href="#">3372-31959</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3372-31960</a>	
low	0..1	MAY		<a href="#">3372-31961</a>	
high	0..1	MAY		<a href="#">3372-31962</a>	
effectiveTime	0..1	MAY	PIVL_TS	<a href="#">3372-34803</a>	
period	0..1	MAY		<a href="#">3372-34804</a>	
routeCode	0..1	MAY		<a href="#">3372-33115</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-33116</a>	
doseQuantity	0..1	MAY		<a href="#">3372-33117</a>	
participation	1..1	SHALL		<a href="#">3372-33121</a>	
@typeCode	1..1	SHALL		<a href="#">3372-33122</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM

role	1..1	SHALL		<a href="#">3372-33123</a>	
playingMaterial	1..1	SHALL		<a href="#">3372-33124</a>	
@classCode	1..1	SHALL		<a href="#">3372-34116</a>	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = MMAT
@determinerCode	1..1	SHALL		<a href="#">3372-33125</a>	urn:oid:2.16.840.1.113883.5.30 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		<a href="#">3372-33126</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-33127</a>	

1. **SHALL** contain exactly one [1..1] **@classCode**="SBADM" Substance Administrated (CONF:3372-31950).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3372-31951).
3. **SHALL NOT** contain [0..0] **@actionNegationInd** (CONF:3372-34809).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3372-31953).
  - a. **SHALL** contain exactly one [1..1] **item** (CONF:3372-31954) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.44" (CONF:3372-31955).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2018-05-01" (CONF:3372-33376).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3372-31956).
6. **SHALL** contain exactly one [1..1] **title** (CONF:3372-31957).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3372-31958).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3372-31959).
8. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3372-31960) such that it  
Note: QDM Attribute: Relevant Period
  - a. **MAY** contain zero or one [0..1] **low** (CONF:3372-31961).  
Note: startDateTime - 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)
  - b. **MAY** contain zero or one [0..1] **high** (CONF:3372-31962).  
Note: 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)
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3372-34803) such that it  
Note: QDM Attribute: Frequency
  - a. **MAY** contain zero or one [0..1] **period** (CONF:3372-34804).
10. **MAY** contain zero or one [0..1] **routeCode** (CONF:3372-33115).  
Note: QDM Attribute: Route

- a. The routeCode, if present, **SHOULD** contain zero or one [0..1] @valueSet (CONF:3372-33116).
11. **MAY** contain zero or one [0..1] **doseQuantity** (CONF:3372-33117).  
Note: QDM Attribute: Dosage
12. **SHALL** contain exactly one [1..1] **participation** (CONF:3372-33121) 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:3372-33122).
  - b. **SHALL** contain exactly one [1..1] **role** (CONF:3372-33123).
    - i. This role **SHALL** contain exactly one [1..1] **playingMaterial** (CONF:3372-33124).
      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:3372-34116).
      2. This playingMaterial **SHALL** contain exactly one [1..1] @determinerCode="KIND" Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:3372-33125).
      3. This playingMaterial **SHALL** contain exactly one [1..1] **code** (CONF:3372-33126).
        - a. This code **SHOULD** contain zero or one [0..1] @valueSet (CONF:3372-33127).

**Figure 38: Medication, Active (V3) Example**

```
<substanceAdministrationCriteria classCode="SBADM" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.44" extension="2018-05-01"/>
  </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>
```



## 5.35 Medication, Administered (V3)

[substanceAdministrationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.45:2018-05-01 (open)]

**Table 81: Medication, Administered (V3) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (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: 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.

**Table 82: Medication, Administered (V3) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF #	Value
substanceAdministrationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.45:2018-05-01)					
@classCode	1..1	SHALL		<a href="#">3372-32047</a>	SBADM
@moodCode	1..1	SHALL		<a href="#">3372-32048</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		<a href="#">3372-32049</a>	
templateId	1..1	SHALL		<a href="#">3372-32050</a>	
item	1..1	SHALL		<a href="#">3372-32051</a>	
@root	1..1	SHALL		<a href="#">3372-32052</a>	2.16.840.1.113883.10.20.28.4.45
@extension	1..1	SHALL		<a href="#">3372-33386</a>	2018-05-01
id	1..1	SHALL		<a href="#">3372-32053</a>	
code	1..1	SHALL		<a href="#">3372-32054</a>	
@code	1..1	SHALL		<a href="#">3372-32055</a>	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 416118004
@codeSystem	1..1	SHALL		<a href="#">3372-32056</a>	2.16.840.1.113883.6.96
title	1..1	SHALL		<a href="#">3372-32057</a>	
statusCode	1..1	SHALL		<a href="#">3372-32058</a>	
@code	1..1	SHALL		<a href="#">3372-32059</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3372-32060</a>	
low	0..1	MAY		<a href="#">3372-32061</a>	
high	0..1	MAY		<a href="#">3372-32062</a>	
effectiveTime	0..1	MAY	PIVL_TS	<a href="#">3372-34806</a>	
period	0..1	MAY		<a href="#">3372-34807</a>	
routeCode	0..1	MAY		<a href="#">3372-32506</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-32507</a>	

doseQuantity	0..1	MAY		<a href="#">3372-33128</a>	
participation	1..1	SHALL		<a href="#">3372-32497</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32503</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
role	1..1	SHALL		<a href="#">3372-32498</a>	
@classCode	1..1	SHALL		<a href="#">3372-32504</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = MANU
playingManufacturedMaterial	1..1	SHALL		<a href="#">3372-32499</a>	
@classCode	1..1	SHALL		<a href="#">3372-32500</a>	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = MMAT
@determinerCode	1..1	SHALL		<a href="#">3372-32520</a>	urn:oid:2.16.840.1.113883.5.30 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		<a href="#">3372-32501</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-32502</a>	
participation	0..1	MAY		<a href="#">3372-34542</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34545</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3372-34543</a>	
low	1..1	SHALL		<a href="#">3372-34546</a>	
role	1..1	SHALL		<a href="#">3372-34544</a>	
@classCode	1..1	SHALL		<a href="#">3372-34547</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3372-34548</a>	
outboundRelationship	0..1	MAY		<a href="#">3372-32511</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32512</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3372-32513</a>	<a href="#">Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01</a>

1. **SHALL** contain exactly one [1..1] @classCode="SBADM" Substance Administration (CONF:3372-32047).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3372-32048).

3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:3372-32049).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3372-32050).
  - a. **SHALL** contain exactly one [1..1] **item** (CONF:3372-32051) such that it
    - i. This item **SHALL** contain exactly one [1..1]  
**@root**="2.16.840.1.113883.10.20.28.4.45" (CONF:3372-32052).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2018-05-01" (CONF:3372-33386).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3372-32053).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3372-32054).
  - 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:3372-32055).
  - b. This code **SHALL** contain exactly one [1..1]  
**@codeSystem**="2.16.840.1.113883.6.96" (CONF:3372-32056).
7. **SHALL** contain exactly one [1..1] **title** (CONF:3372-32057).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3372-32058).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3372-32059).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3372-32060) such that it  
Note: QDM Attribute: Relevant Period
  - a. **MAY** contain zero or one [0..1] **low** (CONF:3372-32061).  
Note: 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)
  - b. **MAY** contain zero or one [0..1] **high** (CONF:3372-32062).  
Note: 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)
10. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3372-34806) such that it  
Note: QDM Attribute: Frequency
  - a. **MAY** contain zero or one [0..1] **period** (CONF:3372-34807).
11. **MAY** contain zero or one [0..1] **routeCode** (CONF:3372-32506).  
Note: QDM Attribute: Route
  - a. The routeCode, if present, **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3372-32507).
12. **MAY** contain zero or one [0..1] **doseQuantity** (CONF:3372-33128).  
Note: QDM Attribute: Dosage
13. **SHALL** contain exactly one [1..1] **participation** (CONF:3372-32497) 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:3372-32503).
  - b. **SHALL** contain exactly one [1..1] **role** (CONF:3372-32498).

- 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:3372-32504).
  - ii. This role **SHALL** contain exactly one [1..1] **playingManufacturedMaterial** (CONF:3372-32499).
    - 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:3372-32500).
    - 2. This playingManufacturedMaterial **SHALL** contain exactly one [1..1] **@determinerCode="KIND"** Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:3372-32520).
    - 3. This playingManufacturedMaterial **SHALL** contain exactly one [1..1] **code** (CONF:3372-32501).
      - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3372-32502).
14. **MAY** contain zero or one [0..1] **participation** (CONF:3372-34542) 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:3372-34545).
  - b. **SHALL** contain exactly one [1..1] **time** (CONF:3372-34543).
    - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3372-34546).  
Note: QDM Attribute: Author Time
  - c. **SHALL** contain exactly one [1..1] **role** (CONF:3372-34544).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3372-34547).
    - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3372-34548).
15. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3372-32511) 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:3372-32512).
  - 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:3372-32513).  
Note: QDM Attribute: Reason

**Figure 39: Medication, Administered (V3) Example**

```
<substanceAdministrationCriteria classCode="SBADM" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.45" extension="2018-05-01"/>
  </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>
```

## 5.36 Medication, Discharge (V2)

[substanceAdministrationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.48:2017-08-01 (open)]

**Table 83: Medication, Discharge (V2) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (optional) <a href="#">Supply</a> (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 84: Medication, Discharge (V2) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
substanceAdministrationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.48:2017-08-01)					
@classCode	1..1	SHALL		<a href="#">3346-32521</a>	SBADM
@moodCode	1..1	SHALL		<a href="#">3346-32522</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		<a href="#">3346-33438</a>	
templateId	1..1	SHALL		<a href="#">3346-32523</a>	
item	1..1	SHALL		<a href="#">3346-32524</a>	
@root	1..1	SHALL		<a href="#">3346-32525</a>	2.16.840.1.113883.10.20.28.4.48
@extension	1..1	SHALL		<a href="#">3346-33439</a>	2017-08-01
id	1..1	SHALL		<a href="#">3346-32526</a>	
code	1..1	SHALL		<a href="#">3346-32527</a>	
@code	1..1	SHALL		<a href="#">3346-32528</a>	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 10183-2
@codeSystem	1..1	SHALL		<a href="#">3346-32529</a>	2.16.840.1.113883.6.1
title	1..1	SHALL		<a href="#">3346-32530</a>	
statusCode	1..1	SHALL		<a href="#">3346-32531</a>	
@code	1..1	SHALL		<a href="#">3346-32532</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
effectiveTime	0..1	MAY	PIVL_TS	<a href="#">3346-34810</a>	
period	0..1	MAY		<a href="#">3346-34811</a>	
repeatNumber	0..1	MAY		<a href="#">3346-32536</a>	
routeCode	0..1	MAY		<a href="#">3346-32537</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-32538</a>	
doseQuantity	0..1	MAY		<a href="#">3346-34437</a>	
participation	1..1	SHALL		<a href="#">3346-32539</a>	

@typeCode	1..1	SHALL		<a href="#">3346-32540</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
role	1..1	SHALL		<a href="#">3346-32541</a>	
@classCode	1..1	SHALL		<a href="#">3346-32542</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = MANU
playingManufacturedMaterial	1..1	SHALL		<a href="#">3346-32543</a>	
@classCode	1..1	SHALL		<a href="#">3346-32544</a>	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = MMAT
@determinerCode	1..1	SHALL		<a href="#">3346-32545</a>	urn:oid:2.16.840.1.113883.5.30 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		<a href="#">3346-32546</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-32547</a>	
participation	0..1	MAY		<a href="#">3346-34438</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34442</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3346-34439</a>	
low	1..1	SHALL		<a href="#">3346-34443</a>	
role	1..1	SHALL		<a href="#">3346-34440</a>	
@classCode	1..1	SHALL		<a href="#">3346-34444</a>	ROL
id	0..1	MAY		<a href="#">3346-34445</a>	
outboundRelationship	0..1	MAY		<a href="#">3346-34441</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34446</a>	REFR
supplyCriteria	1..1	SHALL		<a href="#">3346-34812</a>	<a href="#">Supply (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01)</a>
outboundRelationship	0..1	MAY		<a href="#">3346-34130</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34131</a>	RSN
observationCriteria	1..1	SHALL		<a href="#">3346-34132</a>	<a href="#">Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01)</a>

1. **SHALL** contain exactly one [1..1] @classCode="SBADM" Substance Administration (CONF:3346-32521).



2. **SHALL** contain exactly one [1..1] **@moodCode**="RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3346-32522).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:3346-33438).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3346-32523).
  - a. **SHALL** contain exactly one [1..1] **item** (CONF:3346-32524) such that it
    - i. This item **SHALL** contain exactly one [1..1]  
**@root**="2.16.840.1.113883.10.20.28.4.48" (CONF:3346-32525).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3346-33439).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3346-32526).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3346-32527).
  - 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:3346-32528).
  - b. This code **SHALL** contain exactly one [1..1]  
**@codeSystem**="2.16.840.1.113883.6.1" (CONF:3346-32529).
7. **SHALL** contain exactly one [1..1] **title** (CONF:3346-32530).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3346-32531).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3346-32532).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3346-34810) such that it  
Note: QDM Attribute: Frequency
  - a. **MAY** contain zero or one [0..1] **period** (CONF:3346-34811).
10. **MAY** contain zero or one [0..1] **repeatNumber** (CONF:3346-32536).  
Note: QDM Attribute: Refills
11. **MAY** contain zero or one [0..1] **routeCode** (CONF:3346-32537).  
Note: QDM Attribute: Route
  - a. The routeCode, if present, **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-32538).
12. **MAY** contain zero or one [0..1] **doseQuantity** (CONF:3346-34437).  
Note: QDM Attribute: Dosage
13. **SHALL** contain exactly one [1..1] **participation** (CONF:3346-32539) 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:3346-32540).
  - b. **SHALL** contain exactly one [1..1] **role** (CONF:3346-32541).
    - 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:3346-32542).
    - ii. This role **SHALL** contain exactly one [1..1] **playingManufacturedMaterial** (CONF:3346-32543).
      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:3346-32544).

2. This playingManufacturedMaterial **SHALL** contain exactly one [1..1] **@determinerCode**="KIND" Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:3346-32545).
  3. This playingManufacturedMaterial **SHALL** contain exactly one [1..1] **code** (CONF:3346-32546).  
Note: QDM Attribute: Code
    - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-32547).
14. **MAY** contain zero or one [0..1] **participation** (CONF:3346-34438) 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:3346-34442).
  - b. **SHALL** contain exactly one [1..1] **time** (CONF:3346-34439).
    - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3346-34443).  
Note: QDM Attribute: Author date Time (The time the discharge medication list on the discharge instruction form is authored)
  - c. **SHALL** contain exactly one [1..1] **role** (CONF:3346-34440).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode**="ROL" Role (CONF:3346-34444).
    - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3346-34445).
15. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-34441) such that it  
Note: QDM Attribute: Supply
- a. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" Refers To (CONF:3346-34446).
  - 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:3346-34812).
16. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-34130) such that it  
Note: QDM Attribute: Reason
- a. **SHALL** contain exactly one [1..1] **@typeCode**="RSON" Has Reason (CONF:3346-34131).
  - 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:3346-34132).

**Figure 40: Medication, Discharge (V2) Example**

```
<substanceAdministrationCriteria classCode="SBADM" moodCode="RQO">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.48" extension="2017-08-01"/>
  </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>
```

### 5.37 Medication, Dispensed (V2)

[supplyCriteria: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.49:2017-08-01 (open)]

**Table 85: Medication, Dispensed (V2) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (optional) <a href="#">Dosage</a> (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: The time the medication dispensing event occurs; the author dateTime.

Timing: The Relevant Period addresses:

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.

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 86: Medication, Dispensed (V2) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
supplyCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.49:2017-08-01)					
@classCode	1..1	SHALL		<a href="#">3346-32560</a>	SPLY
@moodCode	1..1	SHALL		<a href="#">3346-32561</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		<a href="#">3346-32562</a>	
templateId	1..1	SHALL		<a href="#">3346-32563</a>	
item	1..1	SHALL		<a href="#">3346-32564</a>	
@root	1..1	SHALL		<a href="#">3346-32565</a>	2.16.840.1.113883.10.20.28.4.49
@extension	1..1	SHALL		<a href="#">3346-33752</a>	2017-08-01
id	1..1	SHALL		<a href="#">3346-32566</a>	
title	1..1	SHALL		<a href="#">3346-32567</a>	
statusCode	1..1	SHALL		<a href="#">3346-32568</a>	
@code	1..1	SHALL		<a href="#">3346-32582</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3346-32569</a>	
low	1..1	SHALL		<a href="#">3346-32570</a>	
high	0..1	MAY		<a href="#">3346-34860</a>	
effectiveTime	0..1	MAY	PIVL_TS	<a href="#">3346-34856</a>	
period	0..1	MAY		<a href="#">3346-34857</a>	
repeatNumber	0..1	MAY		<a href="#">3346-32572</a>	
quantity	0..1	MAY		<a href="#">3346-34858</a>	
participation	1..1	SHALL		<a href="#">3346-32573</a>	
@typeCode	1..1	SHALL		<a href="#">3346-32574</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
role	1..1	SHALL		<a href="#">3346-32575</a>	

@classCode	1..1	SHALL		<a href="#">3346-32576</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = MANU
playingMaterial	0..1	MAY		<a href="#">3346-32577</a>	
@classCode	1..1	SHALL		<a href="#">3346-32578</a>	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = MMAT
@determinerCode	1..1	SHALL		<a href="#">3346-32579</a>	urn:oid:2.16.840.1.113883.5.30 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		<a href="#">3346-32580</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-32581</a>	
participation	0..1	MAY		<a href="#">3346-34861</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34864</a>	AUT
time	1..1	SHALL		<a href="#">3346-34862</a>	
low	1..1	SHALL		<a href="#">3346-34865</a>	
role	1..1	SHALL		<a href="#">3346-34863</a>	
@classCode	1..1	SHALL		<a href="#">3346-34866</a>	ROL
id	0..1	MAY		<a href="#">3346-34867</a>	
outboundRelationship	0..1	MAY		<a href="#">3346-34448</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34449</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		<a href="#">3346-34450</a>	<a href="#">Dosage (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.125:2017-05-01)</a>
outboundRelationship	0..1	MAY		<a href="#">3346-32589</a>	
@typeCode	1..1	SHALL		<a href="#">3346-32590</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3346-32591</a>	<a href="#">Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01)</a>

1. **SHALL** contain exactly one [1..1] @classCode="SPLY" Supply (CONF:3346-32560).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3346-32561).

3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:3346-32562).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3346-32563).
  - a. **SHALL** contain exactly one [1..1] **item** (CONF:3346-32564) such that it
    - i. This item **SHALL** contain exactly one [1..1]  
**@root**="2.16.840.1.113883.10.20.28.4.49" (CONF:3346-32565).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3346-33752).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3346-32566).
6. **SHALL** contain exactly one [1..1] **title** (CONF:3346-32567).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3346-32568).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3346-32582).
8. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3346-32569) such that it  
Note: QDM Attribute: Relevant Period
  - a. **SHALL** contain exactly one [1..1] **low** (CONF:3346-32570).  
Note: startTime = when the first administration of the medication is expected
  - b. **MAY** contain zero or one [0..1] **high** (CONF:3346-34860).  
Note: stopTime = when the medication supply provided by the dispensing event is expected to be completed
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3346-34856) such that it  
Note: QDM Attribute: Frequency
  - a. **MAY** contain zero or one [0..1] **period** (CONF:3346-34857).
10. **MAY** contain zero or one [0..1] **repeatNumber** (CONF:3346-32572).  
Note: QDM Attribute: Refills
11. **MAY** contain zero or one [0..1] **quantity** (CONF:3346-34858).  
Note: QDM Attribute: Supply
12. **SHALL** contain exactly one [1..1] **participation** (CONF:3346-32573) 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:3346-32574).
  - b. **SHALL** contain exactly one [1..1] **role** (CONF:3346-32575).
    - 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:3346-32576).
    - ii. This role **MAY** contain zero or one [0..1] **playingMaterial** (CONF:3346-32577).
      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:3346-32578).
      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:3346-32579).

3. The playingMaterial, if present, **SHALL** contain exactly one [1..1] **code** (CONF:3346-32580).

Note: QDM Attribute: Code

- a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-32581).

13. **MAY** contain zero or one [0..1] **participation** (CONF:3346-34861) such that it

- a. **SHALL** contain exactly one [1..1] **@typeCode="AUT"** Author (CONF:3346-34864).

- b. **SHALL** contain exactly one [1..1] **time** (CONF:3346-34862).

- i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3346-34865).

Note: QDM Attribute: Author dateTime

- c. **SHALL** contain exactly one [1..1] **role** (CONF:3346-34863).

