



CMS Implementation Guide for Quality Reporting Document Architecture Category I and Category III

Eligible Professional Programs and Hospital Quality Reporting (HQR)

Supplementary Implementation Guide for 2016

Version: 1.0
07/08/2015

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Combined QRDA Guide Overview

1 Introduction

1.1 Overview

The Health Level Seven International (HL7) Quality Reporting Document Architecture (QRDA) defines constraints on the HL7 Clinical Document Architecture Release 2 (CDA R2). QRDA is a standard document format for the exchange of electronic clinical quality measure (eCQM) data. QRDA reports contain data extracted from electronic health records (EHRs) and other information technology systems. The reports are used for the exchange of eCQM data between systems for quality measurement and reporting initiatives.

This combined QRDA guide contains the Centers for Medicare & Medicaid Services (CMS) supplemental implementation guides to the *HL7 Implementation Guide for CDA Release 2: Quality Reporting Document Architecture Category I, Release 1, Draft Standard for Trial Use (DSTU) Release 3, US Realm*, June 2015¹ and the *HL7 Implementation Guide for CDA Release 2: Quality Reporting Document Architecture, Category III, DSTU Release 1, November 2012* and its July 2014 errata update for the 2016 reporting year. These two HL7 standards are referred to as “QRDA-I” and “QRDA-III”, respectively.

1.2 Organization of the Guide

This preliminary portion contains introductory material that pertains to all three CMS QRDA standards.

- Chapter 1: Introduction
- Chapter 2: Conformance Conventions Used in This Guide — describes the formal representation of templates and additional information necessary to understand and correctly implement the content found in this guide

PART A: QRDA-I DSTU R3 Supplementary Implementation Guide for Eligible Professional Programs and Hospital Quality Reporting

- Chapter 3: Overview
- Chapter 4: QRDA Category I Requirements — includes reporting requirements and information on succession management, value sets, and time zones
- Chapter 5: QRDA Category I Validation — contains the formal definitions for the QRDA Category I Report:
 - Document-level template that defines the document type and header constraints specific to CMS reporting
 - Section-level templates that define measure reporting, reporting parameters, and patient data

PART B — QRDA-III DSTU R1 Supplementary Implementation Guide for Eligible Professional Programs

- Chapter 6: Overview
- Chapter 7: QRDA Category III Submission Rules — includes guidelines for submissions under the Comprehensive Primary Care (CPC) initiative, the Electronic Health Record

¹ http://www.hl7.org/implement/standards/product_brief.cfm?product_id=35.

(EHR) Incentive Program (Meaningful Use), and the Physician Quality Reporting System (PQRS) Program

- Chapter 8: QRDA Category III Validation — contains the formal definitions for the QRDA Category III Report for the CMS Eligible Professional (EP) programs:
 - Document-level template that defines the document type and header constraints specific to CMS reporting
 - Section-level templates that define measure reporting and reporting parameters
 - Entry-level templates that define entry templates

APPENDIX

- Chapters 9-17 provide references and resources, including a list of all changes made to the QRDA Category I base standard to produce the Supplementary Implementation Guide in Part A, and a list of all changes made to the QRDA Category III base standard to produce the Supplementary Implementation Guide in Part B.

2 Conformance Conventions Used in This Guide

2.1 Conformance Verbs (Keywords)

The keywords **SHALL**, **SHOULD**, **MAY**, **NEED NOT**, **SHOULD NOT**, and **SHALL NOT** in this guide are to be interpreted as follows:

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

2.2 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 following figure, the constraint says exactly one participant is to be present. The subordinate constraint specifies some additional characteristics of that participant.

Figure 1: Constraints Format – only one allowed

- ```
1. SHALL contain exactly one [1..1] participant (CONF:2777).
 a. This participant SHALL 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 2: 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).
```

2.3 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 3: `nullFlavor` Example

```
<raceCode nullFlavor="ASKU"/>
<!--coding a raceCode when the patient declined to specify his/her
race-->

<raceCode nullFlavor="UNK"/>
<!--coding a raceCode when the patient's race is unknown-->
```

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 HL7 standard, *Clinical Document Architecture, Release 2.0*.

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

PART A—QRDA-I DSTU R3 Supplementary Implementation Guide for Eligible Professional Programs and Hospital Quality Reporting

3 Overview

3.1 Background

Part A of this guide is a CMS Quality Reporting Document Architecture Category I (QRDA-I) supplementary implementation guide to the *HL7 Implementation Guide for CDA Release 2: Quality Reporting Document Architecture Category I, Release 1, DSTU Release 3 (2015)*, referred to as the *QRDA-I Implementation Guide* in this guide. This guide describes additional conformance statements and constraints for electronic health record (EHR) data submissions that are required for reporting information to the Centers for Medicare and Medicaid Services (CMS) EHR Incentive Program and the Hospital Inpatient Quality Reporting Program 2016 Reporting Year for both the Eligible Professional programs and the Hospital Quality Reporting.

The purpose of this Part A of the supplemental guide is to serve as a companion to the original *QRDA-I Implementation Guide* for entities such as Eligible Professional (EP), Group Practice Reporting Option (GPRO), Comprehensive End-Stage Renal Disease Care Initiative (CEC), Eligible Hospitals (EH), Critical Access Hospitals (CAH), and Data Submission Vendors (DSV) to submit QRDA-I data for consumption by CMS systems including the Physician Quality Reporting System (PQRS) and Hospital Quality Reporting (HQR).

Each QRDA Category I 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.

3.2 How to Read This QRDA-I Guide

CMS will process Clinical Quality Measure (CQM) QRDA-I documents originating from EHR systems. Submitted QRDA-I documents for EHR Incentive Program 2016 must meet the conformance statements specified in this guide in addition to the conformance statements specified in the *QRDA-I Implementation Guide*. Only documents that are valid against the Clinical Document Architecture (CDA) Release 2 schema enhanced to support the sdte namespace (CDA_SDTE.xsd) will be accepted for processing. Documents that are invalid against this rule will be rejected.

This guide is based on following rules:

1. The *QRDA-I Implementation Guide* provides information about QRDA data elements with conformance numbers and constraints. Some of these existing conformance restrictions have been modified in accordance with CMS system requirements. The "CMS_" prefix (e.g., CMS_0001) indicates the new conformance statements. The "_C01" postfix indicates that the conformance statement from the base HL7 QRDA-I, R3 standard is further constrained in this guide.

2. The original **SHALL/SHOULD/MAY** keywords along with conformance numbers from the *QRDA-I Implementation Guide* for relevant data elements and attributes have been included in this guide for ease of reference. For brevity, the hierarchy of enclosing elements has not been shown.

4 QRDA Category I Requirements

4.1 QRDA Category I Reporting

A QRDA-I document should be submitted for each patient who meets the Initial Patient Population criteria of an eCQM. The QRDA-I base standard allows either one or multiple measures to be reported in a QRDA-I document. For group practice reporting, CMS requires only one QRDA-I report to be submitted per patient aggregated for the group's Tax Identification Number (TIN) for a reporting period. For individual provider reporting, there should be one QRDA-I report per patient for the eligible professional's unique National Provider Identification (NPI) and Tax Identification Number (TIN) combination. For Hospital Quality Reporting, there should be one QRDA-I report per patient for the facility CMS Certification Number (CCN).

CEC QRDA-I submissions include data for the 10 CEC Hybrid Measures (Claims and Medical Record data), rather than eCQMs. The Measure populations include each of the beneficiaries in the sample for the measure for the measurement year, which is one full year (January 1, 2016 – December 31, 2016). Data are then submitted in the spring of the following year.

4.2 Succession Management

This section describes the management of successive replacement documents for QRDA-I reports. (For example, a submitter notices an error in an earlier submission and wants to replace it with a corrected version.)

4.2.1 Final Action Processing used in QRDA-I Report Succession Management for PQRS

For the PQRS program, managing replacement documents is sometimes referred to as Final Action Processing (FAP). For group practice reporting, the FAP rules include the combination of the CMS program name, the TIN, the EHR Patient ID, and the submission timestamp. For individual provider reporting, the FAP rules include the combination of the CMS program name, the TIN, the NPI number, the EHR Patient ID, and the submission timestamp.

4.2.2 QRDA-I Report Succession Management for CEC

For the CEC program, the combination of the last submission timestamp and the Patient's Medicare Health Insurance Claim (HIC) Number is used for determining the current version of a QRDA-I document that will be used by the receiving system at CMS.

4.2.3 QRDA-I Report Document Succession Management for HQR

For HQR, the QRDA-I document/id convention is not used for Document Succession Management. Rather, HQR allows file resubmission to update a previously submitted file. The most recently submitted and accepted Production QRDA-I file will overwrite the original file based on the exact match of four key elements identifying the file: CMS Certification Number (CCN), CMS Program Name, EHR Patient ID, and the reporting period specified in the Reporting Parameters Section. The new file must be cumulative and contain all the patient data for the same reporting period data not just the corrected or new data.

4.2.4 Program Identifiers used in Succession Management

The CMS program name requirement for QRDA-I submission is specified in [5.1.4 informationRecipient](#). Each QRDA-I report **must** contain only one CMS program name, which shall be selected from the [QRDA-I CMS Program Name value set \(2.16.840.1.113883.3.249.14.103\)](#).

4.3 Value Sets

There are some cases where the value sets specified in electronic Clinical Quality Measures (eCQMs) for clinical quality data criteria do not align with the value sets of the corresponding data elements specified in the QRDA-I standard, or they are subsets of the value sets that are specified in the QRDA-I standard. In these cases, the value sets that are specified in eCQMs always take precedence. For example, the Tobacco Use (2.16.840.1.113883.10.20.22.4.85) QRDA-I template requires the "Tobacco Use (2.16.840.1.113883.11.20.9.41)" value set, but an eCQM criterion uses "Tobacco User Grouping Value Set (2.16.840.1.113883.3.526.3.1170)". In this case, the "Tobacco User Grouping Value Set (2.16.840.1.113883.3.526.3.1170)" shall take precedence over the "Tobacco Use (2.16.840.1.113883.11.20.9.41)" value set in constructing a QRDA-I document.

4.4 Time Zone

Time comparisons or elapsed time calculations are frequently involved as part of determining measure population outcomes. The use of Coordinated Universal Time (UTC) time zone offsets is recommended whenever precision is specified to hour, minute, or second, however inclusion of time zone offsets is not required for successful QRDA-I submissions to CMS. Consistency of UTC time zone offset use is critical to the calculation process when reporting data elements that use the *effectiveTime* or *time* elements, especially those directly utilized in measure calculations or outcomes. To ensure the highest accuracy in measure outcomes, if UTC time zone offsets are used in any template within a QRDA-I document, it is best that offsets be used throughout the file, otherwise it is best to not utilize offsets at all.

Currently, since the CMS Processing Facility is located in Warrington, VA, the default time zone is EST, however, this shouldn't be relied upon. A mixture of specified and unspecified time zones can cause unintended consequences.

Figure 4: Time Zone Example

```
<encounter>
  <text>Encounter Performed: Hospital Measures-Encounter
    Inpatient</text>
  ...
  <effectiveTime>
    <!-- Attribute: admission datetime -->
    <low value="20140325090000+0500"/>
    <!-- Attribute: discharge datetime -->
    <high value="20140329103000+0500"/>
  </effectiveTime>
  ...
</encounter>
```

5 QRDA Category I Validation

5.1 Document-Level Template: QRDA Category I Report - CMS EP & HQR

This section defines the document-level templates in a QRDA-I document. All of the templates in the *QRDA-I Implementation Guide* are Clinical Document Architecture (CDA) templates.

5.1.1 General Header

This template describes header constraints that apply to the CMS Quality Reporting Document Architecture (QRDA) Category I document.

Table 1: QRDA Category I Report - CMS EP & HQR (V2) Constraints Overview
ClinicalDocument (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.1.3:2015-07-01)

XPath	Card.	Verb	Data Type	CONF#	Value
templateId	1..1	SHALL		CMS_0001	
@root	1..1	SHALL		CMS_0002	2.16.840.1.113883.10.20.24.1.3
@extension	1..1	SHALL		CMS_0003	2015-07-01
id	1..1	SHALL		1098-5363	
effectiveTime	1..1	SHALL		1098-5256	US Realm Date and Time (DTM.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.4)
languageCode	1..1	SHALL		1098-5372	urn:oid:2.16.840.1.113883.1.11.11526 (Language)
@code	1..1	SHALL		CMS_0010	en
versionNumber	0..1	MAY		1098-5264	
participant	0..*	MAY		1098-10003	
associatedEntity	1..1	SHALL		CMS_0004	
id	1..1	SHALL		CMS_0005	
@nullFlavor	0..0	SHALL NOT		CMS_0052	
@root	1..1	SHALL		CMS_0006	2.16.840.1.113883.3.2074.1
@extension	1..1	SHALL		CMS_0008	

1. Conforms to QDM-Based QRDA (V2) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.1.2:2014-12-01).
2. **SHALL** contain exactly one [1..1] `templateId` (CONF:CMS_0001) such that it

- a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.24.1.3"` (CONF:CMS_0002).
- b. **SHALL** contain exactly one [1..1] `@extension="2015-07-01"` (CONF:CMS_0003).
- 3. **SHALL** contain exactly one [1..1] `id` (CONF:1098-5363).
 - a. This `id` **SHALL** be a globally unique identifier for the document (CONF:1098-9991).
- 4. **SHALL** contain exactly one [1..1] US Realm Date and Time (DTM.US.FIELDDED) (`identifier: urn:oid:2.16.840.1.113883.10.20.22.5.4`) (CONF:1098-5256).
- 5. **SHALL** contain exactly one [1..1] `languageCode`, which **SHALL** be selected from ValueSet `Language urn:oid:2.16.840.1.113883.1.11.11526 DYNAMIC` (CONF:1098-5372).
 - a. This `languageCode` **SHALL** contain exactly one [1..1] `@code="en"` (CONF:CMS_0010).
- 6. **MAY** contain zero or one [0..1] `versionNumber` (CONF:1098-5264).
 - a. If `versionNumber` is present `setId` **SHALL** be present (CONF:1098-6387).
- 7. **MAY** contain zero or more [0..*] `participant` (CONF:1098-10003).

CMS EHR Certification Number is optional. If it is submitted, it SHALL conform to the constraints specified for the CMS EHR Certification Number.

- a. The `participant`, if present, **SHALL** contain exactly one [1..1] `associatedEntity` (CONF:CMS_0004).
 - i. This `associatedEntity` **SHALL** contain exactly one [1..1] `id` (CONF:CMS_0005) such that it
 - 1. **SHALL NOT** contain [0..0] `@nullFlavor` (CONF:CMS_0052).
 - 2. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.3.2074.1"` CMS EHR Certification Number (formerly known as Office of the National Coordinator Certification Number) (CONF:CMS_0006).
 - 3. **SHALL** contain exactly one [1..1] `@extension` (CONF:CMS_0008).
Note: The value of `@extension` is the Certification Number.

Figure 5: General Header Example

```

<realmCode code="US"/>
<typeId root="2.16.840.1.113883.1.3" extension="POCD_HD000040"/>

<!-- US Realm Header (V2) -->
<templateId root="2.16.840.1.113883.10.20.22.1.1"
  extension="2014-06-09"/>
<!-- QRDA Category I Framework (V2) -->
<templateId root="2.16.840.1.113883.10.20.24.1.1"
  extension="2014-12-01"/>
<!-- QDM-Based QRDA (V2) -->
<templateId root="2.16.840.1.113883.10.20.24.1.2"
  extension="2014-12-01"/>
<!-- QRDA Category I Report - CMS EP & HQR (V2) -->
<templateId root="2.16.840.1.113883.10.20.24.1.3"
  extension="2015-07-01"/>

<!-- This is the globally unique identifier for this QRDA-I
  document -->
<id root="d651b289-c487-4436-95d2-4c816e50b447"/>
<code code="55182-0" codeSystem="2.16.840.1.113883.6.1"
  codeSystemName="LOINC" displayName="Quality Measure Report"/>
<title>Good Health QRDA-I Report</title>

<!-- This is the document creation time -->
<effectiveTime value="201701109171504+0500"/>
<confidentialityCode code="N" codeSystem="2.16.840.1.113883.5.25"
  codeSystemName="HL7Confidentiality"/>
<languageCode code="en"/>
...

```

5.1.2 recordTarget

The `recordTarget` records the patient whose health information is described by the clinical document; it must contain at least one `patientRole` element.

