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HL7 Implementation Guide for CDA® Release 2:

Quality Reporting Document Architecture – Category III, DSTU Release 1

(US Realm)

Draft Standard for Trial Use

November 2012

Produced in collaboration with:



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This specification is a set of constraints on existing work, and the extent to which it can accommodate the expressive requirements of quality reporting over time is a function of the richness of the model on which it is built, the HL7 Reference Information Model (RIM) and the RIM document standard, and the Clinical Document Architecture Release 2 (CDA R2). We thank all those who have worked for over a decade to produce these fundamental specifications; we especially thank the HL7 Structured Documents Working Group for their support of this project.

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# Introduction

"If you cannot measure it, you cannot improve it."

Lord Kelvin (1824-1907)

## Purpose

This document describes constraints on the Clinical Document Architecture Release 2 (CDA R2) header and body elements for Quality Reporting Document Architecture (QRDA) Category III documents. The Institute of Medicine (IOM) definition of quality is: “The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.”[[1]](#footnote-2) For care quality to be evaluated, it must be standardized and communicated to the appropriate organizations.

QRDA Category III is a document format that provides a standard structure with which to report aggregated quality measure data to organizations that will analyze and interpret the data. Quality measurement in health care is complex. Accurate, interpretable data efficiently gathered and communicated is key in correctly assessing that quality care is delivered.

## Audience

The audience for this document includes software developers and implementers with reporting capabilities within their electronic health record (EHR) systems; developers and analysts in receiving institutions; and local, regional, and national health information exchange networks which wish to create and/or process CDA reporting documents created according to this specification.

## Approach

Overall, the approach taken here is consistent with balloted implementation guides (IGs) for CDA. These publications view the ultimate implementation specification as a series of layered constraints. CDA itself is a set of constraints on the Health Level Seven (HL7) Reference Information Model (RIM). Implementation guides such as this add constraints to CDA through conformance statements that further define and restrict the sequence and cardinality of CDA objects and the vocabulary sets for coded elements.

This implementation guide is Release 1 (R1) of the QRDA Category III Draft Standard for Trial Use (DSTU), Category III. The [Background](#_Background_1) and [Current Project](#_Current_Project) sections describe the development of the DSTU.

## CDA R2

CDA R2 is “… a document markup standard that specifies the structure and semantics of ‘clinical documents’ for the purpose of exchange” [CDA R2, Section 1.1; see [References](#_References_2)]. Clinical documents, according to CDA, have six characteristics:

* Persistence
* Stewardship
* Potential for authentication
* Context
* Wholeness
* Human readability

CDA defines a header for classification and management and a document body that carries the clinical record. While the header metadata are prescriptive and designed for consistency across all instances, the body is highly generic, leaving the designation of semantic requirements to implementation guides such as this one.

## Background

In early pilots of the QRDA initiative, participating organizations confirmed the feasibility of using the HL7 Clinical Document Architecture (CDA) as the foundation for the QRDA specification. The participants concluded that CDA provided the technical underpinnings for communicating pediatric and adult quality measures for both inpatient and ambulatory care settings.

In later pilots, the HL7 Child Health Work Group and the Structured Documents Work Group developed a QRDA DSTU, Release 1 (R1), first published in September 2008.

The QRDA DSTU R1 defined three categories of quality reporting: A [QRDA Category I – Single Patient Report](#_QRDA_Category_I), a [QRDA Category II – Patient List Report](#_QRDA_Category_II), and a [QRDA Category III – Calculated Report](#_QRDA_Category_III). Only the QRDA Category I report was balloted, while the sections of the DSTU that define QRDA Category II and Category III reports were for comment only. The concept of the Release 1 report types are described below.

### QRDA Category I – Single Patient Report

A QRDA Category I report is an individual-patient-level quality report. Each report contains quality data for one patient for one or more quality measures, where the data elements in the report are defined by the particular measure(s) being reported on. A QRDA Category I report contains raw applicable patient data. When pooled and analyzed, each report contributes the quality data necessary to calculate population measure metrics.

QRDA R1 defined the CDA framework for quality reports and a method for referencing a quality measure. The DSTU recommended the re-use of Continuity of Care Document (CCD)[[2]](#footnote-3) clinical statements to send measure data elements. Two measure-specific implementation guides were created as part of the guide.

QRDA Category I Release 2 uses the templates defined by HL7 Implementation Guide for CDA® Release 2: IHE Health Story Consolidation, Release 1.1[[3]](#footnote-4) to send measure data elements, and has substantial other changes from QRDA Category I Release 1.

The reader is referred to the related implementation guide for the definition of Category I (QRDA R2 July 2012) reports[[4]](#footnote-5).

### QRDA Category II – Patient List Report

A QRDA Category II report is a multi-patient-level quality data report. Each report contains quality data for a set of patients for one or more quality measures, where the data elements in the report are defined by the particular measure(s) being reported on.

Whereas a QRDA Category I report contains only raw applicable patient data, a QRDA Category II report includes flags for each patient indicating whether the patient qualifies for a measure’s numerator, denominator, exclusion, or other aggregate data element. These qualifications can be pooled and counted to create the QRDA Category III report.

The reader is referred to the related implementation guide for the definition of Category II reports QRDA R1 (March 2009)[[5]](#footnote-6).

### QRDA Category III – Calculated Report

A QRDA Category III report is an aggregate quality report. Each report contains calculated summary data for one or more measures for a specified population of patients within a particular health system over a specific period of time.

Data needed to generate QRDA Category II and QRDA Category III reports must be included in the collected QRDA Category I reports, as the processing entity will not have access to additional data sources.

This implementation guide contains the definition of Category III reports. The reader is referred to the related implementation guides for definitions of Category I (QRDA R2 July 2012) and Category II reports QRDA R1 (March 2009).

## Current Project

### QRDA CATEGORY III Conformance Profile Project

This implementation guide is a conformance profile, as described in the “Refinement, Constraint and Localization”[[6]](#footnote-7) section of the *HL7 Version 3 Interoperability Standards*. The base standard for this implementation guide is the *HL7 Clinical Document Architecture, Release 2.0.*[[7]](#footnote-8) This implementation guide does not describe every aspect of CDA. Rather, it defines constraints on the base CDA used in a QRDA Category III document in the US realm. Additional optional CDA elements, not included here, can be included and the result will be compliant with the specifications in this guide.

Aggregate reports, such as the one detailed in this implementation guide, are used in several ways. Quality reporting gives organizations the statistical information needed to track diseases, monitor quality of healthcare delivery, track the results of particular measures over time, and determine results from specific populations for particular measures. Using quality query systems, researchers can ask questions of the data residing in health information systems and receive relevant data that are stripped of all patient identifiers, protecting patients and healthcare providers from the risks of inadvertent privacy loss.

This implementation guide has been designed to meet a large number of requirements from several organizations. It may not meet all the precise needs for each organization, since in some cases these are incompatible. For example, organizations may require data that other organizations either do not want to receive at all, or do not require. It is expected that organizations will create implementation guides derived from, and based on, this implementation guide to specify their precise data format requirements.

### Relationship to Health Quality Measures Format: eMeasures

The HL7 Health Quality Measures Format (HQMF) is a standard for representing a health quality measure as an electronic document. Many of the concepts used in QRDA Category III are defined in the HQMF specification[[8]](#footnote-9), and implementers using this implementation guide are expected to be familiar with that document.

A quality measure is a quantitative tool that provides an indication of the performance of an individual or organization in relation to a specified process or outcome via the measurement of an action, process, or outcome of clinical care. Quality measures are often derived from clinical guidelines and are designed to determine whether the appropriate care has been provided given a set of clinical criteria and an evidence base. Quality measures are also often referred to as performance measures or quality indicators. A quality measure expressed in HQMF format is referred to as an "eMeasure".

For the purposes of this implementation guide, the terms “eMeasure” and “quality measure” are defined to include any document in HQMF that fulfills the necessary requirements. These may be eMeasures published by the National Quality Forum (NQF). NQF publishes eMeasures with a publication number, setID, and version number that uniquely identify the measure. QRDA Category III was designed to meet the needs for aggregate reporting of published HQMF eMeasures.

Other quality queries expressed in HQMF format may be generated at run-time and have no publication numbers. The QRDA Category III specification allows for this use case. As long as the queries fulfill the necessary requirements, such as being expressed in HQMF and ensuring that sections of the eMeasure have appropriate identifiers, a corresponding QRDA Category III aggregate report can be created that refers to these identifiers.

Figure 1: Quality reporting using HQMF and QRDA



### Relationship to Physician Quality Reporting System (PQRS)

The Physician Quality Reporting System (PQRS) is a reporting program that uses a combination of incentive payments and payment adjustments to promote reporting of quality information by eligible professionals.[[9]](#footnote-10) The PQRS program has developed an XML specification to send aggregated quality data, known as the PQRI XML. The PQRI specification is analogous to QRDA Category III in that they both report aggregate data. The data elements currently sent in the PQRS 2012 Data Submission Vendor XML Specification[[10]](#footnote-11) have been represented in this QRDA Category III specification. Please see [Appendix F](#A_PQRStoQRDA) for mappings from PQRS to QRDA Category III.

## Organization of This Guide

This guide includes a set of CDA templates and prescribes their use within a QRDA document. The main chapters are:

[Chapter 2. QRDA Category III](#_QRDA_Framework) describes the overall structure of the QRDA Category III report.

[Chapter 3. Document Templates](#_General_Header_Template) defines the top-level structure of the document and the document header constraints that apply to QRDA Category III documents.

[Chapter 4. Section-Level Templates](#_Section-Level_Templates) defines the section templates in a QRDA Category III document.

[Chapter 5. Entry-Level Templates](#_Entry-level_Templates) defines the entry templates in a QRDA Category III document.

## Conformance Conventions Used in This Guide

### Templates and Conformance Statements

Conformance statements within this implementation guide are generated from a template repository.[[11]](#footnote-12) An algorithm converts constraints recorded in the template repository to a printable presentation. Each constraint is uniquely identified by an identifier at or near the end of the constraint (e.g., CONF:7345). These identifiers are persistent but not sequential.

Bracketed information following each template title indicates the template type (section, observation, act, procedure, etc.), the templateId, and whether the template is [open or closed](#_Open_and_Closed).

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

A typical template, as presented in this guide, is shown in the [Constraints format example](#F_Constraints_format_example) figure. The next sections describe specific aspects of conformance statements—open vs. closed statements, conformance verbs, cardinality, vocabulary conformance, containment relationships, and null flavors.

Figure 2: Constraints format example



### Open and Closed Templates

In open templates, all of the features of the CDA R2 base specification are allowed except as constrained by the templates. By contrast, a closed template specifies everything that is allowed and nothing further may be included. Templates in a QRDA Category III document are open.

### Keywords

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*[[12]](#footnote-13):

* 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

### 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 or 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 participant is to be present. The subordinate constraint specifies some additional characteristics of that participant.

Figure 3: Constraints format – only one allowed

1. SHALL contain exactly one [1..1] **participant** (CONF:2777).

 a. This participantSHALL contain exactly one [1..1] **@typeCode**="LOC"
 (CodeSystem: 2.16.840.1.113883.5.90 HL7ParticipationType)
 (CONF:2230).

In the next figure, the constraint says only one participant “like this” is to be present. Other participant elements are not precluded by this constraint.

Figure 4: Constraints format – only one like this allowed

1. SHALL contain exactly one [1..1] **participant** (CONF:2777) such that it

 a. SHALL contain exactly one [1..1] **@typeCode**="LOC" (CodeSystem:

 2.16.840.1.113883.5.90 HL7ParticipationType) (CONF:2230).

### Vocabulary Conformance

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

Note that value-set identifiers (e.g., ValueSet 2.16.840.1.113883.1.11.78 Observation Interpretation (HL7) **DYNAMIC)** do not appear in CDA instances; they tie the conformance requirements of an implementation guide to the allowable codes for validation.

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.

Figure 5: Constraint binding to a single code

1. … code/@code="11450-4" Problem List (CodeSystem: 2.16.840.1.113883.6.1 LOINC).

In this example, the notation conveys the actual code (11450-4), the code’s displayName (Problem List), the object identifier (OID) of the codeSystem from which the code is drawn (2.16.840.1.113883.6.1), and the codeSystemName (LOINC).

HL7 Data Types Release 1 requires the codeSystem attribute unless the underlying data type is “Coded Simple” or “CS”, in which case it is prohibited. The displayName and the codeSystemName are optional, but often useful to include in an instance.

The above example would be properly expressed as follows.

Figure 6: XML expression of a single-code binding

<code code="11450-4" codeSystem="2.16.840.1.113883.6.1"/>

<!-- or -->

<code code="11450-4" codeSystem="2.16.840.1.113883.6.1"

 displayName="Problem List"

 codeSystemName="LOINC"/>

A full discussion of the representation of vocabulary is outside the scope of this document; for more information, see the *HL7 Version 3 Interoperability Standards,* Normative Edition 2010[[13]](#footnote-14) sections on Abstract Data Types and XML Data Types R1.

### Null Flavor

Information technology solutions store and manage data, but sometimes data are not available; an item may be unknown, not relevant, or not computable or measureable. In HL7, a *flavor* of null, or nullFlavor, describes the reason for missing data.

Figure 7: nullFlavor example

<birthTime nullFlavor="NI"/> <!--coding a birthdate when there is no birthdate available-->

Use null flavors for unknown, required, or optional attributes:

* NI No information. This is the most general and default null flavor.
* NA Not applicable. Known to have no proper value (e.g., last menstrual period for a male).
* UNK Unknown. A proper value is applicable, but is not known.
* ASKU Asked, but not known. Information was sought, but not found (e.g., the patient was asked but did not know).
* NAV Temporarily unavailable. The information is not available, but is expected to be available later.
* NASK Not asked. The patient was not asked.
* MSK There is information on this item available but it has not been provided by the sender due to security, privacy, or other reasons. There may be an alternate mechanism for gaining access to this information.
* OTH The actual value is not and will not be assigned a standard coded value. An example is the name or identifier of a clinical trial.

This above list contains those null flavors that are commonly used in clinical documents. For the full list and descriptions, see the nullFlavor vocabulary domain in the CDA normative edition.[[14]](#footnote-15)

Any SHALLconformance statement may use nullFlavor, unless the attribute is required or the nullFlavor is explicitly disallowed. SHOULD and MAY conformance statements may also use nullFlavor.

For example, in the attributes code/@code and effectiveTime/@value respectively are required. Null flavors must not be used. In Figure 9: Allowed nullFlavors when element is required (with xml examples), the conformance statements state only that the elements are required. Each conformance statement in that figure allows null flavors, since they are allowed when not forbidden. In Figure 10: nullFlavor explicitly disallowed, null flavors are expressly forbidden.

Figure 8: Attribute required

1. SHALL contain exactly one [1..1] **code/@code**="11450-4" Problem List (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:7878)

 or

2**.** SHALL contain exactly one [1..1] **effectiveTime/@value** (CONF:5256).

Figure 9: Allowed nullFlavors when element is required (with xml examples)

1. SHALL contain at least one [1..\*] id

2. SHALL contain exactly one [1..1] code

3. SHALL contain exactly one [1..1] effectiveTime

<entry>

 <observation classCode="OBS" moodCode="EVN">

 <id nullFlavor="**NI**"/>

 <code nullFlavor="**OTH**">

 <originalText>New Grading system</originalText>

 </code>

 <statusCode code="completed"/>

 <effectiveTime nullFlavor="**UNK**"/>

 <value xsi:type="CD" nullFlavor="OTH">

 <originalText>Spiculated mass grade 5</originalText>

 </value>

 </observation>

</entry>

Figure 10: nullFlavor explicitly disallowed

1.SHALL contain exactly one [1..1] **effectiveTime** (CONF:5256).

 a. SHALL NOT contain [0..0] @nullFlavor (CONF:52580).

### Data Types

All data types used in a CDA document are described in the CDA R2 normative edition.[[15]](#footnote-16) All attributes of a data type are allowed unless explicitly prohibited by this specification.

## XML Conventions Used in This Guide

### XPath Notation

Instead of the traditional dotted notation used by HL7 to represent RIM classes, this document uses XML Path Language (XPath) notation[[16]](#footnote-17) in conformance statements and elsewhere to identify the Extensible Markup Language (XML) elements and attributes within the CDA 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.

Figure 11: XML document example

<author>

 <assignedAuthor>

 ...

 <code codeSystem='2.16.840.1.113883.6.96' codeSystemName='SNOMED CT'

 code='17561000' displayName='Cardiologist' />

 </assignedAuthor>

</author>

In the above example, the code attribute of the code could be selected with the XPath expression in the next figure.

Figure 12: XPath expression example

author/assignedAuthor/code/@code

### XML Examples and Sample Documents

Extensible Mark-up Language (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 (...) as shown in the example below.

Figure 13: ClinicalDocument example

<ClinicalDocument xmls="urn:h17-org:v3">

 ...

</ClinicalDocument>

Within the narrative, XML element (code, assignedAuthor, etc.) and attribute (SNOMED CT, 17561000, etc.) names also appear in this monospace font.

This package includes one complete sample document, including results for two separate eMeasures, as listed in the [Content of the Package](#T_Contents_of_the_Package) table below.

## Content of the Package

The following files comprise this package.

Table 1: Content of the Package

|  |  |  |
| --- | --- | --- |
| Filename | Description | Applicability |
| CDAR2\_QRDAIII\_DSTU\_R1\_2012NOV.docx | This guide | Normative |
| CDAR2\_IG\_QRDA\_CATIII\_RI\_NOV.xml | Sample QRDA category III file | Informative |
| 0436\_HQMF\_Anticoagulation Therapy\_v1.0.xml | NQF 0436 eMeasure HQMF xml, referred to from sample QRDA category III file | Informative |
| 0496\_HQMF\_ED3-MedianTime\_v1.0.xml | NQF 0496 eMeasure HQMF xml, referred to from sample QRDA category III file | Informative |
| qrda.xsl | A CDA Stylesheet for display of QRDA instances | Informative |
| eMeasure.xsl | Stylesheet for display of HQMF instances | Informative |
| QRDA\_Category\_III-voc.xml | Listing of value sets used in this IG, in XML format | Informative |

# QRDA Category III

A QRDA Category III report is a summary report that contains aggregated data. Each report contains quality data for a number of patients for one or more quality measures. The particular measures being reported define the data elements and grouping or stratification levels in the report.

## Major Components of a QRDA Category III Document

This section serves as a high-level introduction to the major components of a QRDA Category III document, all of which are described again and in greater detail later in this document. The intent here is to familiarize the reader with the high-level concepts in order to understand the sections and templates below.

Major components of a QRDA Category III document are shown in the following skeletal example. Note that many required components are missing to simplify the example.

A QRDA Category III document is wrapped by the <ClinicalDocument> element, and contains a header and a body. The header lies between the <ClinicalDocument> and the <structuredBody> elements, and identifies and classifies the document and provides information on authorship, authentication, involved providers, and more.

The body contains the clinical report, which is wrapped by the <structuredBody> element, and which is divided up into document sections.

Two sections are defined: The [QRDA Category III Reporting Parameters](#S_QRDA_Category_III_Reporting_Parameters) section, which defines the reporting period; and the [QRDA Category III Measure Section](#S_QRDA_Category_III_Measure_Section), which references the measures being reporting against and reports associated aggregate scores (both observed and predicted).

Each section contains a single narrative block, and various CDA entries.

Entries in the QRDA Category III Measure Section represent all reported data for each referenced measure. The total number of patients in each population (both observed and, optionally, predicted) is reported, along with a breakdown of those numbers by strata and, for proportion measures, both the overall performance rate and reporting rate. Continuous variable values (both observed and predicted) can also be reported.

Figure 14: Skeletal QRDA Category III document

<ClinicalDocument>

 ... CDA Header ...

 <structuredBody>

 <section>

 <title>QRDA Category III Reporting Parameters</title>

 ...

 </section>

 <section>

 <title>QRDA Category III Measure Section</title>

 <!-- Measure Reference and Results template -->

 <organizer>eMeasure 0436: Anticoagulation Therapy for A Fib

 <!-- Performance Rate for Proportion Measure template -->

 <observation>Performance Rate: 83% (62% predicted)</observation>

 <!-- Measure Data template -->

 <observation>Initial Patient Population

 <!-- Aggregate Count template -->

 <observation>Count = 1000</observation>

 </observation>

 <!-- Measure Data template -->

 <observation>Numerator

 <!-- Aggregate Count template -->

 <observation>Count = 400 (300 predicted)</observation>

 </observation>

 ...

 </organizer>

 </section>

 </structuredBody>

</ClinicalDocument>

The image below is a partial rendering of a QRDA Category III sample document. Please compare with the above QRDA skeletal XML example to understand the structure and content of the QRDA Category III report that are described again and in greater detail later in this document. The rendering can also be viewed by placing the CDAR2\_IG\_QRDA\_CATIII\_RI\_NOV.xml and the qrda.xsl files that are in this DSTU package in the same folder. Clicking on the CDAR2\_IG\_QRDA\_CATIII\_RI\_NOV.xml will render the entire sample file in your browser.

Figure 15: QRDA rendering



## Report Format

The QRDA Category III report format matches the QRDA Category I report as closely as possible. The Category III header is similar to the Category I header, but the QRDA Category III header does not conform to the US Realm header. This is mainly because the US Realm Consolidation[[17]](#footnote-18) documents require recordTarget elements to contain address and name elements. The recordTarget element is designed for single patient data and is required in all CDA documents. In this case, the document does not contain results for a single patient, but rather for groups of patients, and thus the recordTarget ID in QRDA Category III documents contains a nullFlavor attribute (is nulled). By not conforming to the Consolidation US Realm header, the QRDA Category III documents can omit the recordTarget’s name and address sub-elements, rather than having to set them, along with the recordTarget ID, to null.