- i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CONF:3346-34866).

- ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3346-34867).

14. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-34448) 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:3346-34449).

- 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:3346-34450).

15. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-32589) 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:3346-32590).

- 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:3346-32591).



**Figure 41: Medication, Dispensed (V2) Example**

```
<supplyCriteria classCode="SPLY" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.49" extension="2017-08-01"/>
  </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>
```

## 5.38 Medication, Order (V3)

[substanceAdministrationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.51:2018-05-01 (open)]

**Table 87: Medication, Order (V3) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (optional) <a href="#">Supply</a> (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.

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 88: Medication, Order (V3) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
substanceAdministrationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.51:2018-05-01)					
@classCode	1..1	SHALL		<a href="#">3372-30218</a>	SBADM
@moodCode	1..1	SHALL		<a href="#">3372-29049</a>	urn:oid:2.16.840.1.113883.5.10.01 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		<a href="#">3372-31037</a>	
templateId	1..1	SHALL		<a href="#">3372-29050</a>	
item	1..1	SHALL		<a href="#">3372-29051</a>	
@root	1..1	SHALL		<a href="#">3372-29052</a>	2.16.840.1.113883.10.20.28.4.51
@extension	1..1	SHALL		<a href="#">3372-33443</a>	2018-05-01
id	1..1	SHALL		<a href="#">3372-30185</a>	
title	1..1	SHALL		<a href="#">3372-30186</a>	
statusCode	1..1	SHALL		<a href="#">3372-30227</a>	
@code	1..1	SHALL		<a href="#">3372-30228</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3372-30504</a>	
low	0..1	MAY		<a href="#">3372-31035</a>	
high	0..1	MAY		<a href="#">3372-34859</a>	
effectiveTime	0..1	MAY	PIVL_TS	<a href="#">3372-34816</a>	
period	0..1	MAY		<a href="#">3372-34817</a>	
repeatNumber	0..1	MAY		<a href="#">3372-31038</a>	
routeCode	0..1	MAY		<a href="#">3372-30188</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-30231</a>	
doseQuantity	0..1	MAY		<a href="#">3372-30224</a>	
participation	1..1	SHALL		<a href="#">3372-29053</a>	

@typeCode	1..1	SHALL		<a href="#">3372-29054</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
role	1..1	SHALL		<a href="#">3372-29055</a>	
@classCode	1..1	SHALL		<a href="#">3372-29056</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = MANU
playingMaterial	1..1	SHALL		<a href="#">3372-29057</a>	
@classCode	1..1	SHALL		<a href="#">3372-29058</a>	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = MMAT
@determinerCode	1..1	SHALL		<a href="#">3372-29059</a>	urn:oid:2.16.840.1.113883.5.30 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		<a href="#">3372-29060</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-30164</a>	
participation	0..1	MAY		<a href="#">3372-33441</a>	
@typeCode	1..1	SHALL		<a href="#">3372-33444</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3372-33442</a>	
low	1..1	SHALL		<a href="#">3372-33500</a>	
role	1..1	SHALL		<a href="#">3372-33592</a>	
@classCode	1..1	SHALL		<a href="#">3372-33593</a>	ROL
id	0..1	MAY		<a href="#">3372-33594</a>	
participation	0..1	MAY		<a href="#">3372-34860</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34862</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC
role	1..1	SHALL		<a href="#">3372-34861</a>	
@classCode	1..1	SHALL		<a href="#">3372-34863</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = EXLOC
code	1..1	SHALL		<a href="#">3372-34864</a>	
outboundRelationship	0..1	MAY		<a href="#">3372-30190</a>	
@typeCode	1..1	SHALL		<a href="#">3372-30191</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3372-30192</a>	<a href="#">Reason identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01</a>

outboundRelationship	0..1	MAY		<a href="#">3372-34451</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34452</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
supplyCriteria	1..1	SHALL		<a href="#">3372-34818</a>	<a href="#">Supply (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01</a>

1. **SHALL** contain exactly one [1..1] **@classCode**="SBADM" Substance Administration (CONF:3372-30218).
2. **SHALL** contain exactly one [1..1] **@moodCode**="RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3372-29049).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:3372-31037).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3372-29050).
  - a. **SHALL** contain exactly one [1..1] **item** (CONF:3372-29051) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.51" (CONF:3372-29052).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2018-05-01" (CONF:3372-33443).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3372-30185).
6. **SHALL** contain exactly one [1..1] **title** (CONF:3372-30186).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3372-30227).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3372-30228).
8. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3372-30504) such that it  
Note: QDM Attribute: Relevant Period
  - a. **MAY** contain zero or one [0..1] **low** (CONF:3372-31035).  
Note: startTime = when the first administration of the medication is expected
  - b. **MAY** contain zero or one [0..1] **high** (CONF:3372-34859).  
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:3372-34816) such that it  
Note: QDM Attribute: Frequency
  - a. **MAY** contain zero or one [0..1] **period** (CONF:3372-34817).
10. **MAY** contain zero or one [0..1] **repeatNumber** (CONF:3372-31038).  
Note: QDM Attribute: Refills
11. **MAY** contain zero or one [0..1] **routeCode** (CONF:3372-30188).  
Note: QDM Attribute: Route
  - a. The routeCode, if present, **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3372-30231).
12. **MAY** contain zero or one [0..1] **doseQuantity** (CONF:3372-30224).  
Note: QDM Attribute: Dosage

13. **SHALL** contain exactly one [1..1] **participation** (CONF:3372-29053) 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:3372-29054).
  - b. **SHALL** contain exactly one [1..1] **role** (CONF:3372-29055).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode**="MANU" Manufactured (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3372-29056).
    - ii. This role **SHALL** contain exactly one [1..1] **playingMaterial** (CONF:3372-29057).
      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:3372-29058).
      2. This playingMaterial **SHALL** contain exactly one [1..1] **@determinerCode**="KIND" Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:3372-29059).
      3. This playingMaterial **SHALL** contain exactly one [1..1] **code** (CONF:3372-29060).  
 Note: QDM Attribute: Code
        - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3372-30164).
14. **MAY** contain zero or one [0..1] **participation** (CONF:3372-33441) 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:3372-33444).
  - b. **SHALL** contain exactly one [1..1] **time** (CONF:3372-33442).
    - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3372-33500).  
 Note: QDM Attribute: Author dateTime
  - c. **SHALL** contain exactly one [1..1] **role** (CONF:3372-33592).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode**="ROL" Role (CONF:3372-33593).
    - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3372-33594).
15. **MAY** contain zero or one [0..1] **participation** (CONF:3372-34860) 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:3372-34862).
  - b. **SHALL** contain exactly one [1..1] **role** (CONF:3372-34861).
    - 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:3372-34863).
    - ii. 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.
16. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3372-30190) 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:3372-30191).
  - 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:3372-30192).
17. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3372-34451) 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:3372-34452).
  - 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:3372-34818).

**Figure 42: Medication, Order (V3) Example**

```
<substanceAdministrationCriteria classCode="SBADM" moodCode="RQO">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.51" extension="2018-05-01"/>
  </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>
```

## 5.39 Patient Care Experience

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.52:2017-05-01 (open)]

**Table 89: Patient Care Experience Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (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 90: Patient Care Experience Constraints Overview**

XPath	Card.	Verb	Data Type	CONF #	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.52:2017-05-01)					
@classCode	1..1	SHALL		<a href="#">3335-32204</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3335-32205</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		<a href="#">3335-34707</a>	
templateId	1..1	SHALL		<a href="#">3335-32206</a>	
item	1..1	SHALL		<a href="#">3335-32207</a>	
@root	1..1	SHALL		<a href="#">3335-32208</a>	2.16.840.1.113883.10.20.28.4.52
@extension	1..1	SHALL		<a href="#">3335-33700</a>	2017-05-01
id	1..1	SHALL		<a href="#">3335-32209</a>	
code	1..1	SHALL		<a href="#">3335-32210</a>	
@code	1..1	SHALL		<a href="#">3335-32211</a>	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 406193000
@codeSystem	1..1	SHALL		<a href="#">3335-32212</a>	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT)
title	1..1	SHALL		<a href="#">3335-32213</a>	
statusCode	1..1	SHALL		<a href="#">3335-32216</a>	
@code	1..1	SHALL		<a href="#">3335-32217</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3335-34388</a>	
low	1..1	SHALL		<a href="#">3335-34389</a>	
value	1..1	SHALL	CD	<a href="#">3335-32214</a>	
@valueSet	0..1	SHOULD		<a href="#">3335-32215</a>	

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:3335-32204).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3335-32205).
3. **SHALL NOT** contain [0..0] @actionNegationInd (CONF:3335-34707).
4. **SHALL** contain exactly one [1..1] templateId (CONF:3335-32206).



- a. **SHALL** contain exactly one [1..1] **item** (CONF:3335-32207) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.52" (CONF:3335-32208).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2017-05-01" (CONF:3335-33700).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3335-32209).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3335-32210).
  - 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:3335-32211).
  - b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:3335-32212).
7. **SHALL** contain exactly one [1..1] **title** (CONF:3335-32213).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3335-32216).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3335-32217).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3335-34388) such that it
  - a. **SHALL** contain exactly one [1..1] **low** (CONF:3335-34389).  
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:3335-32214).  
Note: QDM Attribute: Code
  - a. This value **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3335-32215).

**Figure 43: Patient Care Experience Example**

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.52" extension="2017-05-01"/>
  </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>
```

## 5.40 Patient Characteristic (V2)

[observationCriteria: identifier

urn:hl7ii:2.16.840.1.113883.10.20.28.4.53:2017-08-01 (open)]

**Table 91: Patient Characteristic (V2) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	

This template represents the QDM data type: Patient Characteristic.

Timing: The time the characteristic is authored.

**Table 92: 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		<a href="#">3346-31602</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3346-31603</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		<a href="#">3346-31604</a>	
templateId	1..1	SHALL		<a href="#">3346-31605</a>	
item	1..1	SHALL		<a href="#">3346-31606</a>	
@root	1..1	SHALL		<a href="#">3346-31607</a>	2.16.840.1.113883.10.20.28.4.53
@extension	1..1	SHALL		<a href="#">3346-34456</a>	2017-08-01
id	1..1	SHALL		<a href="#">3346-31608</a>	
code	1..1	SHALL		<a href="#">3346-31609</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-34454</a>	
statusCode	1..1	SHALL		<a href="#">3346-31613</a>	
@code	1..1	SHALL		<a href="#">3346-31614</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3346-31615</a>	
low	1..1	SHALL		<a href="#">3346-31616</a>	
value	0..1	MAY		<a href="#">3346-34455</a>	

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:3346-31602).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3346-31603).
3. **SHALL NOT** contain [0..0] @actionNegationInd (CONF:3346-31604).
4. **SHALL** contain exactly one [1..1] templateId (CONF:3346-31605).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3346-31606) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.53" (CONF:3346-31607).
    - ii. This item **SHALL** contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-34456).

5. **SHALL** contain exactly one [1..1] **id** (CONF:3346-31608).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3346-31609).  
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] **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).
8. **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)
9. **MAY** contain zero or one [0..1] **value** (CONF:3346-34455).

**Figure 44: 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>
```

## 5.41 Patient Characteristic Birth Date

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.54:2017-05-01 (open)]

**Table 93: Patient Characteristic Birth Date Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (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 94: 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		<a href="#">3335-31550</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3335-31551</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = EVN
@actionNegationInd	0..0	SHALL NOT		<a href="#">3335-34706</a>	
templateId	1..1	SHALL		<a href="#">3335-31552</a>	
item	1..1	SHALL		<a href="#">3335-31553</a>	
@root	1..1	SHALL		<a href="#">3335-31554</a>	2.16.840.1.113883.10.20.28.4.54
@extension	1..1	SHALL		<a href="#">3335-33650</a>	2017-05-01
id	1..1	SHALL		<a href="#">3335-31555</a>	
code	1..1	SHALL		<a href="#">3335-31556</a>	
@code	1..1	SHALL		<a href="#">3335-31557</a>	21112-8
@codeSystem	1..1	SHALL		<a href="#">3335-31558</a>	2.16.840.1.113883.6.1
title	1..1	SHALL		<a href="#">3335-31559</a>	
statusCode	1..1	SHALL		<a href="#">3335-31583</a>	
@code	1..1	SHALL		<a href="#">3335-31584</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3335-31562</a>	
low	1..1	SHALL		<a href="#">3335-31563</a>	

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. **SHALL** contain exactly one [1..1] item (CONF:3335-31553) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.54" (CONF:3335-31554).

- ii. This item **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:3335-31559).
- 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 45: 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>
```

## 5.42 Patient Characteristic Clinical Trial Participant

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.6:2017-05-01 (open)]

**Table 95: Patient Characteristic Clinical Trial Participant Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section [V3]</a> (optional)	<a href="#">Reason</a> (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 96: Patient Characteristic Clinical Trial Participant Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.6:2017-05-01)					
@classCode	1..1	SHALL		<a href="#">3335-31565</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3335-31566</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		<a href="#">3335-34705</a>	
templateId	1..1	SHALL		<a href="#">3335-31567</a>	
item	1..1	SHALL		<a href="#">3335-31568</a>	
@root	1..1	SHALL		<a href="#">3335-31569</a>	2.16.840.1.113883.10.20.28.4.6
@extension	1..1	SHALL		<a href="#">3335-33706</a>	2017-05-01
id	1..1	SHALL		<a href="#">3335-31570</a>	
code	1..1	SHALL		<a href="#">3335-31571</a>	
@code	1..1	SHALL		<a href="#">3335-31572</a>	ASSERTION
@codeSystem	1..1	SHALL		<a href="#">3335-31573</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode)
title	1..1	SHALL		<a href="#">3335-31574</a>	
statusCode	1..1	SHALL		<a href="#">3335-31575</a>	
@code	1..1	SHALL		<a href="#">3335-31576</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3335-31577</a>	
low	0..1	MAY		<a href="#">3335-31578</a>	
high	0..1	MAY		<a href="#">3335-31579</a>	
value	1..1	SHALL	CD	<a href="#">3335-31580</a>	
@valueSet	0..1	SHOULD		<a href="#">3335-31739</a>	
outboundRelationship	0..1	MAY		<a href="#">3335-31620</a>	
@typeCode	1..1	SHALL		<a href="#">3335-31621</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON

observationCriteria	1..1	SHALL		<a href="#">3335-31622</a>	<a href="#">Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01</a>
---------------------	------	-------	--	----------------------------	------------------------------------------------------------------------------------------

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. **SHALL** contain exactly one [1..1] **item** (CONF:3335-31568) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.6" (CONF:3335-31569).
    - ii. This item **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:3335-31574).
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 46: 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>
```

### 5.43 Patient Characteristic Ethnicity

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.56:2017-05-01 (open)]

**Table 97: Patient Characteristic Ethnicity Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	

This template represents the QDM data type: Patient Characteristic Ethnicity.

This template represents a patient's ethnicity.

**Table 98: 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		<a href="#">3335-28168</a>	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">3335-28169</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		<a href="#">3335-34704</a>	
templateId	1..1	SHALL		<a href="#">3335-28171</a>	
item	1..1	SHALL		<a href="#">3335-28172</a>	
@root	1..1	SHALL		<a href="#">3335-28173</a>	2.16.840.1.113883.10.20.28.4.56
@extension	1..1	SHALL		<a href="#">3335-34654</a>	2017-05-01
id	1..1	SHALL		<a href="#">3335-34714</a>	
code	1..1	SHALL		<a href="#">3335-28174</a>	
@code	1..1	SHALL		<a href="#">3335-28175</a>	54133-4
@codeSystem	1..1	SHALL		<a href="#">3335-28176</a>	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
title	1..1	SHALL		<a href="#">3335-28179</a>	
statusCode	1..1	SHALL		<a href="#">3335-31180</a>	
@code	1..1	SHALL		<a href="#">3335-31181</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">3335-28180</a>	
@valueSet	0..1	SHOULD		<a href="#">3335-31182</a>	

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. **SHALL** contain exactly one [1..1] **item** ([CONF:3335-28172](#)) such that it

- i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.56" (CONF:3335-28173).
  - ii. This item **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:3335-28179).
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 47: 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>
```

## 5.44 Patient Characteristic Expired

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.57:2017-05-01 (open)]

**Table 99: Patient Characteristic Expired Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Cause</a> (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 100: Patient Characteristic Expired Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.57:2017-05-01)					
@classCode	1..1	SHALL		<a href="#">3335-31585</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3335-31586</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		<a href="#">3335-34709</a>	
templateId	1..1	SHALL		<a href="#">3335-31587</a>	
item	1..1	SHALL		<a href="#">3335-31588</a>	
@root	1..1	SHALL		<a href="#">3335-33141</a>	2.16.840.1.113883.10.20.28.4.57
@extension	1..1	SHALL		<a href="#">3335-33381</a>	2017-05-01
id	1..1	SHALL		<a href="#">3335-31590</a>	
code	1..1	SHALL		<a href="#">3335-31591</a>	
@code	1..1	SHALL		<a href="#">3335-31592</a>	ASSERTION
@codeSystem	1..1	SHALL		<a href="#">3335-31593</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
title	1..1	SHALL		<a href="#">3335-31594</a>	
statusCode	1..1	SHALL		<a href="#">3335-31595</a>	
@code	1..1	SHALL		<a href="#">3335-31596</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3335-31597</a>	
low	1..1	SHALL		<a href="#">3335-31623</a>	
value	1..1	SHALL	CD	<a href="#">3335-31600</a>	
@code	1..1	SHALL		<a href="#">3335-33429</a>	419099009
@codeSystem	1..1	SHALL		<a href="#">3335-33430</a>	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
outboundRelationship	0..1	MAY		<a href="#">3335-33450</a>	
@typeCode	1..1	SHALL		<a href="#">3335-</a>	urn:oid:2.16.840.1.113883.5.10

				<a href="#">33451</a>	02 (HL7ActRelationshipType) = CAUS
@inversionInd	1..1	SHALL		<a href="#">3335-33676</a>	true
observationCriteria	1..1	SHALL		<a href="#">3335-33452</a>	<a href="#">Cause (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.105:2017-05-01</a>

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. **SHALL** contain exactly one [1..1] **item** (CONF:3335-31588) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.57" (CONF:3335-33141).
    - ii. This item **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:3335-31594).
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 dateTime (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 48: 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>
```

## 5.45 Patient Characteristic Payer

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.58:2017-05-01 (open)]

**Table 101: Patient Characteristic Payer Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (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 102: 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		<a href="#">3335-31627</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3335-31628</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		<a href="#">3335-34710</a>	
templateId	1..1	SHALL		<a href="#">3335-31629</a>	
item	1..1	SHALL		<a href="#">3335-31630</a>	
@root	1..1	SHALL		<a href="#">3335-31631</a>	2.16.840.1.113883.10.20.28.4.58
@extension	1..1	SHALL		<a href="#">3335-34457</a>	2017-05-01
id	1..1	SHALL		<a href="#">3335-31632</a>	
code	1..1	SHALL		<a href="#">3335-31633</a>	
@code	1..1	SHALL		<a href="#">3335-31634</a>	48768-6
@codeSystem	1..1	SHALL		<a href="#">3335-31635</a>	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
title	1..1	SHALL		<a href="#">3335-31636</a>	
statusCode	1..1	SHALL		<a href="#">3335-31637</a>	
@code	1..1	SHALL		<a href="#">3335-31643</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3335-31638</a>	
low	0..1	MAY		<a href="#">3335-31641</a>	
high	0..1	MAY		<a href="#">3335-31642</a>	
value	1..1	SHALL	CD	<a href="#">3335-31639</a>	
@valueSet	0..1	SHOULD		<a href="#">3335-31640</a>	

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. **SHALL** contain exactly one [1..1] **item** (CONF:3335-31630) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.58" (CONF:3335-31631).
    - ii. This item **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 49: 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-8ccd-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>
```



## 5.46 Patient Characteristic Race

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.59:2017-05-01 (open)]

**Table 103: Patient Characteristic Race Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	

This template represents the QDM data type: Patient Characteristic Race.

This template represents a patient's race.

**Table 104: 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		<a href="#">3335-31236</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3335-31237</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		<a href="#">3335-34711</a>	
templateId	1..1	SHALL		<a href="#">3335-31238</a>	
item	1..1	SHALL		<a href="#">3335-31239</a>	
@root	1..1	SHALL		<a href="#">3335-31240</a>	2.16.840.1.113883.10.20.28.4.59
@extension	1..1	SHALL		<a href="#">3335-34655</a>	2017-05-01
id	1..1	SHALL		<a href="#">3335-31241</a>	
code	1..1	SHALL		<a href="#">3335-31242</a>	
@code	1..1	SHALL		<a href="#">3335-31243</a>	32624-9
@codeSystem	1..1	SHALL		<a href="#">3335-31244</a>	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
title	1..1	SHALL		<a href="#">3335-31245</a>	
statusCode	1..1	SHALL		<a href="#">3335-31246</a>	
@code	1..1	SHALL		<a href="#">3335-31247</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">3335-31248</a>	
@valueSet	0..1	SHOULD		<a href="#">3335-31249</a>	

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. **SHALL** contain exactly one [1..1] item (CONF:3335-31239) such that it

- i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.59" (CONF:3335-31240).
  - ii. This item **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 50: 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>
```

## 5.47 Patient Characteristic Sex

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.55:2017-05-01 (open)]

**Table 105: Patient Characteristic Sex Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	

This template represents the QDM data type: Patient Characteristic Sex.