Table 2: recordTarget Constraints Overview
 ClinicalDocument (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.1.3:2015-07-01)

XPath	Card.	Verb	Data Type	CONF#	Value
recordTarget	1..1	SHALL		1140-16598	
patientRole	1..1	SHALL		1140-16856	
[HQR, PQRS] id	0..1	SHOULD		1140-16857	
[HQR, PQRS] @root	1..1	SHALL		1140-16858	2.16.840.1.113883.4.572
[CEC] id	1..1	SHALL		CMS_0054	

XPath	Card.	Verb	Data Type	CONF#	Value
[CEC] @root	1..1	SHALL		CMS_0055	2.16.840.1.113883.4.572
id	1..1	SHALL		CMS_0009 CMS_0007	
@root	1..1	SHALL		CMS_0053	
addr	1..*	SHALL		1098-5271	US Realm Address (AD.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2)
patient	1..1	SHALL		1140-27570	
name	1..1	SHALL		1098-5284_C01	US Realm Person Name (PN.US.FIELDDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1)
Administrative GenderCode	1..1	SHALL		CMS_0011 CMS_0029	urn:oid:2.16.840.1.113762.1.4.1 (ONC Administrative Sex)
birthTime	1..1	SHALL		1140-27571 1098-5300_C01	
raceCode	1..1	SHALL		CMS_0013 CMS_0030 CMS_0031	urn:oid:2.16.840.1.114222.4.11.836 (Race)
sdtc:raceCode	0..*	MAY		CMS_0014	urn:oid:2.16.840.1.114222.4.11.836 (Race)
ethnicGroupCode	1..1	SHALL		1098-5323 CMS_0032 CMS_0033	urn:oid:2.16.840.1.114222.4.11.837 (Ethnicity)

1. **SHALL** contain exactly one [1..1] `recordTarget` (CONF:1140-16598).
 - a. This `recordTarget` **SHALL** contain exactly one [1..1] `patientRole` (CONF:1140-16856).

PQRS: If the payer is Medicare, Medicare HIC Number is required for PQRS (when the CMS Program Name is either "PQRS_MU_INDIVIDUAL" or "PQRS_MU_GROUP"). Medicare HIC Number is not allowed for non-Medicare patients.

HQR: Patient Identification Number is required for HQR. Medicare HIC Number is not required for HQR but should be submitted if the payer is Medicare and the patient has an HIC number assigned.

- i. **[HQR,PQRS]** This `patientRole` **SHOULD** contain zero or one [0..1] `id` (CONF:1140-16857) such that it

1. **SHALL** contain exactly one [1..1]
`@root="2.16.840.1.113883.4.572"` Medicare HIC number
 (CONF:1140-16858).

CEC: When the CMS Program Name is "CEC", Medicare HIC Number is required.

- i. **[CEC]** This patientRole **SHALL** contain exactly one [1..1] `id` (CONF:CMS_0054) such that it
 1. **SHALL** contain exactly one [1..1]
`@root="2.16.840.1.113883.4.572"` Medicare HIC number
 (CONF:CMS_0055).
- ii. This patientRole **SHALL** contain exactly one [1..1] `id` (CONF:CMS_0009) such that it
 1. **SHALL** contain exactly one [1..1] `@root` (CONF:CMS_0053).
 2. **SHALL** contain exactly one Patient Identifier Number (CONF:CMS_0007).
- iii. This patientRole **SHALL** contain at least one [1..*] US Realm Address (AD.US.FIELDDED) (`identifier: urn:oid:2.16.840.1.113883.10.20.22.5.2`) (CONF:1098-5271).
- iv. This patientRole **SHALL** contain exactly one [1..1] `patient` (CONF:1140-27570).
 1. This patient **SHALL** contain exactly one [1..1] US Realm Person Name (PN.US.FIELDDED) (`identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1`) (CONF:1098-5284_C01).
 2. This patient **SHALL** contain exactly one [1..1] `administrativeGenderCode`, which **SHALL** be selected from ValueSet `ONC Administrative Sex` (`urn:oid:2.16.840.1.113762.1.4.1 DYNAMIC`) (CONF:CMS_0011).
 - a. If the patient's administrative sex is unknown, `nullFlavor="UNK"` **SHALL** be submitted (CONF:CMS_0029).
 3. This patient **SHALL** contain exactly one [1..1] `birthTime` (CONF:1140-27571).
 - a. **SHALL** be precise to day (CONF:1098-5300_C01).
 4. This patient **SHALL** contain exactly one [1..1] `raceCode`, which **SHALL** be selected from ValueSet `Race` (`urn:oid:2.16.840.1.114222.4.11.836 DYNAMIC`) (CONF:CMS_0013).
 - a. If the patient's race is unknown, `nullFlavor="UNK"` **SHALL** be submitted (CONF:CMS_0030).
 - b. If the patient declined to specify his/her race, `nullFlavor="ASKU"` **SHALL** be submitted (CONF:CMS_0031).
 5. This patient **MAY** contain zero or more [0..*] `sdtc:raceCode`, which **SHALL** be selected from ValueSet `Race` (`urn:oid:2.16.840.1.114222.4.11.836 DYNAMIC`) (CONF:CMS_0014).
 Note: If a patient has more than one race category, one race is reported in `raceCode`, and additional races are reported using `sdtc:raceCode`.
 6. This patient **SHALL** contain exactly one [1..1] `ethnicGroupCode`, which **SHALL** be selected from ValueSet `ethnicity`

urn:oid:2.16.840.1.114222.4.11.837 **DYNAMIC**
(CONF:1098-5323).

- a. If the patient's ethnicity is unknown, nullFlavor="UNK" **SHALL** be submitted (CONF:CMS_0032).
- b. If the patient declined to specify his/her ethnicity, nullFlavor="ASKU" **SHALL** be submitted (CONF:CMS_0033).

Figure 6: recordTarget Example, QRDA Category I Report - CMS EP & HQR (V2)

```

<recordTarget>
  <patientRole>
    <!-- Medicare HIC Number -->
    <id root="2.16.840.1.113883.4.572" extension="321654987A" />
    <!-- Patient Identifier Number. The root OID could be provider's
      organization OID or other value -->
    <id root="2.16.840.1.113883.123.123.1" extension="022354" />
    <addr use="HP">
      <streetAddressLine>101 North Pole Lane</streetAddressLine>
      <city>Ames</city>
      <state>IA</state>
      <postalCode>50014</postalCode>
      <country>US</country>
    </addr>
    <telecom use="WP" value="tel:+1-781-271-3000"/>
    <patient>
      <name>
        <given>Jane</given>
        <family>Doe</family>
      </name>
      <administrativeGenderCode code="F"
        codeSystem="2.16.840.1.113883.5.1"/>
      <!-- If the patient administrative sex is unknown, use
        nullFlavor="UNK" -->
      <!-- <administrativeGenderCode nullFlavor="UNK"/> -->
      <birthTime value="19460102"/>
      <!-- raceCode "2131-1 (Other Race)" shall not be used for
        either raceCode or sdtc:raceCode -->
      <raceCode code="2106-3" codeSystem="2.16.840.1.113883.6.238"/>
      <!-- if the patient declined to specify his/her race, use
        nullFlavor="ASKU" -->
      <!-- <raceCode nullFlavor="ASKU"/> -->
      <!-- if the patient's race is unknown, use nullFlavor="UNK" -->
      <!-- <raceCode nullFlavor="UNK"/> -->
      <!-- Use sdtc:raceCode only if the patient has more than one
        race category -->
      <!-- <sdtc:raceCode code="2054-5"
        codeSystem="2.16.840.1.113883.6.238"/> -->
      <ethnicGroupCode code="2186-5"
        codeSystem="2.16.840.1.113883.6.238"/>
      <!-- if the patient declined to specify his/her ethnicity, use
        nullFlavor="ASKU" -->
      <!-- <ethnicGroupCode nullFlavor="ASKU"/> -->
      <!-- if the patient's ethnicity is unknown, use
        nullFlavor="UNK" -->
      <!-- <ethnicGroupCode nullFlavor="UNK"/> -->
    </patient>
  </patientRole>
</recordTarget>

```

5.1.3 Custodian

The `custodian` element represents the organization that is in charge of maintaining the document. The custodian is the steward that is entrusted with the care of the document.

Table 3: Custodian Constraints Overview
 ClinicalDocument (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.1.3:2015-07-01)

XPath	Card.	Verb	Data Type	CONF#	Value
custodian	1..1	SHALL		1140-16600	
assignedCustodian	1..1	SHALL		1140-28239	
[HQR] representedCustodianOrganization	1..1	SHALL		1140-28240	
[HQR] id	1..1	SHALL		1140-28241_C01	
[HQR] @root	1..1	SHALL		1140-28244	2.16.840.1.113883.4.336
[HQR] @extension	1..1	SHALL		1140-28245 CMS_0035	

1. **SHALL** contain exactly one [1..1] `custodian` (CONF:1140-16600).
 - a. This custodian **SHALL** contain exactly one [1..1] `assignedCustodian` (CONF:1140-28239).
 - i. This assignedCustodian **SHALL** contain exactly one [1..1] `representedCustodianOrganization` (CONF:1140-28240).

This `representedCustodianOrganization id/@root='2.16.840.1.113883.4.336'` coupled with the `id/@extension` represents the organization's Facility CMS Certification Number (CCN).

CCN is required for HQR only.

1. **[HQR]** This `representedCustodianOrganization` **SHALL** contain exactly one [1..1] `id` (CONF:1140-28241_C01) such that it
 - a. **[HQR] SHALL NOT** contain [0..0] `@nullFlavor` (CONF:CMS_0034).
 - b. **[HQR] SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.4.336"` CMS Certification Number (CONF:1140-28244).
 - c. **[HQR] SHALL** contain exactly one [1..1] `@extension` (CONF:1140-28245).

Note: A fixed CCN value 800890 shall be used for HQR test submission when no hospital is associated with a submitted QRDA document.

 - i. CCN **SHALL** be six to ten characters in length (CONF:CMS_0035).

Figure 7: CCN as Custodian Example

```

<!-- This is an example for QRDA-I test submission to HQR. CCN is
required for HQR only.-->
<custodian>
  <assignedCustodian>
    <representedCustodianOrganization>
      <!-- @extension attribute contains the submitter's CCN.
      @nullFlavor is not allowed. -->
      <id root="2.16.840.1.113883.4.336" extension="800890"/>
      <name>Good Health Hospital</name>
      <telecom value="tel:(555)555-1212" use="WP"/>
      <addr use="WP">
        <streetAddressLine>17 Daws Rd.</streetAddressLine>
        <city>Blue Bell</city>
        <state>MA</state>
        <postalCode>02368</postalCode>
        <country>US</country>
      </addr>
    </representedCustodianOrganization>
  </assignedCustodian>
</custodian>

```

5.1.4 informationRecipient

The `informationRecipient` element records the intended recipient of the information at the time the document is created.

Table 4: informationRecipient Constraints Overview
 ClinicalDocument (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.1.3:2015-07-01)

XPath	Card.	Verb	Data Type	CONF#	Value
informationRecipient	1..1	SHALL		1140-16703_C01	
intendedRecipient	1..1	SHALL		1140-16704	
id	1..1	SHALL		1140-16705_C01	
@nullFlavor	0..0	SHALL NOT		CMS_0043	
@root	1..1	SHALL		CMS_0025	2.16.840.1.113883.3.249.7
@extension	1..1	SHALL		CMS_0026	urn:oid:2.16.840.1.113883.3.249.14.103 (QRDA-I CMS Program Name)

1. **SHALL** contain exactly one [1..1] `informationRecipient` (CONF:1140-16703_C01).
 - a. This `informationRecipient` **SHALL** contain exactly one [1..1] `intendedRecipient` (CONF:1140-16704).
 - i. This `intendedRecipient` **SHALL** contain exactly one [1..1] `id` (CONF:1140-16705_C01).
 1. **SHALL NOT** contain [0..0] `@nullFlavor` (CONF:CMS_0043).

2. This id **SHALL** contain exactly one [1..1]
 @root="2.16.840.1.113883.3.249.7" (CONF:CMS_0025).
3. This id **SHALL** contain exactly one [1..1] @extension, which **SHALL** be selected from ValueSet [QRDA-I CMS Program Name](#)
 urn:oid:2.16.840.1.113883.3.249.14.103 **STATIC** 2015-07-01 (CONF:CMS_0026).
 Note: The value of @extension is CMS Program Name.

Table 5: QRDA-I CMS Program Name

Value Set: QRDA-I CMS Program Name urn:oid:2.16.840.1.113883.3.249.14.103			
Specifies the CMS Program for QRDA-I report submissions. The code CDAC_EHR_IQR is an internal code used for eCQM validation and SHALL NOT appear in any hospital submitted QRDA files.			
Note: the codes are case insensitive.			
Code	Code System	Code System OID	Print Name
PQRS_MU_INDIVIDUAL	CMS Program	urn:oid:2.16.840.1.113883.3.249.7	PQRS Meaningful Use Individual
PQRS_MU_GROUP	CMS Program	urn:oid:2.16.840.1.113883.3.249.7	PQRS Meaningful Use Group
CEC	CMS Program	urn:oid:2.16.840.1.113883.3.249.7	Comprehensive End-Stage Renal Disease Care Initiative
HQR_EHR	CMS Program	urn:oid:2.16.840.1.113883.3.249.7	Hospital Quality Reporting for the EHR Incentive Program
HQR_IQR	CMS Program	urn:oid:2.16.840.1.113883.3.249.7	Hospital Quality Reporting for the Inpatient Quality Reporting Program
HQR_EHR_IQR	CMS Program	urn:oid:2.16.840.1.113883.3.249.7	Hospital Quality Reporting for the EHR Incentive Program and the IQR Program
CDAC_EHR_IQR	CMS Program	urn:oid:2.16.840.1.113883.3.249.7	CDAC_EHR_IQR

Figure 8: informationRecipient Example, QRDA Category I Report - CMS EP & HQR (V2)

```

<!-- This example shows the @extension attribute with a value of
"PQRS_MU_INDIVIDUAL", which indicates that this QRDA-I report is
submitted to the PQRS Meaningful Use Individual program -->

<informationRecipient>
  <intendedRecipient>
    <!-- CMS Program Name is required. @nullFlavor is not allowed -->
    <id root="2.16.840.1.113883.3.249.7"
      extension="PQRS_MU_INDIVIDUAL"/>
  </intendedRecipient>
</informationRecipient>
    
```

5.1.5 documentationOf/serviceEvent

A `serviceEvent` represents the main act, such as a colonoscopy or a cardiac stress study, being documented.

Table 6: documentationOf/serviceEvent Constraints Overview
 ClinicalDocument (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.1.3:2015-07-01)

XPath	Card.	Verb	Data Type	CONF#	Value
documentationOf	1..1	SHALL		1140-16579_C01	
serviceEvent	1..1	SHALL		1140-16580	
@classCode	1..1	SHALL		1140-16581	PCPR
performer	1..*	SHALL		1140-16583	
@typeCode	1..1	SHALL		1140-16581	PRF
assignedEntity	1..1	SHALL		1140-16586	
id	1..1	SHALL		1140-16587_C01	
@root	1..1	SHALL		1140-16588	2.16.840.1.113883.4.6
assignedPerson	0..1	MAY		CMS_0019	
name	0..1	MAY		CMS_0020	
representedOrganization	1..1	SHALL		1140-16591_C01	
id	1..1	SHALL		1140-16592_C01	
@root	1..1	SHALL		1182-43	2.16.840.1.113883.4.2
name	0..1	MAY		CMS_0022	

1. **SHALL** contain exactly one [1..1] `documentationOf` (CONF:1140-16579_C01) such that it
 - a. **SHALL** contain exactly one [1..1] `serviceEvent` (CONF:1140-16580).
 - i. This `serviceEvent` **SHALL** contain exactly one [1..1] `@classCode="PCPR"` Care Provision (CONF:16581).

PQRS Individual: When the CMS Program Name is "PQRS_MU_INDIVIDUAL", there can be one and only one 'performer' element.

PQRS GPRO: When the CMS Program Name is "PQRS_MU_GROUP", multiple 'performer' elements are allowed but they must all have the same TIN.

- ii. This `serviceEvent` **SHALL** contain at least one [1..*] `performer` (CONF:1140-16583).

1. Such performers **SHALL** contain exactly one [1..1] `@typeCode="PRF"` Performer (CONF:1140-16581).
2. Such performers **SHALL** contain exactly one [1..1] `assignedEntity` (CONF:1140-16586).

This `assignedEntity id/@root='2.16.840.1.113883.4.6'` coupled with the `id/@extension` represents the individual provider's National Provider Identification number (NPI).

PQRS Individual: When the CMS Program Name is "PQRS_MU_INDIVIDUAL", provider's NPI is required and `nullFlavor` is not allowed. The NPI must be in the correct format. A valid NPI is 10 numeric digits where the 10th digit is a check digit computed using the Luhn algorithm.

PQRS GPRO: When the CMS Program Name is "PQRS_MU_GROUP", provider's NPI is optional and `nullFlavor` is allowed. If no NPI is submitted for GPRO, `id/@root='2.16.840.1.113883.4.6'` coupled with `@nullFlavor="NA"` SHALL be submitted, and `@extension` SHALL be omitted. If NPI is submitted for GPRO, the NPI must be in the correct format.

CEC: When the CMS Program Name is "CEC", provider's NPI is required and `nullFlavor` is not allowed. The NPI must be in the correct format. A valid NPI is 10 numeric digits where the 10th digit is a check digit computed using the Luhn algorithm.

HQR: For the Hospital Quality Reporting (HQR), NPI may not be applicable, but it is a required element per this guide. If there is no NPI for HQR, `id/@root='2.16.840.1.113883.4.6'` coupled with `@nullFlavor="NA"` SHALL be submitted, and `@extension` SHALL be omitted. If NPI is submitted for HQR, then the NPI SHALL conform to the constraints specified for NPI and the NPI must be in the correct format. A valid NPI is 10 numeric digits where the 10th digit is a check digit computed using the Luhn algorithm. (Note, the root OID of NPI is required)

- a. This `assignedEntity` **SHALL** contain exactly one [1..1] `id` (CONF:1140-16587_C01) such that it
 - i. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.4.6"` National Provider ID (CONF:1140-16588).
- b. This `assignedEntity` **MAY** contain zero or one [0..1] `assignedPerson` (CONF:CMS_0019).
 - i. The `assignedPerson`, if present, **MAY** contain zero or one [0..1] `name` (CONF:CMS_0020).
Note: This is the provider's name.
- c. This `assignedEntity` **SHALL** contain exactly one [1..1] `representedOrganization` (CONF:1140-16591_C01).