The QRDA Category III header is followed by a structured body that contains a reporting parameters section and a measure section. These sections contain the reporting parameters information, and the references and data for one or more eMeasures. These references refer to the identifiers in the corresponding HQMF document, which can be a published NQF eMeasure or a query. There is no patient data section as there is in a QRDA Category I document because there are no raw patient data.

The data are reported in aggregate form, with no reference to any patient identifiers. The data can be reported according to strata that are identified in the corresponding HQMF document; in this case the QRDA report uses the HQMF strata identifiers to refer to the correct stratum definition. The data can further be stratified according to the optional supplemental data elements payer, sex, race, and ethnicity.

To ensure all data are consistently reported, all populations identified in an eMeasure should be reported, even when the number of patients in that population is zero. Likewise, all stratifications identified in an eMeasure should be reported, even when the number of patients in a stratum is zero, except for populations where the total count is zero. For the optional supplemental data elements, it is sufficient to report non-zero data, leaving out counts that are zero. For programs that require Performance Rates in a QRDA Category III report, all Performance Rates called for in the eMeasure should be reported, even if the rate is zero or null (e.g. can’t be calculated because denominator is zero).

Many of the conformance rules in this guide are recommended and optional. Organizations receiving reports may choose to define their own implementation guides, based on this one, that require data defined as recommended (SHOULD) or optional (may). They may also choose to place other requirements and constraints on the reporting institutions.

## Organizational Roles

Organizational roles in QRDA Category III are defined as in QRDA Category I, where several CDA Header participations can be played by the same person. In such cases, the person should be identified as the player for each appropriate participation. For instance, if a person is both the author and the legal authenticator of a document, the CDA Header should identify that person as both the author participant and the legal authenticator participant.

On other occasions, CDA Header participants are played by different people. The following table shows a number of scenarios and the appropriate values for various participants. Where a QRDA Category III report is created by a registry or other intermediary, the author is the registry, whereas the organization that owns and reports the data to the registry is the custodian.

Table 2: Header Participant Scenarios

|  |  |  |  |
| --- | --- | --- | --- |
| Scenario | Author | Custodian | Legal Authenticator |
| QRDA is wholly constructed automatically by device | Device | Organization that owns and reports the data (e.g., hospital) | A designated person in the organization (may be assigned to the report automatically) |
| QRDA is partially constructed automatically by device, partially constructed by quality manager | Device;Quality Manager | Organization that owns and reports the data (e.g., hospital) | A designated person in the organization (such as the Quality Manager) |
| QRDA is constructed manually (e.g., by an organization that doesn’t have an EHR) | Quality Manager | Organization that owns and reports the data (e.g., hospital) | A designated person in the organization (such as the Quality Manager) |
| QRDA is constructed by a registry or other intermediary | Registry device or person | Organization that owns and reports the data to the registry (e.g., hospital) | A designated person in the registry |

The following table shows two header relationship scenarios in QRDA CATEGORY III and the appropriate values.

Table 3: Header Relationship Scenarios

|  |  |  |
| --- | --- | --- |
| Scenario | DocumentationOf/ServiceEvent | AuthorizationOf/Consent |
| QRDA is wholly constructed by a registry | Captures the detail of the providers at the care providing institutions | Indicates the eligible professional has given the data submission vendor registry permission to submit data on their behalf |
| QRDA is wholly constructed by a provider/provider system | Captures the detail of the providers at the care providing institutions | Not Applicable |

# Document Templates

This chapter defines the document-level templates in a QRDA Category III document. All of the templates in the QRDA Category III IG are CDA templates. The data elements currently sent in the PQRS 2012 Data Submission Vendor XML Specification[[18]](#footnote-19) that have been mapped to the QRDA Category III CDA header are present in this template. Please see where column “QRDA Category III Template” indicates QRDA Category III Report 2.16.840.1.113883.10.20.27.1.1.

QRDA Category III Report

[ClinicalDocument: templateId 2.16.840.1.113883.10.20.27.1.1 (open)]

Table 4: QRDA Category III Report Contexts

| Used By: | Contains Entries: |
| --- | --- |
|  | [QRDA Category III Measure Section](#S_QRDA_Category_III_Measure_Section)[QRDA Category III Reporting Parameters Section](#S_QRDA_Category_III_Reporting_Parameters) |

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

The document-level template contains the following information:

* Description and explanatory narrative
* Template metadata (e.g., templateId, etc.)
* Header constraints
* Required section-level templates

Table 5: QRDA Category III Report Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | ClinicalDocument[templateId/@root = '2.16.840.1.113883.10.20.27.1.1'] |
|  |  realmCode | 1..1 | SHALL |  | [17226](#C_17226) |  |
|  |  @code | 1..1 | SHALL |  | [17227](#C_17227) | US |
|  |  typeId | 1..1 | SHALL |  | [18186](#C_18186) |  |
|  |  @root | 1..1 | SHALL |  | [18187](#C_18187) | 2.16.840.1.113883.1.3 |
|  |  @extension | 1..1 | SHALL |  | [18188](#C_18188) | POCD\_HD000040 |
|  |  templateId | 1..1 | SHALL |  | [17208](#C_17208) |  |
|  |  @root | 1..1 | SHALL |  | [17209](#C_17209) | 2.16.840.1.113883.10.20.27.1.1 |
|  |  id | 1..1 | SHALL |  | [17236](#C_17236) |  |
|  |  code | 1..1 | SHALL |  | [17210](#C_17210) | 2.16.840.1.113883.6.1 (LOINC) |
|  |  @code | 1..1 | SHALL |  | [19549](#C_19549) | 2.16.840.1.113883.6.1 (LOINC) = 55184-6 |
|  |  title | 1..1 | SHALL |  | [17211](#C_17211) |  |
|  |  effectiveTime | 1..1 | SHALL |  | [17237](#C_17237) |  |
|  |  confidentialityCode | 1..1 | SHALL |  | [17238](#C_17238) | 2.16.840.1.113883.1.11.16926 (HL7 BasicConfidentialityKind) |
|  |  languageCode | 1..1 | SHALL |  | [17239](#C_17239) |  |
|  |  @code | 1..1 | SHALL |  | [19669](#C_19669) | 2.16.840.1.113883.1.11.11526 (Language) |
|  |  versionNumber | 0..1 | SHOULD |  | [18260](#C_18260) |  |
|  |  recordTarget | 1..1 | SHALL |  | [17212](#C_17212) |  |
|  |  patientRole | 1..1 | SHALL |  | [17232](#C_17232) |  |
|  |  id | 1..1 | SHALL |  | [17233](#C_17233) |  |
|  |  @nullFlavor | 1..1 | SHALL |  | [17234](#C_17234) | NA |
|  |  author | 1..\* | SHALL |  | [18156](#C_18156) |  |
|  |  time | 1..1 | SHALL |  | [18158](#C_18158) |  |
|  |  assignedAuthor | 1..1 | SHALL |  | [18157](#C_18157) |  |
|  |  assignedPerson | 0..1 | MAY |  | [18368](#C_18368) |  |
|  |  assignedAuthoringDevice | 0..1 | MAY |  | [18162](#C_18162) |  |
|  |  softwareName | 1..1 | SHALL |  | [18262](#C_18262) |  |
|  |  representedOrganization | 1..1 | SHALL |  | [18163](#C_18163) |  |
|  |  name | 1..\* | SHALL |  | [18265](#C_18265) |  |
|  |  custodian | 1..1 | SHALL |  | [17213](#C_17213) |  |
|  |  assignedCustodian | 1..1 | SHALL |  | [17214](#C_17214) |  |
|  |  representedCustodianOrganization | 1..1 | SHALL |  | [17215](#C_17215) |  |
|  |  id | 1..\* | SHALL |  | [18165](#C_18165) |  |
|  |  name | 0..1 | SHOULD |  | [18166](#C_18166) |  |
|  |  legalAuthenticator | 1..1 | SHALL |  | [17225](#C_17225) |  |
|  |  time | 1..1 | SHALL |  | [18167](#C_18167) |  |
|  |  signatureCode | 1..1 | SHALL |  | [18168](#C_18168) |  |
|  |  @code | 1..1 | SHALL |  | [18169](#C_18169) | S |
|  |  assignedEntity | 1..1 | SHALL |  | [19670](#C_19670) |  |
|  |  representedOrganization | 0..1 | MAY |  | [19671](#C_19671) |  |
|  |  id | 1..\* | SHALL |  | [19672](#C_19672) |  |
|  |  name | 0..1 | SHOULD |  | [19673](#C_19673) |  |
|  |  participant | 0..\* | MAY |  | [18300](#C_18300) |  |
|  |  @typeCode | 1..1 | SHALL |  | [18301](#C_18301) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV |
|  |  associatedEntity | 1..1 | SHALL |  | [18302](#C_18302) |  |
|  |  @classCode | 1..1 | SHALL |  | [18303](#C_18303) | 2.16.840.1.113883.5.6 (HL7ActClass) = RGPR |
|  |  id | 0..1 | MAY |  | [18304](#C_18304) |  |
|  |  @root | 1..1 | SHALL |  | [18305](#C_18305) | 2.16.840.1.113883.3.2074.1 |
|  |  id | 0..1 | MAY |  | [18380](#C_18380) |  |
|  |  id | 1..\* | SHALL |  | [20954](#C_20954) |  |
|  |  @root | 1..1 | SHALL |  | [18381](#C_18381) | 2.16.840.1.113883.3.249.21 |
|  |  code | 1..1 | SHALL |  | [18308](#C_18308) |  |
|  |  @code | 1..1 | SHALL |  | [18309](#C_18309) | 2.16.840.1.113883.6.96 (SNOMED-CT) = 129465004 |
|  |  documentationOf | 0..1 | MAY |  | [18170](#C_18170) |  |
|  |  serviceEvent | 1..1 | SHALL |  | [18171](#C_18171) |  |
|  |  @classCode | 1..1 | SHALL |  | [18172](#C_18172) | 2.16.840.1.113883.5.6 (HL7ActClass) = PCPR |
|  |  performer | 1..\* | SHALL |  | [18173](#C_18173) |  |
|  |  @typeCode | 1..1 | SHALL |  | [18174](#C_18174) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = PRF |
|  |  time | 0..1 | MAY |  | [18175](#C_18175) |  |
|  |  assignedEntity | 1..1 | SHALL |  | [18176](#C_18176) |  |
|  |  id | 1..1 | SHALL |  | [18177](#C_18177) |  |
|  |  @root | 0..1 | MAY |  | [18178](#C_18178) | 2.16.840.1.113883.4.6 |
|  |  @extension | 0..1 | MAY |  | [18247](#C_18247) |  |
|  |  id | 1..\* | SHALL |  | [19474](#C_19474) |  |
|  |  telecom | 0..\* | MAY |  | [18310](#C_18310) |  |
|  |  representedOrganization | 1..1 | SHALL |  | [18180](#C_18180) |  |
|  |  id | 0..1 | MAY |  | [18181](#C_18181) |  |
|  |  @root | 1..1 | SHALL |  | [18182](#C_18182) | 2.16.840.1.113883.4.2 |
|  |  @extension | 1..1 | SHALL |  | [18190](#C_18190) |  |
|  |  id | 0..1 | MAY |  | [18183](#C_18183) |  |
|  |  @root | 1..1 | SHALL |  | [18184](#C_18184) | 2.16.840.1.113883.4.336 |
|  |  @extension | 1..1 | SHALL |  | [18185](#C_18185) |  |
|  |  name | 0..\* | SHOULD |  | [19659](#C_19659) |  |
|  |  authorization | 0..1 | MAY |  | [18344](#C_18344) |  |
|  |  consent | 1..1 | SHALL |  | [18360](#C_18360) |  |
|  |  id | 1..1 | SHALL |  | [18361](#C_18361) |  |
|  |  code | 1..1 | SHALL |  | [18363](#C_18363) | 2.16.840.1.113883.6.96 (SNOMED-CT) |
|  |  @code | 1..1 | SHALL |  | [19550](#C_19550) | 2.16.840.1.113883.6.96 (SNOMED-CT) = 425691002 |
|  |  statusCode | 1..1 | SHALL |  | [18364](#C_18364) |  |
|  |  @code | 1..1 | SHALL |  | [19551](#C_19551) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  |  component | 1..1 | SHALL |  | [17217](#C_17217) |  |
|  |  structuredBody | 1..1 | SHALL |  | [17235](#C_17235) |  |
|  |  component | 1..1 | SHALL |  | [17281](#C_17281) |  |
|  |  section | 1..1 | SHALL |  | [17282](#C_17282) |  |
|  |  component | 1..1 | SHALL |  | [17283](#C_17283) |  |
|  |  section | 1..1 | SHALL |  | [17301](#C_17301) |  |

### QRDA Category III Header Constraints

1. SHALL contain exactly one [1..1] realmCode (CONF:17226).
	1. This realmCode SHALL contain exactly one [1..1] @code="US" (CONF:17227).
2. SHALL contain exactly one [1..1] typeId (CONF:18186).
	1. This typeId SHALL contain exactly one [1..1] @root="2.16.840.1.113883.1.3" (CONF:18187).
	2. This typeId SHALL contain exactly one [1..1] @extension="POCD\_HD000040" (CONF:18188).
3. SHALL contain exactly one [1..1] templateId (CONF:17208) such that it
	1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.1.1" (CONF:17209).
4. SHALL contain exactly one [1..1] id (CONF:17236).
	1. This id SHALL be a globally unique identifier for the document (CONF:17242).
5. SHALL contain exactly one [1..1] code (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:17210).
	1. This code SHALL contain exactly one [1..1] @code="55184-6" " Quality Reporting Document Architecture Calculated Summary Report (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:19549).
6. SHALL contain exactly one [1..1] title (CONF:17211).
7. SHALL contain exactly one [1..1] effectiveTime (CONF:17237).
	1. The content SHALL be a conformant US Realm Date and Time (DTM.US.FIELDED) (2.16.840.1.113883.10.20.22.5.4) (CONF:18189).

### ConfidentialityCode

1. SHALL contain exactly one [1..1] confidentialityCode, which SHOULD be selected from ValueSet HL7 BasicConfidentialityKind 2.16.840.1.113883.1.11.16926 STATIC 2010-04-21 (CONF:17238).

Table 6: Basic Confidentiality Kind Value Set

| Value Set: HL7 BasicConfidentialityKind 2.16.840.1.113883.1.11.16926 STATIC 2010-04-21 |
| --- |
| Code System(s): | Confidentiality Code 2.16.840.1.113883.5.25 |
| Code | Code System | Print Name |
| N  | Confidentiality Code | Normal |
| R | Confidentiality Code | Restricted  |
| V | Confidentiality Code | Very Restricted  |

### LanguageCode

1. SHALL contain exactly one [1..1] languageCode (CONF:17239).
	1. This languageCode SHALL contain exactly one [1..1] @code, which SHALL be selected from ValueSet Language 2.16.840.1.113883.1.11.11526 DYNAMIC (CONF:19669).

Table 7: Language Value Set (excerpt)

| Value Set: Language 2.16.840.1.113883.1.11.11526 DYNAMIC |
| --- |
| Code System(s): | Internet Society Language 2.16.840.1.113883.1.11.11526 |
| Description: | A value set of codes defined by Internet RFC 4646 (replacing RFC 3066). Please see ISO 639 language code set maintained by Library of Congress for enumeration of language codes<http://www.ietf.org/rfc/rfc4646.txt>  |
| Code | Code System | Print Name |
| en | Internet Society Language | english |
| fr | Internet Society Language | french |
| ar | Internet Society Language | arabic |
| en-US | Internet Society Language | English, US |
| es-US | Internet Society Language | Spanish, US |
| … |  |  |

1. SHOULD contain zero or one [0..1] versionNumber (CONF:18260).

### RecordTarget

QRDA Category III is an aggregate summary report. Therefore CDA's required recordTarget/id is nulled. The recordTarget element is designed for single patient data and is required in all CDA documents. In this case, the document does not contain results for a single patient, but rather for groups of patients, and thus the recordTarget ID in QRDA Category III documents contains a nullFlavor attribute (is nulled).

1. SHALL contain exactly one [1..1] recordTarget (CONF:17212).
	1. This recordTarget SHALL contain exactly one [1..1] patientRole (CONF:17232) such that it
		1. SHALL contain exactly one [1..1] id (CONF:17233).
			1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:17234).

Figure 16: recordTarget nulled id example

<recordTarget>

 <patientRole>

 <id nullFlavor="NA"/>

 </patientRole>

</recordTarget>

### Author

The CDA standard requires an author with an identifier. In addition, the QRDA Category III document type requires that the author be declared as a person or a device. The document can be authored solely by a person or by a device, or the document could be authored by a combination of one or more devices and/or one or more people.

1. SHALL contain at least one [1..\*] author (CONF:18156) such that it
	1. SHALL contain exactly one [1..1] time (CONF:18158).
	2. SHALL contain exactly one [1..1] assignedAuthor (CONF:18157) such that it
		1. MAY contain zero or one [0..1] assignedPerson (CONF:18368).
		2. MAY contain zero or one [0..1] assignedAuthoringDevice (CONF:18162).
			1. The assignedAuthoringDevice, if present, SHALL contain exactly one [1..1] softwareName (CONF:18262).
		3. SHALL contain exactly one [1..1] representedOrganization (CONF:18163).
			1. This representedOrganization SHALL contain at least one [1..\*] name (CONF:18265).
	3. There SHALL be exactly one assignedAuthor/assignedPerson or exactly one assignedAuthor/assignedAuthoringDevice (CONF:19667).

Figure 17: Device author example

<author>

 <time value="20120811"/>

 <assignedAuthor>

 <!-- author ID. This may be an NPI, or any other type of ID. -->

 <id root="2.16.840.1.113883.4.6" extension="111111111"

 assigningAuthorityName="NPI"/>"/>

 <assignedAuthoringDevice>

 <softwareName>SOME Data Aggregator Transform Tool KP00017dev

 </softwareName>

 </assignedAuthoringDevice>

 <representedOrganization>

 <!-- The organization id is optional, but the name is required -->

 <id root="2.16.840.1.113883.19.5" extension="98765"/>

 <name>Good Health Hospital</name>

 </representedOrganization>

 </assignedAuthor>

</author>

Figure 18: Person author example

<author>

 <time value="20050329224411+0500"/>

 <assignedAuthor>

 <!-- author ID. This may be an NPI, or any other type of ID. -->

 <id root="2.16.840.1.113883.4.6" extension="111111112"

 assigningAuthorityName="NPI"/>

 <assignedPerson>

 <name>

 <given>Henry</given>

 <family>Seven</family>

 </name>

 </assignedPerson>

 <representedOrganization>

 <!-- The organization id is optional -->

 <id root="2.16.840.1.113883.19.5" extension="5454545"/>

 <name>Good Health Hospital</name>

 </representedOrganization>

 </assignedAuthor>

</author>

### Custodian

1. SHALL contain exactly one [1..1] custodian (CONF:17213).
	1. This custodian SHALL contain exactly one [1..1] assignedCustodian (CONF:17214).
		1. This assignedCustodian SHALL contain exactly one [1..1] representedCustodianOrganization (CONF:17215).
			1. This representedCustodianOrganization SHALL contain at least one [1..\*] id (CONF:18165).
			2. This representedCustodianOrganization SHOULD contain zero or one [0..1] name (CONF:18166).
	2. This assignedCustodian SHALL represent the organization that owns and reports the data (CONF:18246).

Figure 19: Custodian example

<custodian>

 <assignedCustodian>

 <representedCustodianOrganization>

 <!-- This is an example root -->

 <id root="2.16.840.1.113883.19.5"/>

 <name>Good Health Hospital</name>

 </representedCustodianOrganization>

 </assignedCustodian>

</custodian>

### LegalAuthenticator

1. SHALL contain exactly one [1..1] legalAuthenticator (CONF:17225).
	1. This legalAuthenticator SHALL contain exactly one [1..1] time (CONF:18167).
	2. This legalAuthenticator SHALL contain exactly one [1..1] signatureCode (CONF:18168).
		1. This signatureCode SHALL contain exactly one [1..1] @code="S" (CONF:18169).
	3. This legalAuthenticator SHALL contain exactly one [1..1] assignedEntity (CONF:19670).
		1. This assignedEntity MAY contain zero or one [0..1] representedOrganization (CONF:19671).
			1. The representedOrganization, if present, SHALL contain at least one [1..\*] id (CONF:19672).
			2. The representedOrganization, if present, SHOULD contain zero or one [0..1] name (CONF:19673).

Figure 20: LegalAuthenticator example

<legalAuthenticator>

 <time value="20120811"/>

 <signatureCode code="S"/>

 <assignedEntity>

 <id root="bc01a5d1-3a34-4286-82cc-43eb04c972a7"/>

 <representedOrganization>

 <!-- example root -->

 <id root="2.16.840.1.113883.19.5"/>

 <name>Good Health Hospital</name>

 </representedOrganization>

 </assignedEntity>

</legalAuthenticator>

### Participant

The generic participant with a participationType of device and an associatedEntity class code of RGPR (regulated product) is used to represent Electronic Health Record (EHR) government agency certification identifiers.

1. MAY contain zero or more [0..\*] participant (CONF:18300) such that it
	1. SHALL contain exactly one [1..1] @typeCode="DEV" device (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 STATIC) (CONF:18301).
	2. SHALL contain exactly one [1..1] associatedEntity (CONF:18302).
		1. This associatedEntity SHALL contain exactly one [1..1] @classCode="RGPR" regulated product (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:18303).

If the EHR has an ONC Certification Number, the value of the root attribute is as specified and the value of the extension attribute is the Certification Number.