This template represents a patient's sex.

**Table 106: 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		<a href="#">3335-31282</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3335-31283</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		<a href="#">3335-34712</a>	
templateId	1..1	SHALL		<a href="#">3335-31284</a>	
item	1..1	SHALL		<a href="#">3335-31285</a>	
@root	1..1	SHALL		<a href="#">3335-31286</a>	2.16.840.1.113883.10.20.28.4.55
@extension	1..1	SHALL		<a href="#">3335-33382</a>	2017-05-01
id	1..1	SHALL		<a href="#">3335-31287</a>	
code	1..1	SHALL		<a href="#">3335-31288</a>	
@code	1..1	SHALL		<a href="#">3335-31289</a>	263495000
@codeSystem	1..1	SHALL		<a href="#">3335-31290</a>	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
title	1..1	SHALL		<a href="#">3335-31291</a>	
statusCode	1..1	SHALL		<a href="#">3335-31292</a>	
@code	1..1	SHALL		<a href="#">3335-33142</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActionCode) = completed
value	1..1	SHALL	CD	<a href="#">3335-31293</a>	
@valueSet	1..1	SHOULD		<a href="#">3335-31294</a>	

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. **SHALL** contain exactly one [1..1] item (CONF:3335-31285) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.55" (CONF:3335-31286).

- ii. This item **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 51: 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>
```

## 5.48 Physical Exam, Order (V2)

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.61:2018-05-01 (open)]

**Table 107: Physical Exam, Order (V2) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (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 108: Physical Exam, Order (V2) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.61:2018-05-01)					
@classCode	1..1	SHALL		<a href="#">3372-31405</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3372-31406</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		<a href="#">3372-31407</a>	
templateId	1..1	SHALL		<a href="#">3372-31408</a>	
item	1..1	SHALL		<a href="#">3372-31409</a>	
@root	1..1	SHALL		<a href="#">3372-31410</a>	2.16.840.1.113883.10.20.28.4.61
@extension	1..1	SHALL		<a href="#">3372-33437</a>	2018-05-01
id	1..1	SHALL		<a href="#">3372-31411</a>	
code	1..1	SHALL		<a href="#">3372-31412</a>	
@code	1..1	SHALL		<a href="#">3372-31434</a>	5880005
@codeSystem	1..1	SHALL		<a href="#">3372-31435</a>	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
title	1..1	SHALL		<a href="#">3372-31413</a>	
statusCode	1..1	SHALL		<a href="#">3372-31414</a>	
@code	1..1	SHALL		<a href="#">3372-31415</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
value	1..1	SHALL	CD	<a href="#">3372-31437</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-31438</a>	
targetSiteCode	0..1	MAY		<a href="#">3372-31422</a>	
item	0..1	SHOULD		<a href="#">3372-31423</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-31424</a>	
participation	0..1	MAY		<a href="#">3372-33501</a>	
@typeCode	1..1	SHALL		<a href="#">3372-33503</a>	AUT

time	1..1	SHALL		<a href="#">3372-33502</a>	
low	1..1	SHALL		<a href="#">3372-33504</a>	
role	1..1	SHALL		<a href="#">3372-33595</a>	
@classCode	1..1	SHALL		<a href="#">3372-33596</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3372-33597</a>	
outboundRelationship	0..1	MAY		<a href="#">3372-31431</a>	
@typeCode	1..1	SHALL		<a href="#">3372-31432</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3372-31433</a>	<a href="#">Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01</a>

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:3372-31405).
2. **SHALL** contain exactly one [1..1] @moodCode="RQO" request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3372-31406).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:3372-31407).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:3372-31408).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3372-31409) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.61" (CONF:3372-31410).
    - ii. This item **SHALL** contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33437).
5. **SHALL** contain exactly one [1..1] id (CONF:3372-31411).
6. **SHALL** contain exactly one [1..1] code (CONF:3372-31412).
  - a. This code **SHALL** contain exactly one [1..1] @code="5880005" Physical Examination (CONF:3372-31434).
  - 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:3372-31435).
7. **SHALL** contain exactly one [1..1] title (CONF:3372-31413).
8. **SHALL** contain exactly one [1..1] statusCode (CONF:3372-31414).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3372-31415).
9. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:3372-31437).  
Note: QDM Attribute: Code
  - a. This value **SHOULD** contain zero or one [0..1] @valueSet (CONF:3372-31438).



10. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:3372-31422).

Note: QDM Attribute: Anatomical Location Site

- a. The targetSiteCode, if present, **SHOULD** contain zero or one [0..1] **item** (CONF:3372-31423).
  - i. The item, if present, **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3372-31424).

11. **MAY** contain zero or one [0..1] **participation** (CONF:3372-33501) such that it

- a. **SHALL** contain exactly one [1..1] **@typeCode="AUT"** Author (CONF:3372-33503).
- b. **SHALL** contain exactly one [1..1] **time** (CONF:3372-33502).
  - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3372-33504).  
Note: QDM Attribute: Author dateTime (The time the order is signed)
- c. **SHALL** contain exactly one [1..1] **role** (CONF:3372-33595).
  - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3372-33596).
  - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3372-33597).

12. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3372-31431) 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:3372-31432).
- 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:3372-31433).

**Figure 52: Physical Exam, Order (V2) Example**

```
<observationCriteria classCode="OBS" moodCode="RQO">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.61" extension="2018-05-01"/>
  </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>
```

## 5.49 Physical Exam, Performed (V2)

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.62:2017-08-01 (open)]

**Table 109: Physical Exam, Performed (V2) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (optional) <a href="#">Component</a> (optional) <a href="#">Result (V2)</a> (optional)

This template represents the QDM data type: Physical Exam, Performed.

This represents that a physical exam has been completed.

Timing: The Relevant Period addresses:startTime – The time the physical examination activity begins; stopTime – The time the physical examination activity ends.

QDM Attribute: Result is represented using the Result (V2) template.

**Table 110: Physical Exam, Performed (V2) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.62:2017-08-01)					
@classCode	1..1	SHALL		<a href="#">3346-31251</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3346-31252</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		<a href="#">3346-31253</a>	
templateId	1..1	SHALL		<a href="#">3346-31254</a>	
item	1..1	SHALL		<a href="#">3346-31255</a>	
@root	1..1	SHALL		<a href="#">3346-31256</a>	2.16.840.1.113883.10.20.28.4.62
@extension	1..1	SHALL		<a href="#">3346-33428</a>	2017-08-01
id	1..1	SHALL		<a href="#">3346-31257</a>	
code	1..1	SHALL		<a href="#">3346-31258</a>	
@code	1..1	SHALL		<a href="#">3346-31439</a>	5880005
@codeSystem	1..1	SHALL		<a href="#">3346-31440</a>	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
title	1..1	SHALL		<a href="#">3346-31260</a>	
statusCode	1..1	SHALL		<a href="#">3346-31261</a>	
@code	1..1	SHALL		<a href="#">3346-31262</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3346-31263</a>	
low	0..1	MAY		<a href="#">3346-31264</a>	
high	0..1	MAY		<a href="#">3346-31265</a>	
value	1..1	SHALL	CD	<a href="#">3346-31441</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-31442</a>	
methodCode	0..1	MAY		<a href="#">3346-31267</a>	
item	1..1	SHALL		<a href="#">3346-31268</a>	

@valueSet	0..1	SHOULD		<a href="#">3346-31269</a>	
targetSiteCode	0..1	MAY		<a href="#">3346-31270</a>	
item	0..1	SHOULD		<a href="#">3346-31271</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-31272</a>	
participation	0..1	MAY		<a href="#">3346-34549</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34552</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3346-34550</a>	
low	1..1	SHALL		<a href="#">3346-34553</a>	
role	1..1	SHALL		<a href="#">3346-34551</a>	
@classCode	1..1	SHALL		<a href="#">3346-34554</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3346-34555</a>	
outboundRelationship	0..1	MAY		<a href="#">3346-31279</a>	
@typeCode	1..1	SHALL		<a href="#">3346-31280</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3346-33448</a>	<a href="#">Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01)</a>
outboundRelationship	0..1	MAY		<a href="#">3346-33614</a>	
@typeCode	1..1	SHALL		<a href="#">3346-33615</a>	VALUE
observationCriteria	1..1	SHALL		<a href="#">3346-33616</a>	<a href="#">Result (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01)</a>
outboundRelationship	0..*	MAY		<a href="#">3346-34621</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34622</a>	REFR
observationCriteria	1..1	SHALL		<a href="#">3346-34623</a>	<a href="#">Component (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.121:2017-05-01)</a>

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:3346-31251).

2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3346-31252).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:3346-31253).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3346-31254).
  - a. **SHALL** contain exactly one [1..1] **item** (CONF:3346-31255) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.62" (CONF:3346-31256).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3346-33428).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3346-31257).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3346-31258).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="5880005" Physical Examination (CONF:3346-31439).
  - 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:3346-31440).
7. **SHALL** contain exactly one [1..1] **title** (CONF:3346-31260).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3346-31261).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3346-31262).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3346-31263) such that it  
Note: QDM Attribute: Relevant Period
  - a. **MAY** contain zero or one [0..1] **low** (CONF:3346-31264).  
Note: startTime (The time the physical examination activity begins)
  - b. **MAY** contain zero or one [0..1] **high** (CONF:3346-31265).  
Note: stopTime (The time the physical examination activity ends)
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:3346-31441).  
Note: QDM Attribute: Code
  - a. This value **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-31442).
11. **MAY** contain zero or one [0..1] **methodCode** (CONF:3346-31267).  
Note: QDM Attribute: Method
  - a. The methodCode, if present, **SHALL** contain exactly one [1..1] **item** (CONF:3346-31268).
    - i. This item **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-31269).
12. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:3346-31270).  
Note: QDM Attribute: Anatomical Location Site
  - a. The targetSiteCode, if present, **SHOULD** contain zero or one [0..1] **item** (CONF:3346-31271).
    - i. The item, if present, **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-31272).
13. **MAY** contain zero or one [0..1] **participation** (CONF:3346-34549) 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:3346-34552).
  - b. **SHALL** contain exactly one [1..1] **time** (CONF:3346-34550).
    - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3346-34553).  
Note: QDM Attribute: Author dateTime
  - c. **SHALL** contain exactly one [1..1] **role** (CONF:3346-34551).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3346-34554).
    - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3346-34555).
14. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-31279) 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:3346-31280).
  - 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:3346-33448).
15. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-33614) such that it  
Note: QDM Attribute: Result
- a. **SHALL** contain exactly one [1..1] **@typeCode="VALUE"** Has value (CONF:3346-33615).
  - 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:3346-33616).
16. **MAY** contain zero or more [0..\*] **outboundRelationship** (CONF:3346-34621) such that it  
Note: QDM Attribute: Components
- a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers To (CONF:3346-34622).
  - 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:3346-34623).

**Figure 53: Physical Exam, Performed (V2) Example**

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.62" extension="2017-08-01"/>
  </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>
```

# 5.50 Physical Exam, Recommended (V2)

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.63:2018-05-01 (open)]

Table 111: Physical Exam, Recommended (V2) Contexts

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (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 112: Physical Exam, Recommended (V2) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.63:2018-05-01)					
@classCode	1..1	SHALL		<a href="#">3372-31443</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3372-31444</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = INT
@actionNegationInd	0..1	MAY		<a href="#">3372-31445</a>	
templateId	1..1	SHALL		<a href="#">3372-31446</a>	
item	1..1	SHALL		<a href="#">3372-31447</a>	
@root	1..1	SHALL		<a href="#">3372-31448</a>	2.16.840.1.113883.10.20.28.4.61
@extension	1..1	SHALL		<a href="#">3372-33449</a>	2018-05-01
id	1..1	SHALL		<a href="#">3372-31449</a>	
code	1..1	SHALL		<a href="#">3372-31450</a>	
@code	1..1	SHALL		<a href="#">3372-31451</a>	5880005
@codeSystem	1..1	SHALL		<a href="#">3372-31452</a>	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
title	1..1	SHALL		<a href="#">3372-31453</a>	
statusCode	1..1	SHALL		<a href="#">3372-31454</a>	
@code	1..1	SHALL		<a href="#">3372-31455</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
value	1..1	SHALL	CD	<a href="#">3372-31459</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-31460</a>	
targetSiteCode	0..1	MAY		<a href="#">3372-31464</a>	
item	0..1	SHOULD		<a href="#">3372-31465</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-31466</a>	
participation	0..1	MAY		<a href="#">3372-34458</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34461</a>	AUT



time	1..1	SHALL		<a href="#">3372-34459</a>	
low	1..1	SHALL		<a href="#">3372-34462</a>	
role	1..1	SHALL		<a href="#">3372-34460</a>	
@classCode	1..1	SHALL		<a href="#">3372-34463</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3372-34464</a>	
outboundRelationship	0..1	MAY		<a href="#">3372-31473</a>	
@typeCode	1..1	SHALL		<a href="#">3372-31474</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3372-31475</a>	<a href="#">Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01</a>

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:3372-31443).
2. **SHALL** contain exactly one [1..1] @moodCode="INT" intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3372-31444).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:3372-31445).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:3372-31446).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3372-31447) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.61" (CONF:3372-31448).
    - ii. This item **SHALL** contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33449).
5. **SHALL** contain exactly one [1..1] id (CONF:3372-31449).
6. **SHALL** contain exactly one [1..1] code (CONF:3372-31450).
  - a. This code **SHALL** contain exactly one [1..1] @code="5880005" Physical Examination (CONF:3372-31451).
  - 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:3372-31452).
7. **SHALL** contain exactly one [1..1] title (CONF:3372-31453).
8. **SHALL** contain exactly one [1..1] statusCode (CONF:3372-31454).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3372-31455).
9. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:3372-31459).  
Note: QDM Attribute: Code
  - a. This value **SHOULD** contain zero or one [0..1] @valueSet (CONF:3372-31460).

10. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:3372-31464).

Note: QDM Attribute: Anatomical Location Site

- a. The targetSiteCode, if present, **SHOULD** contain zero or one [0..1] **item** (CONF:3372-31465).
  - i. The item, if present, **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3372-31466).

11. **MAY** contain zero or one [0..1] **participation** (CONF:3372-34458) such that it

- a. **SHALL** contain exactly one [1..1] **@typeCode="AUT"** Author (CONF:3372-34461).
- b. **SHALL** contain exactly one [1..1] **time** (CONF:3372-34459).
  - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3372-34462).  
Note: QDM Attribute: Author dateTime (The time the recommendation is authored)
- c. **SHALL** contain exactly one [1..1] **role** (CONF:3372-34460).
  - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3372-34463).
  - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3372-34464).

12. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3372-31473) 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:3372-31474).
- 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:3372-31475).

**Figure 54: Physical Exam, Recommended (V2) Example**

```
<observationCriteria classCode="OBS" moodCode="INT">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.63" extension="2018-05-01"/>
  </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>
```

## 5.51 Principal Diagnosis

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.122:2017-05-01 (open)]

**Table 113: Principal Diagnosis Contexts**

Contained By:	Contains:
<a href="#">Encounter, Performed (V2)</a> (optional)	

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

**Table 114: Principal Diagnosis Constraints Overview**

XPath	Card.	Verb	Data Type	CONF #	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.122:2017-05-01)					
@classCode	1..1	SHALL		<a href="#">3335-34367</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3335-34368</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		<a href="#">3335-34348</a>	
item	1..1	SHALL		<a href="#">3335-34349</a>	
@root	1..1	SHALL		<a href="#">3335-34358</a>	2.16.840.1.113883.10.20.28.4.122
@extension	1..1	SHALL		<a href="#">3335-34651</a>	2017-05-01
id	1..1	SHALL		<a href="#">3335-34369</a>	
code	1..1	SHALL		<a href="#">3335-34350</a>	
@code	1..1	SHALL		<a href="#">3335-34360</a>	52534-5
@codeSystem	1..1	SHALL		<a href="#">3335-34361</a>	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
title	1..1	SHALL		<a href="#">3335-34370</a>	
statusCode	1..1	SHALL		<a href="#">3335-34351</a>	
@code	1..1	SHALL		<a href="#">3335-34362</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">3335-34353</a>	
@valueSet	0..1	SHOULD		<a href="#">3335-34365</a>	

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CONF:3335-34367).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3335-34368).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:3335-34348).
  - a. **SHALL** contain exactly one [1..1] **item** (CONF:3335-34349) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.122" (CONF:3335-34358).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2017-05-01" (CONF:3335-34651).
4. **SHALL** contain exactly one [1..1] **id** (CONF:3335-34369).

5. **SHALL** contain exactly one [1..1] **code** (CONF:3335-34350).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="52534-5" Principal Diagnosis (CONF:3335-34360).
  - 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:3335-34361).
6. **SHALL** contain exactly one [1..1] **title** (CONF:3335-34370).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3335-34351).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3335-34362).
8. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:3335-34353).
  - a. This value **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3335-34365).