This `representedOrganization id/@root='2.16.840.1.113883.4.2'` coupled with the `id/@extension` represents the organization's Tax Identification Number (TIN). The provided TIN must be in valid format (9 decimal digits).

PQRS Individual: When the CMS Program Name is "PQRS_MU_INDIVIDUAL", TIN is required and `nullFlavor` is not allowed.

PQRS GPRO: When the CMS Program Name is "PQRS_MU_GROUP", TIN is required and `nullFlavor` is not allowed.

CEC: When the CMS Program Name is "CEC", TIN is optional and `nullFlavor` is allowed. If no TIN is submitted for CEC, `id/@root='2.16.840.1.113883.4.2'` coupled with `@nullFlavor="NA"` SHALL be submitted, and `@extension` SHALL be omitted. If TIN is submitted for CEC, the provided TIN must be in valid format (9 decimal digits).

HQR: For the HQR, TIN may not be applicable but it is a required element for HQR per this guide. If there is no TIN for HQR, `id/@root='2.16.840.1.113883.4.2'` coupled with

@nullFlavor="NA" SHALL be submitted, and @extension SHALL be omitted. If TIN is submitted for HQR, then it SHALL conform to the constraints specified for TIN and the TIN must be in valid format (9 decimal digits). (Note, the root OID of TIN is required.)

- i. This representedOrganization **SHALL** contain exactly one [1..1] id (CONF:1140-16592_C01) such that it
 1. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.4.2" Tax ID Number (CONF:1182-43).
- ii. This representedOrganization **MAY** contain zero or one [0..1] name (CONF:CMS_0022).
Note: This is the organization's name, such as clinic's name.

Figure 9: documentationOf / serviceEvent Example for EP Individual

```

<!-- Example for EP individual provider reporting -->
<informationRecipient>
  <!-- CMS Program Name is "PQRS_MU_INDIVIDUAL" -->
  <intendedRecipient>
    <id root="2.16.840.1.113883.3.249.7"
      extension="PQRS_MU_INDIVIDUAL"/>
  </intendedRecipient>
</informationRecipient>
...
<documentationOf>
  <serviceEvent classCode="PCPR">
    ...
    <!-- Only one performer is allowed for "PQRS_MU_INDIVIDUAL" -->
    <performer typeCode="PRF">
      <assignedEntity>
        <!--This is the provider's NPI -->
        <id root="2.16.840.1.113883.4.6" extension="1234567893" />
        <telecom value="mailto:npiUser@aClinic.com"/>
        <assignedPerson>
          <name>
            <given>John</given>
            <family>Smith</family>
          </name>
        </assignedPerson>
        <representedOrganization>
          <!--This is the organization's TIN, which is required for
            "PQRS_MU_INDIVIDUAL" -->
          <id root="2.16.840.1.113883.4.2" extension="987654321"/>
          <name>Good Health Clinic</name>
          <telecom value="mailto:tinUser@aClinic.com"/>
          <addr>
            <streetAddressLine>1601 NW 114th
              street</streetAddressLine>
            <streetAddressLine>Suite 151</streetAddressLine>
            <city>Clive</city>
            <state>IA</state>
            <postalCode>50325</postalCode>
            <country>US</country>
          </addr>
        </representedOrganization>
      </assignedEntity>
    </performer>
  </serviceEvent>
</documentationOf>

```

Figure 10: documentationOf / serviceEvent Example for EP Group Practice

```

<!-- Example for EP Group Practice Reporting Option (GPRO) -->
<informationRecipient>
  <intendedRecipient>
    <!-- CMS Program Name is "PQRS_MU_GROUP" -->
    <id root="2.16.840.1.113883.3.249.7" extension="PQRS_MU_GROUP"/>
  </intendedRecipient>
</informationRecipient>
...
<documentationOf>
  <serviceEvent classCode="PCPR">
    ...
    <performer typeCode="PRF">
      <assignedEntity>
        <!-- When NPI is not submitted for GPRO, use @nullFlavor
        instead of @extension -->
        <id root="2.16.840.1.113883.4.6" nullFlavor="NA"/>
        <representedOrganization>
          <!-- This is the organization's TIN, which is required for
          GPRO and @nullFlavor is not allowed. -->
          <id root="2.16.840.1.113883.4.2" extension="123456789"/>
          ...
        </representedOrganization>
      </assignedEntity>
    </performer>
  </serviceEvent>
</documentationOf>

```

Figure 11: documentationOf / serviceEvent Example for CEC

```

<!-- Example for EP CEC program -->
<informationRecipient>
  <!-- CMS Program Name is "CEC" -->
  <intendedRecipient>
    <id root="2.16.840.1.113883.3.249.7" extension="CEC" />
  </intendedRecipient>
</informationRecipient>
...
<documentationOf>
  <serviceEvent classCode="PCPR">
    ...
    <performer typeCode="PRF">
      <assignedEntity>
        <!-- NPI is required for CEC, @nullFlavor is not allowed. -->
        <id root="2.16.840.1.113883.4.6" extension="1234567893"/>
        <representedOrganization>
          <!--This is the organization's TIN, which is optional for
          CEC and @nullFlavor is allowed. -->
          <!-- If no TIN is submitted, nullFlavor="NA" shall be
          submitted. -->
          <id root="2.16.840.1.113883.4.2" nullFlavor="NA"/>
          <!-- If TIN is submitted, @extension shall be
          a valid TIN -->
          <!-- <id root="2.16.840.1.113883.4.2"
          extension="123456789"/> -->
          ...
        </representedOrganization>
      </assignedEntity>
    </performer>
  </serviceEvent>
</documentationOf>

```

Figure 12: documentationOf / serviceEvent Example for HQR

```

<!-- Example for HQR. CMS Program Name for HQR is either "HQR_EHR",
"HQR_IQR", or "HQR_EHR_IQR" -->
<informationRecipient>
  <!-- CMS Program Name is "HQR_EHR" -->
  <intendedRecipient>
    <id root="2.16.840.1.113883.3.249.7" extension="HQR_EHR"/>
  </intendedRecipient>
</informationRecipient>
...
<documentationOf>
  <serviceEvent classCode="PCPR">
    ...
    <performer typeCode="PRF">
      <assignedEntity>
        <!-- For HQR, NPI may not be applicable, but it is a
        required element per this guide. If there is no NPI for
        HQR, id/@root='2.16.840.1.113883.4.6' coupled with
        @nullFlavor="NA" SHALL be submitted, and @extension SHALL
        be omitted. The root oid of TIN (2.16.840.1.113883.4.2)
        is required. -->
        <id root="2.16.840.1.113883.4.6" nullFlavor="NA"/>
        <!-- If NPI for a provider is submitted, @extension SHALL
        be a valid NPI.-->
        <!-- <id root="2.16.840.1.113883.4.6"
        extension="1234567890" />-->
        ...
      <representedOrganization>
        <!-- For HQR, TIN may not be applicable, but it is
        required element per this guide. If there is no TIN for
        HQR, id/@root='2.16.840.1.113883.4.2' coupled with
        @nullFlavor="NA" SHALL be submitted, and @extension
        SHALL be omitted. -->
        <id root="2.16.840.1.113883.4.2" nullFlavor="NA"/>
        <!-- If TIN for a hospital is submitted, the @extension
        must be a valid TIN -->
        <!-- <id root="2.16.840.1.113883.4.2"
        extension="987654321"/>-->
        ...
      </representedOrganization>
    </assignedEntity>
  </performer>
</serviceEvent>
</documentationOf>

```

5.2 Section-Level Templates

5.2.1 Measure Section

This section contains information about the eMeasure or eMeasures being reported. (An eMeasure is called an "eCQM" in the Meaningful Use program.) It must contain entries with the identifiers of all the eMeasures so that corresponding QRDA Quality Data Model (QDM) data element entry templates to be instantiated in the Patient Data Section are identified. Each eMeasure for which QRDA QDM data elements are being sent must reference eMeasure version specific identifier (QualityMeasureDocument/id).

Table 7: Measure Section (eMeasure Reference QDM) Constraints Overview
organizer (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.97)

XPath	Card.	Verb	Data Type	CONF#	Value
reference	1..1	SHALL		67-12808	
@typeCode	1..1	SHALL		67-12809	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
externalDocument	1..1	SHALL		67-12810	
@classCode	1..1	SHALL		67-27017	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = DOC
id	1..1	SHALL		67-12811	
@root	1..1	SHALL		67-12812	2.16.840.1.113883.4.738
@extension	1..1	SHALL		67-12813	

1. **SHALL** contain exactly one [1..1] **reference** (CONF:67-12808) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="REFR"** refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:67-12809).
 - b. **SHALL** contain exactly one [1..1] **externalDocument** (CONF:67-12810).
 - i. This externalDocument **SHALL** contain exactly one [1..1] **@classCode="DOC"** Document (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:67-27017).
 - ii. This externalDocument **SHALL** contain exactly one [1..1] **id** (CONF:67-12811) such that it
 1. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.4.738"** (CONF:67-12812).
Note: This OID indicates that the **@extension** contains the version specific identifier for the eMeasure.
 2. **SHALL** contain exactly one [1..1] **@extension** (CONF:67-12813).
Note: This **@extension** SHALL equal the version specific identifier for eMeasure (i.e., QualityMeasureDocument/id)

Figure 13: Measure Section Example

```

<section>
  <!-- This is the templateId for Measure Section -->
  <templateId root="2.16.840.1.113883.10.20.24.2.2"/>
  <!-- This is the templateId for Measure Section QDM -->
  <templateId root="2.16.840.1.113883.10.20.24.2.3"/>
  <code code="55186-1" codeSystem="2.16.840.1.113883.6.1"/>
  <title>Measure Section</title>
  <text>...</text>
  <!-- 1..* Organizers, each containing a reference to an
  eMeasure -->
  <entry>
    <organizer classCode="CLUSTER" moodCode="EVN">
      <!-- This is the templateId for Measure Reference -->
      <templateId root="2.16.840.1.113883.10.20.24.3.98"/>
      <!-- This is the templateId for eMeasure Reference QDM -->
      <templateId root="2.16.840.1.113883.10.20.24.3.97"/>
      <statusCode code="completed"/>
      <reference typeCode="REFR">
        <externalDocument classCode="DOC" moodCode="EVN">
          <!-- This is the eMeasure version specific identifier -->
          <id root="2.16.840.1.113883.4.738"
            extension="40280381-4b9a-3825-014b-c11ae59d069b"/>
        </externalDocument>
      </reference>
    </organizer>
    <organizer>
      ...
    </organizer>
  </entry>
</section>

```

5.2.2 Reporting Parameters Section - CMS EP & HQR

The Reporting Parameters Section provides information about the reporting time interval, and may contain other information that provides context for the patient data being reported.

Table 8: Reporting Parameters Section – CMS EP & HQR Constraints Overview
act (identifier: urn:oid:2.16.840.1.113883.10.20.17.2.1:2015-07-01)

XPath	Card.	Verb	Data Type	CONF#	Value
templateId	1..1	SHALL		CMS_0040	
@root	1..1	SHALL		CMS_0041	2.16.840.1.113883.10.20.17.2.1
@extension	1..1	SHALL		CMS_0042	2015-07-01
entry	1..1	SHALL		CMS_0023	
act	1..1	SHALL		CMS_0024	Reporting Parameters Act - CMS EP & HQR (identifier: urn:hl7ii:2.16.840.1.113883.10.20.17.3.8:2015-07-01)

1. Conforms to Reporting Parameters Section template (`identifier: urn:oid:2.16.840.1.113883.10.20.17.2.1`).
2. **SHALL** contain exactly one [1..1] `templateId` (CONF:CMS_0040) such that it
 - a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.17.2.1"` (CONF:CMS_0041).
 - b. **SHALL** contain exactly one [1..1] `@extension="2015-07-01"` (CONF:CMS_0042).
3. **SHALL** contain exactly one [1..1] `entry` (CONF:CMS_0023) such that it
 - a. **SHALL** contain exactly one [1..1] [Reporting Parameters Act - CMS EP & HQR](#) (`identifier: urn:hl7ii:2.16.840.1.113883.10.20.17.3.8:2015-07-01`) (CONF:CMS_0024).

5.2.2.1 Reporting Parameters Act – CMS EP & HQR

Table 9: Reporting Parameters Act - CMS EP & HQR Constraints Overview
act (`identifier: urn:oid:2.16.840.1.113883.10.20.17.3.8:2015-07-01`)

XPath	Card.	Verb	Data Type	CONF#	Value
<code>templateId</code>	1..1	SHALL		CMS_0044	
<code>@root</code>	1..1	SHALL		CMS_0045	2.16.840.1.113883.10.20.17.3.8
<code>@extension</code>	1..1	SHALL		CMS_0046	2015-07-01
<code>effectiveTime</code>	1..1	SHALL		23-3273	
<code>low</code>	1..1	SHALL		23-3274 CMS_0027	
<code>@value</code>	1..1	SHALL		CMS_0048	
<code>high</code>	1..1	SHALL		23-3275 CMS_0028	
<code>@value</code>	1..1	SHALL		CMS_0050	

1. Conforms to Reporting Parameters Act template (`identifier: urn:oid:2.16.840.1.113883.10.20.17.3.8`).
2. **SHALL** contain exactly one [1..1] `templateId` (CONF:CMS_0044) such that it
 - a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.17.3.8"` (CONF:CMS_0045).
 - b. **SHALL** contain exactly one [1..1] `@extension="2015-07-01"` (CONF:CMS_0046).

HQR: For HQR reporting ONLY - The system SHALL reject QRDA-I R3 files if the Reporting Parameter Section Effective Date Range does not align with one of the Program's allowable calendar year discharge quarters.²

3. **SHALL** contain exactly one [1..1] `effectiveTime` (CONF:23-3273).
 - a. This `effectiveTime` **SHALL** contain exactly one [1..1] `low` (CONF:23-3274).
 - i. This `low` **SHALL** contain exactly one [1..1] `@value` (CONF:CMS_0048).

² The allowable Calendar Year discharge quarters for the HQR programs will be available after the FY 2016 IPPS Final Rule is finalized.

- ii. **SHALL** be precise to day (CONF:CMS_0027)
- b. This effectiveTime **SHALL** contain exactly one [1..1] high (CONF:23-3275).
 - i. This high **SHALL** contain exactly one [1..1] @value (CONF:CMS_0050).
 - ii. **SHALL** be precise to day (CONF:CMS_0028)

Figure 14: Reporting Parameters Section - CMS EP & HQR and Reporting Parameters Act – CMS EP & HQR Example for HQR

```

<section>
  <templateId root="2.16.840.1.113883.10.20.17.2.1"/>
  <templateId root="2.16.840.1.113883.10.20.17.2.1" extension="2015-
    07-01"/>
  <code code="55187-9" codeSystem="2.16.840.1.113883.6.1"/>
  <title>Reporting Parameters</title>
  <text>
    ...
    <list>
      <item>Reporting period: 01 Jan 2016 - 31 March 2016
    </list>
    ...
  </text>
  <entry typeCode="DRIV">
    <act classCode="ACT" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.17.3.8"/>
      <templateId root="2.16.840.1.113883.10.20.17.3.8"
        extension="2015-07-01"/>
      <code code="252116004" codeSystem="2.16.840.1.113883.6.96"
        displayName="Observation Parameters"/>
      <effectiveTime>
        <low value="20160101"/>
        <high value="20160331"/>
      </effectiveTime>
    </act>
  </entry>
</section>

```

5.2.3 Patient Data Section QDM (V2) - CMS EP & HQR

The Patient Data Section QDM (V2) - CMS EP & HQR contains entries that conform to the QDM approach to QRDA. The four supplemental data elements (Administrative Sex, Race, Ethnicity, and Payer) specified in the eQMs are required to be reported to CMS. While the administrative sex, race, and ethnicity data are sent in the document header, the payer supplemental data element is submitted using the Patient Characteristic Payer template contained in the patient data section. So the Patient Data Section QDM (V2) - CMS EP & HQR shall contain at least one Patient Characteristic Payer template and at least one entry template that is other than the Patient Characteristic Payer template. As for what entry templates and how many entry templates should be included in the patient data section for the referenced eQMs, it should adhere to the "smoking gun" philosophy described in the QRDA-I standard. This guide follows the specifications of entry templates as defined in the base QRDA-I standard.