* + 1. This associatedEntity MAY contain zero or one [0..1] id (CONF:18304) such that it
			1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.3.2074.1" Office of the National Coordinator Certification Number (CONF:18305).

If the EHR has a CMS Security Code (a unique identifier assigned by CMS for each qualified EHR vendor application), the value of the root attribute is as specified and the value of the extension attribute is the CMS Security Code.

* + 1. This associatedEntity MAY contain at least one [0..1] id (CONF:18380) such that it
			1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.3.249.21" CMS Certified EHR Security Code Identifier (CONF:18381).
		2. This associatedEntity SHALL contain at least one [1..\*] id (CONF:20954).
		3. This associatedEntity SHALL contain exactly one [1..1] code (CONF:18308).
			1. This code SHALL contain exactly one [1..1] @code="129465004" medical record, device (CodeSystem: SNOMED-CT 2.16.840.1.113883.6.96 STATIC) (CONF:18309).

Figure 21: Participant example

<participant typeCode="DEV">

 <associatedEntity classCode="RGPR">

 <!-- SHALL have at least one id, form can vary -->

 <!-- if the EHR has an ONC certification number, SHOULD use it here -->

 <id root="2.16.840.1.113883.3.2074.1" extension="1a2b3c"

 assigningAuthorityName="ONC"/>

 <!-- if the EHR has a CMS Security Code, MAY use it here -->

 <id root="2.16.840.1.113883.3.249.21" extension="98765"/>

 <code code="129465004" displayName="medical record, device"

 codeSystem="2.16.840.1.113883.6.96"

 codeSystemName="SNOMED-CT"/>

 </associatedEntity>

</participant>

### DocumentationOf

The aggregated data contained in a QRDA Category III report was provided by one or more providers. The documentationOf service event can contain identifiers for all of the (one or more) providers involved, using the serviceEvent/performer elements. A serviceEvent/performer element must be present for each performer reporting data to a quality organization.

1. MAY contain zero or one [0..1] documentationOf (CONF:18170).
	1. The documentationOf, if present, SHALL contain exactly one [1..1] serviceEvent (CONF:18171).
		1. This serviceEvent SHALL contain exactly one [1..1] @classCode="PCPR" Care Provision (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:18172).
		2. This serviceEvent SHALL contain at least one [1..\*] performer (CONF:18173).
			1. Such performers SHALL contain exactly one [1..1] @typeCode="PRF" Performer (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 STATIC) (CONF:18174).
			2. Such performers MAY contain zero or one [0..1] time (CONF:18175).
			3. Such performers SHALL contain exactly one [1..1] assignedEntity (CONF:18176).

This assignedEntity id/@root coupled with the id/@extension can be used to represent the individual provider's National Provider Identification number (NPI). Other assignedEntity ids may be present.

* + - * 1. This assignedEntity SHALL contain exactly one [1..1] id (CONF:18177) such that it

MAY contain zero or one [0..1] @root="2.16.840.1.113883.4.6" National Provider ID (CONF:18178).

MAY contain zero or one [0..1] @extension (CONF:18247).

* + - * 1. This assignedEntity SHALL contain at least one [1..\*] id (CONF:19474).
				2. This assignedEntity MAY contain zero or more [0..\*] telecom (CONF:18310).
				3. This assignedEntity SHALL contain exactly one [1..1] representedOrganization (CONF:18180).

This representedOrganization id/@root coupled with the id/@extension can be used to represent the organization's Tax Identification Number (TIN). Other representedOrganization ids may be present.

This representedOrganization MAY contain zero or one [0..1] id (CONF:18181) such that it

SHALL contain exactly one [1..1] @root="2.16.840.1.113883.4.2" Tax ID Number (CONF:18182).

SHALL contain exactly one [1..1] @extension (CONF:18190).

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

This representedOrganization MAY contain zero or one [0..1] id (CONF:18183) such that it

SHALL contain exactly one [1..1] @root="2.16.840.1.113883.4.336" Facility CMS Certification Number (CONF:18184).

SHALL contain exactly one [1..1] @extension (CONF:18185).

This representedOrganization SHOULD contain zero or more [0..\*] name (CONF:19659).

Figure 22: documentationOf example

<documentationOf typeCode="DOC">

 <serviceEvent classCode="PCPR">

 <!-- care provision -->

 <effectiveTime>

 <low value="20120601"/>

 <high value="20120915"/>

 </effectiveTime>

 <!-- Multiple performers can be included, each with an NPI, TIN, CCN -->

 <performer typeCode="PRF">

 <time>

 <low value="20120101"/>

 <high value="20120331"/>

 </time>

 <assignedEntity>

 <!-- SHALL contain at least one id -->

 <!-- Optional Provider NPI -->

 <id root="2.16.840.1.113883.4.6"

 extension="111111111"

 assigningAuthorityName="NPI"/>

 <representedOrganization>

 <!-- Optional Organization TIN -->

 <id root="2.16.840.1.113883.4.2"

 extension="1234567"

 assigningAuthorityName="TIN"/>

 <!-- Optional Organization CCN -->

 <id root="2.16.840.1.113883.4.336"

 extension="54321"

 assigningAuthorityName="CCN"/>

 </representedOrganization>

 </assignedEntity>

 </performer>

 </serviceEvent>

</documentationOf>

### Authorization

If the data are submitted through an intermediary such as a data submission vendor, this authorization represents that the eligible professional has given permission to release the report.

1. MAY contain zero or one [0..1] authorization (CONF:18344).
	1. The authorization, if present, SHALL contain exactly one [1..1] consent (CONF:18360).

The consent/id is the identifier of the consent given by the eligible provider.

* + 1. This consent SHALL contain exactly one [1..1] id (CONF:18361).
		2. This consent SHALL contain exactly one [1..1] code (CodeSystem: SNOMED-CT 2.16.840.1.113883.6.96 STATIC) (CONF:18363).
			1. This code SHALL contain exactly one [1..1] @code="425691002" Consent given for electronic record sharing (CodeSystem: SNOMED-CT 2.16.840.1.113883.6.96) (CONF:19550).
		3. This consent SHALL contain exactly one [1..1] statusCode (CONF:18364).
			1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:19551).

Figure 23: Participation waiver example

<authorization>

 <consent>

 <id root="84613250-e75e-11e1-aff1-0800200c9a66"/>

 <code code="425691002"

 displayName="consent given for electronic record sharing"

 codeSystem="2.16.840.1.113883.6.96"

 codeSystemName="SNOMED-CT"/>

 <statusCode code="completed"/>

 </consent>

</authorization>

## QRDA Category III Body Constraints

A QRDA Category III document contains a Reporting Parameters Section and a Measure section.

1. SHALL contain exactly one [1..1] component (CONF:17217).
	1. This component SHALL contain exactly one [1..1] structuredBody (CONF:17235).
		1. This structuredBody SHALL contain exactly one [1..1] component (CONF:17281) such that it
			1. SHALL contain exactly one [1..1] [QRDA Category III Reporting Parameters Section](#S_QRDA_Category_III_Reporting_Parameters) (templateId:2.16.840.1.113883.10.20.27.2.2) (CONF:17282).
		2. This structuredBody SHALL contain exactly one [1..1] component (CONF:17283) such that it
			1. SHALL contain exactly one [1..1] [QRDA Category III Measure Section](#S_QRDA_Category_III_Measure_Section) (templateId:2.16.840.1.113883.10.20.27.2.1) (CONF:17301).

Figure 24: Body example

<component>

 <structuredBody>

 <component>

 <section>

 ...

 <title>Reporting Parameters</title>

 ...

 </section>

 </component>

 <component>

 <section>

 ...

 <title>Measure Section</title>

 ...

 </section>

 </component>

 </structuredBody>

</component>

# Section-Level Templates

This chapter contains the section-level templates. Section-level templates are always included in a document with a structured body. The data elements currently sent in the PQRS 2012 Data Submission Vendor XML Specification[[19]](#footnote-20) that have been mapped to QRDA Category III CDA entries are contained in entries that reside within these section templates. Please see where column “QRDA III Template” indicates the entry template.

Each section-level template contains the following:

* Template metadata (e.g., templateId)
* Description and explanatory narrative
* LOINC section code
* Section title
* Entry-level template names and ids for referenced templates.

The text element within the section stores the narrative to be rendered, as described in the CDA R2 specification, Section 4.3.5[[20]](#footnote-21), and is referred to as the CDA narrative block.

The content model of the CDA narrative block schema is hand crafted to meet requirements of human readability and rendering. The schema is registered as a MIME type (text/x-hl7-text+xml), which is the fixed media type for the text element.

As noted in the CDA R2 specification, the document originator is responsible for ensuring that the narrative block contains the complete, human readable, attested content of the section. Structured entries support computer processing and computation and are not a replacement for the attestable, human-readable content of the CDA narrative block. The special case of structured entries with an entry relationship of "DRIV" (is derived from) indicates to the receiving application that the source of the narrative block is the structured entries, and that the narrative is wholly derived from the structured entries.

As for all CDA documents—even when a report consisting entirely of structured entries is transformed into CDA—the encoding application must ensure that the authenticated content (narrative plus multimedia) is a faithful and complete rendering of the clinical content of the structured source data. As a general guideline, a generated narrative block should include the same human readable content that would be available to users viewing that content in the originating system. Although content formatting in the narrative block need not be identical to that in the originating system, the narrative block should use elements from the CDA narrative block schema to provide sufficient formatting to support human readability when rendered according to the rules defined in Section Narrative Block (§ 4.3.5) of the CDA R2 specification.

By definition, a receiving application cannot assume that all clinical content in a section (i.e., in the narrative block and multimedia) is contained in the structured entries unless the entries in the section have an entry relationship of "DRIV".

Additional specification information for the CDA narrative block can be found in the CDA R2 specification in sections 1.2.1, 1.2.3, 1.3, 1.3.1, 1.3.2, 4.3.4.2, and 6.

Measure Section

[section: templateId 2.16.840.1.113883.10.20.24.2.2 (open)]

Table 8: Measure Section Contexts

| Used By: | Contains Entries: |
| --- | --- |
|  | [Measure Reference](#E_Measure_Reference) |

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

Table 9: Measure Section Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.24.2.2'] |
|  |  templateId | 1..1 | SHALL |  | [12801](#C_12801) |  |
|  |  @root | 1..1 | SHALL |  | [12802](#C_12802) | 2.16.840.1.113883.10.20.24.2.2 |
|  |  code | 1..1 | SHALL |  | [12798](#C_12798) |  |
|  |  @code | 1..1 | SHALL |  | [19230](#C_19230) | 2.16.840.1.113883.6.1 (LOINC) = 55186-1 |
|  |  title | 1..1 | SHALL |  | [12799](#C_12799) | Measure Section |
|  |  text | 1..1 | SHALL |  | [12800](#C_12800) |  |
|  |  entry | 1..\* | SHALL |  | [13003](#C_13003) |  |
|  |  organizer | 1..1 | SHALL |  | [16677](#C_16677) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:12801) such that it
	1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.2.2" (CONF:12802).
2. SHALL contain exactly one [1..1] code (CONF:12798).
	1. This code SHALL contain exactly one [1..1] @code="55186-1" Measure Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:19230).
3. SHALL contain exactly one [1..1] title="Measure Section" (CONF:12799).
4. SHALL contain exactly one [1..1] text (CONF:12800).
5. SHALL contain at least one [1..\*] entry (CONF:13003) such that it
	1. SHALL contain exactly one [1..1] [Measure Reference](#E_Measure_Reference) (templateId:2.16.840.1.113883.10.20.24.3.98) (CONF:16677).

QRDA Category III Measure Section

[section: templateId 2.16.840.1.113883.10.20.27.2.1 (open)]

Table 10: QRDA Category III Measure Section Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [QRDA Category III Report](#D_QRDA_Category_III_Report) (required) | [Measure Reference and Results](#E_Measure_Reference_and_Results) |

This section references the measure(s) being reported. For each reported measure, this section includes entries for reporting various aggregate counts (e.g., number of patients in the measure’s denominator). For continuous variable measures, this section includes entries for reporting the continuous variables. This section can also include entries not only for aggregate counts, but stratified aggregate counts (e.g., not just total number of patients in the denominator, but also the number of males in the denominator).

Table 11: QRDA Category III Measure Section Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.27.2.1'] |
|  |  templateId | 1..1 | SHALL |  | [17284](#C_17284) |  |
|  |  @root | 1..1 | SHALL |  | [17285](#C_17285) | 2.16.840.1.113883.10.20.27.2.1 |
|  |  entry | 1..\* | SHALL |  | [17906](#C_17906) |  |
|  |  organizer | 1..1 | SHALL |  | [17907](#C_17907) |  |

1. Conforms to [Measure Section](#S_Measure_Section) template (2.16.840.1.113883.10.20.24.2.2).
2. SHALL contain exactly one [1..1] templateId (CONF:17284) such that it
	1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.2.1" (CONF:17285).
3. SHALL contain at least one [1..\*] entry (CONF:17906) such that it
	1. SHALL contain exactly one [1..1] [Measure Reference and Results](#E_Measure_Reference_and_Results) (templateId:2.16.840.1.113883.10.20.27.3.1) (CONF:17907).

Figure 25: QRDA Category III measure section example

<component>

 <section>

 <!-- Implied template Measure Section templateId -->

 <templateId root="2.16.840.1.113883.10.20.24.2.2"/>

 <templateId root="2.16.840.1.113883.10.20.27.2.1"/>

 <code code="55186-1" codeSystem="2.16.840.1.113883.6.1"/>

 <title>Measure Section</title>

 <text>

 ...

 </text>

 <entry>

 <!-- Measure Reference and Results -->

 <organizer classCode="CLUSTER" moodCode="EVN">

 ...

 </organizer>

 </entry>

 </section>

</component>

Reporting Parameters Section

[section: templateId 2.16.840.1.113883.10.20.17.2.1 (open)]

Table 12: Reporting Parameters Section Contexts

| Used By: | Contains Entries: |
| --- | --- |
|  | [Reporting Parameters Act](#E_Reporting_Parameters_Act) |

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

Table 13: Reporting Parameters Section Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.17.2.1'] |
|  |  templateId | 1..1 | SHALL |  | [14611](#C_14611) |  |
|  |  @root | 1..1 | SHALL |  | [14612](#C_14612) | 2.16.840.1.113883.10.20.17.2.1 |
|  |  code | 1..1 | SHALL |  | [18191](#C_18191) |  |
|  |  @code | 1..1 | SHALL |  | [19229](#C_19229) | 2.16.840.1.113883.6.1 (LOINC) = 55187-9 |
|  |  title | 1..1 | SHALL |  | [4142](#C_4142) | Reporting Parameters |
|  |  text | 1..1 | SHALL |  | [4143](#C_4143) |  |
|  |  entry | 1..1 | SHALL |  | [3277](#C_3277) |  |
|  |  @typeCode | 1..1 | SHALL |  | [3278](#C_3278) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV |
|  |  act | 1..1 | SHALL |  | [17496](#C_17496) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:14611) such that it
	1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.17.2.1" (CONF:14612).
2. SHALL contain exactly one [1..1] code (CONF:18191).
	1. This code SHALL contain exactly one [1..1] @code="55187-9" Reporting Parameters (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:19229).
3. SHALL contain exactly one [1..1] title="Reporting Parameters" (CONF:4142).
4. SHALL contain exactly one [1..1] text (CONF:4143).
5. SHALL contain exactly one [1..1] entry (CONF:3277) such that it
	1. SHALL contain exactly one [1..1] @typeCode="DRIV" Is derived from (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:3278).
	2. SHALL contain exactly one [1..1] [Reporting Parameters Act](#E_Reporting_Parameters_Act) (templateId:2.16.840.1.113883.10.20.17.3.8) (CONF:17496).

QRDA Category III Reporting Parameters Section

[section: templateId 2.16.840.1.113883.10.20.27.2.2 (open)]

Table 14: QRDA Category III Reporting Parameters Section Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [QRDA Category III Report](#D_QRDA_Category_III_Report) (required) | [First Encounter](#E_First_Encounter)[Last Encounter](#E_Last_Encounter)[Reporting Parameters Act](#E_Reporting_Parameters_Act) |

The QRDA Category III Reporting Parameters Section provides information about the reporting time interval, and may contain other information that provides context for the data being reported. This template adds the optional First and Last Encounters templates to the constraints already in place in its implied template, Reporting Parameters Section.

The QRDA Category III report contains data covering a single time period represented by the Reporting Parameters Act. It is not possible in the current QRDA Category III to include multiple reporting periods.

Table 15: QRDA Category III Reporting Parameters Section Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = '2.16.840.1.113883.10.20.27.2.2'] |
|  |  templateId | 1..1 | SHALL |  | [18323](#C_18323) |  |
|  |  @root | 1..1 | SHALL |  | [18324](#C_18324) | 2.16.840.1.113883.10.20.27.2.2 |
|  |  entry | 0..1 | SHOULD |  | [18325](#C_18325) |  |
|  |  @typeCode | 1..1 | SHALL |  | [18427](#C_18427) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV |
|  |  act | 1..1 | SHALL |  | [18428](#C_18428) |  |
|  |  entry | 0..1 | MAY |  | [18328](#C_18328) |  |
|  |  encounter | 1..1 | SHALL |  | [18330](#C_18330) |  |
|  |  entry | 0..1 | MAY |  | [18429](#C_18429) |  |
|  |  encounter | 1..1 | SHALL |  | [18430](#C_18430) |  |

1. Conforms to [Reporting Parameters Section](#S_Reporting_Parameters_Section) template (2.16.840.1.113883.10.20.17.2.1).
2. SHALL contain exactly one [1..1] templateId (CONF:18323) such that it
	1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.2.2" (CONF:18324).
3. SHOULD contain zero or one [0..1] entry (CONF:18325) such that it
	1. SHALL contain exactly one [1..1] @typeCode="DRIV" Is derived from (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:18427).
	2. SHALL contain exactly one [1..1] [Reporting Parameters Act](#E_Reporting_Parameters_Act) (templateId:2.16.840.1.113883.10.20.17.3.8) (CONF:18428).
4. MAY contain zero or one [0..1] entry (CONF:18328) such that it
	1. SHALL contain exactly one [1..1] [Last Encounter](#E_Last_Encounter) (templateId:2.16.840.1.113883.10.20.27.3.12) (CONF:18330).
5. MAY contain zero or one [0..1] entry (CONF:18429) such that it
	1. SHALL contain exactly one [1..1] [First Encounter](#E_First_Encounter) (templateId:2.16.840.1.113883.10.20.27.3.11) (CONF:18430).

Figure 26: QRDA Category III reporting parameters section example

<component>

 <section>

 <!-- Reporting Parameters templateId -->

 <templateId root="2.16.840.1.113883.10.20.17.2.1"/>

 <!-- QRDA Category III Reporting Parameters templateId -->

 <templateId root="2.16.840.1.113883.10.20.27.2.2"/>

 <code code="55187-9" codeSystem="2.16.840.1.113883.6.1"/>

 <title>Reporting Parameters</title>

 <text>

 <list>

 <item>Reporting period: 01 Jan 2012 - 31 March 2012</item>

 </list>

 </text>

 <entry typeCode="DRIV">

 <!-- Reporting Parameters Act -->

 <act classCode="ACT" moodCode="EVN">

 ...

 </act>

 </entry>

 <!-- Optional First Encounter -->

 <entry>

 <encounter classCode="ENC" moodCode="EVN">

 ...

 </encounter>

 </entry>

 <!-- Optional Last Encounter -->

 <entry>

 <encounter classCode="ENC" moodCode="EVN">

 ...

 </encounter>

 </entry>

 </section>

</component>

# Entry-Level Templates

This chapter defines all of the entry templates in a QRDA Category III document. In all cases where a more specific template conforms to a more general template, asserting the more specific template also implies conformance to the more general template. The data elements currently sent in the PQRS 2012 Data Submission Vendor XML Specification[[21]](#footnote-22) that have been mapped to QRDA Category III CDA entries are contained in entries defined within this chapter. Please see where column “QRDA III Template” indicates the entry template.

Aggregate Count

[observation: templateId 2.16.840.1.113883.10.20.27.3.3 (open)]

Table 16: Aggregate Count Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Reporting Stratum](#E_Reporting_Stratum) (required)[Measure Data](#E_Measure_Data) (required)[Postal Code Supplemental Data Element](#E_Postal_Code_Supplemental_Data_Element) (required)[Payer Supplemental Data Element](#E_Payer_Supplemental_Data_Element) (required)[Race Supplemental Data Element](#E_Race_Supplemental_Data_Element) (required)[Ethnicity Supplemental Data Element](#E_Ethnicity_Supplemental_Data_Element) (required)[Sex Supplemental Data Element](#E_Sex_Supplemental_Data_Element) (required) |  |

The Aggregate Count captures the number of items aggregated. This template is contained in a parent template that describes the item. If the parent template is a supplemental data element, the count is sent only when the number is not zero. Otherwise, the count is sent even if the number is zero. The predicted count (based on the measure's risk-adjustment model) can be captured in the reference range..