**Figure 55: Principal Diagnosis Example**

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.122" extension="2017-05-01"/>
  </templateId>
  <id root="322b8dc5-4102-4e0d-bf15-fa9379f8c9ac"/>
  <code code="52534-5" codeSystem="2.16.840.1.113883.6.1" codeSystemName="SNOMED CT">
    <displayName value="Principal Diagnosis"/>
  </code>
  <title value="Principal Diagnosis"/>
  <statusCode code="completed"/>
  <value xsi:type="CD" valueSet="{ $QDMElementValueSetOID }"/>
</observationCriteria>
```

## 5.52 Procedure, Order (V3)

[ProcedureCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.66:2018-05-01 (open)]

**Table 115: Procedure, Order (V3) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (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 116: Procedure, Order (V3) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
ProcedureCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.66:2018-05-01)					
@classCode	1..1	SHALL		<a href="#">3372-33158</a>	PROC
@moodCode	1..1	SHALL		<a href="#">3372-31120</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		<a href="#">3372-31121</a>	
templateId	1..1	SHALL		<a href="#">3372-31122</a>	
item	1..1	SHALL		<a href="#">3372-31123</a>	
@root	1..1	SHALL		<a href="#">3372-31124</a>	2.16.840.1.113883.10.20.28.4.66
@extension	1..1	SHALL		<a href="#">3372-33422</a>	2018-05-01
id	1..1	SHALL		<a href="#">3372-31125</a>	
code	1..1	SHALL		<a href="#">3372-31126</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-31127</a>	
title	1..1	SHALL		<a href="#">3372-31128</a>	
statusCode	1..1	SHALL		<a href="#">3372-31129</a>	
@code	1..1	SHALL		<a href="#">3372-33147</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActionCode) = active
priorityCode	0..1	MAY		<a href="#">3372-31133</a>	
item	0..1	SHOULD		<a href="#">3372-31134</a>	
targetSiteCode	0..1	MAY		<a href="#">3372-33420</a>	
item	1..1	SHALL		<a href="#">3372-33421</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-33424</a>	
participation	0..1	MAY		<a href="#">3372-33506</a>	
@typeCode	1..1	SHALL		<a href="#">3372-33508</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3372-33507</a>	

low	1..1	SHALL		<a href="#">3372-33509</a>	
role	1..1	SHALL		<a href="#">3372-33598</a>	
@classCode	1..1	SHALL		<a href="#">3372-33599</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3372-33600</a>	
outboundRelationship	0..1	MAY		<a href="#">3372-31143</a>	
@typeCode	1..1	SHALL		<a href="#">3372-33148</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3372-31144</a>	<a href="#">Reason identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01</a>

1. **SHALL** contain exactly one [1..1] **@classCode**="PROC" Procedure (CONF:3372-33158).
2. **SHALL** contain exactly one [1..1] **@moodCode**="RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3372-31120).
3. **MAY** contain zero or one [0..1] **@actionNegationInd** (CONF:3372-31121).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3372-31122).
  - a. **SHALL** contain exactly one [1..1] **item** (CONF:3372-31123) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.66" (CONF:3372-31124).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2018-05-01" (CONF:3372-33422).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3372-31125).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3372-31126).  
Note: QDM Attribute: Code
  - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3372-31127).
7. **SHALL** contain exactly one [1..1] **title** (CONF:3372-31128).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3372-31129).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="active" Active (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-33147).
9. **MAY** contain zero or one [0..1] **priorityCode** (CONF:3372-31133).  
Note: QDM Attribute: Ordinality
  - a. The priorityCode, if present, **SHOULD** contain zero or one [0..1] **item** (CONF:3372-31134).
10. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:3372-33420).  
Note: QDM Attribute: Anatomical Location Site
  - a. The targetSiteCode, if present, **SHALL** contain exactly one [1..1] **item** (CONF:3372-33421).

- i. This item **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3372-33424).
- 11. **MAY** contain zero or one [0..1] **participation** (CONF:3372-33506) 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:3372-33508).
  - b. **SHALL** contain exactly one [1..1] **time** (CONF:3372-33507).
    - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3372-33509).  
Note: QDM Attribute: Author dateTime (The time the order is signed)
  - c. **SHALL** contain exactly one [1..1] **role** (CONF:3372-33598).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3372-33599).
    - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3372-33600).
- 12. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3372-31143) 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:3372-33148).
  - 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:3372-31144).  
Note: QDM Attribute: Reason

**Figure 56: Procedure, Order (V3) Example**

```
<procedureCriteria classCode="PROC" moodCode="RQO">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.66" extension="2018-05-01"/>
  </templateId>
  <id root="7d559e0a-4e01-4f52-b87b-a3342705e2f2"/>
  <code valueSet="{ $QDMElementValueSetOID }"/>
  <title value="Procedure, Order"/>
  <statusCode code="active"/>
</procedureCriteria>
```

### 5.53 Procedure, Performed (V3)

[ProcedureCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.67:2018-05-01 (open)]

**Table 117: Procedure, Performed (V3) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (optional) <a href="#">Component</a> (optional) <a href="#">Incision Datetime</a> (optional) <a href="#">Result (V2)</a> (optional) <a href="#">Status (V2)</a> (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: The Relevant Period addresses: StartTime = the time the procedure begins; StopTime = the time the procedure is completed.

**Table 118: Procedure, Performed (V3) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
ProcedureCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.67:2018-05-01)					
@classCode	1..1	SHALL		<a href="#">3372-33149</a>	PROC
@moodCode	1..1	SHALL		<a href="#">3372-31336</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		<a href="#">3372-31337</a>	
templateId	1..1	SHALL		<a href="#">3372-31338</a>	
item	1..1	SHALL		<a href="#">3372-31339</a>	
@root	1..1	SHALL		<a href="#">3372-31340</a>	2.16.840.1.113883.10.20.28.4.67
@extension	1..1	SHALL		<a href="#">3372-33398</a>	2018-05-01
id	1..1	SHALL		<a href="#">3372-31341</a>	
code	1..1	SHALL		<a href="#">3372-31342</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-31343</a>	
title	1..1	SHALL		<a href="#">3372-31344</a>	
statusCode	1..1	SHALL		<a href="#">3372-31345</a>	
@code	1..1	SHALL		<a href="#">3372-33150</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3372-31346</a>	
low	0..1	MAY		<a href="#">3372-31347</a>	
high	0..1	MAY		<a href="#">3372-31348</a>	
priorityCode	0..1	MAY		<a href="#">3372-31349</a>	
item	1..1	SHALL		<a href="#">3372-31350</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-33151</a>	
methodCode	0..1	MAY		<a href="#">3372-31351</a>	
item	1..1	SHALL		<a href="#">3372-31352</a>	

@valueSet	0..1	SHOULD		<a href="#">3372-31353</a>	
targetSiteCode	0..1	MAY		<a href="#">3372-33401</a>	
item	1..1	SHALL		<a href="#">3372-33402</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-33404</a>	
participation	0..1	MAY		<a href="#">3372-34556</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34559</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3372-34557</a>	
low	1..1	SHALL		<a href="#">3372-34560</a>	
role	1..1	SHALL		<a href="#">3372-34558</a>	
@classCode	1..1	SHALL		<a href="#">3372-34561</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3372-34562</a>	
outboundRelationship	0..1	MAY		<a href="#">3372-31360</a>	
@typeCode	1..1	SHALL		<a href="#">3372-31366</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3372-31361</a>	<a href="#">Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01)</a>
outboundRelationship	0..1	MAY		<a href="#">3372-31362</a>	
@typeCode	1..1	SHALL		<a href="#">3372-31367</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
procedureCriteria	1..1	SHALL		<a href="#">3372-33153</a>	<a href="#">Incision Datetime (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.89:2017-05-01)</a>
outboundRelationship	0..1	MAY		<a href="#">3372-31364</a>	
@typeCode	1..1	SHALL		<a href="#">3372-31368</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = VALUE
observationCriteria	1..1	SHALL		<a href="#">3372-31365</a>	<a href="#">Result (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01)</a>
outboundRelationship	0..1	MAY		<a href="#">3372-33408</a>	

@typeCode	1..1	SHALL		<a href="#">3372-33409</a>	REFR
observationCriteria	1..1	SHALL		<a href="#">3372-33410</a>	<a href="#">Status (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.94:2017-08-01)</a>
outboundRelationship	0..*	MAY		<a href="#">3372-34624</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34625</a>	REFR
observationCriteria	1..1	SHALL		<a href="#">3372-34626</a>	<a href="#">Component (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.121:2017-05-01)</a>

1. **SHALL** contain exactly one [1..1] @classCode="PROC" Procedure (CONF:3372-33149).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3372-31336).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:3372-31337).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:3372-31338).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3372-31339) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.67" (CONF:3372-31340).
    - ii. This item **SHALL** contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33398).
5. **SHALL** contain exactly one [1..1] id (CONF:3372-31341).
6. **SHALL** contain exactly one [1..1] code (CONF:3372-31342).  
Note: QDM Attribute: Code
  - a. This code **SHOULD** contain zero or one [0..1] @valueSet (CONF:3372-31343).
7. **SHALL** contain exactly one [1..1] title (CONF:3372-31344).
8. **SHALL** contain exactly one [1..1] statusCode (CONF:3372-31345).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-33150).
9. **MAY** contain zero or one [0..1] effectiveTime (CONF:3372-31346) such that it  
Note: QDM Attribute: Relevant Period
  - a. **MAY** contain zero or one [0..1] low (CONF:3372-31347).  
Note: startTime (The time the procedure begins)
  - b. **MAY** contain zero or one [0..1] high (CONF:3372-31348).  
Note: stopTime (The time the procedure is completed)
10. **MAY** contain zero or one [0..1] priorityCode (CONF:3372-31349).  
Note: QDM Attribute: Ordinality
  - a. The priorityCode, if present, **SHALL** contain exactly one [1..1] item (CONF:3372-31350).
    - i. This item **SHOULD** contain zero or one [0..1] @valueSet (CONF:3372-33151).

11. **MAY** contain zero or one [0..1] **methodCode** (CONF:3372-31351).  
Note: QDM Attribute: Method
  - a. The methodCode, if present, **SHALL** contain exactly one [1..1] **item** (CONF:3372-31352).
    - i. This item **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3372-31353).
12. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:3372-33401).  
Note: QDM Attribute: Anatomical Location Site
  - a. The targetSiteCode, if present, **SHALL** contain exactly one [1..1] **item** (CONF:3372-33402).
    - i. This item **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3372-33404).
13. **MAY** contain zero or one [0..1] **participation** (CONF:3372-34556) 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:3372-34559).
  - b. **SHALL** contain exactly one [1..1] **time** (CONF:3372-34557).
    - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3372-34560).  
Note: QDM Attribute: Author dateTime
  - c. **SHALL** contain exactly one [1..1] **role** (CONF:3372-34558).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3372-34561).
    - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3372-34562).
14. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3372-31360) 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:3372-31366).
  - 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:3372-31361).
15. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3372-31362) 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:3372-31367).
  - 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:3372-33153).
16. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3372-31364) 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:3372-31368).
  - 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:3372-31365).

17. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3372-33408) such that it  
Note: QDM Attribute: Status
- SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers to (CONF:3372-33409).
  - 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:3372-33410).
18. **MAY** contain zero or more [0..\*] **outboundRelationship** (CONF:3372-34624) such that it  
Note: QDM Attribute: Components
- SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers To (CONF:3372-34625).
  - SHALL** contain exactly one [1..1] **Component** (identifier:  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.121:2017-05-01) (CONF:3372-34626).

**Figure 57: Procedure, Performed (V3) Example**

```
<procedureCriteria classCode="PROC" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.67" extension="2018-05-01"/>
  </templateId>
  <id root="6cc25a38-8781-4d79-a580-6a83d1b33575"/>
  <code valueSet="{ $QDMElementValueSetOID }"/>
  <title value="Procedure, Performed"/>
  <statusCode code="completed"/>
</procedureCriteria>
```

## 5.54 Procedure, Recommended (V2)

[ProcedureCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.68:2018-05-01 (open)]

**Table 119: Procedure, Recommended (V2) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (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 120: Procedure, Recommended (V2) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
ProcedureCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.68:2018-05-01)					
@classCode	1..1	SHALL		<a href="#">3372-33154</a>	PROC
@moodCode	1..1	SHALL		<a href="#">3372-31209</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = INT
@actionNegationInd	0..1	MAY		<a href="#">3372-31210</a>	
templateId	1..1	SHALL		<a href="#">3372-31211</a>	
item	1..1	SHALL		<a href="#">3372-31212</a>	
@root	1..1	SHALL		<a href="#">3372-31213</a>	2.16.840.1.113883.10.20.28.4.68
@extension	1..1	SHALL		<a href="#">3372-33417</a>	2018-05-01
id	1..1	SHALL		<a href="#">3372-31214</a>	
code	1..1	SHALL		<a href="#">3372-31215</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-31216</a>	
title	1..1	SHALL		<a href="#">3372-31217</a>	
statusCode	1..1	SHALL		<a href="#">3372-31218</a>	
@code	1..1	SHALL		<a href="#">3372-33155</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = completed
priorityCode	0..1	MAY		<a href="#">3372-31222</a>	
item	1..1	SHALL		<a href="#">3372-31223</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-33156</a>	
targetSiteCode	0..1	MAY		<a href="#">3372-33413</a>	
item	1..1	SHALL		<a href="#">3372-33414</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-33416</a>	
participation	0..1	MAY		<a href="#">3372-34465</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34468</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT

time	1..1	SHALL		<a href="#">3372-34466</a>	
low	1..1	SHALL		<a href="#">3372-34469</a>	
role	1..1	SHALL		<a href="#">3372-34467</a>	
@classCode	1..1	SHALL		<a href="#">3372-34470</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3372-34471</a>	
outboundRelationship	0..1	MAY		<a href="#">3372-31233</a>	
@typeCode	1..1	SHALL		<a href="#">3372-33157</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3372-31234</a>	<a href="#">Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01</a>

1. **SHALL** contain exactly one [1..1] @classCode="PROC" Procedure (CONF:3372-33154).
2. **SHALL** contain exactly one [1..1] @moodCode="INT" Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3372-31209).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:3372-31210).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:3372-31211).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3372-31212) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.68" (CONF:3372-31213).
    - ii. This item **SHALL** contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33417).
5. **SHALL** contain exactly one [1..1] id (CONF:3372-31214).
6. **SHALL** contain exactly one [1..1] code (CONF:3372-31215).  
Note: QDM Attribute: Code
  - a. This code **SHOULD** contain zero or one [0..1] @valueSet (CONF:3372-31216).
7. **SHALL** contain exactly one [1..1] title (CONF:3372-31217).
8. **SHALL** contain exactly one [1..1] statusCode (CONF:3372-31218).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-33155).
9. **MAY** contain zero or one [0..1] priorityCode (CONF:3372-31222).  
Note: QDM Attribute: Ordinality
  - a. The priorityCode, if present, **SHALL** contain exactly one [1..1] item (CONF:3372-31223).
    - i. This item **SHOULD** contain zero or one [0..1] @valueSet (CONF:3372-33156).



10. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:3372-33413).  
 Note: QDM Attribute: Anatomical Location Site
- a. The targetSiteCode, if present, **SHALL** contain exactly one [1..1] **item** (CONF:3372-33414).
    - i. This item **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3372-33416).
11. **MAY** contain zero or one [0..1] **participation** (CONF:3372-34465) 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:3372-34468).
  - b. **SHALL** contain exactly one [1..1] **time** (CONF:3372-34466).
    - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3372-34469).  
 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:3372-34467).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode="ROL"** Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3372-34470).
    - ii. This role **MAY** contain zero or one [0..1] **id** (CONF:3372-34471).
12. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3372-31233) 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:3372-33157).
  - 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:3372-31234).

**Figure 58: Procedure, Recommended (V2) Example**

```
<procedureCriteria classCode="PROC" moodCode="INT">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.68" extension="2018-05-01"/>
  </templateId>
  <id root="7d559e0a-4e01-4f52-b87b-a3342705e2f2"/>
  <code valueSet="{ $QDMElementValueSetOID }"/>
  <title value="Procedure, Recommended"/>
  <statusCode code="completed"/>
</procedureCriteria>
```

## 5.55 Program Participation (V2)

[observationCriteria: identifier  
 urn:hl7ii:2.16.840.1.113883.10.20.28.4.130:2018-05-01 (open)]

**Table 121: Program Participation (V2) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section [V3]</a> (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 122: Program Participation (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF #	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.130:2018-05-01)					
@classCode	1..1	SHALL		<a href="#">3372-34829</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3372-34830</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		<a href="#">3372-34831</a>	
templateId	1..1	SHALL		<a href="#">3372-34819</a>	
item	1..1	SHALL		<a href="#">3372-34820</a>	
@root	1..1	SHALL		<a href="#">3372-34824</a>	2.16.840.1.113883.10.20.28.4.130
@extension	1..1	SHALL		<a href="#">3372-34825</a>	2018-05-01
id	1..1	SHALL		<a href="#">3372-34832</a>	
code	1..1	SHALL		<a href="#">3372-34821</a>	
@code	1..1	SHALL		<a href="#">3372-34834</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = ASSERTION
title	1..1	SHALL		<a href="#">3372-34881</a>	
statusCode	1..1	SHALL		<a href="#">3372-34822</a>	
@code	1..1	SHALL		<a href="#">3372-34827</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3372-34823</a>	
low	0..1	MAY		<a href="#">3372-34828</a>	
high	0..1	MAY		<a href="#">3372-34835</a>	
value	1..1	SHALL	CD	<a href="#">3372-34833</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-34836</a>	

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CONF:3372-34829).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3372-34830).
3. **SHALL NOT** contain [0..0] **@actionNegationInd** (CONF:3372-34831).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3372-34819).
  - a. **SHALL** contain exactly one [1..1] **item** (CONF:3372-34820) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.130" (CONF:3372-34824).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2018-05-01" (CONF:3372-34825).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3372-34832).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3372-34821).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3372-34834).
7. **SHALL** contain exactly one [1..1] **title** (CONF:3372-34881).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3372-34822).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3372-34827).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3372-34823) such that it  
Note: QDM Attribute: Participation Period
  - a. **MAY** contain zero or one [0..1] **low** (CONF:3372-34828).  
Note: enrollmentStartdate – The time the patient enrolled in the program
  - b. **MAY** contain zero or one [0..1] **high** (CONF:3372-34835).  
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:3372-34833).  
Note: QDM Attribute: Code
  - a. This value **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3372-34836).

**Figure 59: Program Participation (V2) Example**

```

<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.130" extension="2018-05-01"/>
  </templateId>
  <id root="35cf9fd6-0d3d-4f86-91bf-a87fbf5ba8ef"/>
  <title value="Program Participation"/>
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>
  <statusCode code="completed"/>
  <value xsi:type="CD" valueSet="{ $QDMElementValueSetOID }"/>
</observationCriteria>

```

## 5.56 Provider Care Experience

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.70:2017-05-01 (open)]

**Table 123: Provider Care Experience Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (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 124: Provider Care Experience Constraints Overview**

XPath	Card.	Verb	Data Type	CONF #	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.70:2017-05-01)					
@classCode	1..1	SHALL		<a href="#">3335-32218</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3335-32219</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..0	SHALL NOT		<a href="#">3335-34708</a>	
templateId	1..1	SHALL		<a href="#">3335-32220</a>	
item	1..1	SHALL		<a href="#">3335-32221</a>	
@root	1..1	SHALL		<a href="#">3335-32222</a>	2.16.840.1.113883.10.20.28.4.70
@extension	1..1	SHALL		<a href="#">3335-33701</a>	2017-05-01
id	1..1	SHALL		<a href="#">3335-32223</a>	
code	1..1	SHALL		<a href="#">3335-32224</a>	
@code	1..1	SHALL		<a href="#">3335-32225</a>	405193005
@codeSystem	1..1	SHALL		<a href="#">3335-32226</a>	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
title	1..1	SHALL		<a href="#">3335-32227</a>	
statusCode	1..1	SHALL		<a href="#">3335-32228</a>	
@code	1..1	SHALL		<a href="#">3335-32229</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3335-34390</a>	
low	1..1	SHALL		<a href="#">3335-34391</a>	
value	1..1	SHALL	CD	<a href="#">3335-32230</a>	
@valueSet	0..1	SHOULD		<a href="#">3335-32231</a>	

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CONF:3335-32218).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3335-32219).
3. **SHALL NOT** contain [0..0] @actionNegationInd (CONF:3335-34708).

4. **SHALL** contain exactly one [1..1] **templateId** (CONF:3335-32220).
  - a. **SHALL** contain exactly one [1..1] **item** (CONF:3335-32221) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.70" (CONF:3335-32222).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2017-05-01" (CONF:3335-33701).
5. **SHALL** contain exactly one [1..1] **id** (CONF:3335-32223).
6. **SHALL** contain exactly one [1..1] **code** (CONF:3335-32224).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="405193005" Caregiver Satisfaction (CONF:3335-32225).
  - 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:3335-32226).
7. **SHALL** contain exactly one [1..1] **title** (CONF:3335-32227).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3335-32228).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3335-32229).
9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3335-34390) such that it
  - a. **SHALL** contain exactly one [1..1] **low** (CONF:3335-34391).  
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:3335-32230).  
Note: QDM Attribute: Code
  - a. This value **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3335-32231).

**Figure 60: Provider Care Experience Example**

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.70" extension="2017-05-01"/>
  </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>
```

## 5.57 Provider Characteristic (V2)

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.71:2017-08-01 (open)]

**Table 125: Provider Characteristic (V2) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	

This template represents the QDM data type: Provider Characteristic.

Provider characteristics refer to specific factors about a provider. Included are demographics, behavioral factors, social, or cultural factors, available resources, and preferences.

Timing: The time the characteristic is authored.

**Table 126: Provider Characteristic (V2) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.71:2017-08-01)					
@classCode	1..1	SHALL		<a href="#">3346-31740</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3346-31741</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		<a href="#">3346-31742</a>	
item	1..1	SHALL		<a href="#">3346-31743</a>	
@root	1..1	SHALL		<a href="#">3346-31744</a>	2.16.840.1.113883.10.20.28.4.71
@extension	1..1	SHALL		<a href="#">3346-34121</a>	2017-08-01
id	1..1	SHALL		<a href="#">3346-31745</a>	
statusCode	1..1	SHALL		<a href="#">3346-31748</a>	
@code	1..1	SHALL		<a href="#">3346-31749</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3346-31750</a>	
low	1..1	SHALL		<a href="#">3346-31751</a>	
participation	1..1	SHALL		<a href="#">3346-31746</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34842</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
role	1..1	SHALL		<a href="#">3346-31753</a>	
@classCode	1..1	SHALL		<a href="#">3346-31754</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ASSIGNED
playingEntity	1..1	SHALL		<a href="#">3346-34837</a>	
@classCode	1..1	SHALL		<a href="#">3346-34838</a>	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = PSN
@determinerCode	1..1	SHALL		<a href="#">3346-34839</a>	urn:oid:2.16.840.1.113883.5.30 (EntityDeterminer) = KIND
code	1..1	SHALL		<a href="#">3346-34840</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-34841</a>	



1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CONF:3346-31740).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3346-31741).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:3346-31742).
  - a. **SHALL** contain exactly one [1..1] **item** (CONF:3346-31743) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.71" (CONF:3346-31744).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3346-34121).
4. **SHALL** contain exactly one [1..1] **id** (CONF:3346-31745).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3346-31748).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3346-31749).
6. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3346-31750) such that it
  - a. **SHALL** contain exactly one [1..1] **low** (CONF:3346-31751).  
Note: QDM Attribute: Author dateTime (The time the characteristic is authored)
7. **SHALL** contain exactly one [1..1] **participation** (CONF:3346-31746) 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:3346-34842).
  - b. **SHALL** contain exactly one [1..1] **role** (CONF:3346-31753).
    - i. This role **SHALL** contain exactly one [1..1] **@classCode**="ASSIGNED" Assigned Entity (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3346-31754).
    - ii. This role **SHALL** contain exactly one [1..1] **playingEntity** (CONF:3346-34837).
      1. This playingEntity **SHALL** contain exactly one [1..1] **@classCode**="PSN" Person (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:3346-34838).
      2. This playingEntity **SHALL** contain exactly one [1..1] **@determinerCode**="KIND" (CodeSystem: EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:3346-34839).
      3. This playingEntity **SHALL** contain exactly one [1..1] **code** (CONF:3346-34840).  
Note: QDM Attribute: Code
        - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-34841).