Table 10: Patient Data Section QDM (V2) – CMS EP & HQR Constraints Overview section (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.2.1:2014-12-01)

XPath	Card.	Verb	Data Type	CONF#	Value
templateId	1..1	SHALL		CMS_0036	
@root	1..1	SHALL		CMS_0037	16.840.1.113883.10.20.24.2.1
@extension	1..1	SHALL		CMS_0038	2015-07-01
entry	1..*	SHALL		CMS_0051 CMS_0039	
entry	1..*	SHALL		1140-14430_C01	
observation	1..*	SHALL		1140_14431	Patient Characteristic Payer (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.55)

1. Conforms to Patient Data Section QDM (V2) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.2.1:2014-12-01).
2. **SHALL** contain exactly one [1..1] `templateId` (CONF:CMS_0036) such that it
 - a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.24.2.1"` (CONF:CMS_0037).
 - b. **SHALL** contain exactly one [1..1] `@extension="2015-07-01"` (CONF:CMS_0038).
3. **SHALL** contain at least one [1..*] `entry` (CONF:CMS_0051) such that it
 - a. **SHALL** contain exactly one [1..1] entry template that is other than the Patient Characteristic Payer (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.55) (CONF:CMS_0039).
4. **SHALL** contain at least one [1..*] `entry` (CONF:1140-14430_C01) such that it
 - a. **SHALL** contain at least one [1..*] Patient Characteristic Payer (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.55) (CONF:1140_14431).

Figure 15: Patient Data Section QDM (V2) – CMS EP & HQR Example

```

<section>
  <!-- Patient Data Section -->
  <templateId root="2.16.840.1.113883.10.20.17.2.4" />
  <!-- Patient Data Section QDM (V2) -->
  <templateId root="2.16.840.1.113883.10.20.24.2.1"
    extension="2014-12-01" />
  <!-- Patient Data Section QDM (V2) – CMS EP & HQR -->
  <templateId root="2.16.840.1.113883.10.20.24.2.1"
    extension="2015-07-01" />
  <code code="55188-7" codeSystem="2.16.840.1.113883.6.1"
    displayName="Patient Data"/>
  <title>Patient Data</title>
  <text>...</text>
  <entry typeCode="DRIV">
    ...
  </entry>
  <entry typeCode="DRIV">
    ...
  </entry>
  <!--supplemental data elements-->
  <!-- payer-->
  <entry typeCode="DRIV">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.24.3.55"
        extension="2014-12-01" />
      <id root="4ddflcc3-e325-472e-ad76-b2c66a5ee164" />
      <code code="48768-6" codeSystem="2.16.840.1.113883.6.1"
        codeSystemName="LOINC" displayName="Payment source" />
      <statusCode code="completed" />
      <effectiveTime>
        <low value="20140303" />
        <high value="20170303" />
      </effectiveTime>
      <value xsi:type="CD" code="1"
        codeSystem="2.16.840.1.113883.3.221.5"
        codeSystemName="Source of Payment Typology"
        displayName="Medicare"
        sdtc:valueSet="2.16.840.1.114222.4.11.3591" />
    </observation>
  </entry>
  ...
</section>

```

5.2.3.1 “Not Done” with a Reason

For a QDM data element that is not done (when `negationInd="true"`) with a reason, such as "Medication, Order not done: Medical Reason", an `entryRelationship` to a Reason (templateId: 2.16.840.1.113883.10.20.24.3.88) with an `actRelationship` type of "RSON" is required. This is specified in the section 3.4 Asserting an Act Did Not Occur with a Reason in the base HL7 *QRDA-I, R3 Implementation Guide*. To summarize, the following steps shall be followed:

- Set the containing act attribute `negationInd="true"`
- Use `code/[@nullFlavor="NA"]`
- Set code attribute `code/sdtc:valueSet="[VSAC value set OID]"`
- Use `code/originalText` for the text description of the concept in the pattern "None of value set: [value set name]"

Figure 16: Not Done Example

```

<!--Medication administered not done, patient refusal: Drug declined
by patient - reason unknown. No "Antibiotic Medications for
Pharyngitis" were administered -->
<act classCode="ACT" moodCode="EVN" negationInd="true">
  <templateId root="2.16.840.1.113883.10.20.24.3.42" extension="2014-
    12-01" />
  <id root="517d5bbb-03a8-4400-8a78-754321641159" />
  <code code="416118004" displayName="Administration"
    codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED-CT" />
  <statusCode code="completed" />
  ...
  <entryRelationship typeCode="COMP">
    <substanceAdministration classCode="SBADM" moodCode="EVN">
      ...
      <manufacturedProduct classCode="MANU">
        <templateId root="2.16.840.1.113883.10.20.22.4.23"
          extension="2014-06-09" />
        <id root="37bfe02a-3e97-4bd6-9197-bbd0ed0de79e" />
        <manufacturedMaterial>
          <code nullFlavor="NA"
            sdtc:valueSet="2.16.840.1.113883.3.464.1003.196.12.1001">
            <originalText> None of value set: Antibiotic Medications
              for Pharyngitis</originalText>
          </code>
        </manufacturedMaterial>
      </manufacturedProduct>
    </substanceAdministration>
  </entryRelationship>
  ...

```

5.2.3.2 Entry Template Requirements for PQRS

Detailed information about the entry template requirements for the PQRS programs is specified in the *PQRS Program Year 2016 Supplementary 2 Supplementary Implementation Guide (S2SIG)*. In addition to the entry template requirements, the S2SIG provides error message information about additional validation not specified as conformance statements that the PQRS receiving system checks, such as the date/time format.

5.2.3.3 Use of Translation Codes for PQRS

The base HL7 QRDA-I R1, DSTU R3 IG indicates that if 'nullFlavor="OTH"' is specified in a code or value element then the @code does not have to be provided and, instead, a translation code can be entered. For clinical codes in the Patient Data Section of a QRDA-I file, PQRS does not support this option. PQRS ignores the "nullFlavor" in this instance and ignores all translation codes. The primary @code must always be provided along with the @codeSystem and @sdtc:valueSet.

PART B — QRDA-III DSTU R1

Supplementary Implementation Guide for Eligible Professional Programs

6 Overview

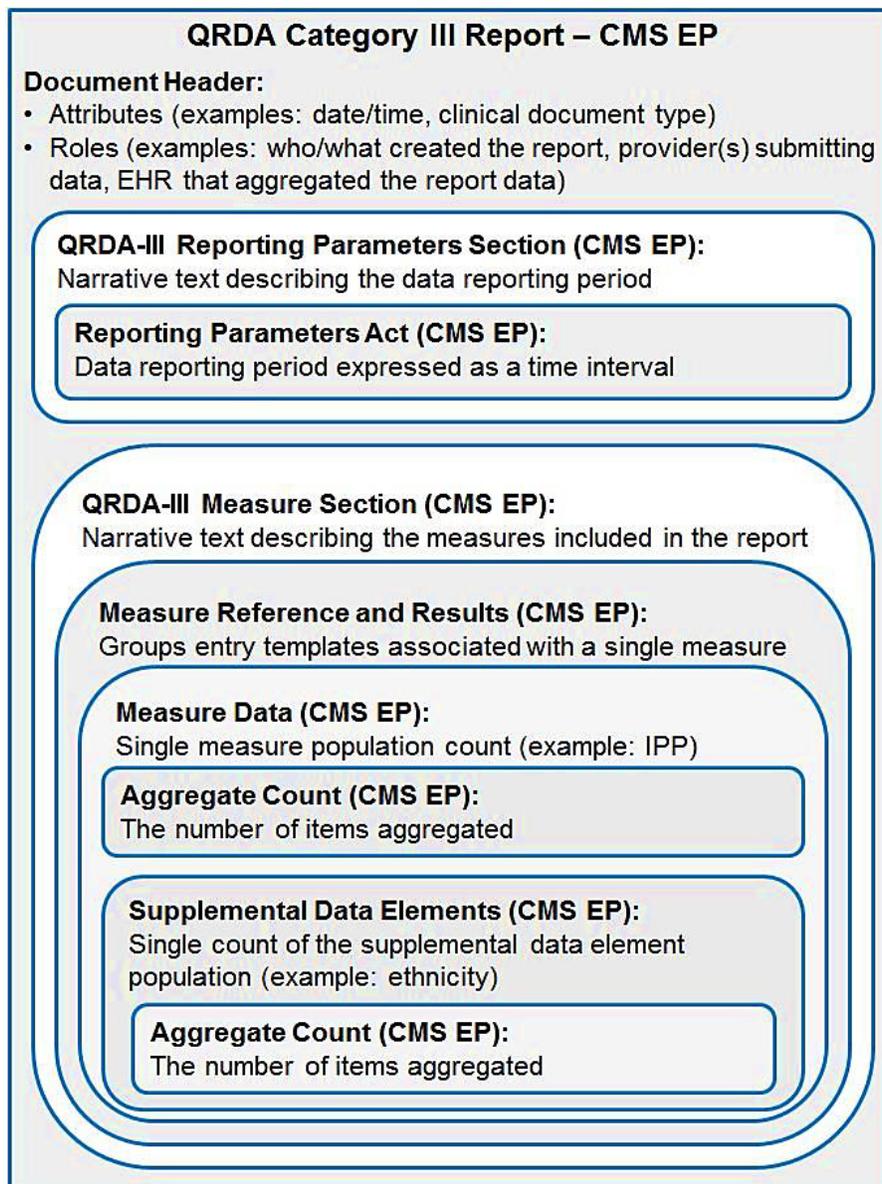
6.1 Background

Part B of this guide is a CMS Quality Reporting Document Architecture Category III (QRDA-III) supplementary implementation guide to the *HL7 Implementation Guide for CDA Release 2: Quality Reporting Document Architecture, Category III, DSTU Release 1* (November 2012), and its July 11, 2014 errata update (together referred to as the *QRDA-III Implementation Guide* in this guide). Templates defined in this supplementary implementation guide are conformant with the *QRDA-III Implementation Guide*. CMS EP Programs QRDA-III templates address aggregate reporting requirements for:

- Comprehensive Primary Care (CPC) initiative
- Electronic Health Record (EHR) Incentive program (Meaningful Use)
- Physician Quality Reporting System (PQRS)

A QRDA-III report is an aggregate quality report. Each QRDA-III 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. Summary data in the QRDA-III report are defined in the HL7 Health Quality Measures Format (HQMF), which standardizes the representation of a health quality measure as an electronic document. The structure of a QRDA-III report is depicted in the following figure.

Figure 17: QRDA-III Report Structure Example



6.2 How to Read This QRDA-III Guide

This guide includes the formal template definitions and submission criteria for submitting QRDA-III documents to CPC initiative, EHR Incentive Program (Meaningful Use), and PQRS for Eligible Professionals. Some of the conformance statements in the *HL7 CDA Release 2: QRDA Category III (QRDA-III), DSTU Release 1* have been further constrained to meet the specific requirements from these CMS EP programs. This guide shows all parent template definitions from the base *QRDA-III Implementation Guide* together with the CMS specific constraints.

7 QRDA Category III Submission Rules

CMS will process CQM QRDA-III documents originating from EHR systems. Submitted QRDA-III documents must meet the conformance statements specified in [8–QRDA-III Validation](#) of this implementation guide.

7.1 Comprehensive Primary Care (CPC) Initiative Submissions

CPC QRDA-III submissions for the 2016 Measurement Year must contain all data for all measures recorded by a CPC practice site. Each CPC practice site is a single, physical (brick and mortar) location.

For CPC measures, the CQM population is inclusive of all patients seen at the CPC practice site location as follows:

- 1) If the CPC practice site is a solo-practitioner site, the CQM population includes all patients who had one or more visits at the CPC practice site location in the Measurement Year and who meet the initial patient population criteria of the CQM.
- 2) If the CPC practice site includes multiple practitioners, the CQM population must include all patients who had one or more visits at the CPC practice site in the Measurement Year and who meet the initial patient population criteria of the CQM.
- 3) If the CPC practice site is part of a larger group practice that includes non-CPC practitioners, the CQM population of the CPC practice site must include all patients who had one or more visits at the CPC practice site location **only**.
 - a) The aggregate numbers must be a representation of those patients seen at the CPC practice site location only.
 - i) If a patient was seen at both a CPC practice site and a non-participating practice site within the same larger group practice, the aggregate CQM report for the CPC practice site includes this patient if the patient had one or more visits in the Measurement Year at the CPC practice site location and meets the initial patient population criteria for the measure.
 - ii) If a patient is only seen at a non-participating practice site, but the data reside within the larger group practice's certified EHR, the patient is excluded from any CPC practice aggregate CQM report.
 - b) Note that CPC practice sites on a shared EHR system with a non-CPC practice site may count quality criteria that were performed at the non-CPC practice site if the data are contained within the CPC practice site's certified EHR and the patient had one or more visits in the Measurement Year at the CPC practice site location and meets the initial patient population criteria for the measure.
- 4) For CPC reporting, the **same TIN** (Tax Identification Number) has to be reported for all of the National Provider Identification (NPI) numbers listed for the CPC practice site. Therefore each CPC practice site can only report one TIN for CPC. This TIN will be used for the PQRS aligned reporting option if the PQRS waiver is selected by the CPC practice site.
- 5) The measurement period for the CPC program begins on January 1, 2016 and ends on December 31, 2016. Data collected during the measurement period should be submitted from January 1, 2017 through February 28, 2017.
- 6) QRDA–III submissions for the CPC initiative will use the June 2015 versions of EP CQMs.

- 7) As a part of satisfactory reporting criteria, the QRDA-III submission for the CPC initiative must include at least 9 measures from the CPC clinical quality measure set.

The CPC program, eCQM reporting requirements, and clinical quality measure set can be obtained by contacting CPC/Telligen support at cpcisupport@telligen.org or by calling 1-800-381-4724.

7.2 EHR Incentive Program (Meaningful Use) Submissions

EHR Incentive Program submissions must contain nine of the 64 EP CQMs outlined for reporting as part of the EHR Incentive Program (Meaningful Use). The nine CQMs selected for submission must cover at least three of the six National Quality Strategy domains. QRDA-III submissions for the EHR Incentive Program will contain June 2015 versions of EP CQMs.

The EHR Incentive Program CQM populations include all patients seen by the EP during the reporting period, which is one full year (January 1, 2016 – December 31, 2016) or a calendar quarter within the calendar year (i.e., January 1, 2016 – March 31, 2016). EPs who are in their first year of participation in the EHR Incentive Program can also use any 90-day period within the calendar year 2016 as the data reporting period. Data collected during the reporting period may then be submitted January 1, 2017 through February 28, 2017. Please note that EPs who are in their first year of participation in the EHR Incentive Program must submit their CQMs via attestation by October 1, 2016 in order to avoid the EHR Incentive Program payment adjustment in the subsequent year.

7.3 Physician Quality Reporting System (PQRS) Submissions

PQRS QRDA-III submissions must contain nine of the 64 EP CQMs outlined for reporting as part of the EHR Incentive Program (Meaningful Use). The nine CQMs selected for submission must cover at least three of the six National Quality Strategy domains. QRDA-III submissions for PQRS reporting programs will contain June 2015 versions of EP CQMs.

For PQRS Group Practice Reporting Option (GPRO) QRDA-III submissions, a "group practice" consists of a physician group practice defined by a single TIN with two or more individual EPs who have reassigned billing rights to the TIN. If the EP also reports through a different TIN that is not participating as a GPRO, then the EP may also report individually through that alternate TIN.

For the PQRS individual EP reporting, CQM populations include all Medicare patients seen by the EP during the reporting period, which is one full year (January 1, 2016 - December 31, 2016). For PQRS GPRO reporting, CQM populations include all unique Medicare patients from all practice sites in the group practice seen by the group during the reporting period (January 1, 2016 - December 31, 2016). Data for both individual EPs and GPROs is then submitted January 1, 2017 through February 28, 2017.

7.4 Identifiers

For all CMS EP program reporting, certain identifiers are **mandatory**, meaning that they must be present in the QRDA-III report and no nulls are allowed. Exceptions and considerations are noted where applicable. Mandatory identifiers for CMS EP program reporting include:

- National Provider Identifier (NPI)
 - Optional for PQRS GPRO reporting
- Tax Identification Number (TIN)
 - For a practice site with a single provider, the TIN is an `organizationID`
 - When a provider has more than one TIN, the provider is recorded for each NPI/TIN combination

Note: The CPC program requires each CPC practice site, use only one TIN and this TIN shall be the **same** for all CPC Practice Site practitioners (NPIs) who are eligible professionals at that CPC practice site ID location. (See 7.1 Comprehensive Primary Care (CPC) Initiative Submissions above.)

- Each measure included in the QRDA-III report must reference the Version Specific ID.

7.5 Succession Management

This section describes the management of successive replacement documents for QRDA-III reports. (For example, a submitter notices an error in an earlier submission and wants to replace it with a corrected version.) For the PQRS program, managing replacement documents is sometimes referred to as Final Action Processing (FAP). The document that replaces a previous document will have a replacement relationship and will have a new unique QRDA-III `document/id`. The `document/id` of the previous QRDA-III will be referenced in the current document's `/ClinicalDocument/relatedDocument/parentDocument/id`.

7.5.1 Final Action Processing used in Succession Management

Currently, references to the `'id'` of a `parentDocument` are not consistently used. The PQRS receiving system at CMS uses FAP to reliably determine the current version of a QRDA-III document. There are different sets of FAP rules that apply to the PQRS program and the CPC program respectively.

Please note that the CMS receiving system will not be able to analyze specific elements out of earlier QRDA-III submissions. Therefore submitters should ensure all QRDA-III reports are complete data re-submissions.

7.5.2 FAP Rules for PQRS

For group practice reporting (except for the CPC program), the FAP rules include the combination of the CMS program name, the TIN, the eCQM measure version specific identifier, the eCQM reporting stratification identifier when it is applicable, and the submission timestamp. For individual reporting (except for the CPC program), the FAP rules include the combination of the CMS program name, the TIN, the NPI number, the eCQM measure version specific identifier, the eCQM reporting stratification identifier when it is applicable, and the submission timestamp.