Table 17: Aggregate Count Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.27.3.3'] |
|  |  @classCode | 1..1 | SHALL |  | [17563](#C_17563) | OBS |
|  |  @moodCode | 1..1 | SHALL |  | [17564](#C_17564) | EVN |
|  |  templateId | 1..1 | SHALL |  | [17565](#C_17565) |  |
|  |  @root | 1..1 | SHALL |  | [18095](#C_18095) | 2.16.840.1.113883.10.20.27.3.3 |
|  |  code | 1..1 | SHALL |  | [17566](#C_17566) |  |
|  |  @code | 1..1 | SHALL |  | [19508](#C_19508) | 2.16.840.1.113883.5.4 (ActCode) = MSRAGG |
|  |  value | 1..1 | SHALL | INT | [17567](#C_17567) |  |
|  |  @value | 1..1 | SHALL |  | [17568](#C_17568) |  |
|  |  methodCode | 1..1 | SHALL |  | [19509](#C_19509) |  |
|  |  @code | 1..1 | SHALL |  | [19510](#C_19510) | 2.16.840.1.113883.5.84 (ObservationMethod) = COUNT |
|  |  referenceRange | 0..1 | MAY |  | [18392](#C_18392) |  |
|  |  observationRange | 1..1 | SHALL |  | [18393](#C_18393) |  |
|  |  value | 1..1 | SHALL | INT | [18394](#C_18394) |  |

1. SHALL contain exactly one [1..1] @classCode="OBS" (CONF:17563).
2. SHALL contain exactly one [1..1] @moodCode="EVN" (CONF:17564).
3. SHALL contain exactly one [1..1] templateId (CONF:17565) such that it
	1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.3" (CONF:18095).
4. SHALL contain exactly one [1..1] code (CONF:17566).
	1. This code SHALL contain exactly one [1..1] @code="MSRAGG" rate aggregation (CodeSystem: ActCode 2.16.840.1.113883.5.4) (CONF:19508).
5. SHALL contain exactly one [1..1] value with @xsi:type="INT" (CONF:17567).
	1. This value SHALL contain exactly one [1..1] @value (CONF:17568).
6. SHALL contain exactly one [1..1] methodCode (CONF:19509).
	1. This methodCode SHALL contain exactly one [1..1] @code="COUNT" Count (CodeSystem: ObservationMethod 2.16.840.1.113883.5.84) (CONF:19510).

The reference range is optionally used to represent the predicted count based on the measure’s risk-adjustment model.

1. MAY contain zero or one [0..1] referenceRange (CONF:18392).
	1. The referenceRange, if present, SHALL contain exactly one [1..1] observationRange (CONF:18393).
		1. This observationRange SHALL contain exactly one [1..1] value with @xsi:type="INT" (CONF:18394).

Figure 27: Aggregate count example

<observation classCode="OBS" moodCode="EVN">

 <templateId root="2.16.840.1.113883.10.20.27.3.3"/>

 <code code="MSRAGG"

 displayName="rate aggregation"

 codeSystem="2.16.840.1.113883.5.4"

 codeSystemName="ActCode"/>

 <value xsi:type="INT" value="1000"/>

 <methodCode code="COUNT"

 displayName="Count"

 codeSystem="2.16.840.1.113883.5.84"

 codeSystemName="ObservationMethod"/>

<!-- MAY 0..1 Used to represent the predicted count based on the measure’s risk-adjustment model. -->

<referenceRange>

 <observationRange>

 <value xsi:type="INT" value="300"/>

 </observationRange>

</referenceRange>

</observation>

Continuous Variable Measure Value

[observation: templateId 2.16.840.1.113883.10.20.27.3.2 (open)]

Table 18: Continuous Variable Measure Value Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Reporting Stratum](#E_Reporting_Stratum) (optional)[Measure Data](#E_Measure_Data) (optional) |  |

This observation represents the continuous variables found in quality measures that measure performance criteria by time spans, magnitude changes, etc. A continuous variable for a given patient might be the time spent waiting for a procedure. A continuous variable for a population might be the mean wait time. The type of aggregation (e.g., mean, median) is represented in the observation/methodCode. The predicted value (based on the measure's risk-adjustment model) can be captured in the reference range.

Table 19: Continuous Variable Measure Value Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.27.3.2'] |
|  |  @classCode | 1..1 | SHALL |  | [17569](#C_17569) | OBS |
|  |  @moodCode | 1..1 | SHALL |  | [17570](#C_17570) | EVN |
|  |  templateId | 1..1 | SHALL |  | [18096](#C_18096) |  |
|  |  @root | 1..1 | SHALL |  | [18097](#C_18097) | 2.16.840.1.113883.10.20.27.3.2 |
|  |  code | 1..1 | SHALL |  | [17571](#C_17571) |  |
|  |  value | 1..1 | SHALL |  | [17572](#C_17572) |  |
|  |  methodCode | 1..1 | SHALL |  | [18242](#C_18242) | 2.16.840.1.113883.1.11.20450 (ObservationMethodAggregate) |
|  |  reference | 1..1 | SHALL |  | [18243](#C_18243) |  |
|  |  externalObservation | 1..1 | SHALL |  | [18244](#C_18244) |  |
|  |  id | 1..1 | SHALL |  | [18245](#C_18245) |  |
|  |  referenceRange | 0..1 | MAY |  | [18389](#C_18389) |  |
|  |  observationRange | 1..1 | SHALL |  | [18390](#C_18390) |  |
|  |  value | 1..1 | SHALL |  | [18391](#C_18391) |  |

1. SHALL contain exactly one [1..1] @classCode="OBS" (CONF:17569).
2. SHALL contain exactly one [1..1] @moodCode="EVN" (CONF:17570).
3. SHALL contain exactly one [1..1] templateId (CONF:18096) such that it
	1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.2" (CONF:18097).
4. SHALL contain exactly one [1..1] code (CONF:17571).
	1. If this continuous variable measure references an eMeasure, this code element SHALL equal the code element in that eMeasure's measure observation definition (CONF:18256).
5. SHALL contain exactly one [1..1] value (CONF:17572).
6. SHALL contain exactly one [1..1] methodCode, where the @code SHALL be selected from ValueSet ObservationMethodAggregate 2.16.840.1.113883.1.11.20450 STATIC (CONF:18242).
7. SHALL contain exactly one [1..1] reference (CONF:18243).
	1. This reference SHALL contain exactly one [1..1] externalObservation (CONF:18244).
		1. This externalObservation SHALL contain exactly one [1..1] id (CONF:18245).
			1. If this reference is to an eMeasure, this id SHALL equal the id in that eMeasure's measure observation definition (CONF:18255).

The reference range is optionally used to represent the predicted continuous variable value based on the measure’s risk-adjustment model.

1. MAY contain zero or one [0..1] referenceRange (CONF:18389).
	1. The referenceRange, if present, SHALL contain exactly one [1..1] observationRange (CONF:18390).
		1. This observationRange SHALL contain exactly one [1..1] value (CONF:18391).

Figure 28: Continuous variable measure example

<observation classCode="OBS" moodCode="EVN">

 <templateId root="2.16.840.1.113883.10.20.27.3.2"/>

 <code nullFlavor="OTH">

 <originalText>Time Difference</originalText>

 </code>

 <statusCode code="completed"/>

 <value xsi:type="PQ" value="55" unit="min"/>

 <methodCode code="MEDIAN"

 displayName="Median"

 codeSystem="2.16.840.1.113883.5.84"

 codeSystemName="ObservationMethod"/>

 <reference typeCode="REFR">

 <!-- reference to the relevant measure observation in the eMeasure -->

 <externalObservation classCode="OBS" moodCode="EVN">

 <id root="bcefe756-fb9f-4e46-aadc-d19de340b6b5"/>

 </externalObservation>

 </reference>

<!-- MAY 0..1 Used to represent the predicted continuous variable value based on the measure’s risk-adjustment model. -->

 <referenceRange>

 <observationRange>

 <value xsi:type="PQ" value="60" unit="min"/>

 </observationRange>

 </referenceRange>

</observation>

Figure 29: Corresponding eMeasure example

<!-- Taken from NQF 0496 -->

<observation classCode="OBS" moodCode="DEF">

 <templateId root="2.16.840.1.113883.3.560.1.10038"/>

 <id root="bcefe756-fb9f-4e46-aadc-d19de340b6b5"/>

 <code>

 <originalText>Time difference</originalText>

 </code>

Table 20: Observation Method Aggregate Value Set

| Value Set: ObservationMethodAggregate 2.16.840.1.113883.1.11.20450 DYNAMIC |
| --- |
| Code System(s): | ObservationMethod (2.16.840.1.113883.5.84) |
| Description: Methods applied to aggregate values |
| Code | Code System | Print Name |
| AVERAGE | 2.16.840.1.113883.5.84 | Average |
| COUNT | 2.16.840.1.113883.5.84 | Count |
| MAX | 2.16.840.1.113883.5.84 | Maxima |
| ... |  |  |

Ethnicity Supplemental Data Element

[observation: templateId 2.16.840.1.113883.10.20.27.3.7 (open)]

Table 21: Ethnicity Supplemental Data Element Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Measure Data](#E_Measure_Data) (optional) | [Aggregate Count](#E_Aggregate_Count) |

This observation represents whether the patient is Hispanic or not and provides the number of patients in the population that report that ethnicity.

This template was designed for use with HQMF Release 1, and is not currently recommended for use with HQMF Release 2. Use the [Reporting Stratum](#E_Reporting_Stratum) template instead with HQMF Release 2.

Table 22: Ethnicity Supplemental Data Element Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.27.3.7'] |
|  |  @classCode | 1..1 | SHALL |  | [18216](#C_18216) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  |  @moodCode | 1..1 | SHALL |  | [18217](#C_18217) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  |  templateId | 1..1 | SHALL |  | [18218](#C_18218) |  |
|  |  @root | 1..1 | SHALL |  | [18219](#C_18219) | 2.16.840.1.113883.10.20.27.3.7 |
|  |  code | 1..1 | SHALL |  | [18220](#C_18220) |  |
|  |  @code | 1..1 | SHALL |  | [18221](#C_18221) | 2.16.840.1.113883.6.96 (SNOMED-CT) = 364699009 |
|  |  statusCode | 1..1 | SHALL |  | [18118](#C_18118) |  |
|  |  @code | 1..1 | SHALL |  | [18119](#C_18119) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  |  value | 1..1 | SHALL | CD | [18222](#C_18222) | 2.16.840.1.114222.4.11.837 (EthnicityGroup) |
|  |  entryRelationship | 1..1 | SHALL |  | [18120](#C_18120) |  |
|  |  @typeCode | 1..1 | SHALL |  | [18121](#C_18121) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ |
|  |  @inversionInd | 1..1 | SHALL |  | [18122](#C_18122) | true |
|  |  observation | 1..1 | SHALL |  | [18123](#C_18123) |  |

1. SHALL contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:18216).
2. SHALL contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:18217).
3. SHALL contain exactly one [1..1] templateId (CONF:18218).
	1. This templateId SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.7" (CONF:18219).
4. SHALL contain exactly one [1..1] code (CONF:18220).
	1. This code SHALL contain exactly one [1..1] @code="364699009" Ethnic Group (CodeSystem: SNOMED-CT 2.16.840.1.113883.6.96) (CONF:18221).
5. SHALL contain exactly one [1..1] statusCode (CONF:18118).
	1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:18119).
6. SHALL contain exactly one [1..1] value with @xsi:type="CD", where the @code SHALL be selected from ValueSet EthnicityGroup 2.16.840.1.114222.4.11.837 DYNAMIC (CONF:18222).
7. SHALL contain exactly one [1..1] entryRelationship (CONF:18120) such that it
	1. SHALL contain exactly one [1..1] @typeCode="SUBJ" Has Subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:18121).
	2. SHALL contain exactly one [1..1] @inversionInd="true" (CONF:18122).
	3. SHALL contain exactly one [1..1] [Aggregate Count](#E_Aggregate_Count) (templateId:2.16.840.1.113883.10.20.27.3.3) (CONF:18123).

Table 23: CDC Ethnicity Group Value Set

| Value Set: CDC Ethnicity Group 2.16.840.1.114222.4.11.837 DYNAMIC |
| --- |
| Code System(s): | Race & Ethnicity - CDC (2.16.840.1.113883.6.238) |
| Description: Patient’s Ethnicity |
| Code | Code System | Print Name |
| 2135-2 | 2.16.840.1.113883.6.238 | Hispanic or Latino |
| 2186-5 | 2.16.840.1.113883.6.238 | Not Hispanic or Latino |

Figure 30: Ethnicity supplemental data element example

<observation classCode="OBS" moodCode="EVN">

 <!-- Ethnicity Supplemental Data Element template ID -->

 <templateId root="2.16.840.1.113883.10.20.27.3.7"/>

 <code code="364699009"

 displayName="Ethnic Group"

 codeSystem="2.16.840.1.113883.6.96"

 codeSystemName="SNOMED-CT"/>

 <statusCode code="completed"/>

 <value xsi:type="CD"

 code="2186-5"

 displayName="Not Hispanic or Latino"

 codeSystem="2.16.840.1.113883.6.238"

 codeSystemName="Race &amp; Ethnicity - CDC"/>

 <!-- Aggregate Count template -->

 <entryRelationship typeCode="SUBJ" inversionInd="true">

 <observation classCode="OBS" moodCode="EVN">

 ...

 </observation>

 </entryRelationship>

</observation>

First Encounter

[encounter: templateId 2.16.840.1.113883.10.20.27.3.11 (open)]

Table 24: First Encounter Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [QRDA Category III Reporting Parameters Section](#S_QRDA_Category_III_Reporting_Parameters) (optional) |  |

This template references the first service encounter of the reporting period.

Table 25: First Encounter Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | encounter[templateId/@root = '2.16.840.1.113883.10.20.27.3.11'] |
|  |  @classCode | 1..1 | SHALL |  | [18312](#C_18312) | 2.16.840.1.113883.5.6 (HL7ActClass) = ENC |
|  |  templateId | 1..1 | SHALL |  | [18369](#C_18369) |  |
|  |  @root | 1..1 | SHALL |  | [18370](#C_18370) | 2.16.840.1.113883.10.20.27.3.11 |
|  |  effectiveTime | 1..1 | SHALL |  | [18314](#C_18314) |  |
|  |  low | 1..1 | SHALL |  | [18315](#C_18315) |  |

1. SHALL contain exactly one [1..1] @classCode="ENC" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:18312).
2. SHALL contain exactly one [1..1] templateId (CONF:18369) such that it
	1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.11" (CONF:18370).
3. SHALL contain exactly one [1..1] effectiveTime (CONF:18314).
	1. This effectiveTime SHALL contain exactly one [1..1] low (CONF:18315).

Figure 31: First encounter example

<entry>

 <encounter classCode="ENC" moodCode="EVN">

 <templateId root="2.16.840.1.113883.10.20.27.3.11"/>

 <!-- Id of the first encounter of the reporting period-->

 <id root="8c39e898-8749-47dc-8fc5-7636a98a1151"/>

 <!-- The month, day and year of the first service

 encounter of the reporting period (From date) -->

 <effectiveTime>

 <low value="20120105"/>

 </effectiveTime>

 </encounter>

</entry>

Last Encounter

[encounter: templateId 2.16.840.1.113883.10.20.27.3.12 (open)]

Table 26: Last Encounter Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [QRDA Category III Reporting Parameters Section](#S_QRDA_Category_III_Reporting_Parameters) (optional) |  |

This template references the last service encounter of the reporting period.

Table 27: Last Encounter Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | encounter[templateId/@root = '2.16.840.1.113883.10.20.27.3.12'] |
|  |  @classCode | 1..1 | SHALL |  | [18316](#C_18316) | 2.16.840.1.113883.5.6 (HL7ActClass) = ENC |
|  |  templateId | 1..1 | SHALL |  | [18371](#C_18371) |  |
|  |  @root | 1..1 | SHALL |  | [18372](#C_18372) | 2.16.840.1.113883.10.20.27.3.12 |
|  |  effectiveTime | 1..1 | SHALL |  | [18318](#C_18318) |  |
|  |  high | 1..1 | SHALL |  | [18320](#C_18320) |  |

1. SHALL contain exactly one [1..1] @classCode="ENC" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:18316).
2. SHALL contain exactly one [1..1] templateId (CONF:18371) such that it
	1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.12" (CONF:18372).
3. SHALL contain exactly one [1..1] effectiveTime (CONF:18318).
	1. This effectiveTime SHALL contain exactly one [1..1] high (CONF:18320).

Figure 32: Last encounter example

<entry>

 <encounter classCode="ENC" moodCode="EVN">

 <templateId root="2.16.840.1.113883.10.20.27.3.12"/>

 <!-- Id of the last encounter of the reporting period-->

 <id root="7f158042-a9aa-43b8-8b82-4fb9a9699e4e"/>

 <!-- The month, day and year of the last service

 encounter of the reporting period (To date) -->

 <effectiveTime>

 <high value="20120324"/>

 </effectiveTime>

 </encounter>

</entry>

Measure Data

[observation: templateId 2.16.840.1.113883.10.20.27.3.5 (open)]

Table 28: Measure Data Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Measure Reference and Results](#E_Measure_Reference_and_Results) (required) | [Aggregate Count](#E_Aggregate_Count)[Continuous Variable Measure Value](#E_Continuous_Variable_Measure_Value)[Ethnicity Supplemental Data Element](#E_Ethnicity_Supplemental_Data_Element)[Payer Supplemental Data Element](#E_Payer_Supplemental_Data_Element)[Postal Code Supplemental Data Element](#E_Postal_Code_Supplemental_Data_Element)[Race Supplemental Data Element](#E_Race_Supplemental_Data_Element)[Reporting Stratum](#E_Reporting_Stratum)[Sex Supplemental Data Element](#E_Sex_Supplemental_Data_Element) |

This observation asserts a population into which a subject falls and provides the number of patients in the population. It may also contain reporting stratum, supplemental data element counts, and continuous variables that are relevant to the population.

Additional supplemental data elements can be added if defined in the query or measure or requested by the recipient. The reporting stratum and various supplemental data templates provide examples that can be followed.

Populations that are used in eMeasures can be complicated. The simple case has one each of initial patient population (IPP), numerator, and denominator, along with denominator exclusions and denominator exceptions. It is also possible to have eMeasures with multiple population groups (a population group is a set of IPP, numerator, denominator, etc.), and eMeasures with multiple denominators and numerators (for example, an eMeasure with 3 denominators and 2 numerators will require a QRDA Category III report with 6 sets of data). QRDA Category III reports were designed to allow the representation of data sets that map to all of these types of multiple populations.

Table 29: Measure Data Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.27.3.5'] |
|  |  @classCode | 1..1 | SHALL |  | [17615](#C_17615) | OBS |
|  |  @moodCode | 1..1 | SHALL |  | [17616](#C_17616) | EVN |
|  |  templateId | 1..1 | SHALL |  | [17912](#C_17912) |  |
|  |  @root | 1..1 | SHALL |  | [17913](#C_17913) | 2.16.840.1.113883.10.20.27.3.5 |
|  |  code | 1..1 | SHALL |  | [17617](#C_17617) |  |
|  |  @code | 1..1 | SHALL |  | [18198](#C_18198) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
|  |  statusCode | 1..1 | SHALL |  | [18199](#C_18199) | 2.16.840.1.113883.5.14 (ActStatus) |
|  |  @code | 1..1 | SHALL |  | [19555](#C_19555) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  |  value | 1..1 | SHALL | CD | [17618](#C_17618) | 2.16.840.1.113883.1.11.20369 (ObservationPopulationInclusion) |
|  |  entryRelationship | 1..1 | SHALL |  | [17619](#C_17619) |  |
|  |  @typeCode | 1..1 | SHALL |  | [17910](#C_17910) | SUBJ |
|  |  @inversionInd | 1..1 | SHALL |  | [17911](#C_17911) | true |
|  |  observation | 1..1 | SHALL |  | [17620](#C_17620) |  |
|  |  entryRelationship | 0..\* | MAY |  | [17918](#C_17918) |  |
|  |  @typeCode | 1..1 | SHALL |  | [17919](#C_17919) | COMP |
|  |  observation | 1..1 | SHALL |  | [17920](#C_17920) |  |
|  |  entryRelationship | 0..\* | MAY |  | [18136](#C_18136) |  |
|  |  @typeCode | 1..1 | SHALL |  | [18137](#C_18137) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
|  |  observation | 1..1 | SHALL |  | [18138](#C_18138) |  |
|  |  entryRelationship | 0..\* | MAY |  | [18139](#C_18139) |  |
|  |  @typeCode | 1..1 | SHALL |  | [18144](#C_18144) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
|  |  observation | 1..1 | SHALL |  | [18149](#C_18149) |  |
|  |  entryRelationship | 0..\* | MAY |  | [18140](#C_18140) |  |
|  |  @typeCode | 1..1 | SHALL |  | [18145](#C_18145) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
|  |  observation | 1..1 | SHALL |  | [18150](#C_18150) |  |
|  |  entryRelationship | 0..\* | MAY |  | [18141](#C_18141) |  |
|  |  @typeCode | 1..1 | SHALL |  | [18146](#C_18146) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
|  |  observation | 1..1 | SHALL |  | [18151](#C_18151) |  |
|  |  entryRelationship | 0..\* | MAY |  | [18142](#C_18142) |  |
|  |  @typeCode | 1..1 | SHALL |  | [18147](#C_18147) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
|  |  observation | 1..1 | SHALL |  | [18152](#C_18152) |  |
|  |  entryRelationship | 0..\* | MAY |  | [18143](#C_18143) |  |
|  |  @typeCode | 1..1 | SHALL |  | [18148](#C_18148) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
|  |  observation | 1..1 | SHALL |  | [18153](#C_18153) |  |
|  |  reference | 1..1 | SHALL |  | [18239](#C_18239) |  |
|  |  externalObservation | 1..1 | SHALL |  | [18240](#C_18240) |  |
|  |  id | 1..1 | SHALL |  | [18241](#C_18241) |  |

1. SHALL contain exactly one [1..1] @classCode="OBS" (CONF:17615).
2. SHALL contain exactly one [1..1] @moodCode="EVN" (CONF:17616).
3. SHALL contain exactly one [1..1] templateId (CONF:17912).
	1. This templateId SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.5" (CONF:17913).
4. SHALL contain exactly one [1..1] code (CONF:17617).
	1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:18198).
5. SHALL contain exactly one [1..1] statusCode (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:18199).
	1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:19555).
6. SHALL contain exactly one [1..1] value with @xsi:type="CD", where the @code SHOULD be selected from ValueSet ObservationPopulationInclusion 2.16.840.1.113883.1.11.20369 DYNAMIC (CONF:17618).
7. SHALL contain exactly one [1..1] entryRelationship (CONF:17619) such that it
	1. SHALL contain exactly one [1..1] @typeCode="SUBJ" (CONF:17910).
	2. SHALL contain exactly one [1..1] @inversionInd="true" (CONF:17911).
	3. SHALL contain exactly one [1..1] [Aggregate Count](#E_Aggregate_Count) (templateId:2.16.840.1.113883.10.20.27.3.3) (CONF:17620).
8. MAY contain zero or more [0..\*] entryRelationship (CONF:17918) such that it
	1. SHALL contain exactly one [1..1] @typeCode="COMP" (CONF:17919).
	2. SHALL contain exactly one [1..1] [Reporting Stratum](#E_Reporting_Stratum) (templateId:2.16.840.1.113883.10.20.27.3.4) (CONF:17920).
9. MAY contain zero or more [0..\*] entryRelationship (CONF:18136) such that it
	1. SHALL contain exactly one [1..1] @typeCode="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:18137).
	2. SHALL contain exactly one [1..1] [Sex Supplemental Data Element](#E_Sex_Supplemental_Data_Element) (templateId:2.16.840.1.113883.10.20.27.3.6) (CONF:18138).
10. MAY contain zero or more [0..\*] entryRelationship (CONF:18139) such that it
	1. SHALL contain exactly one [1..1] @typeCode="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:18144).
	2. SHALL contain exactly one [1..1] [Ethnicity Supplemental Data Element](#E_Ethnicity_Supplemental_Data_Element) (templateId:2.16.840.1.113883.10.20.27.3.7) (CONF:18149).
11. MAY contain zero or more [0..\*] entryRelationship (CONF:18140) such that it
	1. SHALL contain exactly one [1..1] @typeCode="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:18145).
	2. SHALL contain exactly one [1..1] [Race Supplemental Data Element](#E_Race_Supplemental_Data_Element) (templateId:2.16.840.1.113883.10.20.27.3.8) (CONF:18150).
12. MAY contain zero or more [0..\*] entryRelationship (CONF:18141) such that it
	1. SHALL contain exactly one [1..1] @typeCode="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:18146).
	2. SHALL contain exactly one [1..1] [Payer Supplemental Data Element](#E_Payer_Supplemental_Data_Element) (templateId:2.16.840.1.113883.10.20.27.3.9) (CONF:18151).
13. MAY contain zero or more [0..\*] entryRelationship (CONF:18142) such that it
	1. SHALL contain exactly one [1..1] @typeCode="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:18147).
	2. SHALL contain exactly one [1..1] [Postal Code Supplemental Data Element](#E_Postal_Code_Supplemental_Data_Element) (templateId:2.16.840.1.113883.10.20.27.3.10) (CONF:18152).