**Figure 61: Provider Characteristic (V2) Example**

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.71" extension="2017-08-01"/>
  </templateId>
  <id root="1b9dd45d-6dle-4abb-87eb-2e1f1549bd58"/>
  <statusCode code="completed" />
  <participation typeCode="DRIV">
    <role classCode="ASSIGNED">
      <playingEntity classCode="PSN" determinerCode="KIND">
        <code valueSet="{ $QDMElementValueSetOID }"/>
      </playingDevice>
    </role>
  </participation>
</observationCriteria>
```

## 5.58 Reason

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01 (open)]

**Table 127: Reason Contexts**

Contained By:	Contains:
<a href="#">Device, Order</a> (optional) <a href="#">Device, Recommended</a> (optional) <a href="#">Encounter, Order</a> (optional) <a href="#">Encounter, Recommended</a> (optional) <a href="#">Intervention, Order</a> (optional) <a href="#">Intervention, Recommended</a> (optional) <a href="#">Patient Characteristic Clinical Trial Participant</a> (optional) <a href="#">Assessment, Performed (V2)</a> (optional) <a href="#">Diagnostic Study, Performed (V2)</a> (optional) <a href="#">Encounter, Performed (V2)</a> (optional) <a href="#">Laboratory Test, Performed (V2)</a> (optional) <a href="#">Immunization, Order (V2)</a> (optional) <a href="#">Medication, Discharge (V2)</a> (optional) <a href="#">Intervention, Performed (V2)</a> (optional) <a href="#">Physical Exam, Performed (V2)</a> (optional) <a href="#">Medication, Dispensed (V2)</a> (optional) <a href="#">Assessment, Order</a> (optional) <a href="#">Assessment, Recommended (V2)</a> (optional) <a href="#">Communication, Performed</a> (optional) <a href="#">Device, Applied (V2)</a> (optional) <a href="#">Diagnostic Study, Order (V3)</a> (optional) <a href="#">Immunization, Administered (V3)</a> (optional) <a href="#">Laboratory Test, Order (V2)</a> (optional) <a href="#">Laboratory Test, Recommended (V2)</a> (optional) <a href="#">Medication, Administered (V3)</a> (optional) <a href="#">Physical Exam, Order (V2)</a> (optional) <a href="#">Physical Exam, Recommended (V2)</a> (optional) <a href="#">Procedure, Order (V3)</a> (optional) <a href="#">Procedure, Recommended (V2)</a> (optional) <a href="#">Procedure, Performed (V3)</a> (optional) <a href="#">Substance, Order (V3)</a> (optional) <a href="#">Substance, Recommended (V3)</a> (optional) <a href="#">Medication, Order (V3)</a> (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 128: 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		<a href="#">3335-29895</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3335-29896</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		<a href="#">3335-29897</a>	
item	1..1	SHALL		<a href="#">3335-29898</a>	
@root	1..1	SHALL		<a href="#">3335-29899</a>	2.16.840.1.113883.10.20.28.4.88
@extension	1..1	SHALL		<a href="#">3335-33686</a>	2017-05-01
code	1..1	SHALL		<a href="#">3335-29901</a>	
@code	1..1	SHALL		<a href="#">3335-29902</a>	410666004
@codeSystem	1..1	SHALL		<a href="#">3335-29903</a>	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
title	1..1	SHALL		<a href="#">3335-33173</a>	
value	1..1	SHALL	CD	<a href="#">3335-29904</a>	
@valueSet	0..1	SHOULD		<a href="#">3335-34681</a>	

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. **SHALL** contain exactly one [1..1] **item** (CONF:3335-29898) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.88" (CONF:3335-29899).
    - ii. This item **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] **title** (CONF:3335-33173).
6. **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 62: 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>
```

## 5.59 Related To

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.127:2017-08-01 (open)]

**Table 129: Related To Contexts**

Contained By:	Contains:
<a href="#">Assessment, Performed [V2]</a> (optional)	
<a href="#">Care Goal [V2]</a> (optional)	
<a href="#">Communication, Performed</a> (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 130: Related To Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.127:2017-08-01)					
@classCode	1..1	SHALL		<a href="#">3346-34725</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3346-34726</a>	EVN
templateId	1..1	SHALL		<a href="#">3346-34717</a>	
item	1..1	SHALL		<a href="#">3346-34718</a>	
@root	1..1	SHALL		<a href="#">3346-34721</a>	2.16.840.1.113883.10.20.28.4.127
@extension	1..1	SHALL		<a href="#">3346-34722</a>	2017-08-01
id	1..1	SHALL		<a href="#">3346-34727</a>	
@root	1..1	SHALL		<a href="#">3346-34730</a>	
@extension	0..1	MAY		<a href="#">3346-34731</a>	
code	1..1	SHALL		<a href="#">3346-34719</a>	
@code	1..1	SHALL		<a href="#">3346-34723</a>	42752001
@codeSystem	1..1	SHALL		<a href="#">3346-34724</a>	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
title	1..1	SHALL		<a href="#">3346-34729</a>	

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. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.127" (CONF:3346-34721).
    - ii. This item **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).
6. **SHALL** contain exactly one [1..1] **title** (CONF:3346-34729).

**Figure 63: 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>
```

## 5.60 Result (V2)

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01 (open)]

**Table 131: Result (V2) Contexts**

Contained By:	Contains:
<a href="#">Diagnostic Study, Performed (V2)</a> (optional) <a href="#">Laboratory Test, Performed (V2)</a> (optional) <a href="#">Intervention, Performed (V2)</a> (optional) <a href="#">Physical Exam, Performed (V2)</a> (optional) <a href="#">Procedure, Performed (V3)</a> (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 132: 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		<a href="#">3346-32186</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3346-32187</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		<a href="#">3346-32188</a>	
item	1..1	SHALL		<a href="#">3346-32189</a>	
@root	1..1	SHALL		<a href="#">3346-32190</a>	2.16.840.1.113883.10.20.28.4.101
@extension	1..1	SHALL		<a href="#">3346-34653</a>	2017-08-01
code	1..1	SHALL		<a href="#">3346-32192</a>	
@code	1..1	SHALL		<a href="#">3346-32193</a>	394617004
@codeSystem	1..1	SHALL		<a href="#">3346-32194</a>	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
title	1..1	SHALL		<a href="#">3346-32195</a>	
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3346-34761</a>	
low	1..1	SHALL		<a href="#">3346-34762</a>	
value	1..1	SHALL		<a href="#">3346-32196</a>	

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. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.101" (CONF:3346-32190).
    - ii. This item **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. **SHALL** contain exactly one [1..1] **title** (CONF:3346-32195).
6. **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).
7. **SHALL** contain exactly one [1..1] **value** (CONF:3346-32196).  
Note: QDM Attribute: Result

**Figure 64: 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>
```

## 5.61 Severity Observation (V2)

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.93:2017-08-01 (open)]

**Table 133: Severity Observation (V2) Contexts**

Contained By:	Contains:
<a href="#">Adverse Event (V2)</a> (optional) <a href="#">Allergy Intolerance (V2)</a> (optional) <a href="#">Symptom (V2)</a> (optional) <a href="#">Diagnosis (V2)</a> (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 134: 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		<a href="#">3346-30129</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3346-30130</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		<a href="#">3346-30131</a>	
item	1..1	SHALL		<a href="#">3346-30132</a>	
@root	1..1	SHALL		<a href="#">3346-30133</a>	2.16.840.1.113883.10.20.28.4.93
@extension	1..1	SHALL		<a href="#">3346-33691</a>	2017-08-01
code	1..1	SHALL		<a href="#">3346-30135</a>	
@code	1..1	SHALL		<a href="#">3346-30136</a>	SEV
@codeSystem	1..1	SHALL		<a href="#">3346-30137</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
title	1..1	SHALL		<a href="#">3346-30140</a>	
value	1..1	SHALL	CD	<a href="#">3346-30138</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-34843</a>	

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. **SHALL** contain exactly one [1..1] **item** (CONF:3346-30132) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.93" (CONF:3346-30133).
    - ii. This item **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] **title** (CONF:3346-30140).
6. **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 65: 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>
```

## 5.62 Status (V2)

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.94:2017-08-01 (open)]

**Table 135: Status (V2) Contexts**

Contained By:	Contains:
<a href="#">Diagnostic Study, Performed (V2)</a> (optional) <a href="#">Laboratory Test, Performed (V2)</a> (optional) <a href="#">Intervention, Performed (V2)</a> (optional) <a href="#">Procedure, Performed (V3)</a> (optional)	

This template represents the QDM attribute: Status.

Status represents the particular stage of the subject within a defined process.

**Table 136: 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		<a href="#">3346-30151</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3346-30152</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		<a href="#">3346-30153</a>	
item	1..1	SHALL		<a href="#">3346-30155</a>	
@root	1..1	SHALL		<a href="#">3346-30156</a>	2.16.840.1.113883.10.20.28.4.94
@extension	1..1	SHALL		<a href="#">3346-33690</a>	2017-08-01
code	1..1	SHALL		<a href="#">3346-30158</a>	
@code	1..1	SHALL		<a href="#">3346-30159</a>	33999-4
@codeSystem	1..1	SHALL		<a href="#">3346-30160</a>	urn:oid:2.16.840.1.113883.6.1 (LOINC)
title	1..1	SHALL		<a href="#">3346-30161</a>	
value	1..1	SHALL	CD	<a href="#">3346-30162</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-34844</a>	

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. **SHALL** contain exactly one [1..1] **item** (CONF:3346-30155) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.94" (CONF:3346-30156).
    - ii. This item **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] **title** (CONF:3346-30161).
6. **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 66: 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>
```

### 5.63 Substance, Administered (V3)

[substanceAdministrationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.73:2018-05-01 (open)]

**Table 137: Substance, Administered (V3) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (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: 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 138: Substance, Administered (V3) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
substanceAdministrationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.73:2018-05-01)					
@classCode	1..1	SHALL		<a href="#">3372-32878</a>	SBADM
@moodCode	1..1	SHALL		<a href="#">3372-32879</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
@actionNegationInd	0..1	MAY		<a href="#">3372-32880</a>	
templateId	1..1	SHALL		<a href="#">3372-32881</a>	
item	1..1	SHALL		<a href="#">3372-32882</a>	
@root	1..1	SHALL		<a href="#">3372-32883</a>	2.16.840.1.113883.10.20.28.4.73
@extension	1..1	SHALL		<a href="#">3372-33393</a>	2018-05-01
id	1..1	SHALL		<a href="#">3372-32884</a>	
code	1..1	SHALL		<a href="#">3372-32885</a>	
@code	1..1	SHALL		<a href="#">3372-33177</a>	416118004
@codeSystem	1..1	SHALL		<a href="#">3372-33178</a>	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
title	1..1	SHALL		<a href="#">3372-32887</a>	
statusCode	1..1	SHALL		<a href="#">3372-32888</a>	
@code	1..1	SHALL		<a href="#">3372-32889</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3372-32890</a>	
low	0..1	MAY		<a href="#">3372-32891</a>	
high	0..1	MAY		<a href="#">3372-32892</a>	
effectiveTime	0..1	MAY	PIVL_TS	<a href="#">3372-34845</a>	
period	0..1	MAY		<a href="#">3372-34846</a>	
routeCode	0..1	MAY		<a href="#">3372-32894</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-32895</a>	

doseQuantity	0..1	MAY		<a href="#">3372-32896</a>	
participation	1..1	SHALL		<a href="#">3372-32897</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32898</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
role	1..1	SHALL		<a href="#">3372-32899</a>	
@classCode	1..1	SHALL		<a href="#">3372-32900</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ADMM
playingMaterial	1..1	SHALL		<a href="#">3372-32901</a>	
@classCode	1..1	SHALL		<a href="#">3372-32902</a>	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = MAT
@determinerCode	1..1	SHALL		<a href="#">3372-32903</a>	urn:oid:2.16.840.1.113883.5.30 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		<a href="#">3372-32904</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-32905</a>	
participation	0..1	MAY		<a href="#">3372-34563</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34566</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3372-34564</a>	
low	1..1	SHALL		<a href="#">3372-34567</a>	
role	1..1	SHALL		<a href="#">3372-34565</a>	
@classCode	1..1	SHALL		<a href="#">3372-34568</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3372-34569</a>	

1. **SHALL** contain exactly one [1..1] @classCode="SBADM" Substance Administration (CONF:3372-32878).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3372-32879).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:3372-32880).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:3372-32881).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3372-32882) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.73" (CONF:3372-32883).

- ii. This item **SHALL** contain exactly one [1..1] **@extension**="2018-05-01" (CONF:3372-33393).
- 5. **SHALL** contain exactly one [1..1] **id** (CONF:3372-32884).
- 6. **SHALL** contain exactly one [1..1] **code** (CONF:3372-32885).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="416118004" Administration (CONF:3372-33177).
  - 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:3372-33178).
- 7. **SHALL** contain exactly one [1..1] **title** (CONF:3372-32887).
- 8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3372-32888).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3372-32889).
- 9. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3372-32890) such that it  
Note: QDM Attribute: Relevant Period
  - a. **MAY** contain zero or one [0..1] **low** (CONF:3372-32891).  
Note: 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))
  - b. **MAY** contain zero or one [0..1] **high** (CONF:3372-32892).  
Note: 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)
- 10. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3372-34845) such that it  
Note: QDM Attribute: Frequency
  - a. **MAY** contain zero or one [0..1] **period** (CONF:3372-34846).
- 11. **MAY** contain zero or one [0..1] **routeCode** (CONF:3372-32894).  
Note: QDM Attribute: Route
  - a. The routeCode, if present, **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3372-32895).
- 12. **MAY** contain zero or one [0..1] **doseQuantity** (CONF:3372-32896).  
Note: QDM Attribute: Dosage
- 13. **SHALL** contain exactly one [1..1] **participation** (CONF:3372-32897) 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:3372-32898).
  - b. **SHALL** contain exactly one [1..1] **role** (CONF:3372-32899).
    - 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:3372-32900).
    - ii. This role **SHALL** contain exactly one [1..1] **playingMaterial** (CONF:3372-32901).



1. This playingMaterial **SHALL** contain exactly one [1..1] @classCode="MAT" Material (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:3372-32902).
2. This playingMaterial **SHALL** contain exactly one [1..1] @determinerCode="KIND" Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:3372-32903).
3. This playingMaterial **SHALL** contain exactly one [1..1] code (CONF:3372-32904).

Note: QDM Attribute: Code

- a. This code **SHOULD** contain zero or one [0..1] @valueSet (CONF:3372-32905).

14. **MAY** contain zero or one [0..1] participation (CONF:3372-34563) 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:3372-34566).
  - b. **SHALL** contain exactly one [1..1] time (CONF:3372-34564).
    - i. This time **SHALL** contain exactly one [1..1] low (CONF:3372-34567).  
Note: QDM Attribute: Author dateTime
  - c. **SHALL** contain exactly one [1..1] role (CONF:3372-34565).
    - i. This role **SHALL** contain exactly one [1..1] @classCode="ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3372-34568).
    - ii. This role **MAY** contain zero or one [0..1] id (CONF:3372-34569).

**Figure 67: Substance, Administered (V3) Example**

```
<substanceAdministrationCriteria classCode="SBADM" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.73" extension="2018-05-01"/>
  </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>
```

## 5.64 Substance, Order (V3)

[substanceAdministrationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.77:2018-05-01 (open)]

**Table 139: Substance, Order (V3) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (optional) <a href="#">Supply</a> (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 140: Substance, Order (V3) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
substanceAdministrationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.77:2018-05-01)					
@classCode	1..1	SHALL		<a href="#">3372-32623</a>	SBADM
@moodCode	1..1	SHALL		<a href="#">3372-32624</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
@actionNegationInd	0..1	MAY		<a href="#">3372-32625</a>	
templateId	1..1	SHALL		<a href="#">3372-32626</a>	
item	1..1	SHALL		<a href="#">3372-32627</a>	
@root	1..1	SHALL		<a href="#">3372-32628</a>	2.16.840.1.113883.10.20.28.4.77
@extension	1..1	SHALL		<a href="#">3372-33652</a>	2018-05-01
id	1..1	SHALL		<a href="#">3372-32629</a>	
title	1..1	SHALL		<a href="#">3372-32632</a>	
statusCode	1..1	SHALL		<a href="#">3372-32633</a>	
@code	1..1	SHALL		<a href="#">3372-32634</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
repeatNumber	0..1	MAY		<a href="#">3372-32638</a>	
routeCode	0..1	MAY		<a href="#">3372-32639</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-32640</a>	
doseQuantity	0..1	MAY		<a href="#">3372-32641</a>	
participation	1..1	SHALL		<a href="#">3372-32642</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32643</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
role	1..1	SHALL		<a href="#">3372-32644</a>	
@classCode	1..1	SHALL		<a href="#">3372-32645</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ADMM
playingMaterial	1..1	SHALL		<a href="#">3372-32646</a>	
@classCode	1..1	SHALL		<a href="#">3372-32647</a>	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = MAT

@determinerCode	1..1	SHALL		<a href="#">3372-32648</a>	urn:oid:2.16.840.1.113883.5.30 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		<a href="#">3372-32649</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-32650</a>	
participation	0..1	MAY		<a href="#">3372-33511</a>	
@typeCode	1..1	SHALL		<a href="#">3372-33513</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3372-33512</a>	
low	1..1	SHALL		<a href="#">3372-33514</a>	
role	1..1	SHALL		<a href="#">3372-33601</a>	
@classCode	1..1	SHALL		<a href="#">3372-33602</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3372-33603</a>	
outboundRelationship	0..1	MAY		<a href="#">3372-32651</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32652</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3372-32653</a>	<a href="#">Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01)</a>
outboundRelationship	0..1	MAY		<a href="#">3372-34485</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34486</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
supplyCriteria	1..1	SHALL		<a href="#">3372-34848</a>	<a href="#">Supply (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01)</a>

1. **SHALL** contain exactly one [1..1] @classCode="SBADM" Substance Administration (CONF:3372-32623).
2. **SHALL** contain exactly one [1..1] @moodCode="RQO" Request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3372-32624).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:3372-32625).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:3372-32626).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3372-32627) such that it
    - i. This item **SHALL** contain exactly one [1..1]  
@root="2.16.840.1.113883.10.20.28.4.77" (CONF:3372-32628).

- ii. This item **SHALL** contain exactly one [1..1] **@extension="2018-05-01"** (CONF:3372-33652).
- 5. **SHALL** contain exactly one [1..1] **id** (CONF:3372-32629).
- 6. **SHALL** contain exactly one [1..1] **title** (CONF:3372-32632).
- 7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3372-32633).
  - a. This **statusCode** **SHALL** contain exactly one [1..1] **@code="active"** Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3372-32634).
- 8. **MAY** contain zero or one [0..1] **repeatNumber** (CONF:3372-32638).  
Note: QDM Attribute: Refills
- 9. **MAY** contain zero or one [0..1] **routeCode** (CONF:3372-32639).  
Note: QDM Attribute: Route
  - a. The **routeCode**, if present, **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3372-32640).
- 10. **MAY** contain zero or one [0..1] **doseQuantity** (CONF:3372-32641).  
Note: QDM Attribute: Dosage
- 11. **SHALL** contain exactly one [1..1] **participation** (CONF:3372-32642) 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:3372-32643).
  - b. **SHALL** contain exactly one [1..1] **role** (CONF:3372-32644).
    - 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:3372-32645).
    - ii. This **role** **SHALL** contain exactly one [1..1] **playingMaterial** (CONF:3372-32646).
      - 1. This **playingMaterial** **SHALL** contain exactly one [1..1] **@classCode="MAT"** Material (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:3372-32647).
      - 2. This **playingMaterial** **SHALL** contain exactly one [1..1] **@determinerCode="KIND"** Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:3372-32648).
      - 3. This **playingMaterial** **SHALL** contain exactly one [1..1] **code** (CONF:3372-32649).  
Note: QDM Attribute: Code
        - a. This **code** **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3372-32650).
- 12. **MAY** contain zero or one [0..1] **participation** (CONF:3372-33511) 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:3372-33513).
  - b. **SHALL** contain exactly one [1..1] **time** (CONF:3372-33512).
    - i. This **time** **SHALL** contain exactly one [1..1] **low** (CONF:3372-33514).  
Note: QDM Attribute: Author dateTime (The time the order is signed)
  - c. **SHALL** contain exactly one [1..1] **role** (CONF:3372-33601).