When submitting a replacement QRDA-III report for the PQRS program use the same TIN or the same TIN/NPI. For example, if a QRDA-III report containing data for eCQMs 1, 2, and 3 was submitted on Monday and a replacement QRDA-III report for the same TIN/NPI was resubmitted the next day for eCQMs 1, 2, and 4. Only eCQMs 1, 2, and 4 contained in the latest submission will be used for final processing. Data submitted for eCQM 3 on Monday would not be marked for final processing and will not be used for PQRS analysis.

7.5.3 FAP Rules for CPC

For QRDA-III documents that are submitted to the CPC program, the FAP rules include the combination of the CMS program name, the CPC practice site ID, the submission timestamp.

When submitting a replacement QRDA-III report to replace a previously submitted QRDA-III report for the same CPC practice site ID to the CPC program, the new replacement report replaces the previously sent report entirely. For example, if a QRDA-III report contains data for eCQMs 1, 2, and 3 was submitted on Monday, a new replacement QRDA-III report for the same CPC practice site ID was resubmitted the next day for eCQMs 1, 2, and 4. Only eCQMs 1, 2,

and 4 contained in the last submission will be used for final processing for that CPC practice site.

7.5.4 Program Identifiers used in Succession Management

The CMS program name requirement for QRDA-III submission is specified in [8.1.4–informationRecipient](#). Each QRDA-III report **must** contain only one CMS program name, which shall be selected from the [QRDA-III CMS Program Name value set \(2.16.840.1.113883.3.249.14.101\)](#). The CMS program name specified in a QRDA-III report ensures the report is routed to the correct CMS program once it is received by the CMS QRDA-III receiving system. Therefore, when submitting a QRDA-III report to CMS, it is critical to specify the correct CMS program. The CMS program name is also used for managing successive replacement QRDA-III documents. When submitting a replacement QRDA-III report, the replacement QRDA-III report **must** contain the same CMS program name as specified in the report that it is intended to replace. The timestamp of the latest file submitted will be used to determine which file is to be analyzed for the specified CMS program, therefore an error in the CMS program name will produce the wrong analysis. For example, if you are submitting a file initially for CPC, find an error and resubmit the file with another CMS program name, such as MU_ONLY, the file will only be analyzed for MU_ONLY.

7.6 Time Zone

Time comparisons or elapsed time calculations are frequently involved as part of determining measure population outcomes. The use of UTC time zone offsets is recommended whenever precision is specified to hour, minute, or second, however inclusion of time zone offsets is not required for successful QRDA-III submissions to CMS. Consistency of UTC time zone offset use is critical to the calculation process when reporting data elements that use the *effectiveTime* or *time* elements, especially those directly utilized in measure calculations or outcomes. To ensure the highest accuracy in measure outcomes, if UTC time zone offsets are used in any template within a QRDA-III document, it is best that offsets be used throughout the file, otherwise it is best to not utilize offsets at all.

Currently, since the CMS Processing Facility is located in Warrington, VA, the default time zone is EST, however, this shouldn't be relied upon. A mixture of specified and unspecified time zones can cause unintended consequences.

8 QRDA Category III Validation

8.1 Document-Level Template: QRDA Category III Report - CMS EP

```
[ClinicalDocument: templateId 2.16.840.1.113883.10.20.27.1.2
(open)]
```

Table 11: QRDA Category III Report - CMS EP Contexts

Contained By	Contains
	QRDA Category III Measure Section (CMS EP) QRDA Category III Reporting Parameters Section (CMS EP)

This template describes constraints that apply to the Quality Reporting Document Architecture (QRDA) Document Category III Report for CMS Eligible Professionals (EP) Programs including the Comprehensive Primary Care (CPC) initiative, EHR Incentive Program (Meaningful Use), and Physician Quality Reporting System (PQRS).

Document-level templates describe the rules for constructing a conforming CDA document. They 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
1. Conforms to QRDA Category III Report template (2.16.840.1.113883.10.20.27.1.1).
 2. **SHALL** contain exactly one [1..1] `realmCode` (CONF:17226).
 - a. This `realmCode` **SHALL** contain exactly one [1..1] `@code="US"` (CONF:17227).
 3. **SHALL** contain exactly one [1..1] `typeId` (CONF:18186).
 - a. This `typeId` **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.1.3"` (CONF:18187).
 - b. This `typeId` **SHALL** contain exactly one [1..1] `@extension="POCD_HD000040"` (CONF:18188).
 4. **SHALL** contain exactly one [1..1] `templateId` (CONF:17208) such that it
 - a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.27.1.1"` (CONF:17209).
 Note: QRDA Category III Report (QRDA-III)
 5. **SHALL** contain exactly one [1..1] `templateId` (CONF:711280) such that it
 - a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.27.1.2"` (CONF:711281).
 6. **SHALL** contain exactly one [1..1] `id` (CONF:17236).
 - a. This `id` **SHALL** be a globally unique identifier for the document (CONF:17242).
 7. **SHALL** contain exactly one [1..1] `code` (CodeSystem: LOINC 2.16.840.1.113883.6.1 **STATIC**) (CONF:17210).
 - a. 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).
 8. **SHALL** contain exactly one [1..1] `title` (CONF:17211).
 9. **SHALL** contain exactly one [1..1] `effectiveTime` (CONF:17237).

- a. The content **SHALL** be a conformant US Realm Date and Time (DTM.US.FIELDDED) (2.16.840.1.113883.10.20.22.5.4) (CONF:18189).
- 10. **SHALL** contain exactly one [1..1] `confidentialityCode` (CONF:711174).
 - a. This `confidentialityCode` **SHALL** contain exactly one [1..1] `@code="N"` Normal (CodeSystem: ConfidentialityCode 2.16.840.1.113883.5.25 **STATIC**) (CONF:711246).
- 11. **SHALL** contain exactly one [1..1] `languageCode` (CONF:711173).
 - a. This `languageCode` **SHALL** contain exactly one [1..1] `@code="en"` English (CodeSystem: Language 2.16.840.1.113883.6.121) (CONF:711247).

8.1.1 recordTarget

QRDA-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).

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

Figure 18: recordTarget Example, QRDA Category III Report - CMS EP

```
<recordTarget>
  <patientRole>
    <id nullFlavor="NA" />
  </patientRole>
</recordTarget>
```

8.1.2 author

The CDA standard requires an author with an identifier to represent a person or device that have created document content. For a given document, there may be multiple authoring individuals and/or devices. Authors may also be described in other header elements, depending on roles. The `author/time` value represents the time when the document was last edited. When there are multiple authors, the first author time usually correlates with the `effectiveTime` of the document, which is when the document was generated.

- 13. **SHALL** contain at least one [1..*] `author` (CONF:18156) such that it
 - a. **SHALL** contain exactly one [1..1] `time` (CONF:18158).
 - b. **SHALL** contain exactly one [1..1] `assignedAuthor` (CONF:18157).
 - i. This `assignedAuthor` **SHALL** contain exactly one [1..1] `id` (CONF:711240).
 - ii. This `assignedAuthor` **MAY** contain zero or one [0..1] `assignedPerson` (CONF:18368).
 - iii. This `assignedAuthor` **MAY** contain zero or one [0..1] `assignedAuthoringDevice` (CONF:18162).
 - 1. The `assignedAuthoringDevice`, if present, **SHALL** contain exactly one [1..1] `softwareName` (CONF:18262).

- iv. This assignedAuthor **SHALL** contain exactly one [1..1] **representedOrganization** (CONF:18163).
 - 1. This representedOrganization **SHALL** contain at least one [1..*] **name** (CONF:18265).
- c. There **SHALL** be exactly one assignedAuthor/assignedPerson or exactly one assignedAuthor/assignedAuthoringDevice (CONF:19667).

Figure 19: Device Author Example

```

<author>
  <time value="20150311061231-0500"/>
  <assignedAuthor>
    <id root="3d0a32f3-5164-4a6f-8922-de3badf83ddd"/>
    <assignedAuthoringDevice>
      <softwareName>SOME Data Aggregator Transform Tool
        AS00016dev</softwareName>
    </assignedAuthoringDevice>
    <representedOrganization>
      <id root="2.16.840.1.113883.19.5" extension="223344"/>
      <name>Good Health Clinic</name>
    </representedOrganization>
  </assignedAuthor>
</author>

```

Figure 20: Person Author Example

```

<author>
  <time value="20150312114411-0500"/>
  <assignedAuthor>
    <id root="2.16.840.1.113883.4.6" extension="2589654740"
      assigningAuthorityName="NPI"/>
    <assignedPerson>
      <name>
        <given>Trevor</given>
        <family>Philips</family>
      </name>
    </assignedPerson>
    <representedOrganization>
      <id root="2.16.840.1.113883.19.5" extension="223344"/>
      <name>Good Health Clinic</name>
    </representedOrganization>
  </assignedAuthor>
</author>

```

8.1.3 custodian

The `custodian` element represents the organization that is in charge of maintaining and is entrusted with the care of the document.

- 14. **SHALL** contain exactly one [1..1] **custodian** (CONF:17213).
 - a. This custodian **SHALL** contain exactly one [1..1] **assignedCustodian** (CONF:17214).
 - i. 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).
- b. This assignedCustodian **SHALL** represent the organization that owns and reports the data (CONF:18246).

Figure 21: Custodian Example

```
<custodian>
  <assignedCustodian>
    <representedCustodianOrganization>
      <id root="2.16.840.1.113883.19.5" extension="223344"/>
      <name>Good Health Clinic</name>
    </representedCustodianOrganization>
  </assignedCustodian>
</custodian>
```

8.1.4 informationRecipient

The informationRecipient represents the CMS EP program the report is being submitted to.

- 15. **SHALL** contain exactly one [1..1] informationRecipient (CONF:711158).
 - a. This informationRecipient **SHALL** contain exactly one [1..1] intendedRecipient (CONF:711159).
 - i. This intendedRecipient **SHALL** contain exactly one [1..1] id (CONF:711160).

The id/@root specifies that this identifier represents a CMS Program.

- 1. This id **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.3.249.7" CMS Program (CONF:711161).

The id/@extension contains the CMS Program the report is being submitted to.

- 2. This id **SHALL** contain exactly one [1..1] @extension, which **SHALL** be selected from ValueSet [QRDA-III CMS Program Name](#) 2.16.840.1.113883.3.249.14.101 **STATIC** (CONF:711162).
 - a. If ClinicalDocument/informationRecipient/intendedRecipient/id/@extension="CPC", then ClinicalDocument/participant/@typeCode="LOC" **SHALL** be present (CONF:711248).

Table 12: QRDA-III CMS Program Name

Value Set: QRDA-III CMS Program Name 2.16.840.1.113883.3.249.14.101			
Specifies the CMS Program for QRDA-III report submissions.			
Code	Code System	Code System OID	Print Name
CPC	CMS Program	2.16.840.1.113883.3.249.7	CPC
PQRS_MU_INDIVIDUAL	CMS Program	2.16.840.1.113883.3.249.7	PQRS Meaningful Use Individual
PQRS_MU_GROUP	CMS Program	2.16.840.1.113883.3.249.7	PQRS Meaningful Use Group

Code	Code System	Code System OID	Print Name
MU_ONLY	CMS Program	2.16.840.1.113883.3.249.7	Meaningful Use Only

Figure 22: informationRecipient Example, QRDA Category III Report - CMS EP

```
<informationRecipient>
  <intendedRecipient>
    <id root="2.16.840.1.113883.3.249.7" extension="CPC" />
  </intendedRecipient>
</informationRecipient>
```

8.1.5 legalAuthenticator

The legalAuthenticator element represents the individual legally responsible for ensuring the data they have aggregated in the report was aggregated correctly.

16. **SHALL** contain exactly one [1..1] legalAuthenticator (CONF:17225).

Note: If a Data Submission Vendor (DSV) is used, the DSV is the legalAuthenticator.

- a. This legalAuthenticator **SHALL** contain exactly one [1..1] time (CONF:18167).
Note: This value is when the document was signed.
- b. This legalAuthenticator **SHALL** contain exactly one [1..1] signatureCode (CONF:18168).
 - i. This signatureCode **SHALL** contain exactly one [1..1] @code="S" Signed (CONF:18169).
- c. This legalAuthenticator **SHALL** contain exactly one [1..1] assignedEntity (CONF:19670).
 - i. This assignedEntity **MAY** contain zero or one [0..1] representedOrganization (CONF:19671).

When the legalAuthenticator is a DSV, the representedOrganization/id is the DSV TIN.

- 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 23: legalAuthenticator Example

```
<legalAuthenticator>
  <time value="20150312153222-0500" />
  <signatureCode code="S" />
  <assignedEntity>
    <id root="bc01a5d1-3a34-4286-82cc-43eb04c972a7" />
    <representedOrganization>
      <id root="2.16.840.1.113883.19.5" extension="223344" />
      <name>Good Health Clinic</name>
    </representedOrganization>
  </assignedEntity>
</legalAuthenticator>
```

8.1.6 participant is Device

The generic participant with a `participationType` of 'DEV' (device) and an `associatedEntity classCode` of 'RGPR' (regulated product) is used to represent the CMS EHR Certification ID.

17. **MAY** contain zero or more [0..*] `participant` (CONF:18300) such that it
- a. **SHALL** contain exactly one [1..1] `@typeCode="DEV"` device (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:18301).
 - b. **SHALL** contain exactly one [1..1] `associatedEntity` (CONF:18302).
 - i. This `associatedEntity` **SHALL** contain exactly one [1..1] `@classCode="RGPR"` Regulated Product (CodeSystem: RoleClass 2.16.840.1.113883.5.110 **STATIC**) (CONF:18303).
 - ii. This `associatedEntity` **MAY** contain zero or one [0..1] `id` (CONF:18304) such that it

The CMS EHR Certification ID was formerly known as the ONC Certification Number.

- 1. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.3.2074.1"` CMS EHR Certification ID (CONF:18305).
 - Note: This value specifies that the `id` is the CMS EHR Certification ID.
- iii. 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 24: Device Participant Example

```
<participant typeCode="DEV">
  <associatedEntity classCode="RGPR">
    <id root="2.16.840.1.113883.3.2074.1" extension="1a2b3c"/>
    <code code="129465004" displayName="medical record, device"
      codeSystem="2.16.840.1.113883.6.96"
      codeSystemName="SNOMED-CT"/>
  </associatedEntity>
</participant>
```

8.1.7 participant is Location

For CPC reporting, the generic participant with a `participationType` of 'LOC' (location) and an `associatedEntity classCode` of 'SDLOC' (service delivery location) representing the CPC Practice Site is required.

If `ClinicalDocument/informationRecipient/intendedRecipient/id/@extension="CPC"`, then this location participant must be present.

18. **MAY** contain zero or one [0..1] `participant` (CONF:711150) such that it
- a. **SHALL** contain exactly one [1..1] `@typeCode="LOC"` Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:711151).
 - b. **SHALL** contain exactly one [1..1] `associatedEntity` (CONF:711152).
 - i. This `associatedEntity` **SHALL** contain exactly one [1..1] `@classCode="SDLOC"` Service Delivery Location (CodeSystem: RoleClass 2.16.840.1.113883.5.110) (CONF:711153).
 - ii. This `associatedEntity` **SHALL** contain exactly one [1..1] `id` (CONF:711154).

1. This id **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.3.249.5.1" CPC Practice Site (CONF:711155)`.
Note: This OID contained in the @root (2.16.840.1.113883.3.249.5.1) designates that the @extension must hold a CPC Practice Site ID.
2. This id **SHALL** contain exactly one [1..1] `@extension (CONF:711156)`.
Note: This is the CPC Practice Site ID assigned to the CPC Practice Site.
- iii. This associatedEntity **SHALL** contain exactly one [1..1] `code (CONF:711218)`.
 1. This code **SHALL** contain exactly one [1..1] `@code="394730007" Healthcare Related Organization (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96) (CONF:711219)`.
- iv. This associatedEntity **SHALL** contain exactly one [1..1] `addr (CONF:711157)`.

Figure 25: Location Participant Example

```

<participant typeCode="LOC">
  <associatedEntity classCode="SDLOC">
    <id root="2.16.840.1.113883.3.249.5.1" extension="OK666333"
      assigningAuthorityName="CMS-CMMI"/>
    <code code="394730007"
      displayName="healthcare related organization"
      codeSystem="2.16.840.1.113883.6.96"
      codeSystemName="SNOMED-CT"/>
    <addr>
      <streetAddressLine>123 Healthcare St</streetAddressLine>
      <city>Norman</city>
      <state>OK</state>
      <postalCode>73019</postalCode>
    </addr>
  </associatedEntity>
</participant>

```

8.1.8 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.

19. **SHALL** contain exactly one [1..1] `documentationOf (CONF:711214)`.
 - a. This `documentationOf` **SHALL** contain exactly one [1..1] `serviceEvent (CONF:18171)`.
 - i. This `serviceEvent` **SHALL** contain exactly one [1..1] `@classCode="PCPR" Care Provision (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:18172)`.
 - ii. This `serviceEvent` **SHALL** contain at least one [1..*] `performer (CONF:711220)`.
Note: All providers seeking credit for CMS program reporting are listed as performers. For CPC reporting, only CPC Practice Site providers are listed as performers.

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).