If observation/value/@code="MSRPOPL" then the following entryRelationship SHALL be present.

1. MAY contain zero or more [0..\*] entryRelationship (CONF:18143) such that it
	1. SHALL contain exactly one [1..1] @typeCode="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:18148).
	2. SHALL contain exactly one [1..1] [Continuous Variable Measure Value](#E_Continuous_Variable_Measure_Value) (templateId:2.16.840.1.113883.10.20.27.3.2) (CONF:18153).
2. SHALL contain exactly one [1..1] reference (CONF:18239) such that it
	1. SHALL contain exactly one [1..1] externalObservation (CONF:18240).
		1. This externalObservation SHALL contain exactly one [1..1] id (CONF:18241).
			1. If this reference is to an eMeasure, this id SHALL equal the id defined in the corresponding eMeasure population criteria section (CONF:18258).

Table 30: Observation Population Inclusion Value Set

| Value Set: ObservationPopulationInclusion 2.16.840.1.113883.1.11.20369 DYNAMIC |
| --- |
| Code System(s): | ObservationValue (2.16.840.1.113883.5.1063) |
| Description: Observation values used to assert various populations that a subject falls into. |
| Code | Code System | Print Name |
| DENEX | 2.16.840.1.113883.5.1063 | Denominator Exclusions |
| DENOM | 2.16.840.1.113883.5.1063 | Denominator |
| DENEXCEP | 2.16.840.1.113883.5.1063 | Denominator Exceptions |
| IPP | 2.16.840.1.113883.5.1063 | Initial Patient Population |
| MSRPOPL | 2.16.840.1.113883.5.1063 | Measure Population |
| NUMER | 2.16.840.1.113883.5.1063 | Numerator |
| NUMEX | 2.16.840.1.113883.5.1063 | Numerator Exclusions |

Figure 33: Measure data example

<observation classCode="OBS" moodCode="EVN">

 <!-- Measure Data template -->

 <templateId root="2.16.840.1.113883.10.20.27.3.5"/>

 <code code="ASSERTION"

 codeSystem="2.16.840.1.113883.5.4"

 displayName="Assertion"

 codeSystemName="ActCode"/>

 <statusCode code="completed"/>

 <value xsi:type="CD" code="IPP"

 codeSystem="2.16.840.1.113883.5.1063"

 displayName="initial patient population"

 codeSystemName="ObservationValue"/>

 <!-- Aggregate Count template -->

 <entryRelationship typeCode="SUBJ" inversionInd="true">

 <observation classCode="OBS" moodCode="EVN">

 ...

 </observation>

 </entryRelationship>

 <entryRelationship typeCode="COMP">

 <!-- Sex Supplemental Data Element (2.16.840.1.113883.10.20.27.3.6) -->

 <observation classCode="OBS" moodCode="EVN">

 ...

 </observation>

 </entryRelationship>

 <entryRelationship typeCode="COMP">

 <!-- Ethnicity Supplemental Data Element (2.16.840.1.113883.10.20.27.3.7) -->

 <observation classCode="OBS" moodCode="EVN">

 ...

 </observation>

 </entryRelationship>

 <entryRelationship typeCode="COMP">

 <!-- Ethnicity Supplemental Data Element (2.16.840.1.113883.10.20.27.3.7) -->

 <observation classCode="OBS" moodCode="EVN">

 ...

 </observation>

 </entryRelationship>

 <entryRelationship typeCode="COMP">

 <!-- Race Supplemental Data Element (2.16.840.1.113883.10.20.27.3.8) -->

 <observation classCode="OBS" moodCode="EVN">

 ...

 </observation>

 </entryRelationship>

 <entryRelationship typeCode="COMP">

 <!-- Payer Supplemental Data Element (2.16.840.1.113883.10.20.27.3.9) -->

 <observation classCode="OBS" moodCode="EVN">

 ...

 </observation>

 </entryRelationship>

 <entryRelationship typeCode="COMP">

 <!-- Postal Code Supplemental Data Element (2.16.840.1.113883.10.20.27.3.10)-->

 <observation classCode="OBS" moodCode="EVN">

 ...

 </observation>

 </entryRelationship>

 <reference typeCode="REFR">

 <!-- reference to the relevant population in the eMeasure -->

 <externalObservation classCode="OBS" moodCode="EVN">

 <id root="DCD9DDD4-E051-44A6-9D2B-75685D9D08A4"/>

 </externalObservation>

 </reference>

</observation>

Figure 34: Corresponding eMeasure example

<!--- Taken from NQF 0436 -->

<observation classCode="OBS" moodCode="EVN" isCriterionInd="true">

 <id root="DCD9DDD4-E051-44A6-9D2B-75685D9D08A4"/>

 <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>

 <value xsi:type="CD" code="IPP" codeSystem="2.16.840.1.113883.5.1063" codeSystemName="HL7 Observation Value" displayName="Initial Patient Population"/><!-- top and/or -->

Measure Reference

[organizer: templateId 2.16.840.1.113883.10.20.24.3.98 (open)]

Table 31: Measure Reference Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Measure Section](#S_Measure_Section) (required) |  |

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

Table 32: Measure Reference Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | organizer[templateId/@root = '2.16.840.1.113883.10.20.24.3.98'] |
|  |  @classCode | 1..1 | SHALL |  | [12979](#C_12979) | 2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER |
|  |  @moodCode | 1..1 | SHALL |  | [12980](#C_12980) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  |  templateId | 1..1 | SHALL |  | [19532](#C_19532) |  |
|  |  @root | 1..1 | SHALL |  | [19533](#C_19533) | 2.16.840.1.113883.10.20.24.3.98 |
|  |  statusCode | 1..1 | SHALL |  | [12981](#C_12981) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  |  reference | 1..1 | SHALL |  | [12982](#C_12982) |  |
|  |  @typeCode | 1..1 | SHALL |  | [12983](#C_12983) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |
|  |  externalDocument | 1..1 | SHALL |  | [12984](#C_12984) |  |
|  |  @classCode | 1..1 | SHALL |  | [19534](#C_19534) | 2.16.840.1.113883.5.6 (HL7ActClass) |
|  |  id | 1..1 | SHALL |  | [12985](#C_12985) |  |
|  |  @root | 1..1 | SHALL |  | [12986](#C_12986) |  |
|  |  text | 0..1 | SHOULD |  | [12997](#C_12997) |  |

1. SHALL contain exactly one [1..1] @classCode="CLUSTER" cluster (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:12979).
2. SHALL contain exactly one [1..1] @moodCode="EVN" event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:12980).
3. SHALL contain exactly one [1..1] templateId (CONF:19532) such that it
	1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.98" (CONF:19533).
4. SHALL contain exactly one [1..1] statusCode="completed" completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:12981).
5. SHALL contain exactly one [1..1] reference (CONF:12982) such that it
	1. SHALL contain exactly one [1..1] @typeCode="REFR" refers to (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:12983).
	2. SHALL contain exactly one [1..1] externalDocument (CONF:12984).
		1. This externalDocument SHALL contain exactly one [1..1] @classCode="DOC" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:19534).
		2. This externalDocument SHALL contain exactly one [1..1] id (CONF:12985) such that it
			1. SHALL contain exactly one [1..1] @root (CONF:12986).
				1. This ID references the ID of the Quality Measure (CONF:12987).
		3. This externalDocument SHOULD contain zero or one [0..1] text (CONF:12997).
			1. This text is the title of the eMeasure (CONF:12998).

Measure Reference and Results

 [organizer: templateId 2.16.840.1.113883.10.20.27.3.1 (open)]

Table 33: Measure Reference and Results Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [QRDA Category III Measure Section](#S_QRDA_Category_III_Measure_Section) (required) | [Measure Data](#E_Measure_Data)[Performance Rate for Proportion Measure](#E_Performance_Rate_for_Proportion_Measur)[Reporting Rate for Proportion Measure](#E_Reporting_Rate_for_Proportion_Measure) |

This template defines the way that a measure should be referenced. Measures are referenced through externalAct reference to an externalDocument. The externalDocument/ids and version numbers are used to reference the measure. Component entries can be used to report various rates, aggregate counts (e.g., number of patients in the measure’s denominator); stratified aggregate counts (e.g., number of male patients in the measure’s denominator); or continuous variables from continuous variable measures.

Table 34: Measure Reference and Results Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | organizer[templateId/@root = '2.16.840.1.113883.10.20.27.3.1'] |
|  |  @classCode | 1..1 | SHALL |  | [17887](#C_17887) | CLUSTER |
|  |  @moodCode | 1..1 | SHALL |  | [17888](#C_17888) | EVN |
|  |  templateId | 1..1 | SHALL |  | [17908](#C_17908) |  |
|  |  @root | 1..1 | SHALL |  | [17909](#C_17909) | 2.16.840.1.113883.10.20.27.3.1 |
|  |  statusCode | 1..1 | SHALL |  | [17889](#C_17889) |  |
|  |  @code | 1..1 | SHALL |  | [19552](#C_19552) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  |  reference | 1..1 | SHALL |  | [17890](#C_17890) |  |
|  |  @typeCode | 1..1 | SHALL |  | [17891](#C_17891) | REFR |
|  |  externalDocument | 1..1 | SHALL |  | [17892](#C_17892) | 2.16.840.1.113883.5.6 (HL7ActClass) |
|  |  @classCode | 1..1 | SHALL |  | [19548](#C_19548) | 2.16.840.1.113883.5.6 (HL7ActClass) |
|  |  id | 1..1 | SHALL |  | [18192](#C_18192) |  |
|  |  @root | 1..1 | SHALL |  | [18193](#C_18193) |  |
|  |  code | 0..1 | SHOULD |  | [17896](#C_17896) | 2.16.840.1.113883.6.1 (LOINC) |
|  |  @code | 1..1 | SHALL |  | [19553](#C_19553) | 2.16.840.1.113883.6.1 (LOINC) = 57024-2 |
|  |  text | 0..1 | SHOULD |  | [17897](#C_17897) |  |
|  |  setId | 0..1 | MAY |  | [17899](#C_17899) |  |
|  |  versionNumber | 0..1 | MAY |  | [17901](#C_17901) |  |
|  |  reference | 1..1 | SHOULD |  | [18353](#C_18353) |  |
|  |  externalObservation | 1..1 | SHALL |  | [18354](#C_18354) |  |
|  |  id | 1..\* | SHALL |  | [18355](#C_18355) |  |
|  |  code | 1..1 | SHALL |  | [18357](#C_18357) | 2.16.840.1.113883.6.1 (LOINC) |
|  |  @code | 1..1 | SHALL |  | [19554](#C_19554) | 2.16.840.1.113883.6.1 (LOINC) = 55185-3 |
|  |  text | 1..1 | SHALL |  | [18358](#C_18358) |  |
|  |  component | 0..\* | MAY |  | [17903](#C_17903) |  |
|  |  observation | 1..1 | SHALL |  | [17904](#C_17904) |  |
|  |  component | 0..1 | MAY |  | [18423](#C_18423) |  |
|  |  observation | 1..1 | SHALL |  | [18424](#C_18424) |  |
|  |  component | 1..\* | SHALL |  | [18425](#C_18425) |  |
|  |  observation | 1..1 | SHALL |  | [18426](#C_18426) |  |

1. Conforms to [Measure Reference](#E_Measure_Reference) template (2.16.840.1.113883.10.20.24.3.98).
2. SHALL contain exactly one [1..1] @classCode="CLUSTER" (CONF:17887).
3. SHALL contain exactly one [1..1] @moodCode="EVN" (CONF:17888).
4. SHALL contain exactly one [1..1] templateId (CONF:17908) such that it
	1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.1" (CONF:17909).
5. SHALL contain exactly one [1..1] statusCode (CONF:17889).
	1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:19552).
6. SHALL contain exactly one [1..1] reference (CONF:17890) such that it
	1. SHALL contain exactly one [1..1] @typeCode="REFR" (CONF:17891).
	2. SHALL contain exactly one [1..1] externalDocument (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:17892).
		1. This externalDocument SHALL contain exactly one [1..1] @classCode="DOC" Document (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:19548).
		2. This externalDocument SHALL contain exactly one [1..1] id (CONF:18192) such that it
			1. SHALL contain exactly one [1..1] @root (CONF:18193).
			2. If this reference is to an eMeasure, this id/@root SHALL equal the version specific identifier for eMeasure (i.e. QualityMeasureDocument/id) (CONF:19660).
		3. This externalDocument SHOULD contain zero or one [0..1] code (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:17896).
			1. The code, if present, SHALL contain exactly one [1..1] @code="57024-2" Health Quality Measure Document (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:19553).

This text is the title and optionally a brief description of the Quality Measure.

* + 1. This externalDocument SHOULD contain zero or one [0..1] text (CONF:17897).
		2. This externalDocument MAY contain zero or one [0..1] setId (CONF:17899).
			1. If this reference is to an eMeasure, this setId SHALL equal the QualityMeasureDocument/setId which is the eMeasure version neutral id (CONF:17900).
		3. This externalDocument MAY contain zero or one [0..1] versionNumber (CONF:17901).
			1. If this reference is to an eMeasure this version number SHALL equal the sequential eMeasure Version number (CONF:17902).

In the case that an eMeasure is part of a measure set or group, the following reference is used to identify that set or group. If the eMeasure is not part of a measure set, the following reference element should not be defined.

1. SHOULD contain exactly one [1..1] reference (CONF:18353) such that it
	1. SHALL contain exactly one [1..1] externalObservation (CONF:18354).
		1. This externalObservation SHALL contain at least one [1..\*] id (CONF:18355).
			1. This id SHALL equal the id of the corresponding measure set definition within the eMeasure (CONF:18356).
		2. This externalObservation SHALL contain exactly one [1..1] code (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:18357).
			1. This code SHALL contain exactly one [1..1] @code="55185-3" measure set (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:19554).
		3. This externalObservation SHALL contain exactly one [1..1] text (CONF:18358).
			1. This text SHOULD be the title of the corresponding measure set (CONF:18359).
2. MAY contain zero or more [0..\*] component (CONF:17903) such that it
	1. SHALL contain exactly one [1..1] [Performance Rate for Proportion Measure](#E_Performance_Rate_for_Proportion_Measur) (templateId:2.16.840.1.113883.10.20.27.3.14) (CONF:17904).
3. MAY contain zero or one [0..1] component (CONF:18423) such that it
	1. SHALL contain exactly one [1..1] [Reporting Rate for Proportion Measure](#E_Reporting_Rate_for_Proportion_Measure) (templateId:2.16.840.1.113883.10.20.27.3.15) (CONF:18424).
4. SHALL contain at least one [1..\*] component (CONF:18425) such that it
	1. SHALL contain exactly one [1..1] [Measure Data](#E_Measure_Data) (templateId:2.16.840.1.113883.10.20.27.3.5) (CONF:18426).

Figure 35: Measure reference and results example

<organizer classCode="CLUSTER" moodCode="EVN">

 <!-- Measure Reference template -->

 <templateId root="2.16.840.1.113883.10.20.24.3.98"/>

 <!-- Measure Reference and Results template -->

 <templateId root="2.16.840.1.113883.10.20.27.3.1"/>

 <statusCode code="completed"/>

 <reference typeCode="REFR">

 <externalDocument classCode="DOC" moodCode="EVN">

 <!-- The example eMeasure is 0496 -->

 <!-- This is the version-specific identifier for

 eMeasure: QualityMeasureDocument/id. It is a GUID-->

 <id root="8a4d92b2-37d1-f95b-0137-dd4b0eb62de6"/>

 <!-- This is the NQF Number, root is an

 NQF OID and for eMeasure Number and extension

 is the eMeasure's NQF number -->

 <id root="2.16.840.1.113883.3.560.1" extension="0496"/>

 <!-- eMeasure Measure Authoring Tool Identifier -->

 <id root="2.16.840.1.113883.3.560.101.2" extension="32"/>

 <code code="57024-2"

 displayName="Health Quality Measure Document"

 codeSystemName="LOINC"

 codeSystem="2.16.840.1.113883.6.1" />

 <!-- This is the title of the eMeasure -->

 <text>Median Admit Decision Time to ED Departure Time

 for Admitted Patients</text>

 <!-- setId is the eMeasure version neutral id -->

 <setId root="3fd13096-2c8f-40b5-9297-b714e8de9133"/>

 <!-- This is the sequential eMeasure Version number -->

 <versionNumber value="1"/>

 </externalDocument>

 </reference>

 <!-- SHOULD Reference the measure set it is a member of-->

 <reference typeCode="REFR">

 <externalObservation>

 <!-- SHALL contain at least one id -->

 <id root="b6ac13e2-beb8-4e4f-94ed-fcc397406cd8"/>

 <!-- SHALL single value binding -->

 <code code="55185-3" displayName="measure set"

 codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>

 <!-- SHALL text which should be the title of the measures set -->

 <text>Clinical Quality Measure Set 2011-2012</text>

 </externalObservation>

 </reference>

 <component>

 <!-- Optional Performance Rate for Proportion Measure template -->

 <observation classCode="OBS" moodCode="EVN">

 ...

 </observation>

 </component>

 <component>

 <!-- Optional Reporting Rate for Proportion Measure template -->

 <observation classCode="OBS" moodCode="EVN">

 ...

 </observation>

 </component>

 <component>

 <!-- Measure Data -->

 <observation classCode="OBS" moodCode="EVN">

 ...

 </observation>

 </component>

 <component>

 <!-- Measure Data -->

 <observation classCode="OBS" moodCode="EVN">

 ...

 </observation>

 </component>

</organizer>

Figure 36: Corresponding eMeasure example

<!-- This example taken from NQF 0496 -->

<!--

 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

 Measure Header Section

 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

 -->

<typeId root="2.16.840.1.113883.1.3" extension="POQM\_HD000001"/>

<id root="8a4d92b2-37d1-f95b-0137-dd4b0eb62de6"/>

<code code="57024-2" codeSystem="2.16.840.1.113883.6.1" displayName="Health Quality Measure Document"/>

<title>Median Time from ED Arrival to ED Departure for Discharged ED Patients</title>

 ...

<setId root="3fd13096-2c8f-40b5-9297-b714e8de9133"/>

<versionNumber value="1"/>

 ...

<subjectOf>

 <measureAttribute>

 <code nullFlavor="OTH">

 <originalText>NQF ID Number</originalText>

 </code>

 <value xsi:type="II" root="2.16.840.1.113883.3.560.1" extension="0496"/>

 </measureAttribute>

</subjectOf>

 ...

<subjectOf>

 <measureAttribute>

 <code nullFlavor="OTH">

 <originalText>eMeasure Identifier</originalText>

 </code>

 <value xsi:type="ED" mediaType="text/plain">32</value>

 </measureAttribute>

</subjectOf>

Patient Characteristic Payer

[observation: templateId 2.16.840.1.113883.10.20.24.3.55 (open)]

Table 35: Patient Characteristic Payer Contexts

| Used By: | Contains Entries: |
| --- | --- |
|  |  |

This observation represents the policy or program providing the coverage for the patient.