- i. This role **SHALL** contain exactly one [1..1] @classCode="ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3372-33602).
  - ii. This role **MAY** contain zero or one [0..1] id (CONF:3372-33603).
- 13. **MAY** contain zero or one [0..1] outboundRelationship (CONF:3372-32651) 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:3372-32652).
  - 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:3372-32653).
- 14. **MAY** contain zero or one [0..1] outboundRelationship (CONF:3372-34485) 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:3372-34486).
  - 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:3372-34848).

**Figure 68: Substance, Order (V3) Example**

```
<substanceAdministrationCriteria classCode="SBADM" moodCode="RQO">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.77" extension="2018-05-01"/>
  </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>
```

## 5.65 Substance, Recommended (V3)

[substanceAdministrationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.78:2018-05-01 (open)]

**Table 141: Substance, Recommended (V3) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Reason</a> (optional) <a href="#">Supply</a> (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 142: Substance, Recommended (V3) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF #</b>	<b>Value</b>
substanceAdministrationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.78:2018-05-01)					
@classCode	1..1	SHALL		<a href="#">3372-32063</a>	SBADM
@moodCode	1..1	SHALL		<a href="#">3372-32064</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = INT
@actionNegationInd	0..1	MAY		<a href="#">3372-32065</a>	
templateId	1..1	SHALL		<a href="#">3372-32066</a>	
item	1..1	SHALL		<a href="#">3372-32125</a>	
@root	1..1	SHALL		<a href="#">3372-32126</a>	2.16.840.1.113883.10.20.28.4.78
@extension	1..1	SHALL		<a href="#">3372-33693</a>	2018-05-01
id	1..1	SHALL		<a href="#">3372-32067</a>	
title	1..1	SHALL		<a href="#">3372-32069</a>	
statusCode	1..1	SHALL		<a href="#">3372-32070</a>	
@code	1..1	SHALL		<a href="#">3372-32071</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
repeatNumber	0..1	MAY		<a href="#">3372-32121</a>	
routeCode	0..1	MAY		<a href="#">3372-32123</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-33200</a>	
doseQuantity	0..1	MAY		<a href="#">3372-32124</a>	
participation	1..1	SHALL		<a href="#">3372-32103</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32104</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
role	1..1	SHALL		<a href="#">3372-32105</a>	
@classCode	1..1	SHALL		<a href="#">3372-32106</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ADMM
playingMaterial	1..1	SHALL		<a href="#">3372-32107</a>	
@classCode	1..1	SHALL		<a href="#">3372-32108</a>	urn:oid:2.16.840.1.113883.5.41 (HL7EntityClass) = MAT



@determinerCode	1..1	SHALL		<a href="#">3372-32109</a>	urn:oid:2.16.840.1.113883.5.30 (HL7EntityDeterminer) = KIND
code	1..1	SHALL		<a href="#">3372-32110</a>	
@valueSet	0..1	SHOULD		<a href="#">3372-32111</a>	
participation	0..1	MAY		<a href="#">3372-34473</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34476</a>	urn:oid:2.16.840.1.113883.5.90 (HL7ParticipationType) = AUT
time	1..1	SHALL		<a href="#">3372-34474</a>	
low	1..1	SHALL		<a href="#">3372-34477</a>	
role	1..1	SHALL		<a href="#">3372-34475</a>	
@classCode	1..1	SHALL		<a href="#">3372-34478</a>	urn:oid:2.16.840.1.113883.5.110 (HL7RoleClass) = ROL
id	0..1	MAY		<a href="#">3372-34479</a>	
outboundRelationship	0..1	MAY		<a href="#">3372-32112</a>	
@typeCode	1..1	SHALL		<a href="#">3372-32113</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observationCriteria	1..1	SHALL		<a href="#">3372-32114</a>	<a href="#">Reason (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01)</a>
outboundRelationship	0..1	MAY		<a href="#">3372-34488</a>	
@typeCode	1..1	SHALL		<a href="#">3372-34489</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
supplyCriteria	1..1	SHALL		<a href="#">3372-34849</a>	<a href="#">Supply (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01)</a>

1. **SHALL** contain exactly one [1..1] @classCode="SBADM" Substance Administration (CONF:3372-32063).
2. **SHALL** contain exactly one [1..1] @moodCode="INT" Intent (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3372-32064).
3. **MAY** contain zero or one [0..1] @actionNegationInd (CONF:3372-32065).  
Note: QDM Attribute: Negation Rationale
4. **SHALL** contain exactly one [1..1] templateId (CONF:3372-32066).
  - a. **SHALL** contain exactly one [1..1] item (CONF:3372-32125) such that it
    - i. This item **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.78" (CONF:3372-32126).

- ii. This item **SHALL** contain exactly one [1..1] **@extension="2018-05-01"** (CONF:3372-33693).
- 5. **SHALL** contain exactly one [1..1] **id** (CONF:3372-32067).
- 6. **SHALL** contain exactly one [1..1] **title** (CONF:3372-32069).
- 7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3372-32070).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code="active"** Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3372-32071).
- 8. **MAY** contain zero or one [0..1] **repeatNumber** (CONF:3372-32121).  
Note: QDM Attribute: Refills
- 9. **MAY** contain zero or one [0..1] **routeCode** (CONF:3372-32123).  
Note: QDM Attribute: Route
  - a. The routeCode, if present, **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3372-33200).
- 10. **MAY** contain zero or one [0..1] **doseQuantity** (CONF:3372-32124).  
Note: QDM Attribute: Dosage
- 11. **SHALL** contain exactly one [1..1] **participation** (CONF:3372-32103) 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:3372-32104).
  - b. **SHALL** contain exactly one [1..1] **role** (CONF:3372-32105).
    - 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:3372-32106).
    - ii. This role **SHALL** contain exactly one [1..1] **playingMaterial** (CONF:3372-32107).
      - 1. This playingMaterial **SHALL** contain exactly one [1..1] **@classCode="MAT"** Material (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:3372-32108).
      - 2. This playingMaterial **SHALL** contain exactly one [1..1] **@determinerCode="KIND"** Kind (CodeSystem: HL7EntityDeterminer urn:oid:2.16.840.1.113883.5.30) (CONF:3372-32109).
      - 3. This playingMaterial **SHALL** contain exactly one [1..1] **code** (CONF:3372-32110).  
Note: QDM Attribute: Code
        - a. This code **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3372-32111).
- 12. **MAY** contain zero or one [0..1] **participation** (CONF:3372-34473) 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:3372-34476).
  - b. **SHALL** contain exactly one [1..1] **time** (CONF:3372-34474).
    - i. This time **SHALL** contain exactly one [1..1] **low** (CONF:3372-34477).  
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:3372-34475).

- i. This role **SHALL** contain exactly one [1..1] @classCode="ROL" Role (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3372-34478).
  - ii. This role **MAY** contain zero or one [0..1] id (CONF:3372-34479).
- 13. **MAY** contain zero or one [0..1] outboundRelationship (CONF:3372-32112) 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:3372-32113).
  - 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:3372-32114).
- 14. **MAY** contain zero or one [0..1] outboundRelationship (CONF:3372-34488) 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:3372-34489).
  - 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:3372-34849).

**Figure 69: Substance, Recommended (V3) Example**

```
<substanceAdministrationCriteria classCode="SBADM" moodCode="INT">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.78" extension="2018-05-01"/>
  </templateId>
  <id root="e208b889-30eb-4c2b-belf-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>
```

## 5.66 Supply

[supplyCriteria: identifier urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01 (open)]

**Table 143: Supply Contexts**

Contained By:	Contains:
<a href="#">Immunization, Order (V2)</a> (optional) <a href="#">Medication, Discharge (V2)</a> (optional) <a href="#">Substance, Order (V3)</a> (optional) <a href="#">Substance, Recommended (V3)</a> (optional) <a href="#">Medication, Order (V3)</a> (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 144: 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		<a href="#">3346-34795</a>	SPLY
@moodCode	1..1	SHALL		<a href="#">3346-34796</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		<a href="#">3346-34771</a>	
item	1..1	SHALL		<a href="#">3346-34772</a>	
@root	1..1	SHALL		<a href="#">3346-34783</a>	2.16.840.1.113883.10.20.28.4.129
@extension	1..1	SHALL		<a href="#">3346-34784</a>	2017-08-01
id	1..1	SHALL		<a href="#">3346-34797</a>	
title	1..1	SHALL		<a href="#">3346-34798</a>	
quantity	1..1	SHALL		<a href="#">3346-34800</a>	

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. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.129" (CONF:3346-34783).
    - ii. This item **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] **title** (CONF:3346-34798).
  6. **SHALL** contain exactly one [1..1] **quantity** (CONF:3346-34800).
- Note: QDM Attribute: Supply

**Figure 70: Supply Example**

```
<supplyCriteria classCode="SPLY" moodCode="RQO">
  <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>
```

## 5.67 Symptom (V2)

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.116:2017-08-01 (open)]

**Table 145: Symptom (V2) Contexts**

Contained By:	Contains:
<a href="#">Data Criteria Section (V3)</a> (optional)	<a href="#">Severity Observation (V2)</a> (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 146: Symptom (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF #	Value
observationCriteria (identifier: urn:hl7ii:2.16.840.1.113883.10.20.28.4.116:2017-08-01)					
@classCode	1..1	SHALL		<a href="#">3346-34108</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3346-34109</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		<a href="#">3346-34079</a>	
item	1..1	SHALL		<a href="#">3346-34080</a>	
@root	1..1	SHALL		<a href="#">3346-34093</a>	2.16.840.1.113883.10.20.28.4.116
@extension	1..1	SHALL		<a href="#">3346-34480</a>	2017-08-01
id	1..1	SHALL		<a href="#">3346-34112</a>	
code	1..1	SHALL		<a href="#">3346-34081</a>	
@code	1..1	SHALL		<a href="#">3346-34095</a>	418799008
@codeSystem	1..1	SHALL		<a href="#">3346-34096</a>	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
title	1..1	SHALL		<a href="#">3346-34111</a>	
statusCode	1..1	SHALL		<a href="#">3346-34082</a>	
@code	1..1	SHALL		<a href="#">3346-34097</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	MAY	IVL_TS	<a href="#">3346-34083</a>	
low	0..1	MAY		<a href="#">3346-34098</a>	
high	0..1	MAY		<a href="#">3346-34099</a>	
value	1..1	SHALL	CD	<a href="#">3346-34088</a>	
@valueSet	0..1	SHOULD		<a href="#">3346-34105</a>	
outboundRelationship	0..1	MAY		<a href="#">3346-34078</a>	
@typeCode	1..1	SHALL		<a href="#">3346-34092</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observationCriteria	1..1	SHALL		<a href="#">3346-</a>	<a href="#">Severity Observation (V2)</a>

				34091	<a href="#">(identifier: urn:hl7ii:2.16.840.1.113883.10. 20.28.4.93:2017-08-01</a>
--	--	--	--	-------	--------------------------------------------------------------------------------------------

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CONF:3346-34108).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:3346-34109).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:3346-34079).
  - a. **SHALL** contain exactly one [1..1] **item** (CONF:3346-34080) such that it
    - i. This item **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.28.4.116" (CONF:3346-34093).
    - ii. This item **SHALL** contain exactly one [1..1] **@extension**="2017-08-01" (CONF:3346-34480).
4. **SHALL** contain exactly one [1..1] **id** (CONF:3346-34112).
5. **SHALL** contain exactly one [1..1] **code** (CONF:3346-34081).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="418799008" Symptom (CONF:3346-34095).
  - 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:3346-34096).
6. **SHALL** contain exactly one [1..1] **title** (CONF:3346-34111).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3346-34082).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:3346-34097).
8. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:3346-34083) 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:3346-34098).  
Note: Onset dateTime
  - b. **MAY** contain zero or one [0..1] **high** (CONF:3346-34099).  
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:3346-34088).  
Note: QDM Attribute: Code
  - a. This value **SHOULD** contain zero or one [0..1] **@valueSet** (CONF:3346-34105).
10. **MAY** contain zero or one [0..1] **outboundRelationship** (CONF:3346-34078) 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:3346-34092).
  - 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:3346-34091).

**Figure 71: Symptom (V2) Example**

```
<observationCriteria classCode="OBS" moodCode="EVN">
  <templateId>
    <item root="2.16.840.1.113883.10.20.28.4.116" extension="2017-08-01"/>
  </templateId>
  <id root="9e4e810d-3c3e-461e-86f8-6fe7a0blca2b"/>
  <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>
```

## 5.68 Target Outcome

[observationCriteria: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.28.4.128:2017-08-01 (open)]

**Table 147: Target Outcome Contexts**

Contained By:	Contains:
<a href="#">Care Goal (V2)</a> (optional)	

This template represents the QDM attribute: Target Outcome.

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



**Table 148: 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		<a href="#">3346-29112</a>	OBS
@moodCode	1..1	SHALL		<a href="#">3346-29113</a>	GOL
templateId	1..1	SHALL		<a href="#">3346-29104</a>	
item	1..1	SHALL		<a href="#">3346-29105</a>	
@root	1..1	SHALL		<a href="#">3346-29108</a>	2.16.840.1.113883.10.20.28.4.128
@extension	1..1	SHALL		<a href="#">3346-29109</a>	2017-08-01
id	1..1	SHALL		<a href="#">3346-29114</a>	
code	1..1	SHALL		<a href="#">3346-29106</a>	
@code	1..1	SHALL		<a href="#">3346-29110</a>	385676005
@codeSystem	1..1	SHALL		<a href="#">3346-29111</a>	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
title	1..1	SHALL		<a href="#">3346-29116</a>	
value	1..1	SHALL		<a href="#">3346-29107</a>	

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. **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 72: 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 149: Template List**

Template Title	Template Type	templateId
<a href="#">QDM Templates for CQL-Based HQMF Header (V3)</a>	Document	urn:hl7ii:2.16.840.1.113883.10.20.28.1.2:2018-05-01
<a href="#">Data Criteria Section (V3)</a>	Section	urn:hl7ii:2.16.840.1.113883.10.20.28.2.6:2018-05-01
<a href="#">Measure Description Section</a>	Section	urn:oid:2.16.840.1.113883.10.20.28.2.3
<a href="#">Measure Observations Section (V2)</a>	Section	urn:hl7ii:2.16.840.1.113883.10.20.28.2.4:2018-05-01
<a href="#">Population Criteria Section (V2)</a>	Section	urn:hl7ii:2.16.840.1.113883.10.20.28.2.7:2017-08-01
<a href="#">Admission Source</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.123:2017-05-01
<a href="#">Adverse Event (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.120:2017-08-01
<a href="#">Allergy Intolerance (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.119:2017-08-01
<a href="#">Assessment, Order</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.131:2018-05-01
<a href="#">Assessment, Performed (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.117:2017-08-01
<a href="#">Assessment, Recommended (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.118:2018-05-01
<a href="#">Care Goal (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.7:2017-08-01
<a href="#">Cause</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.105:2017-05-01
<a href="#">Communication, Performed</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.132:2018-05-01
<a href="#">Component</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.121:2017-05-01
<a href="#">Device, Applied (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.13:2018-05-01
<a href="#">Device, Order</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.15:2017-05-01
<a href="#">Device, Recommended</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.16:2017-05-01
<a href="#">Diagnosis (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.110:2017-08-01
<a href="#">Diagnostic Study, Order (V3)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.22:2018-05-01
<a href="#">Diagnostic Study, Performed (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.

Template Title	Template Type	templateId
		28.4.23:2017-08-01
<a href="#">Diagnostic Study, Recommended (V3)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.24:2018-05-01
<a href="#">Dosage</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.125:2017-05-01
<a href="#">Encounter, Order</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.27:2017-05-01
<a href="#">Encounter, Performed (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.5:2017-08-01
<a href="#">Encounter, Recommended</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.28:2017-05-01
<a href="#">Facility Location</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01
<a href="#">Family History</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.111:2017-05-01
<a href="#">Immunization, Administered (V3)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.112:2018-05-01
<a href="#">Immunization, Order (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.113:2017-08-01
<a href="#">Incision Datetime</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.89:2017-05-01
<a href="#">Intervention, Order</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.35:2017-05-01
<a href="#">Intervention, Performed (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.36:2017-08-01
<a href="#">Intervention, Recommended</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.37:2017-05-01
<a href="#">Laboratory Test Component</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.126:2017-05-01
<a href="#">Laboratory Test Reference Range</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.124:2017-05-01
<a href="#">Laboratory Test, Order (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.41:2018-05-01
<a href="#">Laboratory Test, Performed (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.42:2017-08-01
<a href="#">Laboratory Test, Recommended (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.43:2018-05-01
<a href="#">Medication, Active (V3)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.44:2018-05-01
<a href="#">Medication, Administered (V3)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.45:2018-05-01
<a href="#">Medication, Discharge (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.48:2017-08-01
<a href="#">Medication, Dispensed (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.49:2017-08-01
<a href="#">Medication, Order (V3)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.

Template Title	Template Type	templateId
		28.4.51:2018-05-01
<a href="#">Patient Care Experience</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.52:2017-05-01
<a href="#">Patient Characteristic (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.53:2017-08-01
<a href="#">Patient Characteristic Birth Date</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.54:2017-05-01
<a href="#">Patient Characteristic Clinical Trial Participant</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.6:2017-05-01
<a href="#">Patient Characteristic Ethnicity</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.56:2017-05-01
<a href="#">Patient Characteristic Expired</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.57:2017-05-01
<a href="#">Patient Characteristic Payer</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.58:2017-05-01
<a href="#">Patient Characteristic Race</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.59:2017-05-01
<a href="#">Patient Characteristic Sex</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.55:2017-05-01
<a href="#">Physical Exam, Order (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.61:2018-05-01
<a href="#">Physical Exam, Performed (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.62:2017-08-01
<a href="#">Physical Exam, Recommended (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.63:2018-05-01
<a href="#">Principal Diagnosis</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.122:2017-05-01
<a href="#">Procedure, Order (V3)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.66:2018-05-01
<a href="#">Procedure, Performed (V3)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.67:2018-05-01
<a href="#">Procedure, Recommended (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.68:2018-05-01
<a href="#">Program Participation</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.130:2017-08-01
<a href="#">Provider Care Experience</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.70:2017-05-01
<a href="#">Provider Characteristic (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.71:2017-08-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Related To</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.127:2017-08-01
<a href="#">Result (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01
<a href="#">Severity Observation (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.