The assignedEntity id/@root = '2.16.840.1.113883.4.6' coupled with the id/@extension represents the individual provider's National Provider Identification number (NPI).

NPI is required except for the Group Practice Reporting Option (GPRO). For GPRO, id/@root='2.16.840.1.113883.4.6' is coupled with @nullFlavor="NA", and @extension shall be omitted.

- a. This assignedEntity **SHALL** contain exactly one [1..1] `id` (CONF:711167) such that it
 - i. **MAY** contain zero or one [0..1] `@nullFlavor="NA"` (CONF:711249).
Note: @nullFlavor is only present for PQRS GPRO reporting.
 - ii. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.4.6"` National Provider ID (CONF:711169).
Note: This value specifies that the id is the provider's National Provider Identifier (NPI).
 - iii. **SHALL** contain exactly one [1..1] `@extension` (CONF:711170).
Note: This is the provider's NPI, it is only present when this is not PQRS GPRO reporting.
- b. This assignedEntity **MAY** contain zero or more [0..*] `telecom` (CONF:18310).
- c. This assignedEntity **SHALL** contain exactly one [1..1] `representedOrganization` (CONF:18180).
 - i. This representedOrganization **SHALL** contain exactly one [1..1] `id` (CONF:711168) such that it
 1. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.4.2"` Tax ID Number (CONF:711171).
Note: This value specifies that this id is the organization's Tax Identification Number (TIN).
 2. **SHALL** contain exactly one [1..1] `@extension` (CONF:711172).
Note: This is the organization's TIN.
 - ii. This representedOrganization **SHOULD** contain zero or more [0..*] `name` (CONF:19659).

Figure 26: documentationOf Example

```

<documentationOf>
  <serviceEvent classCode="PCPR">
    <!-- Care provision -->
    <effectiveTime>
      <low value="20140101"/>
      <high value="20141231"/>
    </effectiveTime>
    <!-- Multiple performers can be included,
      each with an NPI and TIN -->
    <performer typeCode="PRF">
      <time>
        <low value="20140101"/>
        <high value="20141231"/>
      </time>
      <assignedEntity>
        <!-- Provider NPI -->
        <id root="2.16.840.1.113883.4.6" extension="2589654740"/>
        <representedOrganization>
          <!-- Organization TIN -->
          <id root="2.16.840.1.113883.4.2" extension="990000999"/>
          <name>Good Health Clinic</name>
        </representedOrganization>
        </assignedEntity>
      </performer>
    </serviceEvent>
  </documentationOf>

```

8.1.9 authorization

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

PQRS, MU and CPC all allow aggregation and submission by a DSV. If a DSV is used, then information about the DSV (e.g., TIN) is captured as the Legal Authenticator.

20. **MAY** contain zero or one [0..1] `authorization` (CONF:18344).

- a. The `authorization`, if present, **SHALL** contain exactly one [1..1] `consent` (CONF:18360).
 - i. This `consent` **SHALL** contain exactly one [1..1] `id` (CONF:18361).
Note: This is the identifier of the consent given by the EP.
 - ii. 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).
 - iii. 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 27: Authorization 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>

```

8.1.10 component

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

21. **SHALL** contain exactly one [1..1] **component** (CONF:17217).
- a. This component **SHALL** contain exactly one [1..1] **structuredBody** (CONF:17235).
 - i. 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 \(CMS EP\)](#) (templateId:2.16.840.1.113883.10.20.27.2.6) (CONF:711141).
 - ii. 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 \(CMS EP\)](#) (templateId:2.16.840.1.113883.10.20.27.2.3) (CONF:711142).

Figure 28: structuredBody Example

```

<component>
  <structuredBody>
    <component>
      <!-- QRDA Category III Reporting Parameters Section (CMS EP)-->
      <section>
        ...
        <title>Reporting Parameters</title>
        ...
      </section>
    </component>
    <component>
      <!-- QRDA Category III Measure Section (CMS EP) -->
      <section>
        ...
        <title>Measure Section</title>
        ...
      </section>
    </component>
  </structuredBody>
</component>

```

8.2 Section-Level Templates

8.2.1 QRDA Category III Measure Section (CMS EP)

[section: templateId 2.16.840.1.113883.10.20.27.2.3 (open)]

Table 13: QRDA Category III Measure Section (CMS EP) Contexts

Contained By	Contains
QRDA Category III Report - CMS EP (required)	Measure Reference and Results (CMS EP)

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). Note that the QRDA-III standard allows for more than one measure within this section, but does not allow multiple occurrences of the same measure in a single QRDA-III instance.

For CPC reporting, this section must contain a Measure Reference and Results template for each measure that is being reported on by the CPC practice site.

1. Conforms to QRDA Category III Measure Section template (2.16.840.1.113883.10.20.27.2.1).
2. **SHALL** contain exactly one [1..1] `templateId` (CONF:711276) such that it
 - a. **SHALL** contain exactly one [1..1]
 - `@root="2.16.840.1.113883.10.20.27.2.3"` (CONF:711277).
3. **SHALL** contain exactly one [1..1] `templateId` (CONF:12801) such that it
 - a. **SHALL** contain exactly one [1..1]
 - `@root="2.16.840.1.113883.10.20.24.2.2"` (CONF:12802).
 - Note: Measure Section `templateId`
4. **SHALL** contain exactly one [1..1] `templateId` (CONF:17284) such that it
 - a. **SHALL** contain exactly one [1..1]
 - `@root="2.16.840.1.113883.10.20.27.2.1"` (CONF:17285).
 - Note: QRDA Category III Measure Section `templateId`
5. **SHALL** contain exactly one [1..1] `code` (CONF:12798).
 - a. This code **SHALL** contain exactly one [1..1] `@code="55186-1"` Measure Section (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:19230).
6. **SHALL** contain exactly one [1..1] `title="Measure Section"` (CONF:12799).
7. **SHALL** contain exactly one [1..1] `text` (CONF:12800).
8. **SHALL** contain at least one [1..*] `entry` (CONF:711283) such that it
 - a. **SHALL** contain exactly one [1..1] [Measure Reference and Results \(CMS EP\)](#) (`templateId:2.16.840.1.113883.10.20.27.3.17`) (CONF:711284).

Figure 29: QRDA-III Measure Section (CMS EP) Example

```

<section>
  <!-- Measure Section template ID -->
  <templateId root="2.16.840.1.113883.10.20.24.2.2" />
  <!-- QRDA Category III Measure Section template ID -->
  <templateId root="2.16.840.1.113883.10.20.27.2.1" />
  <!-- QRDA Category III Measure Section (CMS EP) template ID -->
  <templateId root="2.16.840.1.113883.10.20.24.2.3" />
  <code code="55186-1" codeSystem="2.16.840.1.113883.6.1"/>
  <title>Measure Section</title>
  <text>
    <table border="1" width="100%">
      <thead>
        <tr>
          <th>eMeasure Title</th>
          <th>Version neutral identifier</th>
          <th>Version specific identifier</th>
        </tr>
      </thead>
      <tbody>
        <tr>
          <td>Controlling High Blood Pressure</td>
          <td>abdc37cc-bac6-4156-9b91-d1be2c8b7268</td>
          <td>40280381-3d61-56a7-013e-66bc02da4dee</td>
        </tr>
      </tbody>
    </table>
    <list>
      ...
    </list>
  </text>
  <entry>
    <!-- Measure Reference and Results (CMS EP) -->
    <organizer classCode="CLUSTER" moodCode="EVN">
      ...
    </organizer>
  </entry>
</section>

```

8.2.2 QRDA Category III Reporting Parameters Section (CMS EP)

[section: templateId 2.16.840.1.113883.10.20.27.2.6 (open)]

Table 14: QRDA Category III Reporting Parameters Section (CMS EP) Contexts

Contained By	Contains
QRDA Category III Report - CMS EP (required)	Reporting Parameters Act (CMS EP)

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 an optional Service Encounter template.

The QRDA Category III report contains data covering a single time period represented by the reporting parameters act. The reporting parameter dates are equivalent to the measurement period dates for the data being aggregated. For Program Year 2016, the reporting parameter start date **SHALL** be "20160101" (i.e. 01/01/2016), and the reporting parameter end date **SHALL** be "20161231" (i.e., 12/31/2016).

1. Conforms to QRDA Category III Reporting Parameters Section template (2.16.840.1.113883.10.20.27.2.2).
2. **SHALL** contain exactly one [1..1] `templateId` (CONF:711278) such that it
 - a. **SHALL** contain exactly one [1..1]
 - `@root="2.16.840.1.113883.10.20.27.2.6"` (CONF:711279).
3. **SHALL** contain exactly one [1..1] `templateId` (CONF:14611) such that it
 - a. **SHALL** contain exactly one [1..1]
 - `@root="2.16.840.1.113883.10.20.17.2.1"` (CONF:14612).
 - Note: Reporting Parameters Section templateId
4. **SHALL** contain exactly one [1..1] `templateId` (CONF:18323) such that it
 - a. **SHALL** contain exactly one [1..1]
 - `@root="2.16.840.1.113883.10.20.27.2.2"` (CONF:18324).
 - Note: QRDA Category III Reporting Parameters Section templateId
5. **SHALL** contain exactly one [1..1] `code` (CONF:18191).
 - a. This code **SHALL** contain exactly one [1..1] `@code="55187-9"` Reporting Parameters (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:19229).
6. **SHALL** contain exactly one [1..1] `title="Reporting Parameters"` (CONF:4142).
7. **SHALL** contain exactly one [1..1] `text` (CONF:4143).
8. **SHALL** contain exactly one [1..1] `entry` (CONF:711285) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="DRIV"` Is derived from (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:711286).
 - b. **SHALL** contain exactly one [1..1] [Reporting Parameters Act \(CMS EP\)](#) (`templateId:2.16.840.1.113883.10.20.27.3.23`) (CONF:711175).

Figure 30: QRDA-III Reporting Parameters Section (CMS EP) Example

```

<section>
  <!--Reporting Parameters Section template ID -->
  <templateId root="2.16.840.1.113883.10.20.17.2.1" />
  <!--QRDA Category III Reporting Parameters Section template ID-->
  <templateId root="2.16.840.1.113883.10.20.27.2.2" />
  <!--QRDA Category III Reporting Parameters (CMS EP) template ID-->
  <templateId root="2.16.840.1.113883.10.20.27.2.6" />
  <code code="55187-9" codeSystem="2.16.840.1.113883.6.1" />
  <title>Reporting Parameters</title>
  <text>
    <list>
      <item>Reporting period: 01 Jan 2016 - 31 Dec 2016</item>
    </list>
  </text>
  <entry typeCode="DRIV">
    <!-- Reporting Parameters Act (CMS EP) -->
    <act classCode="ACT" moodCode="EVN">
      <!-- Reporting Parameters Act templateId (QRDA III) -->
      <templateId root="2.16.840.1.113883.10.20.17.3.8"/>
      <id root="55a43e20-6463-46eb-81c3-9a3alad41225"/>
      <code code="252116004" codeSystem="2.16.840.1.113883.6.96"
        displayName="Observation Parameters"/>
      <effectiveTime>
        <low value="20160101"/>
        <high value="20161231"/>
      </effectiveTime>
    </act>
  </entry>
</section>

```

8.3 Entry-Level Templates

8.3.1 Aggregate Count (CMS EP)

[observation: templateId 2.16.840.1.113883.10.20.27.3.24 (open)]

Table 15: Aggregate Count (CMS EP) Contexts

Contained By	Contains
Measure Data (CMS EP) (required) Reporting Stratum (CMS EP) (required) Race Supplemental Data Element (CMS EP) (required) Ethnicity Supplemental Data Element (CMS EP) (required) Sex Supplemental Data Element (CMS EP) (required) Payer Supplemental Data Element (CMS EP) (required)	

The Aggregate Count captures the number of items aggregated. This template is contained in a parent template that describes the item. For CMS EP program reporting, the count must be sent even if the number is zero.

Table 16: Aggregate Count (CMS EP) Constraints Overview
 observation[templated/@root = '2.16.840.1.113883.10.20.27.3.24']

XPath	Card.	Verb	Data Type	CONF#	Fixed Value
@classCode	1..1	SHALL		17563	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		17564	2.16.840.1.113883.5.1001 (ActMood) = EVN
templated	1..1	SHALL		711262	
@root	1..1	SHALL		711263	2.16.840.1.113883.10.20.27.3.24
templated	1..1	SHALL		17565	
@root	1..1	SHALL		18095	2.16.840.1.113883.10.20.27.3.3
code	1..1	SHALL		17566	
@code	1..1	SHALL		19508	2.16.840.1.113883.5.4 (ActCode) = MSRAGG
statusCode	1..1	SHALL		711244	
@code	1..1	SHALL		711245	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	INT	17567	
@value	1..1	SHALL		17568	
methodCode	1..1	SHALL		19509	
@code	1..1	SHALL		19510	2.16.840.1.113883.5.84 (ObservationMethod) = COUNT

1. Conforms to Aggregate Count template (2.16.840.1.113883.10.20.27.3.3).
2. **SHALL** contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:17563).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:17564).
4. **SHALL** contain exactly one [1..1] templateId (CONF:711262) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.24" (CONF:711263).
5. **SHALL** contain exactly one [1..1] templateId (CONF:17565) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.3" (CONF:18095).
Note: Aggregate Count templated
6. **SHALL** contain exactly one [1..1] code (CONF:17566).
 - a. This code **SHALL** contain exactly one [1..1] @code="MSRAGG" rate aggregation (CodeSystem: ActCode 2.16.840.1.113883.5.4) (CONF:19508).
7. **SHALL** contain exactly one [1..1] statusCode (CONF:711244).

- a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:711245).
- 8. **SHALL** contain exactly one [1..1] value with @xsi:type="INT" (CONF:17567).
 - a. This value **SHALL** contain exactly one [1..1] @value (CONF:17568).
- 9. **SHALL** contain exactly one [1..1] methodCode (CONF:19509).
 - a. This methodCode **SHALL** contain exactly one [1..1] @code="COUNT" Count (CodeSystem: ObservationMethod 2.16.840.1.113883.5.84) (CONF:19510).

Figure 31: Aggregate Count (CMS EP) Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Aggregate Count template ID (QRDA-III) -->
  <templateId root="2.16.840.1.113883.10.20.27.3.3"/>
  <!-- Aggregate Count (CMS EP) template ID -->
  <templateId root="2.16.840.1.113883.10.20.27.3.24"/>
  <code code="MSRAGG" displayName="rate aggregation"
    codeSystem="2.16.840.1.113883.5.4" codeSystemName="ActCode"/>
  <statusCode code="completed"/>
  <value xsi:type="INT" value="1000"/>
  <methodCode code="COUNT" displayName="Count"
    codeSystem="2.16.840.1.113883.5.84"
    codeSystemName="ObservationMethod"/>
</observation>
```

8.3.2 Continuous Variable Measure Value (CMS EP)

[observation: templateId 2.16.840.1.113883.10.20.27.3.26 (open)]

Table 17: Continuous Variable Measure Value (CMS EP) Contexts

Contained By	Contains
Measure Data (CMS EP) (optional)	
Reporting Stratum (CMS EP) (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.

Table 18: Continuous Variable Measure Value (CMS EP) Constraints Overview
 observation[templateId/@root = '2.16.840.1.113883.10.20.27.3.26']

XPath	Card.	Verb	Data Type	CONF#	Fixed Value
@classCode	1..1	SHALL		17569	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		17570	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		711264	

XPath	Card.	Verb	Data Type	CONF#	Fixed Value
@root	1..1	SHALL		711265	2.16.840.1.113883.10.20.27.3.26
templateId	1..1	SHALL		18096	
@root	1..1	SHALL		18097	2.16.840.1.113883.10.20.27.3.2
code	1..1	SHALL		17571	
statusCode	1..1	SHALL		711241	
@code	1..1	SHALL		711242	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL		17572	
methodCode	1..1	SHALL		18242	2.16.840.1.113883.1.11.20450 (ObservationMethodAggregate)
reference	1..1	SHALL		18243	
externalObservation	1..1	SHALL		18244	
id	1..1	SHALL		711205	

1. Conforms to Continuous Variable Measure Value template (2.16.840.1.113883.10.20.27.3.2).
2. **SHALL** contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:17569).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:17570).
4. **SHALL** contain exactly one [1..1] templateId (CONF:711264) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.26" (CONF:711265).
5. **SHALL** contain exactly one [1..1] templateId (CONF:18096) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.2" (CONF:18097).
Note: Continuous Variable Measure Value templateId
6. **SHALL** contain exactly one [1..1] code (CONF:17571).
 - a. This code element **SHALL** equal the code element in that eMeasure's measure observation definition (CONF:711243).
7. **SHALL** contain exactly one [1..1] statusCode (CONF:711241).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:711242).
8. **SHALL** contain exactly one [1..1] value (CONF:17572).
9. **SHALL** contain exactly one [1..1] methodCode, which **SHALL** be selected from ValueSet observationMethodAggregate 2.16.840.1.113883.1.11.20450 **STATIC** (CONF:18242).
10. **SHALL** contain exactly one [1..1] reference (CONF:18243).

- a. This reference **SHALL** contain exactly one [1..1] **externalObservation** (CONF:18244).
 - i. This externalObservation **SHALL** contain exactly one [1..1] **id** (CONF:711205).

Note: This is the id in the eMeasure's measure observation definition.