Table 36: Patient Characteristic Payer Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.24.3.55'] |
|  |  @classCode | 1..1 | SHALL |  | [14213](#C_14213) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  |  @moodCode | 1..1 | SHALL |  | [14214](#C_14214) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  |  templateId | 1..1 | SHALL |  | [12561](#C_12561) |  |
|  |  @root | 1..1 | SHALL |  | [12562](#C_12562) | 2.16.840.1.113883.10.20.24.3.55 |
|  |  id | 1..\* | SHALL |  | [12564](#C_12564) |  |
|  |  code | 1..1 | SHALL |  | [12565](#C_12565) |  |
|  |  @code | 1..1 | SHALL |  | [14029](#C_14029) | 2.16.840.1.113883.6.1 (LOINC) = 48768-6 |
|  |  value | 1..1 | SHALL | CD | [16710](#C_16710) |  |
|  |  @code | 1..1 | SHALL |  | [16855](#C_16855) |  |

1. SHALL contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:14213).
2. SHALL contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:14214).
3. SHALL contain exactly one [1..1] templateId (CONF:12561) such that it
	1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.55" (CONF:12562).
4. SHALL contain at least one [1..\*] id (CONF:12564).
5. SHALL contain exactly one [1..1] code (CONF:12565).
	1. This code SHALL contain exactly one [1..1] @code="48768-6" Payment source (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:14029).
6. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:16710).
	1. This value SHALL contain exactly one [1..1] @code (CONF:16855).

Payer Supplemental Data Element

 [observation: templateId 2.16.840.1.113883.10.20.27.3.9 (open)]

Table 37: Payer Supplemental Data Element Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Measure Data](#E_Measure_Data) (optional) | [Aggregate Count](#E_Aggregate_Count) |

This observation represents the policy or program providing the coverage for the patients being reported on and provides the number of patients in the population that are covered by that policy or program.

This template was designed for use with HQMF Release 1, and is not currently recommended for use with HQMF Release 2. Use the [Reporting Stratum](#E_Reporting_Stratum) template instead with HQMF Release 2.

Table 38: Payer Supplemental Data Element Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.27.3.9'] |
|  |  templateId | 1..1 | SHALL |  | [18237](#C_18237) |  |
|  |  @root | 1..1 | SHALL |  | [18238](#C_18238) | 2.16.840.1.113883.10.20.27.3.9 |
|  |  statusCode | 1..1 | SHALL |  | [18106](#C_18106) |  |
|  |  @code | 1..1 | SHALL |  | [18107](#C_18107) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  |  value | 1..1 | SHALL | CD | [18250](#C_18250) | 2.16.840.1.114222.4.11.3591 (Source of Payment Typology (PHDSC)) |
|  |  entryRelationship | 1..1 | SHALL |  | [18108](#C_18108) |  |
|  |  @typeCode | 1..1 | SHALL |  | [18109](#C_18109) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ |
|  |  @inversionInd | 1..1 | SHALL |  | [18110](#C_18110) | true |
|  |  observation | 1..1 | SHALL |  | [18111](#C_18111) |  |

1. Conforms to [Patient Characteristic Payer](#E_Patient_Characteristic_Payer) template (2.16.840.1.113883.10.20.24.3.55).
2. SHALL contain exactly one [1..1] templateId (CONF:18237) such that it
	1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.9" (CONF:18238).
3. SHALL contain exactly one [1..1] statusCode (CONF:18106).
	1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:18107).
4. SHALL contain exactly one [1..1] value with @xsi:type="CD", where the @code SHALL be selected from ValueSet Source of Payment Typology (PHDSC) 2.16.840.1.114222.4.11.3591 DYNAMIC (CONF:18250).
5. SHALL contain exactly one [1..1] entryRelationship (CONF:18108) such that it
	1. SHALL contain exactly one [1..1] @typeCode="SUBJ" Has Subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:18109).
	2. SHALL contain exactly one [1..1] @inversionInd="true" (CONF:18110).
	3. SHALL contain exactly one [1..1] [Aggregate Count](#E_Aggregate_Count) (templateId:2.16.840.1.113883.10.20.27.3.3) (CONF:18111).

Table 39: PHDSC Source of Payment Typology Value Set

| Value Set: PHDSC Source of Payment Typology 2.16.840.1.114222.4.11.3591 DYNAMIC |
| --- |
| Code System(s): | Public Health Data Standards Consortium Source of Payment Typology (2.16.840.1.113883.3.221.5) |
| Description: | Types of payers  |
| Code | Code System | Print Name |
| 1 | 2.16.840.1.113883.3.221.5 | Medicare |
| 2 | 2.16.840.1.113883.3.221.5 | Medicaid |
| 3 | 2.16.840.1.113883.3.221.5 | Other Government (Federal/State/Local) (excluding Department of Corrections) |
| … |  |  |

Figure 37: Payer supplemental data element example

<observation classCode="OBS" moodCode="EVN">

 <!-- Conforms to Patient Characteristic Payer -->

 <templateId root="2.16.840.1.113883.10.20.24.3.55"/>

 <!-- Payer Supplemental Data Element template ID -->

 <templateId root="2.16.840.1.113883.10.20.27.3.9"/>

 <id nullFlavor="NA"/>

 <code code="48768-6"

 displayName="Payment source"

 codeSystem="2.16.840.1.113883.6.1"

 codeSystemName="SNOMED-CT"/>

 <statusCode code="completed"/>

 <value xsi:type="CD"

 code="1"

 codeSystem="2.16.840.1.113883.3.221.5"

 codeSystemName="Source of Payment Typology"

 displayName="Medicare"/>

 <entryRelationship typeCode="SUBJ" inversionInd="true">

 <!-- Aggregate Count template -->

 <observation classCode="OBS" moodCode="EVN">

 ...

 </observation>

 </entryRelationship>

</observation>

Performance Rate for Proportion Measure

[observation: templateId 2.16.840.1.113883.10.20.27.3.14 (open)]

Table 40: Performance Rate for Proportion Measure Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Measure Reference and Results](#E_Measure_Reference_and_Results) (optional) |  |

This template is only used with proportion measures. The performance rate is a ratio of patients that meet the numerator criteria divided by patients in the denominator (after accounting for exclusions and exceptions). Performance Rate is calculated using this formula: Performance Rate = (Numerator) / (Denominator – Denominator Exclusions – Denominator Exceptions). The predicted rate (based on the measure's risk-adjustment model) can be captured in the reference range.

Table 41: Performance Rate for Proportion Measure Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.27.3.14'] |
|  |  @classCode | 1..1 | SHALL |  | [18395](#C_18395) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  |  @moodCode | 1..1 | SHALL |  | [18396](#C_18396) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  |  templateId | 1..1 | SHALL |  | [19649](#C_19649) |  |
|  |  @root | 1..1 | SHALL |  | [19650](#C_19650) | 2.16.840.1.113883.10.20.27.3.14 |
|  |  code | 1..1 | SHALL |  | [18397](#C_18397) |  |
|  |  @code | 1..1 | SHALL |  | [18398](#C_18398) | 2.16.840.1.113883.6.1 (LOINC) = 72510-1 |
|  |  statusCode | 1..1 | SHALL |  | [18421](#C_18421) |  |
|  |  @code | 1..1 | SHALL |  | [18422](#C_18422) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  |  value | 1..1 | SHALL | REAL | [18399](#C_18399) |  |
|  |  reference | 0..1 | MAY |  | [19651](#C_19651) |  |
|  |  @typeCode | 1..1 | SHALL |  | [19652](#C_19652) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |
|  |  externalObservation | 1..1 | SHALL |  | [19653](#C_19653) |  |
|  |  @classCode | 1..1 | SHALL |  | [19654](#C_19654) | 2.16.840.1.113883.5.6 (HL7ActClass) |
|  |  id | 1..1 | SHALL |  | [19655](#C_19655) |  |
|  |  @root | 1..1 | SHALL |  | [19656](#C_19656) |  |
|  |  code | 1..1 | SHALL |  | [19657](#C_19657) |  |
|  |  @code | 1..1 | SHALL |  | [19658](#C_19658) | 2.16.840.1.113883.5.1063 (ObservationValue) = NUMER |
|  |  referenceRange | 0..1 | MAY |  | [18400](#C_18400) |  |
|  |  observationRange | 1..1 | SHALL |  | [18401](#C_18401) |  |
|  |  value | 1..1 | SHALL | REAL | [18402](#C_18402) |  |

1. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:18395).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:18396).
3. SHALL contain exactly one [1..1] templateId (CONF:19649).
	1. This templateId SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.14" (CONF:19650).
4. SHALL contain exactly one [1..1] code (CONF:18397).
	1. This code SHALL contain exactly one [1..1] @code="72510-1" Performance Rate (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:18398).
5. SHALL contain exactly one [1..1] statusCode (CONF:18421).
	1. This statusCode SHALL contain exactly one [1..1] @code="completed" completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:18422).
6. SHALL contain exactly one [1..1] value with @xsi:type="REAL" (CONF:18399).

This is the optional reference to the specific Numerator included in the calculation.

1. MAY contain zero or one [0..1] reference (CONF:19651).
	1. The reference, if present, SHALL contain exactly one [1..1] @typeCode="REFR" refers to (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:19652).
	2. The reference, if present, SHALL contain exactly one [1..1] externalObservation (CONF:19653).
		1. This externalObservation SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:19654).

The externalObservationID contains the ID of the numerator in the referenced eMeasure.

* + 1. This externalObservation SHALL contain exactly one [1..1] id (CONF:19655).
			1. This id SHALL contain exactly one [1..1] @root (CONF:19656).
		2. This externalObservation SHALL contain exactly one [1..1] code (CONF:19657).
			1. This code SHALL contain exactly one [1..1] @code="NUMER" Numerator (CodeSystem: ObservationValue 2.16.840.1.113883.5.1063) (CONF:19658).

The reference range is optionally used to represent the predicted rate based on the measure’s risk-adjustment model.

1. MAY contain zero or one [0..1] referenceRange (CONF:18400).
	1. The referenceRange, if present, SHALL contain exactly one [1..1] observationRange (CONF:18401).
		1. This observationRange SHALL contain exactly one [1..1] value with @xsi:type="REAL" (CONF:18402).

Figure 38: Performance rate for proportion measure example

<observation classCode="OBS" moodCode="EVN">

 <!-- MAY 0..1 Performance Rate for Proportion Measure template -->

 <templateId root="2.16.840.1.113883.10.20.27.3.14"/>

 <code code="72510-1" codeSystem="2.16.840.1.113883.6.1"

 displayName="Performance Rate"
 codeSystemName="2.16.840.1.113883.6.1"/>

 <statusCode code="completed"/>

 <value xsi:type="REAL" value="0.833"/>

 <!-- MAY 0..1 Used to represent the predicted rate based on the measure’s

 risk-adjustment model. -->

 <referenceRange>

 <observationRange>

 <value xsi:type="REAL" value="0.625"/>

 </observationRange>

 </referenceRange>

</observation>

Postal Code Supplemental Data Element

[observation: templateId 2.16.840.1.113883.10.20.27.3.10 (open)]

Table 42: Postal Code Supplemental Data Element Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Measure Data](#E_Measure_Data) (optional) | [Aggregate Count](#E_Aggregate_Count) |

This observation represents a postal code and provides the number of patients in the population that live in that postal code.

This template was designed for use with HQMF Release 1, and is not currently recommended for use with HQMF Release 2. Use the [Reporting Stratum](#E_Reporting_Stratum) template instead with HQMF Release 2.

Table 43: Postal Code Supplemental Data Element Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.27.3.10'] |
|  |  @classCode | 1..1 | SHALL |  | [18209](#C_18209) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  |  @moodCode | 1..1 | SHALL |  | [18210](#C_18210) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  |  templateId | 1..1 | SHALL |  | [18211](#C_18211) |  |
|  |  @root | 1..1 | SHALL |  | [18212](#C_18212) | 2.16.840.1.113883.10.20.27.3.10 |
|  |  code | 1..1 | SHALL |  | [18213](#C_18213) |  |
|  |  @code | 1..1 | SHALL |  | [18214](#C_18214) | 2.16.840.1.113883.6.96 (SNOMED-CT) = 184102003 |
|  |  statusCode | 1..1 | SHALL |  | [18100](#C_18100) |  |
|  |  @code | 1..1 | SHALL |  | [18101](#C_18101) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  |  value | 1..1 | SHALL | ST | [18215](#C_18215) |  |
|  |  entryRelationship | 1..1 | SHALL |  | [18102](#C_18102) |  |
|  |  @typeCode | 1..1 | SHALL |  | [18103](#C_18103) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ |
|  |  @inversionInd | 1..1 | SHALL |  | [18104](#C_18104) | true |
|  |  observation | 1..1 | SHALL |  | [18105](#C_18105) |  |

1. SHALL contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:18209).
2. SHALL contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:18210).
3. SHALL contain exactly one [1..1] templateId (CONF:18211).
	1. This templateId SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.10" (CONF:18212).
4. SHALL contain exactly one [1..1] code (CONF:18213).
	1. This code SHALL contain exactly one [1..1] @code="184102003" Patient postal code (CodeSystem: SNOMED-CT 2.16.840.1.113883.6.96 STATIC) (CONF:18214).
5. SHALL contain exactly one [1..1] statusCode (CONF:18100).
	1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:18101).
6. SHALL contain exactly one [1..1] value with @xsi:type="ST" (CONF:18215).
7. SHALL contain exactly one [1..1] entryRelationship (CONF:18102) such that it
	1. SHALL contain exactly one [1..1] @typeCode="SUBJ" Has Subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:18103).
	2. SHALL contain exactly one [1..1] @inversionInd="true" (CONF:18104).
	3. SHALL contain exactly one [1..1] [Aggregate Count](#E_Aggregate_Count) (templateId:2.16.840.1.113883.10.20.27.3.3) (CONF:18105).

Figure 39: Postal code supplemental data element example

<observation classCode="OBS" moodCode="EVN">

 <!-- Postal Code Supplemental Data Element template ID -->

 <templateId root="2.16.840.1.113883.10.20.27.3.10"/>

 <code code="184102003"

 displayName="patient postal code"

 codeSystem="SNOMED-CT"

 codeSystemName="2.16.840.1.113883.6.96"/>

 <statusCode code="completed"/>

 <value xsi:type="ST">92543</value>

 <entryRelationship typeCode="SUBJ" inversionInd="true">

 <!-- Aggregate Count template -->

 <observation classCode="OBS" moodCode="EVN">

 ...

 </observation>

 </entryRelationship>

</observation>

Race Supplemental Data Element

[observation: templateId 2.16.840.1.113883.10.20.27.3.8 (open)]

Table 44: Race Supplemental Data Element Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Measure Data](#E_Measure_Data) (optional) | [Aggregate Count](#E_Aggregate_Count) |

This observation represents the race category reported by patients and provides the number of patients in the population that report that race category.

This template was designed for use with HQMF Release 1, and is not currently recommended for use with HQMF Release 2. Use the [Reporting Stratum](#E_Reporting_Stratum) template instead with HQMF Release 2.

Table 45: Race Supplemental Data Element Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.27.3.8'] |
|  |  @classCode | 1..1 | SHALL |  | [18223](#C_18223) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  |  @moodCode | 1..1 | SHALL |  | [18224](#C_18224) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  |  templateId | 1..1 | SHALL |  | [18225](#C_18225) |  |
|  |  @root | 1..1 | SHALL |  | [18226](#C_18226) | 2.16.840.1.113883.10.20.27.3.8 |
|  |  code | 1..1 | SHALL |  | [18227](#C_18227) |  |
|  |  @code | 1..1 | SHALL |  | [18228](#C_18228) | 2.16.840.1.113883.6.96 (SNOMED-CT) = 103579009 |
|  |  statusCode | 1..1 | SHALL |  | [18112](#C_18112) |  |
|  |  @code | 1..1 | SHALL |  | [18113](#C_18113) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  |  value | 1..1 | SHALL | CD | [18229](#C_18229) | 2.16.840.1.114222.4.11.836 (NHSNRaceCategory) |
|  |  entryRelationship | 1..1 | SHALL |  | [18114](#C_18114) |  |
|  |  @typeCode | 1..1 | SHALL |  | [18115](#C_18115) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ |
|  |  @inversionInd | 1..1 | SHALL |  | [18116](#C_18116) | true |
|  |  observation | 1..1 | SHALL |  | [18117](#C_18117) |  |

1. SHALL contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:18223).
2. SHALL contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:18224).
3. SHALL contain exactly one [1..1] templateId (CONF:18225).
	1. This templateId SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.8" (CONF:18226).
4. SHALL contain exactly one [1..1] code (CONF:18227).
	1. This code SHALL contain exactly one [1..1] @code="103579009" Race (CodeSystem: SNOMED-CT 2.16.840.1.113883.6.96) (CONF:18228).
5. SHALL contain exactly one [1..1] statusCode (CONF:18112).
	1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:18113).
6. SHALL contain exactly one [1..1] value with @xsi:type="CD", where the @code SHALL be selected from ValueSet NHSNRaceCategory 2.16.840.1.114222.4.11.836 DYNAMIC (CONF:18229).
7. SHALL contain exactly one [1..1] entryRelationship (CONF:18114) such that it
	1. SHALL contain exactly one [1..1] @typeCode="SUBJ" Has Subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:18115).
	2. SHALL contain exactly one [1..1] @inversionInd="true" (CONF:18116).
	3. SHALL contain exactly one [1..1] [Aggregate Count](#E_Aggregate_Count) (templateId:2.16.840.1.113883.10.20.27.3.3) (CONF:18117).

Table 46: CDC Race Category Value Set

| Value Set: CDC Race Category 2.16.840.1.114222.4.11.836 DYNAMIC |
| --- |
| Code System(s): | Race & Ethnicity - CDC (2.16.840.1.113883.6.238) |
| Description: | General race category reported by the patient. |
| Code | Code System | Print Name |
| 1002-5 | 2.16.840.1.113883.6.238 | American Indian or Alaska Native |
| 2028-9 | 2.16.840.1.113883.6.238 | Asian |
| 2054-5 | 2.16.840.1.113883.6.238 | Black or African American |
| 2076-8 | 2.16.840.1.113883.6.238 | Native Hawaiian or Other Pacific Islander |
| 2106-3 | 2.16.840.1.113883.6.238 | Other Race |
| 2131-1 | 2.16.840.1.113883.6.238 | White |

Figure 40: Race supplemental data element example

<observation classCode="OBS" moodCode="EVN">

 <!-- Race Supplemental Data Element template ID -->

 <templateId root="2.16.840.1.113883.10.20.27.3.8"/>

 <code code="103579009"

 displayName="Race"

 codeSystem="2.16.840.1.113883.6.96"

 codeSystemName="SNOMED-CT"/>

 <statusCode code="completed"/>

 <value xsi:type="CD"

 code="2054-5"

 displayName="Black or African American"

 codeSystem="2.16.840.1.113883.6.238"

 codeSystemName="Race &amp; Ethnicity - CDC"/>

 <entryRelationship typeCode="SUBJ" inversionInd="true">

 <!-- Aggregate Count template -->

 <observation classCode="OBS" moodCode="EVN">

 ...

 </observation>

 </entryRelationship>

</observation>

Reporting Parameters Act

[act: templateId 2.16.840.1.113883.10.20.17.3.8 (open)]

Table 47: Reporting Parameters Act Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Reporting Parameters Section](#S_Reporting_Parameters_Section) (required)[QRDA Category III Reporting Parameters Section](#S_QRDA_Category_III_Reporting_Parameters) (optional) |  |

This template provides information about the reporting time interval, and helps provide context for the patient data being reported to the receiving organization. The receiving organization may tell the reporting hospitals what information to include, such as dates representing the quarters of the year for which data are desired. The reporting parameter time interval refers to the data being sent in the document and may differ from the quality measure's measurement period or valid dates for the data set.

Table 48: Reporting Parameters Act Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | act[templateId/@root = '2.16.840.1.113883.10.20.17.3.8'] |
|  |  @classCode | 1..1 | SHALL |  | [3269](#C_3269) | 2.16.840.1.113883.5.6 (HL7ActClass) = ACT |
|  |  @moodCode | 1..1 | SHALL |  | [3270](#C_3270) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  |  templateId | 1..1 | SHALL |  | [18098](#C_18098) |  |
|  |  @root | 1..1 | SHALL |  | [18099](#C_18099) | 2.16.840.1.113883.10.20.17.3.8 |
|  |  code | 1..1 | SHALL |  | [3272](#C_3272) | 2.16.840.1.113883.6.96 (SNOMED-CT) = 252116004 |
|  |  effectiveTime | 1..1 | SHALL |  | [3273](#C_3273) |  |
|  |  low | 1..1 | SHALL |  | [3274](#C_3274) |  |
|  |  high | 1..1 | SHALL |  | [3275](#C_3275) |  |

1. SHALL contain exactly one [1..1] @classCode="ACT" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:3269).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:3270).
3. SHALL contain exactly one [1..1] templateId (CONF:18098) such that it
	1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.17.3.8" (CONF:18099).
4. SHALL contain exactly one [1..1] code="252116004" Observation Parameters (CodeSystem: SNOMED-CT 2.16.840.1.113883.6.96 STATIC) (CONF:3272).
5. SHALL contain exactly one [1..1] effectiveTime (CONF:3273).
	1. This effectiveTime SHALL contain exactly one [1..1] low (CONF:3274).
	2. This effectiveTime SHALL contain exactly one [1..1] high (CONF:3275).