Template Title	Template Type	templateId
		28.4.93:2017-08-01
<a href="#">Status (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.94:2017-08-01
<a href="#">Substance, Administered (V3)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.73:2018-05-01
<a href="#">Substance, Order (V3)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.77:2018-05-01
<a href="#">Substance, Recommended (V3)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.78:2018-05-01
<a href="#">Supply</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01
<a href="#">Symptom (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.116:2017-08-01
<a href="#">Target Outcome</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.128:2017-08-01

**Table 150: Template Containments**

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">QDM Templates for CQL-Based HQMF Header (V3)</a>	Document	urn:hl7ii:2.16.840.1.113883.10.20.28.1.2:2018-05-01
<a href="#">Measure Description Section</a>	Section	urn:oid:2.16.840.1.113883.10.20.28.2.3
<a href="#">Population Criteria Section (V2)</a>	Section	urn:hl7ii:2.16.840.1.113883.10.20.28.2.7:2017-08-01
<a href="#">Measure Observations Section (V2)</a>	Section	urn:hl7ii:2.16.840.1.113883.10.20.28.2.4:2018-05-01
<a href="#">Data Criteria Section (V3)</a>	Section	urn:hl7ii:2.16.840.1.113883.10.20.28.2.6:2018-05-01
<a href="#">Device, Order</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.15:2017-05-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Device, Recommended</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.16:2017-05-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Encounter, Order</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.27:2017-05-01
<a href="#">Facility Location</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Encounter, Recommended</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.28:2017-05-01
<a href="#">Facility Location</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Family History</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.111:2017-05-01
<a href="#">Intervention, Order</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.35:2017-05-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Intervention, Recommended</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.37:2017-05-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Patient Care Experience</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.52:2017-05-01
<a href="#">Patient Characteristic Clinical Trial Participant</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.6:2017-05-01

Template Title	Template Type	templateId
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Patient Characteristic Birth Date</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.54:2017-05-01
<a href="#">Patient Characteristic Ethnicity</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.56:2017-05-01
<a href="#">Patient Characteristic Expired</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.57:2017-05-01
<a href="#">Cause</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.105:2017-05-01
<a href="#">Patient Characteristic Payer</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.58:2017-05-01
<a href="#">Patient Characteristic Race</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.59:2017-05-01
<a href="#">Patient Characteristic Sex</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.55:2017-05-01
<a href="#">Provider Care Experience</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.70:2017-05-01
<a href="#">Adverse Event (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.120:2017-08-01
<a href="#">Facility Location</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01
<a href="#">Severity Observation (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.93:2017-08-01
<a href="#">Allergy Intolerance (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.119:2017-08-01
<a href="#">Severity Observation (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.93:2017-08-01
<a href="#">Assessment, Performed (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.117:2017-08-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Component</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.121:2017-05-01
<a href="#">Related To</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.127:2017-08-01
<a href="#">Care Goal (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.7:2017-08-01
<a href="#">Related To</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.127:2017-08-01
<a href="#">Target Outcome</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.128:2017-08-01
<a href="#">Diagnostic Study, Performed (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.23:2017-08-01
<a href="#">Facility Location</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01



Template Title	Template Type	templateId
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Component</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.121:2017-05-01
<a href="#">Result (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01
<a href="#">Status (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.94:2017-08-01
<a href="#">Encounter, Performed (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.5:2017-08-01
<a href="#">Admission Source</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.123:2017-05-01
<a href="#">Facility Location</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.92:2017-05-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Principal Diagnosis</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.122:2017-05-01
<a href="#">Diagnosis (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.110:2017-08-01
<a href="#">Severity Observation (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.93:2017-08-01
<a href="#">Laboratory Test, Performed (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.42:2017-08-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Laboratory Test Component</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.126:2017-05-01
<a href="#">Laboratory Test Reference Range</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.124:2017-05-01
<a href="#">Laboratory Test Reference Range</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.124:2017-05-01
<a href="#">Result (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01
<a href="#">Status (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.94:2017-08-01
<a href="#">Immunization, Order (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.113:2017-08-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Supply</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01
<a href="#">Medication, Discharge (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.48:2017-08-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01

Template Title	Template Type	templateId
<a href="#">Supply</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01
<a href="#">Patient Characteristic (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.53:2017-08-01
<a href="#">Provider Characteristic (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.71:2017-08-01
<a href="#">Symptom (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.116:2017-08-01
<a href="#">Severity Observation (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.93:2017-08-01
<a href="#">Diagnosis (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.110:2017-08-01
<a href="#">Severity Observation (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.93:2017-08-01
<a href="#">Intervention, Performed (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.36:2017-08-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Result (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01
<a href="#">Status (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.94:2017-08-01
<a href="#">Physical Exam, Performed (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.62:2017-08-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Component</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.121:2017-05-01
<a href="#">Result (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01
<a href="#">Medication, Dispensed (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.49:2017-08-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Dosage</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.125:2017-05-01
<a href="#">Assessment, Order</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.131:2018-05-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Assessment, Recommended (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.118:2018-05-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Communication, Performed</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.132:2018-05-01

Template Title	Template Type	templateId
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Related To</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.127:2017-08-01
<a href="#">Device, Applied (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.13:2018-05-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Diagnostic Study, Order (V3)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.22:2018-05-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Diagnostic Study, Recommended (V3)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.24:2018-05-01
<a href="#">Immunization, Administered (V3)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.112:2018-05-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Laboratory Test, Order (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.41:2018-05-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Laboratory Test, Recommended (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.43:2018-05-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Medication, Active (V3)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.44:2018-05-01
<a href="#">Medication, Administered (V3)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.45:2018-05-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Physical Exam, Order (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.61:2018-05-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Physical Exam, Recommended (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.63:2018-05-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Procedure, Order (V3)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.66:2018-05-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Procedure, Recommended (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.68:2018-05-01

Template Title	Template Type	templateId
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Procedure, Performed (V3)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.67:2018-05-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Component</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.121:2017-05-01
<a href="#">Incision Datetime</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.89:2017-05-01
<a href="#">Result (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.101:2017-08-01
<a href="#">Status (V2)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.94:2017-08-01
<a href="#">Substance, Administered (V3)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.73:2018-05-01
<a href="#">Substance, Order (V3)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.77:2018-05-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Supply</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01
<a href="#">Substance, Recommended (V3)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.78:2018-05-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Supply</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01
<a href="#">Medication, Order (V3)</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.51:2018-05-01
<a href="#">Reason</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.88:2017-05-01
<a href="#">Supply</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.129:2017-08-01
<a href="#">Program Participation</a>	Entry	urn:hl7ii:2.16.840.1.113883.10.20.28.4.130:2017-08-01

## 7 VALUE SETS IN THIS GUIDE

**Table 151: ObservationMeasureScoring**

Value Set: ObservationMeasureScoring urn:oid:2.16.840.1.113883.1.11.20367 Observation values used to indicate the type of scoring (e.g., proportion, ratio) used by a health quality measure.			
Code	Code System	Code System OID	Print Name
COHORT	HL7ObservationValue	urn:oid:2.16.840.1.113883.5.1063	cohort measure scoring
CONTVAR	HL7ObservationValue	urn:oid:2.16.840.1.113883.5.1063	continuous variable measure scoring
PROPOR	HL7ObservationValue	urn:oid:2.16.840.1.113883.5.1063	proportion measure scoring
RATIO	HL7ObservationValue	urn:oid:2.16.840.1.113883.5.1063	ratio measure scoring

**Table 152: ObservationMeasureType**

Value Set: ObservationMeasureType urn:oid:2.16.840.1.113883.1.11.20368 Observation values used to indicate whether a health quality measure is used to example a process or outcome over time.			
Code	Code System	Code System OID	Print Name
OUTCOME	HL7ObservationValue	urn:oid:2.16.840.1.113883.5.1063	outcome measure type
PROCESS	HL7ObservationValue	urn:oid:2.16.840.1.113883.5.1063	process measure type
COMPOSITE	HL7ObservationValue	urn:oid:2.16.840.1.113883.5.1063	composite measure type
RESOURCE	HL7ObservationValue	urn:oid:2.16.840.1.113883.5.1063	resource use measure type
EFFICIENCY	HL7ObservationValue	urn:oid:2.16.840.1.113883.5.1063	efficiency measure type
EXPERIENCE	HL7ObservationValue	urn:oid:2.16.840.1.113883.5.1063	experience measure type
STRUCTURE	HL7ObservationValue	urn:oid:2.16.840.1.113883.5.1063	structure measure type

**Table 153: RoleClassServiceDeliveryLocation**

Value Set: RoleClassServiceDeliveryLocation urn:oid:2.16.840.1.113883.1.11.16927 Location(s) in which care being measured is rendered.			
Code	Code System	Code System OID	Print Name
SDLOC	HL7RoleClass	urn:oid:2.16.840.1.113883.5.110	service delivery location
DSDLOC	HL7RoleClass	urn:oid:2.16.840.1.113883.5.110	dedicated service delivery location/health care facility
ISDLOC	HL7RoleClass	urn:oid:2.16.840.1.113883.5.110	incidental service delivery location

## 8 CODE SYSTEMS IN THIS GUIDE

**Table 154: 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

## 9 RETIRED TEMPLATES

**Table 155 Retired Templates**

<b>Name</b>	<b>OID</b>	<b>Description</b>
Communication: From Patient to Provider (V3) - RETIRED	urn:hl7ii:2.16.840.1.113883.10.20.28.4.8:2018-05-01	<p>This template represents the QDM data type: Communication: From Patient to Provider.</p> <p>This represents a communication initiated by the patient and received by the provider.</p> <p>Timing: The time the communication occurs, or is sent; author time.</p>
Communication: From Provider to Patient (V3) - RETIRED	urn:hl7ii:2.16.840.1.113883.10.20.28.4.9:2018-05-01	<p>This template represents the QDM data type: Communication: From Provider to Patient.</p> <p>This represents the provision of any communication to the patient. (e.g., results, findings, plans for care, medical advice, instructions, educational resources, appointments).</p> <p>Timing: The time the communication occurs, or is sent; author time.</p>
Communication: From Provider to Provider (V3) - RETIRED	urn:hl7ii:2.16.840.1.113883.10.20.28.4.10:2018-05-01	<p>This template represents the QDM data type: Communication: From Provider to Provider.</p> <p>This represents the provision of any communication from one clinician to another regarding findings, assessments, plans of care, consultative advice, instructions, educational resources, etc.</p> <p>Timing: The time the communication occurs, or is sent; author time.</p>



## 10 NEW TEMPLATES

**Table 156 New Templates**

Name	OID	Description
Communication, Performed	urn:hl7ii:2.16.840.1.113883.10.20.28.4.132:2018-05-01	<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>

## 11 CHANGES FROM PREVIOUS VERSION

### 11.1 QDM Templates for CQL-Based HQMF Header (V3)

QDM Templates for CQL-Based HQMF Header (V3)

(urn:hl7ii:2.16.840.1.113883.10.20.28.1.2:2018-05-01)

Change	Old	New
Name	QDM Templates for CQL-Based HQMF Header (V2)	QDM Templates for CQL-Based HQMF Header (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.1.2:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.1.2:2018-05-01
Description	This is the document header template for a CQL-based HQMF document that contains QDM-based entry templates (QDM Version 5.3).	This is the document header template for a CQL-based HQMF document that contains QDM-based entry templates (QDM Version 5.4).
CONF #: 3346-18596 Removed	SHOULD contain zero or one [0..1] subjectOf (CONF:3346-18596) such that it	
CONF #: 3346-18597 Removed	SHALL contain exactly one [1..1] measureAttribute (CONF:3346-18597).	
CONF #: 3346-18598 Removed	This measureAttribute SHALL contain exactly one [1..1] code (CONF:3346-18598).	
CONF #: 3346-18599 Removed	This code SHALL contain exactly one [1..1] @code="ITMCNT" Items Counted (CONF:3346-18599).	
CONF #: 3346-30059 Removed	This code SHALL contain exactly one [1..1] @codeSystem (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:3346-30059).	
CONF #: 3346-29983 Removed	This measureAttribute SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:3346-29983).	
CONF #: 3372-18772 Modified	SHALL contain exactly one [1..1] item (CONF:3346-18772) such that it	This templateId SHALL contain exactly one [1..1] item (CONF:3372-18772) such that it
CONF #: 3372-33755 Modified	SHALL contain zero or one [0..1] @extension="2017-08-01" (CONF:3346-33755).	SHALL contain zero or one [0..1] @extension="2018-05-01" (CONF:3372-33755).
CONF #: 3372-34631 Modified	This text SHALL contain exactly one [1..1] @mediaType="application/cql" (CONF:3346-34631).	This text SHALL contain exactly one [1..1] @mediaType="text/cql" (CONF:3372-34631).

## 11.2 Assessment, Recommended (V2)

Assessment, Recommended (V2) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.118:2018-05-01)

Change	Old	New
Name	Assessment, Recommended	Assessment, Recommended (V2)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.118:2017-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.118:2018-05-01
CONF #: 3335-34265 Removed	MAY contain zero or one [0..1] methodCode (CONF:3335-34265). Note: QDM Attribute: Method	
CONF #: 3335-34266 Removed	The methodCode, if present, SHOULD contain zero or one [0..1] item (CONF:3335-34266).	
CONF #: 3335-34268 Removed	The item, if present, SHOULD contain zero or one [0..1] @valueSet (CONF:3335-34268).	
CONF #: 3372-34157 Modified	This item SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.118" (CONF:3335-34157).	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.118" (CONF:3372-34157).
CONF #: 3372-34273 Modified	This item SHALL contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-34273).	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-34273).

## 11.3 Communication: From Patient to Provider (V3) - RETIRED

Communication: From Patient to Provider (V3) - RETIRED  
(urn:hl7ii:2.16.840.1.113883.10.20.28.4.8:2018-05-01)

Change	Old	New
Status	Published	Retired
Name	Communication: From Patient to Provider (V2)	Communication: From Patient to Provider (V3) - RETIRED
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.8:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.8:2018-05-01

## 11.4 Communication: From Provider to Patient (V3) - RETIRED

Communication: From Provider to Patient (V3) - RETIRED

(urn:hl7ii:2.16.840.1.113883.10.20.28.4.9:2018-05-01)

Change	Old	New
Status	Published	Retired
Name	Communication: From Provider to Patient (V2)	Communication: From Provider to Patient (V3) - RETIRED
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.9:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.9:2018-05-01

## 11.5 Communication: From Provider to Provider (V3) - RETIRED

Communication: From Provider to Provider (V3) - RETIRED

(urn:hl7ii:2.16.840.1.113883.10.20.28.4.10:2018-05-01)

Change	Old	New
Status	Published	Retired
Name	Communication: From Provider to Provider (V2)	Communication: From Provider to Provider (V3) - RETIRED
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.10:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.10:2018-05-01

## 11.6 Device, Applied (V2)

Device, Applied (V2) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.13:2018-05-01)

Change	Old	New
Name	Device, Applied	Device, Applied (V2)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.13:2017-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.13:2018-05-01
CONF #: 3335-33359 Removed	MAY contain zero or one [0..1] approachSiteCode (CONF:3335-33359). Note: QDM Attribute: Anatomical Approach Site	
CONF #: 3335-33360 Removed	The approachSiteCode, if present, SHOULD contain zero or one [0..1] item (CONF:3335-33360).	
CONF #: 3335-33362 Removed	The item, if present, SHOULD contain zero or one [0..1] @valueSet (CONF:3335-33362).	
CONF #: 3372-33060 Modified	The targetSiteCode, if present, SHOULD contain zero or one [0..1] item (CONF:3335-33060).	The targetSiteCode, if present, SHALL contain exactly one [1..1] item (CONF:3372-33060).
CONF #: 3372-31307 Modified	This item SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.13" (CONF:3335-31307).	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.13" (CONF:3372-31307).
CONF #: 3372-33361 Modified	This item SHALL contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-33361).	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33361).
CONF #: 3372-33061 Modified	The item, if present, SHOULD contain zero or one [0..1] @valueSet (CONF:3335-33061).	This item SHOULD contain zero or one [0..1] @valueSet (CONF:3372-33061).

## 11.7 Diagnostic Study, Order (V3)

Diagnostic Study, Order (V3) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.22:2018-05-01)

Change	Old	New
Name	Diagnostic Study, Order (V2)	Diagnostic Study, Order (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.22:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.22:2018-05-01
Description	<p>This template represents the QDM data type: Diagnostic Study, Order.</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>Diagnostic Study, Order represents that a diagnostic study has been ordered.</p> <p>Timing: The time the order is signed; author time.</p>	<p>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.</p> <p>Diagnostic Study, Order represents that a diagnostic study has been ordered.</p> <p>Timing: The time the order is signed; author time.</p>
CONF #: 3372-34723 Added		SHALL contain exactly one [1..1] @classCode="OBS" Observation (CONF:3372-34723).
CONF #: 3346-30115 Removed	MAY contain zero or one [0..1] methodCode (CONF:3346-30115). Note: QDM Attribute: Method	
CONF #: 3346-30116 Removed	The methodCode, if present, SHOULD contain zero or one [0..1] item (CONF:3346-30116).	
CONF #: 3346-30908 Removed	The item, if present, SHOULD contain zero or one [0..1] @valueSet (CONF:3346-30908).	
CONF #: 3346-30105 Removed	SHALL contain exactly one [1..1] @classCode="OBS" Observation	

Change	Old	New
	(CONF:3346-30105).	
CONF #: 3372-30109 Modified	SHALL contain exactly one [1..1] item (CONF:3346-30109).	This templateId SHALL contain exactly one [1..1] item (CONF:3372-30109) such that it
CONF #: 3372-30117 Modified	This item SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.22" (CONF:3346-30117).	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.22" (CONF:3372-30117).
CONF #: 3372-33643 Modified	This item SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-33643).	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33643).

## 11.8 Diagnostic Study, Recommended (V3)

[Diagnostic Study, Recommended \(V3\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.24:2018-05-01\)](#)

Change	Old	New
Name	Diagnostic Study, Recommended (V2)	Diagnostic Study, Recommended (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.24:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.24:2018-05-01
Description	<p>This template represents the QDM data type: Diagnostic Study, Recommended.</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>Timing: The time the order is signed; author time.</p>	<p>This template represents the QDM data type: Diagnostic Study, Recommended.</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>Timing: The time the order is signed; author time.</p> <p>All QDM datatypes referring to recommendations address the time that the recommendation occurs, a</p>

Change	Old	New
	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.	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.
CONF #: 3346-30587 Removed	MAY contain zero or one [0..1] methodCode (CONF:3346-30587). Note: QDM Attribute: Method	
CONF #: 3346-30588 Removed	The methodCode, if present, SHOULD contain zero or one [0..1] item (CONF:3346-30588).	
CONF #: 3346-30913 Removed	The item, if present, SHOULD contain zero or one [0..1] @valueSet (CONF:3346-30913).	
CONF #: 3372-30576 Modified	SHALL contain exactly one [1..1] item (CONF:3346-30576).	This templateId SHALL contain exactly one [1..1] item (CONF:3372-30576) such that it
CONF #: 3372-30577 Modified	This item SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.24" (CONF:3346-30577).	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.24" (CONF:3372-30577).
CONF #: 3372-33751 Modified	This item SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-33751).	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33751).

## 11.9 Immunization, Administered (V3)

Immunization, Administered (V3) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.112:2018-05-01)

Change	Old	New
Name	Immunization, Administered (V2)	Immunization, Administered (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.112:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.112:2018-05-01
CONF #: 3346-34491 Removed	MAY contain zero or one [0..1] outboundRelationship (CONF:3346-34491) such that it Note: QDM Attribute: Supply	
CONF #: 3346-34492 Removed	SHALL contain exactly one [1..1]	



Change	Old	New
	@typeCode="REFR" Refers To (CONF:3346-34492).	
CONF #: 3346-34801 Removed	SHALL contain exactly one [1..1] supplyCriteria (CONF:3346-34801).	
CONF #: 3372-33831 Modified	SHALL contain exactly one [1..1] item (CONF:3346-33831).	This templateId SHALL contain exactly one [1..1] item (CONF:3372-33831) such that it
CONF #: 3372-33836 Modified	This item SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.112" (CONF:3346-33836).	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.112" (CONF:3372-33836).
CONF #: 3372-34384 Modified	This item SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-34384).	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-34384).

## 11.10 Laboratory Test, Order (V2)

Laboratory Test, Order (V2) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.41:2018-05-01)

Change	Old	New
Name	Laboratory Test, Order	Laboratory Test, Order (V2)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.41:2017-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.41:2018-05-01
CONF #: 3335-30402 Removed	MAY contain zero or one [0..1] methodCode (CONF:3335-30402). Note: QDM Attribute: Method	
CONF #: 3335-30403 Removed	The methodCode, if present, SHALL contain exactly one [1..1] item (CONF:3335-30403).	
CONF #: 3335-30404 Removed	This item SHOULD contain zero or one [0..1] @valueSet (CONF:3335-30404).	
CONF #: 3372-30393 Modified	SHALL contain exactly one [1..1] item (CONF:3335-30393).	This templateId SHALL contain exactly one [1..1] item (CONF:3372-30393) such that it
CONF #: 3372-30394 Modified	This item SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.41" (CONF:3335-30394).	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.41" (CONF:3372-30394).
CONF #: 3372-33649 Modified	This item SHALL contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-33649).	SHALL contain exactly one [1..1] @extension="2017-05-01" (CONF:3372-33649).

## 11.11 Laboratory Test, Recommended (V2)

Laboratory Test, Recommended (V2) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.43:2018-05-01)

Change	Old	New
Name	Laboratory Test, Recommended	Laboratory Test, Recommended (V2)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.43:2017-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.43:2018-05-01
CONF #: 3335-30428 Removed	MAY contain zero or one [0..1] methodCode (CONF:3335-30428). Note: QDM Attribute: Method	
CONF #: 3335-30429 Removed	The methodCode, if present, SHALL contain exactly one [1..1] item (CONF:3335-30429).	
CONF #: 3335-30430 Removed	This item SHOULD contain zero or one [0..1] @valueSet (CONF:3335-30430).	
CONF #: 3372-30418 Modified	SHALL contain exactly one [1..1] item (CONF:3335-30418).	This templateId SHALL contain exactly one [1..1] item (CONF:3372-30418) such that it
CONF #: 3372-30419 Modified	This item SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.43" (CONF:3335-30419).	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.43" (CONF:3372-30419).
CONF #: 3372-33692 Modified	This item SHALL contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-33692).	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33692).