Figure 32: Continuous Variable Measure Value (CMS EP) Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Continuous Variable Measure Value template ID (QRDA-III) -->
  <templateId root="2.16.840.1.113883.10.20.27.3.2"/>
  <!-- Continuous Variable Measure Value (CMS EP) template ID -->
  <templateId root="2.16.840.1.113883.10.20.27.3.26"/>
  <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 to the relevant measure observation in the
    eMeasure -->
  <reference typeCode="REFR">
    <externalObservation classCode="OBS" moodCode="EVN">
      <id root="bcefe756-fb9f-4e46-aadc-d19de340b6b5"/>
    </externalObservation>
  </reference>
</observation>
```

8.3.3 Ethnicity Supplemental Data Element (CMS EP)

[observation: templateId 2.16.840.1.113883.10.20.27.3.22 (open)]

Table 19: Ethnicity Supplemental Data Element (CMS EP) Contexts

Contained By	Contains
Measure Data (CMS EP) (required)	Aggregate Count (CMS EP)

This observation represents whether the patient is Hispanic or not Hispanic and provides the number of patients in the population that report that ethnicity. For CMS EP programs, all codes present in the value set must be reported, even if the count is zero. If the eMeasure is episode-based, the count will reflect the patient count rather than the episode count.

Table 20: Ethnicity Supplemental Data Element (CMS EP) Constraints Overview
 observation[templateId/@root = '2.16.840.1.113883.10.20.27.3.22']

XPath	Card.	Verb	Data Type	CONF#	Fixed Value
@classCode	1..1	SHALL		18216	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		18217	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		711253	

XPath	Card.	Verb	Data Type	CONF#	Fixed Value
@root	1..1	SHALL		711254	2.16.840.1.113883.10.20.27.3.22
templateId	1..1	SHALL		18218	
@root	1..1	SHALL		18219	2.16.840.1.113883.10.20.27.3.7
code	1..1	SHALL		18220	
@code	1..1	SHALL		18221	2.16.840.1.113883.6.96 (SNOMED CT) = 364699009
statusCode	1..1	SHALL		18118	
@code	1..1	SHALL		18119	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	18222	2.16.840.1.114222.4.11.837 (EthnicityGroup)
entryRelationship	1..1	SHALL		18120	
@typeCode	1..1	SHALL		18121	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		18122	true
observation	1..1	SHALL		711201	

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:711253) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.22" (CONF:711254).
4. **SHALL** contain exactly one [1..1] templateId (CONF:18218) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.7" (CONF:18219).
Note: Ethnicity Supplemental Data Element templateId
5. **SHALL** contain exactly one [1..1] code (CONF:18220).
 - a. This code **SHALL** contain exactly one [1..1] @code="364699009" Ethnic Group (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96) (CONF:18221).
6. **SHALL** contain exactly one [1..1] statusCode (CONF:18118).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:18119).
7. **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).
8. **SHALL** contain exactly one [1..1] entryRelationship (CONF:18120) such that it

- a. **SHALL** contain exactly one [1..1] @typeCode="SUBJ" Has Subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:18121).
- b. **SHALL** contain exactly one [1..1] @inversionInd="true" (CONF:18122).
- c. **SHALL** contain exactly one [1..1] [Aggregate Count \(CMS EP\)](#) (templateId:2.16.840.1.113883.10.20.27.3.24) (CONF:711201).

Figure 33: Ethnicity Supplemental Data Element (CMS EP) Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Ethnicity Supplemental Data Element template ID -->
  <templateId root="2.16.840.1.113883.10.20.27.3.7"/>
  <!-- Ethnicity Supplemental Data Element (CMS EP) template ID -->
  <templateId root="2.16.840.1.113883.10.20.27.3.22"/>
  <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 &
    Ethnicity - CDC"/>
  <!-- Aggregate Count (CMS EP) -->
  <entryRelationship typeCode="SUBJ" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      ...
    </observation>
  </entryRelationship>
</observation>
```

8.3.4 Measure Data (CMS EP)

[observation: templateId 2.16.840.1.113883.10.20.27.3.16 (open)]

Table 21: Measure Data (CMS EP) Contexts

Contained By	Contains
Measure Reference and Results (CMS EP) (required)	Aggregate Count (CMS EP) Continuous Variable Measure Value (CMS EP) Ethnicity Supplemental Data Element (CMS EP) Payer Supplemental Data Element (CMS EP) Race Supplemental Data Element (CMS EP) Reporting Stratum (CMS EP) Sex Supplemental Data Element (CMS EP)

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. The measure data entry must reference a unique measure population ID.

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.

A measure may not be submitted more than once in the same file. The same population may not be submitted more than once in the same measure. Uniqueness of a measure is determined based on the UUID provided for it in the associated reference/externalDocument/id. This id **SHALL** equal the version specific identifier that comes from the applicable HQMF file. Uniqueness of a population is determined based on the UUID provided for it in the associated reference/externalObservation/id. This id **SHALL** equal the respective population identifier that comes from the applicable HQMF file.

Table 22: Measure Data (CMS EP) Constraints Overview
observation[templated/@root = '2.16.840.1.113883.10.20.27.3.16']

XPath	Card.	Verb	Data Type	CONF#	Fixed Value
@classCode	1..1	SHALL		17615	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		17616	2.16.840.1.113883.5.1001 (ActMood) = EVN
templated	1..1	SHALL		711266	
@root	1..1	SHALL		711267	2.16.840.1.113883.10.20.27.3.16
templated	1..1	SHALL		17912	
@root	1..1	SHALL		17913	2.16.840.1.113883.10.20.27.3.5
code	1..1	SHALL		17617	
@code	1..1	SHALL		18198	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		18199	2.16.840.1.113883.5.14 (ActStatus)
@code	1..1	SHALL		19555	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	17618	2.16.840.1.113883.1.11.20369 (ObservationPopulationInclusion)
entryRelationship	1..1	SHALL		17619	
@typeCode	1..1	SHALL		17910	SUBJ
@inversionInd	1..1	SHALL		17911	true
observation	1..1	SHALL		711198	
entryRelationship	0..*	MAY		17918	
@typeCode	1..1	SHALL		17919	COMP

XPath	Card.	Verb	Data Type	CONF#	Fixed Value
observation	1..1	SHALL		711180	
entryRelationship	1..*	SHALL		711190	
@typeCode	1..1	SHALL		18137	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		711181	
entryRelationship	1..*	SHALL		711191	
@typeCode	1..1	SHALL		18144	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		711182	
entryRelationship	1..*	SHALL		711192	
@typeCode	1..1	SHALL		18145	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		711183	
entryRelationship	1..*	SHALL		711193	
@typeCode	1..1	SHALL		18146	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		711184	
entryRelationship	0..*	MAY		18143	
@typeCode	1..1	SHALL		18148	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		711212	
reference	1..1	SHALL		18239	
external Observation	1..1	SHALL		18240	
id	1..1	SHALL		711233	

1. Conforms to Measure Data template (2.16.840.1.113883.10.20.27.3.5).
2. **SHALL** contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:17615).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:17616).
4. **SHALL** contain exactly one [1..1] templateId (CONF:711266) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.16" (CONF:711267).
5. **SHALL** contain exactly one [1..1] templateId (CONF:17912) such that it

- a. **SHALL** contain exactly one [1..1]
`@root="2.16.840.1.113883.10.20.27.3.5"` (CONF:17913).
 Note: Measure Data templateId
- 6. **SHALL** contain exactly one [1..1] `code` (CONF:17617).
 - a. This code **SHALL** contain exactly one [1..1] `@code="ASSERTION"` Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:18198).
- 7. **SHALL** contain exactly one [1..1] `statusCode` (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:18199).
 - a. This `statusCode` **SHALL** contain exactly one [1..1] `@code="completed"` Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:19555).
- 8. **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).
- 9. **SHALL** contain exactly one [1..1] `entryRelationship` (CONF:17619) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="SUBJ"` (CONF:17910).
 - b. **SHALL** contain exactly one [1..1] `@inversionInd="true"` (CONF:17911).
 - c. **SHALL** contain exactly one [1..1] Aggregate Count (CMS EP) (templateId:2.16.840.1.113883.10.20.27.3.24) (CONF:711198).
- 10. **MAY** contain zero or more [0..*] `entryRelationship` (CONF:17918) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="COMP"` (CONF:17919).
 - b. **SHALL** contain exactly one [1..1] Reporting Stratum (CMS EP) (templateId:2.16.840.1.113883.10.20.27.3.20) (CONF:711180).
- 11. **SHALL** contain at least one [1..*] `entryRelationship` (CONF:711190) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="COMP"` (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:18137).
 - b. **SHALL** contain exactly one [1..1] Sex Supplemental Data Element (CMS EP) (templateId:2.16.840.1.113883.10.20.27.3.21) (CONF:711181).
- 12. **SHALL** contain at least one [1..*] `entryRelationship` (CONF:711191) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="COMP"` (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:18144).
 - b. **SHALL** contain exactly one [1..1] Ethnicity Supplemental Data Element (CMS EP) (templateId:2.16.840.1.113883.10.20.27.3.22) (CONF:711182).
- 13. **SHALL** contain at least one [1..*] `entryRelationship` (CONF:711192) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="COMP"` (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:18145).
 - b. **SHALL** contain exactly one [1..1] Race Supplemental Data Element (CMS EP) (templateId:2.16.840.1.113883.10.20.27.3.19) (CONF:711183).
- 14. **SHALL** contain at least one [1..*] `entryRelationship` (CONF:711193) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="COMP"` (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:18146).

- b. **SHALL** contain exactly one [1..1] Payer Supplemental Data Element (CMS EP) (templateId:2.16.840.1.113883.10.20.27.3.18) (CONF:711184).

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

- 15. **MAY** contain zero or more [0..*] entryRelationship (CONF:18143) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:18148).
 - b. **SHALL** contain exactly one [1..1] Continuous Variable Measure Value (CMS EP) (templateId:2.16.840.1.113883.10.20.27.3.26) (CONF:711212).
- 16. **SHALL** contain exactly one [1..1] reference (CONF:18239) such that it
 - a. **SHALL** contain exactly one [1..1] externalObservation (CONF:18240).
 - i. This externalObservation **SHALL** contain exactly one [1..1] id (CONF:711233).
Note: This is the id defined in the corresponding eMeasure population criteria section.

Figure 34: Measure Data (CMS EP) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Measure Data template ID -->
  <templateId root="2.16.840.1.113883.10.20.27.3.5"/>
  <!-- Measure Data (CMS EP) template ID -->
  <templateId root="2.16.840.1.113883.10.20.27.3.16"/>
  <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 (CMS EP) -->
  <entryRelationship typeCode="SUBJ" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      ...
    </observation>
  </entryRelationship>
  <!-- Sex Supplemental Data Element (CMS EP) -->
  <entryRelationship typeCode="COMP">
    <observation classCode="OBS" moodCode="EVN">
      ...
    </observation>
  </entryRelationship>
  <!-- Ethnicity Supplemental Data Element (CMS EP) -->
  <entryRelationship typeCode="COMP">
    <observation classCode="OBS" moodCode="EVN">
      ...
    </observation>
  </entryRelationship>
  <!-- Race Supplemental Data Element (CMS EP) -->
  <entryRelationship typeCode="COMP">
    <observation classCode="OBS" moodCode="EVN">
      ...
    </observation>
  </entryRelationship>
  <!-- Payer Supplemental Data Element (CMS EP) -->
  <entryRelationship typeCode="COMP">
    <observation classCode="OBS" moodCode="EVN">
      ...
    </observation>
  </entryRelationship>
  <!-- reference to the relevant population in the eMeasure -->
  <reference typeCode="REFR">
    <externalObservation classCode="OBS" moodCode="EVN">
      <id root="670DFFA3-F2EE-4CF7-9083-743F2C1D7D50"/>
      <!-- This is the population ID in the eMeasure.
        In this case, the IPP -->
    </externalObservation>
  </reference>
</observation>

```

8.3.5 Measure Reference and Results (CMS EP)

[organizer: templateId 2.16.840.1.113883.10.20.27.3.17 (open)]

Table 23: Measure Reference and Results (CMS EP) Contexts

Contained By	Contains
QRDA Category III Measure Section (CMS EP) (required)	Measure Data (CMS EP) Performance Rate for Proportion Measure (CMS EP)

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 24: Measure Reference and Results (CMS EP) Constraints Overview
organizer[templateId/@root = '2.16.840.1.113883.10.20.27.3.17']

XPath	Card.	Verb	Data Type	CONF#	Fixed Value
@classCode	1..1	SHALL		17887	2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER
@moodCode	1..1	SHALL		17888	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		711268	
@root	1..1	SHALL		711269	2.16.840.1.113883.10.20.27.3.17
templateId	1..1	SHALL		19532	
@root	1..1	SHALL		19533	2.16.840.1.113883.10.20.24.3.98
templateId	1..1	SHALL		17908	
@root	1..1	SHALL		17909	2.16.840.1.113883.10.20.27.3.1
statusCode	1..1	SHALL		17889	
@code	1..1	SHALL		19552	2.16.840.1.113883.5.14 (ActStatus) = completed
reference	1..1	SHALL		17890	
@typeCode	1..1	SHALL		17891	REFR
external Document	1..1	SHALL		17892	2.16.840.1.113883.5.6 (HL7ActClass)
@classCode	1..1	SHALL		19548	2.16.840.1.113883.5.6 (HL7ActClass)
id	1..1	SHALL		18192	

XPath	Card.	Verb	Data Type	CONF#	Fixed Value
@root	1..1	SHALL		18193	2.16.840.1.113883.4.738
@extension	1..1	SHALL		21159	
code	0..1	SHOULD		17896	2.16.840.1.113883.6.1 (LOINC)
@code	1..1	SHALL		19553	2.16.840.1.113883.6.1 (LOINC) = 57024-2
text	0..1	SHOULD		17897	
component	0..*	MAY		17903	
observation	1..1	SHALL		711213	Performance Rate for Proportion Measure (CMS EP) (identifier: 2.16.840.1.113883.10.20.27.3.25)
component	1..*	SHALL		18425	
observation	1..1	SHALL		711296	Measure Data (CMS EP) (identifier: 2.16.840.1.113883.10.20.27.3.16)

1. Conforms to Measure Reference and Results template (2.16.840.1.113883.10.20.27.3.1).
2. **SHALL** contain exactly one [1..1] @classCode="CLUSTER" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:17887).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:17888).
4. **SHALL** contain exactly one [1..1] templateId (CONF:711268) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.17" (CONF:711269).
5. **SHALL** contain exactly one [1..1] templateId (CONF:19532) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.3.98" (CONF:19533).
Note: Measure Reference templateId
6. **SHALL** contain exactly one [1..1] templateId (CONF:17908) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.1" (CONF:17909).
Note: Measure Reference and Results templateId
7. **SHALL** contain exactly one [1..1] statusCode (CONF:17889).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:19552).
8. **SHALL** contain exactly one [1..1] reference (CONF:17890) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="REFR" (CONF:17891).
 - b. **SHALL** contain exactly one [1..1] externalDocument (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:17892).
 - i. This externalDocument **SHALL** contain exactly one [1..1] @classCode="DOC" Document (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:19548).

- ii. This externalDocument **SHALL** contain exactly one [1..1] `id` (CONF:18192) such that it
 - 1. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.4.738"` (CONF:18193).
Note: This OID indicates that the `@extension` contains the version specific identifier for the eMeasure
 - 2. **SHALL** contain exactly one [1..1] `@extension` (CONF:21159).
Note: This `@extension` SHALL equal the version specific identifier for eMeasure (i.e. QualityMeasureDocument/id)
- iii. This externalDocument **SHOULD** contain zero or one [0..1] `code` (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.

- iv. This externalDocument **SHOULD** contain zero or one [0..1] `text` (CONF:17897).

The Performance Rate for Proportion Measure (CMS EP) template is required for the CPC Program.

The Performance Rate for Proportion Measure (CMS EP) template is required for proportion measures for the PQRS Program.

- 9. **MAY** contain zero or more [0..*] `component` (CONF:17903) such that it
 - a. **SHALL** contain exactly one [1..1] Performance Rate for Proportion Measure (CMS EP) (templateId:2.16.840.1.113883.10.20.27.3.25) (CONF:711213).
- 10. **SHALL** contain at least one [1..*] `component` (CONF:18425) such that it
 - a. **SHALL** contain exactly one [1..1] Measure Data (CMS EP) (templateId:2.16.840.1.113883.10.20.27.3.16) (CONF:711296).

Figure 35: Measure Reference and Results (CMS EP) Example