Figure 41: Reporting parameters act example

<act classCode="ACT" moodCode="EVN">

 <templateId root="2.16.840.1.113883.10.20.17.3.8"/>

 <id root="55a43e20-6463-46eb-81c3-9a3a1ad41225"/>

 <code code="252116004"

 codeSystem="2.16.840.1.113883.6.96"

 displayName="Observation Parameters"/>

 <!-- This reporting period shows that Good Health Clinic is

 sending data for the first quarter of the year.

 The referenced measure definition may be valid for the

 entire year or more-->

 <effectiveTime>

 <low value="20120101"/>

 <!-- The first day of the period reported. -->

 <high value="20120331"/>

 <!-- The last day of the period reported. -->

 </effectiveTime>

</act>

Reporting Rate for Proportion Measure

[observation: templateId 2.16.840.1.113883.10.20.27.3.15 (open)]

Table 49: Reporting Rate for Proportion Measure Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Measure Reference and Results](#E_Measure_Reference_and_Results) (optional) |  |

This represents the percentage of patients in the denominator who fall into one of the other sub-populations. The Reporting Rate is calculated using this formula: Reporting Rate = (Numerator + Denominator Exclusions + Denominator Exceptions)/(Denominator). The predicted rate (based on the measure's risk-adjustment model) can be captured in the reference range.

Table 50: Reporting Rate for Proportion Measure Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.27.3.15'] |
|  |  @classCode | 1..1 | SHALL |  | [18411](#C_18411) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  |  @moodCode | 1..1 | SHALL |  | [18412](#C_18412) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  |  code | 1..1 | SHALL |  | [18413](#C_18413) |  |
|  |  @code | 1..1 | SHALL |  | [18414](#C_18414) | 2.16.840.1.113883.6.1 (LOINC) = 72509-3 |
|  |  statusCode | 1..1 | SHALL |  | [18419](#C_18419) |  |
|  |  @code | 1..1 | SHALL |  | [18420](#C_18420) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  |  value | 1..1 | SHALL | REAL | [18415](#C_18415) |  |
|  |  referenceRange | 0..1 | MAY |  | [18416](#C_18416) |  |
|  |  observationRange | 1..1 | SHALL |  | [18417](#C_18417) |  |
|  |  value | 1..1 | SHALL | REAL | [18418](#C_18418) |  |

1. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:18411).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:18412).
3. SHALL contain exactly one [1..1] code (CONF:18413).
	1. This code SHALL contain exactly one [1..1] @code="72509-3" Reporting Rate (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:18414).
4. SHALL contain exactly one [1..1] statusCode (CONF:18419).
	1. This statusCode SHALL contain exactly one [1..1] @code="completed" completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:18420).
5. SHALL contain exactly one [1..1] value with @xsi:type="REAL" (CONF:18415).

The reference range is optionally used to represent the predicted rate based on the measure’s risk-adjustment model.

1. MAY contain zero or one [0..1] referenceRange (CONF:18416).
	1. The referenceRange, if present, SHALL contain exactly one [1..1] observationRange (CONF:18417).
		1. This observationRange SHALL contain exactly one [1..1] value with @xsi:type="REAL" (CONF:18418).

Figure 42: Reporting rate for proportion measure template

<observation classCode="OBS" moodCode="EVN">

 <!-- MAY 0..1 Reporting Rate for Proportion Measure template -->

 <templateId root="2.16.840.1.113883.10.20.27.3.15"/>

 <code code="72509-3"

 codeSystem="2.16.840.1.113883.6.1"

 displayName="Reporting Rate"

 codeSystemName="LOINC"/>

 <statusCode code="completed"/>

 <value xsi:type="REAL" value="0.84"/>

</observation>

Reporting Stratum

[observation: templateId 2.16.840.1.113883.10.20.27.3.4 (open)]

Table 51: Reporting Stratum Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Measure Data](#E_Measure_Data) (optional) | [Aggregate Count](#E_Aggregate_Count)[Continuous Variable Measure Value](#E_Continuous_Variable_Measure_Value) |

This observation uses the reference/externalObservation element to reference the stratification used in the quality measure. The definition of the stratification is in the corresponding eMeasure. The Reporting Stratum also provides the number of patients in the referenced stratification. Stratifications are used to classify populations into one or more characteristics, variables, or other categories. As subsets of the overall population, they are used in risk adjustment, analysis and interpretation. Examples of stratification include age, discharge status for an inpatient stay, facility location within a hospital (e.g., ICU, Emergency Department), surgical procedures, and specific conditions.

Table 52: Reporting Stratum Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.27.3.4'] |
|  |  @classCode | 1..1 | SHALL |  | [17575](#C_17575) | OBS |
|  |  @moodCode | 1..1 | SHALL |  | [17576](#C_17576) | EVN |
|  |  templateId | 1..1 | SHALL |  | [18093](#C_18093) |  |
|  |  @root | 1..1 | SHALL |  | [18094](#C_18094) | 2.16.840.1.113883.10.20.27.3.4 |
|  |  code | 1..1 | SHALL |  | [17577](#C_17577) |  |
|  |  @code | 1..1 | SHALL |  | [17578](#C_17578) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
|  |  statusCode | 1..1 | SHALL |  | [17579](#C_17579) |  |
|  |  @code | 1..1 | SHALL |  | [18201](#C_18201) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  |  value | 0..1 | SHOULD |  | [17580](#C_17580) |  |
|  |  entryRelationship | 1..1 | SHALL |  | [17581](#C_17581) |  |
|  |  @typeCode | 1..1 | SHALL |  | [17582](#C_17582) | SUBJ |
|  |  @inversionInd | 1..1 | SHALL |  | [17583](#C_17583) | true |
|  |  observation | 1..1 | SHALL |  | [17584](#C_17584) |  |
|  |  entryRelationship | 0..\* | MAY |  | [19511](#C_19511) |  |
|  |  observation | 1..1 | SHALL |  | [19513](#C_19513) |  |
|  |  reference | 1..1 | SHALL |  | [18204](#C_18204) |  |
|  |  @typeCode | 1..1 | SHALL |  | [18205](#C_18205) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |
|  |  externalObservation | 1..1 | SHALL |  | [18206](#C_18206) |  |
|  |  id | 1..1 | SHALL |  | [18207](#C_18207) |  |

1. SHALL contain exactly one [1..1] @classCode="OBS" (CONF:17575).
2. SHALL contain exactly one [1..1] @moodCode="EVN" (CONF:17576).
3. SHALL contain exactly one [1..1] templateId (CONF:18093) such that it
	1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.4" (CONF:18094).
4. SHALL contain exactly one [1..1] code (CONF:17577).
	1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:17578).
5. SHALL contain exactly one [1..1] statusCode (CONF:17579).
	1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:18201).
6. SHOULD contain zero or one [0..1] value (CONF:17580).
	1. If this Reporting Stratum references an eMeasure, and the value of externalObservation/id equals the reference stratification id defined in the eMeasure, then this value SHALL be the same as the contents of the observation/code element in the eMeasure that is defined along with the observation/id element (CONF:18259).
7. SHALL contain exactly one [1..1] entryRelationship (CONF:17581) such that it
	1. SHALL contain exactly one [1..1] @typeCode="SUBJ" (CONF:17582).
	2. SHALL contain exactly one [1..1] @inversionInd="true" (CONF:17583).
	3. SHALL contain exactly one [1..1] [Aggregate Count](#E_Aggregate_Count) (templateId:2.16.840.1.113883.10.20.27.3.3) (CONF:17584).

The Continuous Variable template may also be nested inside the Reporting Stratum Template to represent continuous variables found in quality measures for the various strata.

1. MAY contain zero or more [0..\*] entryRelationship (CONF:19511) such that it
	1. SHALL contain exactly one [1..1] [Continuous Variable Measure Value](#E_Continuous_Variable_Measure_Value) (templateId:2.16.840.1.113883.10.20.27.3.2) (CONF:19513).
2. SHALL contain exactly one [1..1] reference (CONF:18204).
	1. This reference SHALL contain exactly one [1..1] @typeCode="REFR" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:18205).
	2. This reference SHALL contain exactly one [1..1] externalObservation (CONF:18206).

If this reference is to an eMeasure, this id equals the referenced stratification id defined in the eMeasure.

* + 1. This externalObservation SHALL contain exactly one [1..1] id (CONF:18207).

Figure 43: Reporting stratum example

<observation classCode="OBS" moodCode="EVN">

 <templateId root="2.16.840.1.113883.10.20.27.3.4"/>

 <code code="ASSERTION"

 codeSystem="2.16.840.1.113883.5.4"

 displayName="Assertion"

 codeSystemName="ActCode"/>

 <statusCode code="completed"/>

 <value xsi:type="CD" nullFlavor="OTH">

 <originalText>Stratum</originalText>

 </value>

 <entryRelationship typeCode="SUBJ" inversionInd="true">

 <!-- Aggregate Count template -->

 <observation classCode="OBS" moodCode="EVN">

 ...

 </observation>

 </entryRelationship>

 <reference typeCode="REFR">

 <!-- reference to the relevant strata in the eMeasure -->

 <externalObservation classCode="OBS" moodCode="EVN">

 <!-- Reference to the first defined Stratum -->

 <id root="9ACF2C09-8C0A-4BAD-97C1-DF6CB37E1AEB"/>

 </externalObservation>

 </reference>

</observation>

Figure 44: Corresponding eMeasure example

<!-- This example taken from NQF 0496, and is the first referenced stratum -->

<observation classCode="OBS" moodCode="EVN" isCriterionInd="true" actionNegationInd="true">

 <id root="9ACF2C09-8C0A-4BAD-97C1-DF6CB37E1AEB"/>

 <code nullFlavor="OTH">

 <originalText>Stratum</originalText>

 </code><!-- top and/or -->

</observation>

Sex Supplemental Data Element

[observation: templateId 2.16.840.1.113883.10.20.27.3.6 (open)]

Table 53: Sex Supplemental Data Element Contexts

| Used By: | Contains Entries: |
| --- | --- |
| [Measure Data](#E_Measure_Data) (optional) | [Aggregate Count](#E_Aggregate_Count) |

This observation represents the sex of a person as used for administrative purposes (as opposed to clinical gender) and provides the number of patients in the population that are of that sex.

This template was designed for use with HQMF Release 1, and is not currently recommended for use with HQMF Release 2. Use the [Reporting Stratum](#E_Reporting_Stratum) template instead with HQMF Release 2.

Table 54: Sex Supplemental Data Element Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = '2.16.840.1.113883.10.20.27.3.6'] |
|  |  @classCode | 1..1 | SHALL |  | [18230](#C_18230) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  |  @moodCode | 1..1 | SHALL |  | [18231](#C_18231) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  |  templateId | 1..1 | SHALL |  | [18232](#C_18232) |  |
|  |  @root | 1..1 | SHALL |  | [18233](#C_18233) | 2.16.840.1.113883.10.20.27.3.6 |
|  |  code | 1..1 | SHALL |  | [18234](#C_18234) |  |
|  |  @code | 1..1 | SHALL |  | [18235](#C_18235) | 2.16.840.1.113883.6.96 (SNOMED-CT) = 184100006 |
|  |  statusCode | 1..1 | SHALL |  | [18124](#C_18124) |  |
|  |  @code | 1..1 | SHALL |  | [18125](#C_18125) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  |  value | 1..1 | SHALL | CD | [18236](#C_18236) | 2.16.840.1.113883.1.11.1 (Administrative Gender (HL7 V3)) |
|  |  entryRelationship | 1..1 | SHALL |  | [18126](#C_18126) |  |
|  |  @typeCode | 1..1 | SHALL |  | [18127](#C_18127) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ |
|  |  @inversionInd | 1..1 | SHALL |  | [18128](#C_18128) | true |
|  |  observation | 1..1 | SHALL |  | [18129](#C_18129) |  |

1. SHALL contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:18230).
2. SHALL contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:18231).
3. SHALL contain exactly one [1..1] templateId (CONF:18232).
	1. This templateId SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.6" (CONF:18233).
4. SHALL contain exactly one [1..1] code (CONF:18234).
	1. This code SHALL contain exactly one [1..1] @code="184100006" Patient sex (CodeSystem: SNOMED-CT 2.16.840.1.113883.6.96 STATIC) (CONF:18235).
5. SHALL contain exactly one [1..1] statusCode (CONF:18124).
	1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:18125).
6. SHALL contain exactly one [1..1] value with @xsi:type="CD", where the @code SHALL be selected from ValueSet Administrative Gender (HL7 V3) 2.16.840.1.113883.1.11.1 DYNAMIC (CONF:18236).
7. SHALL contain exactly one [1..1] entryRelationship (CONF:18126) such that it
	1. SHALL contain exactly one [1..1] @typeCode="SUBJ" Has Subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:18127).
	2. SHALL contain exactly one [1..1] @inversionInd="true" (CONF:18128).
	3. SHALL contain exactly one [1..1] [Aggregate Count](#E_Aggregate_Count) (templateId:2.16.840.1.113883.10.20.27.3.3) (CONF:18129).

Table 55: Administrative Gender (HL7) Value Set

|  |
| --- |
| Value Set: Administrative Gender (HL7 V3) 2.16.840.1.113883.1.11.1 DYNAMIC |
| Code System(s): AdministrativeGender 2.16.840.1.113883.5.1 |
| Description: The gender of a person used for administrative purposes (as opposed to clinical gender). |
| Code | Code System | Print Name |
| F | 2.16.840.1.113883.5.1 | Female |
| M | 2.16.840.1.113883.5.1 | Male |
| UN | 2.16.840.1.113883.5.1 | Undifferentiated |

Figure 45: Sex supplemental data element example

<observation classCode="OBS" moodCode="EVN">

 <!-- Sex Supplemental Data Element template ID -->

 <templateId root="2.16.840.1.113883.10.20.27.3.6"/>

 <code code="184100006"

 displayName="patient sex"

 codeSystem="2.16.840.1.113883.6.96"

 codeSystemName="SNOMED-CT"/>

 <statusCode code="completed"/>

 <value xsi:type="CD"

 code="F"

 codeSystem="2.16.840.1.113883.5.1"

 codeSystemName="AdministrativeGender"/>

 <entryRelationship typeCode="SUBJ" inversionInd="true">

 <!-- Aggregate Count template -->

 <observation classCode="OBS" moodCode="EVN">

 ...

 </observation>

 </entryRelationship>

</observation>

# References

* CMS, *Data Submission Vendor XML File Specifications for Program Year 2012.* <http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/Downloads/2012_Data_Submission_Vendor_XML_File_Spec_EHR_Aggregate_06-15-2012.pdf>
* CMS, *Physician Quality Reporting System.* <http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/index.html?redirect=/pqrs>
* *HL7 Clinical Document Architecture (CDA Release 2)*. http://www.hl7.org/implement/standards/product\_brief.cfm?product\_id=7
* *HL7 Implementation Guide for CDA Release 2: IHE Health Story Consolidation, Release 1.1 - US Realm*. December 2011. <http://www.hl7.org/implement/standards/product_brief.cfm?product_id=258>
* *HL7 Implementation Guide for CDA Release 2.0, Quality Reporting Document Architecture (QRDA) — Category 1 DSTU Release 2*. July 2012. <http://www.hl7.org/implement/standards/product_brief.cfm?product_id=35>
* *HL7 Implementation Guide: CDA Release 2 - Continuity of Care Document CCD* April 1, 2007. <http://www.hl7.org/implement/standards/product_brief.cfm?product_id=6>
* *HL7 Version 3 Interoperability Standards,* Normative Edition 2010. <http://www.hl7.org/memonly/downloads/v3edition.cfm#V32010> (must be an HL7 member)
* *HL7 Version 3 Publishing Facilitator's Guide.* <http://www.hl7.org/v3ballot/html/help/pfg/pfg.htm>
* *HL7 Version 3 Standard: Refinement, Constraint and Localization, Release 2.* <http://www.hl7.org/v3ballot/html/infrastructure/conformance/conformance.htm>
* *HL7 Version 3 Standard: Representation of the Health Quality Measures Format (eMeasure), Release 1 DSTU Update Ballot 1 - January 2012.* <http://www.hl7.org/v3ballotarchive_temp_E492871A-1C23-BA17-0C143E90AD3EB92D/v3ballot2012may/html/domains/uvqm/uvqm.html>
* Institute of Medicine of the National Academies, “Crossing the quality chasm: the IOM health care quality initiative,” announcement, July 5, 2011. [http://www.iom.edu/Global/News Announcements/Crossing-the-Quality-Chasm-The-IOM-Health-Care-Quality-Initiative.aspx](http://www.iom.edu/Global/News%20Announcements/Crossing-the-Quality-Chasm-The-IOM-Health-Care-Quality-Initiative.aspx) (accessed April 2012).
* Lantana Consulting Group, Trifolia Workbench. [http://trifolia.lantanagroup.com](http://trifolia.lantanagroup.com/)
* *XML Path Language (XPath) Version 1.0.* <http://www.w3.org/TR/xpath/>
1. Acronyms and Abbreviations

CCD Continuity of Care Document

CCN CMS Certification Number

CDA Clinical Document Architecture

CDA R2 CDA Release 2

CDC Centers for Disease Control and Prevention

CMS Centers for Medicare and Medicaid Services

DENOM Denominator

DSTU Draft Standard for Trial Use

EHR Electronic Health Record

EXCEP Exceptions

EXCL Exclusions

HHS US Department of Health and Human Services

HL7 Health Level Seven

HQMF Health Quality Measures Format

IG Implementation Guide

IHTSDO International Health Terminology Standard Development Organisation

IOM Institute of Medicine

IPP Initial Patient Population

LOINC Logical Observation Identifiers Names and Codes

NHSN National Healthcare Safety Network

NPI National Provider Identification

NQF National Quality Forum

NUMER Numerator

OID Object identifier

ONC Office of the National Coordinator, HHS

PQRI Physician Quality Reporting Initiative

PQRS Physician Quality Reporting System

QRDA Quality Reporting Document Architecture

R2 Release 2

RIM Reference Information Model

S&I Standards and Interoperability Framework

SDWG Structured Documents Working Group

SNOMED CT Systematized Nomenclature of Medicine, Clinical Terms

TIN Tax Identification Number

UCUM Unified Code for Units of Measure

XML Extensible Mark-up Language

XPath XML Path Language

1. Change Log (Comment Version vs R1)

The QRDA DSTU release 1[[22]](#footnote-23) was published in March 2009 and contained a comment-only draft specification of QRDA Category III. That specification was neither formally balloted nor released, and has now expired. This appendix describes at a high level the changes implemented in this DSTU. The overall structure of the report is similar. The QRDA Category III header aligns with the US Realm Header as defined by Consolidated CDA[[23]](#footnote-24), but does not (and could not) conform to it completely. The conformance statements written in the new QRDA Category III use the constraint language and formatting that HL7 currently recommends.

QRDA Category III reports assume the existence of an HQMF document that specifies the data to be reported. This HQMF document can be an eMeasure, or some other type of document with the requisite information.

Within the header, the main differences are in the definitions of various participants. The author, custodian, and legalAuthenticator elements are defined as in QRDA Category I. The informant element is not used, in line with QRDA Category I. Provider identification is specified using documentationOf/serviceEvent/performer, for all types of providers, including registries who submit on behalf of providers to quality organizations.

The old Measure Set Section is not used; in line with QRDA Category I, the body elements consist of a Measure Section and a Reporting Parameters Section.

The QRDA Category III Measure Section conforms to the QRDA Category I Measure Section, and contains the data from all the measures and measure sets or groups that are being reported on. Where the old QRDA Category III defined populations, the current QRDA Category III simply reports the population data using observation elements. References in each observation refer to the definition of the population in the matching HQMF document.

In a similar way, stratification is defined in the matching HQMF document, and referred to in observation elements. This makes the current QRDA Category III more precise than the original, which stated only that grouping was possible using participant elements. Supplemental data elements, however, are defined. These are new and were not defined in the old QRDA Category III. They are predominantly for use with HQMF Release 1 eMeasures.

QRDA Category III was designed to include as many PQRS concepts as possible. This can be seen in the PQRS mapping table in the appendix.

1. Template IDs Used in This Guide

This appendix lists all templateIds used in this guide in by template type in [alphabetical order](#T_Alpha_List_Of_TemplateIds) and in [containment order](#T_Template_Containment).