## 11.12 Medication, Active (V3)

Medication, Active (V3) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.44:2018-05-01)

Change	Old	New
Name	Medication, Active (V2)	Medication, Active (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.44:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.44:2018-05-01
Description	<p>This template represents the QDM data type: Medication, Active.</p> <p>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</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: 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</p>

Change	Old	New
	<p>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>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). Used while the patient was on the given medication.</p>	<p>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 #: 3346-34431 Removed	MAY contain zero or one [0..1] outboundRelationship (CONF:3346-34431) such that it Note: QDM Attribute: Supply	
CONF #: 3346-34432 Removed	SHALL contain exactly one [1..1] @typeCode="REFR" Refers To (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3346-34432).	
CONF #: 3346-34805 Removed	SHALL contain exactly one [1..1] supplyCriteria (CONF:3346-34805).	
CONF #: 3372-31954 Modified	SHALL contain exactly one [1..1] item (CONF:3346-31954).	This templateId SHALL contain exactly one [1..1] item (CONF:3372-31954) such that it
CONF #: 3372-31955 Modified	This item SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.44" (CONF:3346-31955).	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.44" (CONF:3372-31955).
CONF #: 3372-33376 Modified	This item SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-33376).	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33376).

## 11.13 Medication, Administered (V3)

[Medication, Administered \(V3\) \(urn:hl7ii:2.16.840.1.113883.10.20.28.4.45:2018-05-01\)](#)

Change	Old	New
Name	Medication, Administered (V2)	Medication, Administered (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.45:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.45:2018-05-01
Description	This template represents the QDM data type: Medication, Administered.	This template represents the QDM data type: Medication, Administered.

Change	Old	New
	<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) .</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).</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) .</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 #: 3346-34434 Removed	MAY contain zero or one [0..1] outboundRelationship (CONF:3346-34434) such that it Note: QDM Attribute: Supply	
CONF #: 3346-34435 Removed	SHALL contain exactly one [1..1] @typeCode="REFR" Refers To (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3346-34435).	
CONF #: 3346-34808 Removed	SHALL contain exactly one [1..1] supplyCriteria (CONF:3346-34808).	
CONF #: 3372-32051 Modified	SHALL contain exactly one [1..1] item (CONF:3346-32051).	This templateId SHALL contain exactly one [1..1] item (CONF:3372-32051) such that it
CONF #: 3372-34542 Modified	SHALL contain exactly one [1..1] participation (CONF:3346-34542) such that it	MAY contain zero or one [0..1] participation (CONF:3372-34542) such that it
CONF #: 3372-32052 Modified	This item SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.2	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.2 8.4.45" (CONF:3372-32052).

Change	Old	New
	8.4.45" (CONF:3346-32052).	
CONF #: 3372-33386 Modified	This item SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-33386).	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33386).

## 11.14 Medication, Order (V3)

Medication, Order (V3) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.51:2018-05-01)

Change	Old	New
Name	Medication, Order (V2)	Medication, Order (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.51:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.51:2018-05-01
CONF #: 3372-34860 Added		MAY contain zero or one [0..1] participation (CONF:3372-34860) such that it
CONF #: 3372-34861 Added		SHALL contain exactly one [1..1] role (CONF:3372-34861).
CONF #: 3372-34862 Added		SHALL contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:3372-34862).
CONF #: 3372-34863 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:3372-34863).
CONF #: 3372-34864 Added		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 #: 3346-30199 Removed	MAY contain zero or one [0..1] methodCode (CONF:3346-30199). Note: QDM Attribute: Method	
CONF #: 3346-30229 Removed	The methodCode, if present, SHALL contain zero or one [0..1] item (CONF:3346-30229).	
CONF #: 3346-30230 Removed	The item, if present, SHOULD contain zero or one [0..1] @valueSet (CONF:3346-30230).	
CONF #: 3372-29051 Modified	SHALL contain exactly one [1..1] item (CONF:3346-29051).	This templateId SHALL contain exactly one [1..1] item (CONF:3372-29051) such that it
CONF #: 3372-29052 Modified	This item SHALL contain exactly	SHALL contain exactly one [1..1]

Change	Old	New
	one [1..1] @root="2.16.840.1.113883.10.20.2 8.4.51" (CONF:3346-29052).	@root="2.16.840.1.113883.10.20.2 8.4.51" (CONF:3372-29052).
CONF #: 3372-33443 Modified	This item SHALL contain exactly one [1..1] @extension="2017-08- 01" (CONF:3346-33443).	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33443).

## 11.15 Physical Exam, Order (V2)

Physical Exam, Order (V2) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.61:2018-05-01)

Change	Old	New
Name	Physical Exam, Order	Physical Exam, Order (V2)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.61:2017-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.61:2018-05-01
CONF #: 3335-31419 Removed	MAY contain zero or one [0..1] methodCode (CONF:3335-31419). Note: QDM Attribute: Method	
CONF #: 3335-31420 Removed	The methodCode, if present, SHALL contain exactly one [1..1] item (CONF:3335-31420).	
CONF #: 3335-31421 Removed	This item SHOULD contain zero or one [0..1] @valueSet (CONF:3335-31421).	
CONF #: 3372-31409 Modified	SHALL contain exactly one [1..1] item (CONF:3335-31409).	This templateId SHALL contain exactly one [1..1] item (CONF:3372-31409) such that it
CONF #: 3372-31410 Modified	This item SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.61" (CONF:3335-31410).	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.61" (CONF:3372-31410).
CONF #: 3372-33437 Modified	This item SHALL contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-33437).	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33437).

## 11.16 Physical Exam, Recommended (V2)

Physical Exam, Recommended (V2) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.63:2018-05-01)

Change	Old	New
Name	Physical Exam, Recommended	Physical Exam, Recommended (V2)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.63:2017-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.63:2018-05-01
CONF #: 3335-31461 Removed	MAY contain zero or one [0..1] methodCode (CONF:3335-31461). Note: QDM Attribute: Method	
CONF #: 3335-31462 Removed	The methodCode, if present, SHALL contain exactly one [1..1] item (CONF:3335-31462).	
CONF #: 3335-31463 Removed	This item SHOULD contain zero or one [0..1] @valueSet (CONF:3335-31463).	
CONF #: 3372-31447 Modified	SHALL contain exactly one [1..1] item (CONF:3335-31447).	This templateId SHALL contain exactly one [1..1] item (CONF:3372-31447) such that it

Change	Old	New
CONF #: 3372-31448 Modified	This item SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.61" (CONF:3335-31448).	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.61" (CONF:3372-31448).
CONF #: 3372-33449 Modified	This item SHALL contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-33449).	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33449).

## 11.17 Procedure, Order (V3)

Procedure, Order (V3) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.66:2018-05-01)

Change	Old	New
Name	Procedure, Order (V2)	Procedure, Order (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.66:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.66:2018-05-01
CONF #: 3346-31135 Removed	MAY contain zero or one [0..1] methodCode (CONF:3346-31135). Note: QDM Attribute: Method	
CONF #: 3346-31136 Removed	The methodCode, if present, SHALL contain exactly one [1..1] item (CONF:3346-31136).	
CONF #: 3346-33418 Removed	MAY contain zero or one [0..1] approachSiteCode (CONF:3346-33418). Note: QDM Attribute: Anatomical Approach Site	
CONF #: 3346-33419 Removed	The approachSiteCode, if present, SHALL contain exactly one [1..1] item (CONF:3346-33419).	
CONF #: 3346-31235 Removed	This item SHOULD contain zero or one [0..1] @valueSet (CONF:3346-31235).	
CONF #: 3346-33423 Removed	This item SHOULD contain zero or one [0..1] @valueSet (CONF:3346-33423).	
CONF #: 3372-31123 Modified	SHALL contain exactly one [1..1] item (CONF:3346-31123).	This templateId SHALL contain exactly one [1..1] item (CONF:3372-31123) such that it
CONF #: 3372-31124 Modified	This item SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.66" (CONF:3346-31124).	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.66" (CONF:3372-31124).
CONF #: 3372-33422 Modified	This item SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-33422).	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33422).



## 11.18 Procedure, Performed (V3)

Procedure, Performed (V3) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.67:2018-05-01)

Change	Old	New
Name	Procedure, Performed (V2)	Procedure, Performed (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.67:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.67:2018-05-01
CONF #: 3346-33399 Removed	MAY contain zero or one [0..1] approachSiteCode (CONF:3346-33399). Note: QDM Attribute: Anatomical Approach Site	
CONF #: 3346-33400 Removed	The approachSiteCode, if present, SHALL contain exactly one [1..1] item (CONF:3346-33400).	
CONF #: 3346-33403 Removed	This item SHOULD contain zero or one [0..1] @valueSet (CONF:3346-33403).	
CONF #: 3372-34556 Modified	SHALL contain exactly one [1..1] participation (CONF:3346-34556) such that it	MAY contain zero or one [0..1] participation (CONF:3372-34556) such that it
CONF #: 3372-33398 Modified	This item SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-33398).	This item SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33398).

## 11.19 Procedure, Recommended (V2)

Procedure, Recommended (V2) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.68:2018-05-01)

Change	Old	New
Name	Procedure, Recommended	Procedure, Recommended (V2)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.68:2017-05-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.68:2018-05-01
CONF #: 3335-31224 Removed	MAY contain zero or one [0..1] methodCode (CONF:3335-31224). Note: QDM Attribute: Method	
CONF #: 3335-31225 Removed	The methodCode, if present, SHALL contain exactly one [1..1] item (CONF:3335-31225).	
CONF #: 3335-33411 Removed	MAY contain zero or one [0..1] approachSiteCode (CONF:3335-33411). Note: QDM Attribute: Anatomical Approach Site	
CONF #: 3335-33412 Removed	The approachSiteCode, if present, SHALL contain exactly one [1..1] item (CONF:3335-33412).	
CONF #: 3335-31226 Removed	This item SHOULD contain zero or one [0..1] @valueSet (CONF:3335-31226).	
CONF #: 3335-33415 Removed	This item SHOULD contain zero or one [0..1] @valueSet (CONF:3335-33415).	
CONF #: 3372-31212 Modified	SHALL contain exactly one [1..1] item (CONF:3335-31212).	This templateId SHALL contain exactly one [1..1] item (CONF:3372-31212) such that it
CONF #: 3372-31213 Modified	This item SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.68" (CONF:3335-31213).	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.68" (CONF:3372-31213).
CONF #: 3372-33417 Modified	This item SHALL contain exactly one [1..1] @extension="2017-05-01" (CONF:3335-33417).	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33417).

## 11.20 Program Participation (V2)

Program Participation (V2) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.130:2018-05-01)

Change	Old	New
Name	Program Participation	Program Participation (V2)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.130:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.130:2018-05-01
CONF #: 3372-34881 Added		SHALL contain exactly one [1..1] title (CONF:3372-34881).
CONF #: 3372-34820 Modified	SHALL contain exactly one [1..1] item (CONF:3346-34820).	This templateId SHALL contain exactly one [1..1] item (CONF:3372-34820) such that it
CONF #: 3372-34824 Modified	This item SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.130" (CONF:3346-34824).	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.130" (CONF:3372-34824).
CONF #: 3372-34825 Modified	This item SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-34825).	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-34825).
CONF #: 3372-34833 Modified	MAY contain zero or one [0..1] value with @xsi:type="CD" (CONF:3346-34833). Note: QDM Attribute: Code	SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:3372-34833). Note: QDM Attribute: Code
CONF #: 3372-34836 Modified	The value, if present, SHOULD contain zero or one [0..1] @valueSet (CONF:3346-34836).	This value SHOULD contain zero or one [0..1] @valueSet (CONF:3372-34836).

## 11.21 Substance, Administered (V3)

Substance, Administered (V3) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.73:2018-05-01)

Change	Old	New
Name	Substance, Administered (V2)	Substance, Administered (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.73:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.73:2018-05-01
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. 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. 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).</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. 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>

Change	Old	New
CONF #: 3346-34482 Removed	MAY contain zero or one [0..1] outboundRelationship (CONF:3346-34482) such that it Note: QDM Attribute: Supply	
CONF #: 3346-34483 Removed	SHALL contain exactly one [1..1] @typeCode="REFR" Refers To (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3346-34483).	
CONF #: 3346-34847 Removed	SHALL contain exactly one [1..1] supplyCriteria (CONF:3346-34847).	
CONF #: 3372-32882 Modified	SHALL contain exactly one [1..1] item (CONF:3346-32882).	This templateId SHALL contain exactly one [1..1] item (CONF:3372-32882) such that it
CONF #: 3372-34563 Modified	SHALL contain exactly one [1..1] participation (CONF:3346-34563) such that it	MAY contain zero or one [0..1] participation (CONF:3372-34563) such that it
CONF #: 3372-32883 Modified	This item SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.2 8.4.73" (CONF:3346-32883).	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.2 8.4.73" (CONF:3372-32883).
CONF #: 3372-33393 Modified	This item SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-33393).	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33393).

## 11.22 Substance, Order (V3)

Substance, Order (V3) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.77:2018-05-01)

Change	Old	New
Name	Substance, Order (V2)	Substance, Order (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.77:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.77:2018-05-01
Description	<p>This template represents the QDM data type: Substance, Order.</p> <p>This template represents a request by a clinician or appropriately licensed care provider to a pharmacy to provide a substance to a patient.</p> <p>Timing: The time the order is signed; author datetime.</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).</p>	<p>This template represents the QDM data type: Substance, Order.</p> <p>This template represents a request by a clinician or appropriately licensed care provider to a pharmacy to provide a substance to a patient.</p> <p>Timing: The time the order is signed; author datetime.</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 #: 3346-33671 Removed	MAY contain zero or one [0..1] methodCode (CONF:3346-33671). Note: QDM Attribute: Method	
CONF #: 3346-33672 Removed	The methodCode, if present, SHALL contain exactly one [1..1] item (CONF:3346-33672).	
CONF #: 3346-33673 Removed	This item SHOULD contain zero or one [0..1] @valueSet (CONF:3346-33673).	
CONF #: 3372-32627 Modified	SHALL contain exactly one [1..1] item (CONF:3346-32627).	This templateId SHALL contain exactly one [1..1] item (CONF:3372-32627) such that it
CONF #: 3372-32628 Modified	This item SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.77" (CONF:3346-32628).	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.77" (CONF:3372-32628).
CONF #: 3372-33652 Modified	This item SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-33652).	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33652).

## 11.23 Substance, Recommended (V3)

Substance, Recommended (V3) (urn:hl7ii:2.16.840.1.113883.10.20.28.4.78:2018-05-01)

Change	Old	New
Name	Substance, Recommended (V2)	Substance, Recommended (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.4.78:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.4.78:2018-05-01
CONF #: 3346-32122 Removed	MAY contain zero or one [0..1] methodCode (CONF:3346-32122). Note: QDM Attribute: Method	
CONF #: 3346-33198 Removed	The methodCode, if present, SHALL contain exactly one [1..1] item (CONF:3346-33198).	
CONF #: 3346-33199 Removed	This item SHOULD contain zero or one [0..1] @valueSet (CONF:3346-33199).	
CONF #: 3372-32125 Modified	SHALL contain exactly one [1..1] item (CONF:3346-32125).	This templateId SHALL contain exactly one [1..1] item (CONF:3372-32125) such that it
CONF #: 3372-32126 Modified	This item SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.78" (CONF:3346-32126).	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.28.4.78" (CONF:3372-32126).
CONF #: 3372-33693 Modified	This item SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-33693).	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33693).
CONF #: 3372-32108 Modified	This playingMaterial SHALL contain exactly one [1..1] @classCode="MMAT" Manufactured Material (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:3346-32108).	This playingMaterial SHALL contain exactly one [1..1] @classCode="MAT" Material (CodeSystem: HL7EntityClass urn:oid:2.16.840.1.113883.5.41) (CONF:3372-32108).
CONF #: 3372-32106 Modified	This role SHALL contain exactly one [1..1] @classCode="MANU" Manufactured (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3346-32106).	This role SHALL contain exactly one [1..1] @classCode="ADMM" Administerable Material (CodeSystem: HL7RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:3372-32106).

## 11.24 Data Criteria Section (V3)

Data Criteria Section (V3) (urn:hl7ii:2.16.840.1.113883.10.20.28.2.6:2018-05-01)

Change	Old	New
Name	Data Criteria Section (V2)	Data Criteria Section (V3)
Oid	urn:hl7ii:2.16.840.1.113883.10.20.28.2.6:2017-08-01	urn:hl7ii:2.16.840.1.113883.10.20.28.2.6:2018-05-01
CONF #: 3372-34678 Added		MAY contain zero or more [0..*] entry (CONF:3372-34678) such that it
CONF #: 3372-34679 Added		SHALL contain exactly one [1..1] observationCriteria (CONF:3372-34679).
CONF #: 3372-34680 Added		SHALL contain exactly one [1..1] typeId="DRIV" Is Derived From (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3372-34680).
CONF #: 3372-34850 Added		MAY contain zero or more [0..*] entry (CONF:3372-34850) such that it
CONF #: 3372-34851 Added		SHALL contain exactly one [1..1] actCriteria (CONF:3372-34851).
CONF #: 3372-34852 Added		SHALL contain exactly one [1..1] @typeCode="DRIV" Is Derived From (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3372-34852).
CONF #: 3372-34878 Added		MAY contain zero or more [0..*] entry (CONF:3372-34878) such that it
CONF #: 3372-34879 Added		SHALL contain exactly one [1..1] observationCriteria (CONF:3372-34879).
CONF #: 3372-34880 Added		SHALL contain exactly one [1..1] @typeCode="DRIV" Is Derived From (CONF:3372-34880).
CONF #: 3346-32670 Removed	MAY contain zero or more [0..*] entry (CONF:3346-32670) such that it	
CONF #: 3346-32673 Removed	MAY contain zero or more [0..*] entry (CONF:3346-32673) such that it	
CONF #: 3346-32676 Removed	MAY contain zero or more [0..*] entry (CONF:3346-32676) such that it	
CONF #: 3346-32671 Removed	SHALL contain exactly one [1..1] @typeCode="DRIV" Is Derived From	



Change	Old	New
	(CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3346-32671).	
CONF #: 3346-34481 Removed	SHALL contain exactly one [1..1] actCriteria (CONF:3346-34481).	
CONF #: 3346-32674 Removed	SHALL contain exactly one [1..1] @typeCode="DRIV" Is Derived From (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3346-32674).	
CONF #: 3346-32675 Removed	SHALL contain exactly one [1..1] actCriteria (CONF:3346-32675).	
CONF #: 3346-32677 Removed	SHALL contain exactly one [1..1] @typeCode="DRIV" Is Derived From (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:3346-32677).	
CONF #: 3346-32678 Removed	SHALL contain exactly one [1..1] actCriteria (CONF:3346-32678).	
CONF #: 3372-33440 Modified	SHALL contain exactly one [1..1] @extension="2017-08-01" (CONF:3346-33440).	SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-33440).

## 11.25 Measure Observations Section (V2)

Measure Observations Section (V2) (urn:hl7ii:2.16.840.1.113883.10.20.28.2.4:2018-05-01)

Change	Old	New
Name	Measure Observations Section	Measure Observations Section (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.28.2.4	urn:hl7ii:2.16.840.1.113883.10.20.28.2.4:2018-05-01
Description	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 eMeasures.	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.
CONF #: 3372-30104 Added		SHALL contain exactly one [1..1] @extension="2018-05-01" (CONF:3372-30104).
CONF #: 3372-30105 Added		SHALL contain at least one [1..*] definition (CONF:3372-30105).
CONF #: 3372-34644 Added		Such definitions SHALL contain exactly one [1..1] measureObservationDefinition (CONF:3372-34644).
CONF #: 3372-34649 Added		This measureObservationDefinition SHALL contain exactly one [1..1] methodCode (CONF:3372-34649).
CONF #: 3372-34650 Added		This measureObservationDefinition SHALL contain exactly one [1..1] code (CONF:3372-34650).
CONF #: 3372-34651 Added		This measureObservationDefinition SHALL contain exactly one [1..1] value (CONF:3372-34651).
CONF #: 3372-18902 Modified	This templateId SHALL contain at least one [1..*] item (CONF:87-18902) such that it	This templateId SHALL contain exactly one [1..1] item (CONF:3372-18902) such that it