Table 56: List of Template IDs in This Guide

| Template Title | Template Type | templateId |
| --- | --- | --- |
| [QRDA Category III Report](#D_QRDA_Category_III_Report) | document | 2.16.840.1.113883.10.20.27.1.1 |
| [Measure Section](#S_Measure_Section) | section | 2.16.840.1.113883.10.20.24.2.2 |
| [QRDA Category III Measure Section](#S_QRDA_Category_III_Measure_Section) | section | 2.16.840.1.113883.10.20.27.2.1 |
| [QRDA Category III Reporting Parameters Section](#S_QRDA_Category_III_Reporting_Parameters) | section | 2.16.840.1.113883.10.20.27.2.2 |
| [Reporting Parameters Section](#S_Reporting_Parameters_Section) | section | 2.16.840.1.113883.10.20.17.2.1 |
| [Aggregate Count](#E_Aggregate_Count) | entry | 2.16.840.1.113883.10.20.27.3.3 |
| [Continuous Variable Measure Value](#E_Continuous_Variable_Measure_Value) | entry | 2.16.840.1.113883.10.20.27.3.2 |
| [Ethnicity Supplemental Data Element](#E_Ethnicity_Supplemental_Data_Element) | entry | 2.16.840.1.113883.10.20.27.3.7 |
| [First Encounter](#E_First_Encounter) | entry | 2.16.840.1.113883.10.20.27.3.11 |
| [Last Encounter](#E_Last_Encounter) | entry | 2.16.840.1.113883.10.20.27.3.12 |
| [Measure Data](#E_Measure_Data) | entry | 2.16.840.1.113883.10.20.27.3.5 |
| [Measure Reference](#E_Measure_Reference) | entry | 2.16.840.1.113883.10.20.24.3.98 |
| [Measure Reference and Results](#E_Measure_Reference_and_Results) | entry | 2.16.840.1.113883.10.20.27.3.1 |
| [Patient Characteristic Payer](#E_Patient_Characteristic_Payer) | entry | 2.16.840.1.113883.10.20.24.3.55 |
| [Payer Supplemental Data Element](#E_Payer_Supplemental_Data_Element) | entry | 2.16.840.1.113883.10.20.27.3.9 |
| [Performance Rate for Proportion Measure](#E_Performance_Rate_for_Proportion_Measur) | entry | 2.16.840.1.113883.10.20.27.3.14 |
| [Postal Code Supplemental Data Element](#E_Postal_Code_Supplemental_Data_Element) | entry | 2.16.840.1.113883.10.20.27.3.10 |
| [Race Supplemental Data Element](#E_Race_Supplemental_Data_Element) | entry | 2.16.840.1.113883.10.20.27.3.8 |
| [Reporting Parameters Act](#E_Reporting_Parameters_Act) | entry | 2.16.840.1.113883.10.20.17.3.8 |
| [Reporting Rate for Proportion Measure](#E_Reporting_Rate_for_Proportion_Measure) | entry | 2.16.840.1.113883.10.20.27.3.15 |
| [Reporting Stratum](#E_Reporting_Stratum) | entry | 2.16.840.1.113883.10.20.27.3.4 |
| [Sex Supplemental Data Element](#E_Sex_Supplemental_Data_Element) | entry | 2.16.840.1.113883.10.20.27.3.6 |

Table 57: Template Containment in This Guide

| Template Title | Template Type | templateId |
| --- | --- | --- |
| [QRDA Category III Report](#D_QRDA_Category_III_Report) | document | 2.16.840.1.113883.10.20.27.1.1 |
| [QRDA Category III Measure Section](#S_QRDA_Category_III_Measure_Section) | section | 2.16.840.1.113883.10.20.27.2.1 |
| [Measure Reference and Results](#E_Measure_Reference_and_Results) | entry | 2.16.840.1.113883.10.20.27.3.1 |
| [Measure Data](#E_Measure_Data) | entry | 2.16.840.1.113883.10.20.27.3.5 |
| [Aggregate Count](#E_Aggregate_Count) | entry | 2.16.840.1.113883.10.20.27.3.3 |
| [Continuous Variable Measure Value](#E_Continuous_Variable_Measure_Value) | entry | 2.16.840.1.113883.10.20.27.3.2 |
| [Ethnicity Supplemental Data Element](#E_Ethnicity_Supplemental_Data_Element) | entry | 2.16.840.1.113883.10.20.27.3.7 |
| [Aggregate Count](#E_Aggregate_Count) | entry | 2.16.840.1.113883.10.20.27.3.3 |
| [Payer Supplemental Data Element](#E_Payer_Supplemental_Data_Element) | entry | 2.16.840.1.113883.10.20.27.3.9 |
| [Aggregate Count](#E_Aggregate_Count) | entry | 2.16.840.1.113883.10.20.27.3.3 |
| [Postal Code Supplemental Data Element](#E_Postal_Code_Supplemental_Data_Element) | entry | 2.16.840.1.113883.10.20.27.3.10 |
| [Aggregate Count](#E_Aggregate_Count) | entry | 2.16.840.1.113883.10.20.27.3.3 |
| [Race Supplemental Data Element](#E_Race_Supplemental_Data_Element) | entry | 2.16.840.1.113883.10.20.27.3.8 |
| [Aggregate Count](#E_Aggregate_Count) | entry | 2.16.840.1.113883.10.20.27.3.3 |
| [Reporting Stratum](#E_Reporting_Stratum) | entry | 2.16.840.1.113883.10.20.27.3.4 |
| [Aggregate Count](#E_Aggregate_Count) | entry | 2.16.840.1.113883.10.20.27.3.3 |
| [Continuous Variable Measure Value](#E_Continuous_Variable_Measure_Value) | entry | 2.16.840.1.113883.10.20.27.3.2 |
| [Sex Supplemental Data Element](#E_Sex_Supplemental_Data_Element) | entry | 2.16.840.1.113883.10.20.27.3.6 |
| [Aggregate Count](#E_Aggregate_Count) | entry | 2.16.840.1.113883.10.20.27.3.3 |
| [Performance Rate for Proportion Measure](#E_Performance_Rate_for_Proportion_Measur) | entry | 2.16.840.1.113883.10.20.27.3.14 |
| [Reporting Rate for Proportion Measure](#E_Reporting_Rate_for_Proportion_Measure) | entry | 2.16.840.1.113883.10.20.27.3.15 |
| [QRDA Category III Reporting Parameters Section](#S_QRDA_Category_III_Reporting_Parameters) | section | 2.16.840.1.113883.10.20.27.2.2 |
| [First Encounter](#E_First_Encounter) | entry | 2.16.840.1.113883.10.20.27.3.11 |
| [Last Encounter](#E_Last_Encounter) | entry | 2.16.840.1.113883.10.20.27.3.12 |
| [Reporting Parameters Act](#E_Reporting_Parameters_Act) | entry | 2.16.840.1.113883.10.20.17.3.8 |

1. Code Systems in This Guide

The following table lists all the code systems used in this guide.

Table 58: Code Systems in This Guide

| Code System Name | Code System OID |
| --- | --- |
| HL7ActClass | 2.16.840.1.113883.5.6 |
| ActCode | 2.16.840.1.113883.5.4 |
| ActMood | 2.16.840.1.113883.5.1001 |
| ActStatus | 2.16.840.1.113883.5.14 |
| AdministrativeGender | 2.16.840.1.113883.5.1 |
| Confidentiality Code | 2.16.840.1.113883.5.25 |
| Internet Society Language | 2.16.840.1.113883.1.11.11526 |
| LOINC | 2.16.840.1.113883.6.1 |
| ObservationMethod | 2.16.840.1.113883.5.84 |
| ObservationValue | 2.16.840.1.113883.5.1063 |
| Public Health Data Standards Consortium Source of Payment Typology | 2.16.840.1.113883.3.221.5 |
| Race and Ethnicity - CDC  | 2.16.840.1.113883.6.238 |
| SNOMED CT | 2.16.840.1.113883.6.96 |

1. Value Sets in This Guide

The following table lists all the value sets (vocabularies) in this guide.

Table 59: Value Sets in This Guide

| ValueSet OID | ValueSet Name | Binding |
| --- | --- | --- |
| 2.16.840.1.113883.1.11.1 | Administrative Gender (HL7 V3)  | DYNAMIC |
| 2.16.840.1.114222.4.11.837 | EthnicityGroup  | DYNAMIC |
| 2.16.840.1.113883.1.11.16926 | HL7 BasicConfidentialityKind | STATIC |
| 2.16.840.1.113883.1.11.11526 | Language  | DYNAMIC |
| 2.16.840.1.114222.4.11.836 | NHSNRaceCategory  | DYNAMIC |
| 2.16.840.1.113883.1.11.20450 | ObservationMethodAggregate  | DYNAMIC |
| 2.16.840.1.113883.1.11.20369 | ObservationPopulationInclusion  | DYNAMIC |
| 2.16.840.1.114222.4.11.3591 | Source of Payment Typology (PHDSC)  | DYNAMIC |

1. PQRS to QRDA Category III Mapping Table

The CMS Physician Quality Reporting System (PQRS) facilitates the reporting of quality data by eligible professionals. QRDA Category III reports are able to represent the same data as PQRS reports. This table shows the mapping between PQRS elements and concepts, and the QRDA Category III elements that can be used to represent them.

Table 60: Mapping from PQRS to QRDA Category III

|  |  |  |  |
| --- | --- | --- | --- |
| PQRS XML Element | Description | QRDA CDA XPath | QRDA III Template |
| **<create-date>**Sub-element of the file audit data element | The month, day, and year the XML file was created. | /ClinicalDocument/effectiveTime | [QRDA Category III Report](#D_QRDA_Category_III_Report)2.16.840.1.113883.10.20.27.1.1 |
| **<create-time>**Sub-element of the file audit data element | The hour and minutes representing the time the filewas created. | /ClinicalDocument/effectiveTime | [QRDA Category III Report](#D_QRDA_Category_III_Report)2.16.840.1.113883.10.20.27.1.1 |
| **<create-by>**Sub-element of the file audit data element | The entity who created the file. | /ClinicalDocument/documentationOf/serviceEvent/performer/assignedEntity/id | [QRDA Category III Report](#D_QRDA_Category_III_Report)2.16.840.1.113883.10.20.27.1.1 |
| **<version>**Sub-element of the file audit data element | The version of the file being submitted. | /ClinicalDocument/versionNumber | [QRDA Category III Report](#D_QRDA_Category_III_Report)2.16.840.1.113883.10.20.27.1.1 |
| **<file-number>**Sub-element of the file audit data element | The number of the file. |  Not available in CDA |   |
| **<number-of-files>**Sub-element of the file audit data element | Total number of files. |  Not available in CDA |   |
| **<dsv-name>**Sub-element of the dsv element | The data submission vendor name. | /ClinicalDocument/documentationOf/serviceEvent/performer/assignedEntity/representedOrganization/name | [QRDA Category III Report](#D_QRDA_Category_III_Report)2.16.840.1.113883.10.20.27.1.1 |
| **<dsv-id>**Sub-element of the dsv element | Used to identify the data submission vendor. Use DataSubmission Vendor's Corporate Tax Identification number. | /ClinicalDocument/documentationOf/serviceEvent/performer/assignedEntity /representedOrganization/id/@extensionWHERE/ClinicalDocument/documentationOf/serviceEvent/performer/assignedEntity/representedOrganization/id/@root="2.16.840.1.113883.4.2" | [QRDA Category III Report](#D_QRDA_Category_III_Report)2.16.840.1.113883.10.20.27.1.1 |
| **<submission-method>**Sub-element of the dsv element | Submission Method:A = 12 months | entry/act[code code="252116004" codeSystem="2.16.840.1.113883.6.96" displayName="Observation Parameters"]/effectiveTime | [Reporting Parameters Act](#E_Reporting_Parameters_Act)2.16.840.1.113883.10.20.17.3.8 |
| **<security-code>**Sub-element of the dsv element | Unique security Code for each CMS qualified EHRvendor application | /ClinicalDocument/participant/associatedEntity/id/@extension | [QRDA Category III Report](#D_QRDA_Category_III_Report)2.16.840.1.113883.10.20.27.1.1 |
| **<provider>**Sub-element of the submission element |   | /ClinicalDocument/documentationOf/serviceEvent/performer/@typeCode="PRF" | [QRDA Category III Report](#D_QRDA_Category_III_Report)2.16.840.1.113883.10.20.27.1.1 |
| **<npi>**Sub-element of the provider element | National Provider Identifier as assigned by CMS. | /ClinicalDocument/documentationOf/serviceEvent/performer/assignedEntity/id/@extensionWHERE/ClinicalDocument/documentationOf/serviceEvent/performer/assignedEntity/id/@root="2.16.840.1.113883.4.6" | [QRDA Category III Report](#D_QRDA_Category_III_Report)2.16.840.1.113883.10.20.27.1.1 |
| **<tin>**Sub-element of the provider element | The tax identification number for individual NPI. | /ClinicalDocument/documentationOf/serviceEvent/performer/assignedEntity/representedOrganization/id/@extensionWHERE/ClinicalDocument/documentationOf/serviceEvent/performer/assignedEntity/representedOrganization/id/@root="2.16.840.1.113883.4.2" | [QRDA Category III Report](#D_QRDA_Category_III_Report)2.16.840.1.113883.10.20.27.1.1 |
| **<EHR-certification-number>**Sub-element of the provider element | Certification Number provided by the Office of theNational Coordinator for Health IT (ONC), which is the number that corresponds to a unique set of certified EHR products or modules used by the Data Submission Vendor. | /ClinicalDocument/participant="DEV"/associatedEntity="RGPR"/id/@extensionWHERE/ClinicalDocument/participant="DEV"/associatedEntity="RGPR"/id/@root="2.16.840.1.113883.3.2074.1" AND/ClinicalDocument/participant="DEV"/associatedEntity="RGPR"/code/@code="129465004" displayName="medical record, device" | [QRDA Category III Report](#D_QRDA_Category_III_Report)2.16.840.1.113883.10.20.27.1.1 |
| **<email-address>**Sub-element of the provider element | The email address of the provider's data submitted | /ClinicalDocument/documentationOf/serviceEvent/performer/assignedEntity/telecom | [QRDA Category III Report](#D_QRDA_Category_III_Report)2.16.840.1.113883.10.20.27.1.1 |
| **<waiver-signed>**Sub-element of the provider element | Participation waiver signed? A participation waiverindicates the eligible professional has given the DSVpermission to submit data on their behalf. | /ClinicalDocument/authorization/consent/statusCode | [QRDA Category III Report](#D_QRDA_Category_III_Report)2.16.840.1.113883.10.20.27.1.1 |
| **<encounter-from-date>**Sub-element of the provider element | The month, day, and year of the first service encounterof the submission period ("From" date). | /ClinicalDocument/component/structuredBody/component/section/entry/encounter | [First Encounter](#E_First_Encounter)2.16.840.1.113883.10.20.27.3.11  |
| **<encounter-to-date>**Sub-element of the provider element | The month, day, and year of the last service encounterof the submission period ("To" date). | /ClinicalDocument/component/structuredBody/component/section/entry/encounter | [Last Encounter](#E_Last_Encounter)2.16.840.1.113883.10.20.27.3.12  |
| **<measure-number>**Sub-element of the core-measure element | PQRS measure number. Measure numbers 128, 237,226 are core measures. | /ClinicalDocument/component/structuredBody/component/section/entry/organizer/reference/externalDocument/id="version specific identifier for eMeasure" OR /ClinicalDocument/component/structuredBody/component/section/entry/organizer/reference/externalDocument/id@root="measure developersRootOID"/@extension="measureNumber" | [Measure Reference](#E_Measure_Reference)2.16.840.1.113883.10.20.24.3.98And[Measure Reference and Results](#E_Measure_Reference_and_Results)2.16.840.1.113883.10.20.27.3.1 |
| **<eligible-instances>**Sub-element of the core-measure element | Number of eligible instances (**reporting denominator**)for the measure. | /ClinicalDocument/component/structuredBody/component/section/entry/organizer/component/observation/value | [Measure Data](#E_Measure_Data)2.16.840.1.113883.10.20.27.3.5 |
| **<meets-performance-instances>** Sub-element of the core-measure element | Number of instances of quality service performed(**performance numerator**). | /ClinicalDocument/component/structuredBody/component/section/entry/organizer/component/observation/value | [Measure Data](#E_Measure_Data)2.16.840.1.113883.10.20.27.3.5 |
| **<performance-exclusion-instances>** Sub-element of the core-measure element | Number of performance exclusions for the Measure | /ClinicalDocument/component/structuredBody/component/section/entry/organizer/component/observation/value | [Measure Data](#E_Measure_Data)2.16.840.1.113883.10.20.27.3.5 |
| Additional CMS/JOINT Commission data elements |
| Measure Group Identifier | Measure Group is a Measure Set - each measure should have a measure group identifier. Need: CMS needs to be able to identify if the required number of measures from a measure group have been included (eg the reporter must send 4 out of 10 measures from a measure set | /ClinicalDocument/component/structuredBody/component/section/entry/organizer/reference/externalObservation/id | [Measure Reference and Results](#E_Measure_Reference_and_Results)2.16.840.1.113883.10.20.27.3.1 |
| Composite Measure Registry ID | When a measure has been aggregated into an aggregate report (QRDA III) by a registry (3rd party vendor), this is the ID of the registry. | /ClinicalDocument/documentationOf/serviceEvent/performer/assignedEntity/id/@extensionWHERE /ClinicalDocument/documentationOf/serviceEvent/performer/assignedEntity/id/ @root="2.16.840.1.113883.4.2" (TIN) | [QRDA Category III Report](#D_QRDA_Category_III_Report)2.16.840.1.113883.10.20.27.1.1 |
| Composite Measure Submitter ID | When a measure has been aggregated into an aggregate report (QRDA III) by a registry (3rd party vendor) **, these are the** ids of the submitting providers. | /ClinicalDocument/documentationOf/serviceEvent/performer/assignedEntity/id/@extensionWHERE/ClinicalDocument/documentationOf/serviceEvent/performer/assignedEntity/id/@root="2.16.840.1.113883.4.6" (NPI) | [QRDA Category III Report](#D_QRDA_Category_III_Report)2.16.840.1.113883.10.20.27.1.1 |
| Reporting Rate |   |  /ClinicalDocument/component/structuredBody/component/section/entry/organizer/component/observation/value | [Reporting Rate for Proportion Measure](#E_Reporting_Rate_for_Proportion_Measure)2.16.840.1.113883.10.20.27.3.15 |
| Performance Rate | The actual performance percentage of the reporting provider |  /ClinicalDocument/component/structuredBody/component/section/entry/organizer/component/observation/value | [Performance Rate for Proportion Measure](#E_Performance_Rate_for_Proportion_Measur)2.16.840.1.113883.10.20.27.3.14 |
| Predicted Performance Rate | The performance percentage expected by the reporting provider |  /ClinicalDocument/component/structuredBody/component/section/entry/organizer/component/observation/referenceRange/observationRange/value | [Performance Rate for Proportion Measure](#E_Performance_Rate_for_Proportion_Measur)2.16.840.1.113883.10.20.27.3.14 |
| Multiple provider's ids (Reporting by groups of providers) | Multiple providers may be associated with a QRDA III report. Need to include each provider's id | /ClinicalDocument/documentationOf/serviceEvent/performer/assignedEntity/id/@extensionWHERE/ClinicalDocument/documentationOf/serviceEvent/performer/assignedEntity/id/@root="2.16.840.1.113883.4.6" (NPI) | [QRDA Category III Report](#D_QRDA_Category_III_Report)2.16.840.1.113883.10.20.27.1.1 |
| Non e-specified measures | QRDA must be able to reference non HQMF quality measures | /ClinicalDocument/component/structuredBody/component/section/entry/organizer/reference/externalDocument/id | [Measure Reference and Results](#E_Measure_Reference_and_Results)2.16.840.1.113883.10.20.27.3.1 |

1. [http://www.iom.edu/Global/News Announcements/Crossing-the-Quality-Chasm-The-IOM-Health-Care-Quality-Initiative.aspx](http://www.iom.edu/Global/News%20Announcements/Crossing-the-Quality-Chasm-The-IOM-Health-Care-Quality-Initiative.aspx) [↑](#footnote-ref-2)
2. *HL7 Implementation Guide: CDA Release 2 - Continuity of Care Document CCD* April 1, 2007. <http://www.hl7.org/implement/standards/product_brief.cfm?product_id=6> [↑](#footnote-ref-3)
3. <http://www.hl7.org/implement/standards/product_brief.cfm?product_id=258> [↑](#footnote-ref-4)
4. <http://www.hl7.org/implement/standards/product_brief.cfm?product_id=35> [↑](#footnote-ref-5)
5. <http://www.hl7.org/implement/standards/product_brief.cfm?product_id=35> [↑](#footnote-ref-6)
6. <http://www.hl7.org/v3ballot/html/infrastructure/conformance/conformance.htm> [↑](#footnote-ref-7)
7. *HL7 CDA Release 2*. http://www.hl7.org/implement/standards/product\_brief.cfm?product\_id=7 [↑](#footnote-ref-8)
8. http://www.hl7.org/v3ballotarchive\_temp\_E492871A-1C23-BA17-0C143E90AD3EB92D/v3ballot2012may/html/domains/uvqm/uvqm.html [↑](#footnote-ref-9)
9. <http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/index.html?redirect=/pqrs> [↑](#footnote-ref-10)
10. <http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/Downloads/2012_Data_Submission_Vendor_XML_File_Spec_EHR_Aggregate_06-15-2012.pdf> [↑](#footnote-ref-11)
11. Trifolia Workbench. [http://trifolia.lantanagroup.com](http://trifolia.lantanagroup.com/) [↑](#footnote-ref-12)
12. Publishing Facilitator's Guide. <http://www.hl7.org/v3ballot/html/help/pfg/pfg.htm> [↑](#footnote-ref-13)
13. <http://www.hl7.org/memonly/downloads/v3edition.cfm#V32010> (must be a member to view) [↑](#footnote-ref-14)
14. *HL7 CDA Release 2*. http://www.hl7.org/implement/standards/product\_brief.cfm?product\_id=7 [↑](#footnote-ref-15)
15. *HL7 CDA Release 2*. http://www.hl7.org/implement/standards/product\_brief.cfm?product\_id=7 [↑](#footnote-ref-16)
16. *XML Path Language (XPath) Version 1.0.* <http://www.w3.org/TR/xpath/> [↑](#footnote-ref-17)
17. HL7, Consolidated CDA. http://www.hl7.org/implement/standards/product\_brief.cfm?product\_id=258 [↑](#footnote-ref-18)
18. <http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/Downloads/2012_Data_Submission_Vendor_XML_File_Spec_EHR_Aggregate_06-15-2012.pdf> [↑](#footnote-ref-19)
19. <http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/Downloads/2012_Data_Submission_Vendor_XML_File_Spec_EHR_Aggregate_06-15-2012.pdf> [↑](#footnote-ref-20)
20. HL7 Clinical Document Architecture, Release 2 (April 21, 2005). <http://www.hl7.org/v3ballot/html/infrastructure/cda/cda.htm> [↑](#footnote-ref-21)
21. <http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/Downloads/2012_Data_Submission_Vendor_XML_File_Spec_EHR_Aggregate_06-15-2012.pdf> [↑](#footnote-ref-22)
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