```

<organizer classCode="CLUSTER" moodCode="EVN">
  <!-- Measure Reference template ID -->
  <templateId root="2.16.840.1.113883.10.20.24.3.98" />
  <!-- Measure Reference and Results template ID -->
  <templateId root="2.16.840.1.113883.10.20.27.3.1" />
  <!-- Measure Reference and Results (CMS EP) template ID -->
  <templateId root="2.16.840.1.113883.10.20.27.3.17" />
  <statusCode code="completed" />
  <reference typeCode="REFR">
    <externalDocument classCode="DOC" moodCode="EVN">
      <!-- This is the version-specific identifier for eMeasure -->
      <id root="2.16.840.1.113883.4.738"
        extension="40280381-3d61-56a7-013e-66a5a5834990"/>
      <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>Breast Cancer Screening</text>
    </externalDocument>
  </reference>
  <component>
    <!-- Performance Rate for Proportion Measure (CMS EP) -->
    <observation classCode="OBS" moodCode="EVN">
      ...
    </observation>
  </component>
</organizer>

```

8.3.6 Payer Supplemental Data Element (CMS EP)

[observation: templateId 2.16.840.1.113883.10.20.27.3.18 (open)]

Table 25: Payer Supplemental Data Element (CMS EP) Contexts

Contained By	Contains
Measure Data (CMS EP) (required)	Aggregate Count (CMS EP)

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. When a patient has multiple payers, only count the primary payer (usually this is the first payer listed). For CMS EP programs, all codes present in the value set must be reported, even if the count is zero. If an eMeasure is episode-based, the count will reflect the patient count rather than the episode count.

Individual payer codes from the Public Health Data Standards Consortium Source of Payment Typology (2.16.840.1.113883.3.221.5) have been grouped for QRDA-III aggregate reports.

Table 26: Payer Supplemental Data Element (CMS EP) Constraints Overview
 observation[templated/@root = '2.16.840.1.113883.10.20.27.3.18']

XPath	Card.	Verb	Data Type	CONF#	Fixed Value
@classCode	1..1	SHALL		21155	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		21156	2.16.840.1.113883.5.1001 (ActMood) = EVN
templated	1..1	SHALL		711270	
@root	1..1	SHALL		711271	2.16.840.1.113883.10.20.27.3.18
templated	1..1	SHALL		12561	
@root	1..1	SHALL		12562	2.16.840.1.113883.10.20.24.3.55
id	1..*	SHALL		12564	
code	1..1	SHALL		12565	
@code	1..1	SHALL		14029	2.16.840.1.113883.6.1 (LOINC) = 48768-6
statusCode	1..1	SHALL		18106	
@code	1..1	SHALL		18107	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	711196	
translation	1..1	SHALL		711230	
@code	1..1	SHALL		711231	2.16.840.1.113883.3.249.14.102 (CMS Payer Groupings)
@nullFlavor	1..1	SHALL		711229	OTH
entryRelationship	1..1	SHALL		18108	
@typeCode	1..1	SHALL		18109	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		18110	true
observation	1..1	SHALL		711199	

1. **Conforms to Payer Supplemental Data Element template**
(2.16.840.1.113883.10.20.27.3.9).
2. **SHALL** contain exactly one [1..1] **@classCode="OBS"** (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:21155).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:21156).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:711270) such that it
 - a. **SHALL** contain exactly one [1..1]
@root="2.16.840.1.113883.10.20.27.3.18" (CONF:711271).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:12561) such that it
 - a. **SHALL** contain exactly one [1..1]
@root="2.16.840.1.113883.10.20.24.3.55" (CONF:12562).
Note: Payer Characteristic Payer templateId
6. **SHALL** contain exactly one [1..1] **templateId** (CONF:18237) such that it
 - a. **SHALL** contain exactly one [1..1]
@root="2.16.840.1.113883.10.20.27.3.9" (CONF:18238).
Note: Payer Supplemental Data Element templateId
7. **SHALL** contain at least one [1..*] **id** (CONF:12564).
8. **SHALL** contain exactly one [1..1] **code** (CONF:12565).
 - a. This code **SHALL** contain exactly one [1..1] **@code="48768-6"** Payment Source (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:14029).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:18106).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:18107).
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:711196).
 - a. This value **SHALL** contain exactly one [1..1] **translation** (CONF:711230).
 - i. This translation **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet [CMS Payer Groupings](#) 2.16.840.1.113883.3.249.14.102 (CONF:711231).
 - b. This value **SHALL** contain exactly one [1..1] **@nullFlavor="OTH"** (CONF:711229).
11. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:18108) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="SUBJ"** Has Subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:18109).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** (CONF:18110).
 - c. **SHALL** contain exactly one [1..1] [Aggregate Count \(CMS EP\)](#) (templateId:2.16.840.1.113883.10.20.27.3.24) (CONF:711199).

Table 27: CMS Payer Groupings

Code	Code System	Code System OID	Print Name
A	CMS Clinical Codes	2.16.840.1.113883.3.249.12	Medicare
B	CMS Clinical Codes	2.16.840.1.113883.3.249.12	Medicaid
C	CMS Clinical Codes	2.16.840.1.113883.3.249.12	Private Health Insurance
D	CMS Clinical Codes	2.16.840.1.113883.3.249.12	Other

Figure 36: Payer Supplemental Data Element (CMS EP) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Payer Characteristic Payer template ID -->
  <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"/>
  <!-- Payer Supplemental Data Element (CMS EP) template ID -->
  <templateId root="2.16.840.1.113883.10.20.27.3.18"/>
  <id nullFlavor="NA"/>
  <code code="48768-6" displayName="Payment source"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="SNOMED-CT"/>
  <statusCode code="completed"/>
  <!-- Parent template requires "SHALL be drawn from
    Value Set: PHDSC Source of Payment Typology
    2.16.840.1.114222.4.11.3591 DYNAMIC"-->
  <!-- CMS Prefers to group the insurances more broadly than the
    Source of Payment Typology allows. Therefore,
    nullFlavor of OTH will be used and CMS local codes used to
    identify groupings-->
  <value xsi:type="CD" nullFlavor="OTH">
    <translation code="A" displayName="Medicare"
      codeSystem="2.16.840.1.113883.3.249.12"
      codeSystemName="CMS Clinical Codes"/>
  </value>
  <entryRelationship typeCode="SUBJ" inversionInd="true">
    <!-- Aggregate Count (CMS EP) -->
    <observation classCode="OBS" moodCode="EVN">
      ...
    </observation>
  </entryRelationship>
</observation>

```

8.3.7 Performance Rate for Proportion Measure (CMS EP)

[observation: templateId 2.16.840.1.113883.10.20.27.3.25 (open)]

Table 28: Performance Rate for Proportion Measure (CMS EP) Contexts

Contained By	Contains
Measure Reference and Results (CMS EP) (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 = (NUMER) / (DENOM – DENOM EXCL – DENOM EXCEP).

Based on the Performance Rate calculation, a Performance Rate must not exceed 1 (e.g., 100, 1.5), since a value of 1 indicates 100%. The Performance Rate value that is provided in a QRDA Category III file should not be the Performance Rate times 100, but instead should be the value obtained from the calculation of NUMER/(DENOM– DENOM EXCL – DENOM EXCEP), rounded to the nearest millionth; refer to the rounding rules listed later in this section. In addition, if the expression (DENOM – DENOM EXCL– DENOM EXCEP) results in a null or a value of 0, then a nullFlavor of "NA" should be provided for the Performance Rate. Finally, if the expression (DENOM– DENOM EXCL – DENOM EXCEP) results in a value greater than or equal to 1 and a Numerator count equal to 0 is provided, then a Performance Rate of "0" should be submitted.

The following rounding rules must be used when submitting performance rates:

- For a calculated performance rate that has >= 7 digits after the decimal point, round the decimal number to the millionth.
- For a calculated performance rate that has <= 6 digits after the decimal point, rounding is not permitted for the performance rate.

Table 29: Performance Rate for Proportion Measure (CMS EP) Constraints Overview
 observation[templateId/@root = '2.16.840.1.113883.10.20.27.3.25']

XPath	Card.	Verb	Data Type	CONF#	Fixed Value
@classCode	1..1	SHALL		18395	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		18396	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		711255	
@root	1..1	SHALL		711256	2.16.840.1.113883.10.20.27.3.25
templateId	1..1	SHALL		19649	
@root	1..1	SHALL		19650	2.16.840.1.113883.10.20.27.3.14
code	1..1	SHALL		18397	
@code	1..1	SHALL		18398	2.16.840.1.113883.6.1 (LOINC) = 72510-1
statusCode	1..1	SHALL		18421	

XPath	Card.	Verb	Data Type	CONF#	Fixed Value
@code	1..1	SHALL		18422	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	REAL	18399 711294 711295	
reference	1..1	SHALL		711203	
@typeCode	1..1	SHALL		19652	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
external Observation	1..1	SHALL		19653	
@classCode	1..1	SHALL		19654	2.16.840.1.113883.5.6 (HL7ActClass)
id	1..1	SHALL		711204	
@root	1..1	SHALL		19656	
code	1..1	SHALL		19657	
@code	1..1	SHALL		19658	2.16.840.1.113883.5.1063 (ObservationValue) = NUMER

1. Conforms to Performance Rate for Proportion Measure template (2.16.840.1.113883.10.20.27.3.14).
2. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:18395).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:18396).
4. **SHALL** contain exactly one [1..1] templateId (CONF:711255) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.25" (CONF:711256).
5. **SHALL** contain exactly one [1..1] templateId (CONF:19649) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.14" (CONF:19650).
Note: Performance Rate for Proportion Measure templateId
6. **SHALL** contain exactly one [1..1] code (CONF:18397).
 - a. 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).
7. **SHALL** contain exactly one [1..1] statusCode (CONF:18421).
 - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:18422).
8. **SHALL** contain exactly one [1..1] value with @xsi:type="REAL" (CONF:18399).
 - a. The value, if present, **SHALL** be greater than or equal to 0 and less than or equal to 1 (CONF:711294).

- b. The value, if present, SHALL contain no more than 6 digits to the right of the decimal (CONF:711295).

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

9. **SHALL** contain exactly one [1..1] **reference** (CONF:711203).
- a. This reference **SHALL** contain exactly one [1..1] **@typeCode="REFR"** refers to (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:19652).
 - b. This reference **SHALL** contain exactly one [1..1] **externalObservation** (CONF:19653).
 - i. This externalObservation **SHALL** contain exactly one [1..1] **@classCode** (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:19654).
 - ii. This externalObservation **SHALL** contain exactly one [1..1] **id** (CONF:711204).
 1. This id **SHALL** contain exactly one [1..1] **@root** (CONF:19656).
Note: This is the ID of the numerator in the referenced eMeasure.
 - iii. 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).

Figure 37: Performance Rate for Proportion Measure (CMS EP) Example

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Performance Rate for Proportion Measure template ID -->
  <templateId root="2.16.840.1.113883.10.20.27.3.14"/>
  <!-- Performance Rate for Proportion Measure (CMS EP)
  template ID -->
  <templateId root="2.16.840.1.113883.10.20.27.3.25"/>
  <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"/>
  <!-- This is the reference to the Numerator in the eMeasure -->
  <reference typeCode="REFR">
    <externalObservation classCode="OBS" moodCode="EVN">
      <!-- The externalObservationID contains the ID of the
      numerator in the referenced eMeasure. -->
      <id root="17D7EEFE-C12C-4020-BA68-545A3FFC3598"/>
      <code code="NUMER" displayName="Numerator"
        codeSystem="2.16.840.1.113883.5.1063"
        codeSystemName="ObservationValue"/>
    </externalObservation>
  </reference>
</observation>
```

8.3.8 Race Supplemental Data Element (CMS EP)

[observation: templateId 2.16.840.1.113883.10.20.27.3.19 (open)]

Table 30: Race Supplemental Data Element (CMS EP) Contexts

Contained By	Contains
Measure Data (CMS EP) (required)	Aggregate Count (CMS EP)

This observation represents the race category reported by patients and provides the number of patients in the population that report that race category. For CMS EP programs, all codes present in the value set must be reported, even if the count is zero. If there are multiple race values reported for a patient, count as 'Other Race' value. For episode-based eMeasures, the count will reflect the patient count rather than the episode count.

Table 31: Race Supplemental Data Element (CMS EP) Constraints Overview
 observation[templateId/@root = '2.16.840.1.113883.10.20.27.3.19']

XPath	Card.	Verb	Data Type	CONF#	Fixed Value
@classCode	1..1	SHALL		18223	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		18224	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		711257	
@root	1..1	SHALL		711258	2.16.840.1.113883.10.20.27.3.19
templateId	1..1	SHALL		18225	
@root	1..1	SHALL		18226	2.16.840.1.113883.10.20.27.3.8
code	1..1	SHALL		18227	
@code	1..1	SHALL		18228	2.16.840.1.113883.6.96 (SNOMED CT) = 103579009
statusCode	1..1	SHALL		18112	
@code	1..1	SHALL		18113	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	18229	2.16.840.1.114222.4.11.836 (RaceCategory)
entryRelationship	1..1	SHALL		18114	
@typeCode	1..1	SHALL		18115	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		18116	true
observation	1..1	SHALL		711200	

1. Conforms to Race Supplemental Data Element template (2.16.840.1.113883.10.20.27.3.8).
2. **SHALL** contain exactly one [1..1] `@classCode="OBS"` (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:18223).
3. **SHALL** contain exactly one [1..1] `@moodCode="EVN"` (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:18224).
4. **SHALL** contain exactly one [1..1] `templateId` (CONF:711257) such that it
 - a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.27.3.19"` (CONF:711258).
5. **SHALL** contain exactly one [1..1] `templateId` (CONF:18225) such that it
 - a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.27.3.8"` (CONF:18226).
Note: Race Supplemental Data Element templateId
6. **SHALL** contain exactly one [1..1] `code` (CONF:18227).
 - a. This code **SHALL** contain exactly one [1..1] `@code="103579009"` Race (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96) (CONF:18228).
7. **SHALL** contain exactly one [1..1] `statusCode` (CONF:18112).
 - a. This `statusCode` **SHALL** contain exactly one [1..1] `@code="completed"` Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:18113).
8. **SHALL** contain exactly one [1..1] `value` with `@xsi:type="CD"`, where the code **SHALL** be selected from ValueSet `RaceCategory` 2.16.840.1.114222.4.11.836 **DYNAMIC** (CONF:18229).
9. **SHALL** contain exactly one [1..1] `entryRelationship` (CONF:18114) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="SUBJ"` Has Subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:18115).
 - b. **SHALL** contain exactly one [1..1] `@inversionInd="true"` (CONF:18116).
 - c. **SHALL** contain exactly one [1..1] [Aggregate Count \(CMS EP\)](#) (`templateId:2.16.840.1.113883.10.20.27.3.24`) (CONF:711200).

Figure 38: Race Supplemental Data Element (CMS EP) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Race Supplemental Data Element template ID -->
  <templateId root="2.16.840.1.113883.10.20.27.3.8"/>
  <!-- Race Supplemental Data Element (CMS EP) template ID -->
  <templateId root="2.16.840.1.113883.10.20.27.3.19"/>
  <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 & Ethnicity - CDC"/>
  <entryRelationship typeCode="SUBJ" inversionInd="true">
    <!-- Aggregate Count (CMS EP) -->
    <observation classCode="OBS" moodCode="EVN">
      ...
    </observation>
  </entryRelationship>
</observation>

```

8.3.9 Reporting Parameters Act (CMS EP)

[act: templateId 2.16.840.1.113883.10.20.27.3.23 (open)]

Table 32: Reporting Parameters Act (CMS EP) Contexts

Contained By	Contains
QRDA Category III Reporting Parameters Section (CMS EP) (required)	

This template provides information about the reporting time interval, and provides context for the patient data being reported to the CMS EP program.

Table 33: Reporting Parameters Act (CMS EP) Constraints Overview
act[templateId/@root = '2.16.840.1.113883.10.20.27.3.23']

XPath	Card.	Verb	Data Type	CONF#	Fixed Value
@classCode	1..1	SHALL		3269	2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		3270	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		711272	
@root	1..1	SHALL		711273	2.16.840.1.113883.10.20.27.3.23
templateId	1..1	SHALL		18098	
@root	1..1	SHALL		18099	2.16.840.1.113883.10.20.17.3.8
code	1..1	SHALL		3272	2.16.840.1.113883.6.96 (SNOMED CT) = 252116004
effectiveTime	1..1	SHALL		3273	
low	1..1	SHALL		3274	
@value	1..1	SHALL		711292	20160101
high	1..1	SHALL		3275	
@value	1..1	SHALL		711293	20161231

1. Conforms to Reporting Parameters Act template (2.16.840.1.113883.10.20.17.3.8).
2. **SHALL** contain exactly one [1..1] @classCode="ACT" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:3269).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:3270).
4. **SHALL** contain exactly one [1..1] templateId (CONF:711272) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.23" (CONF:711273).
5. **SHALL** contain exactly one [1..1] templateId (CONF:18098) such that it
 - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.17.3.8" (CONF:18099).
Note: Reporting Parameters Act templateId
6. **SHALL** contain exactly one [1..1] code="252116004" Observation Parameters (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96 **STATIC**) (CONF:3272).
7. **SHALL** contain exactly one [1..1] effectiveTime (CONF:3273).
 - a. This effectiveTime **SHALL** contain exactly one [1..1] low (CONF:3274).
 - i. This low **SHALL** contain exactly one [1..1] @value="20160101" (CONF:711292).
Note: For Program Year 2016, the reporting parameter start date SHALL be "20160101".
 - b. This effectiveTime **SHALL** contain exactly one [1..1] high (CONF:3275).

- i. This high **SHALL** contain exactly one [1..1] @value="20161231" (CONF:711293).

Note: For Program Year 2016, the reporting parameter start date SHALL be "20161231".

Figure 39: Reporting Parameters Act (CMS EP) Example

```
<act classCode="ACT" moodCode="EVN">
  <!-- Reporting Parameters Act template ID -->
  <templateId root="2.16.840.1.113883.10.20.17.3.8"/>
  <!-- Reporting Parameters Act (CMS EP) template ID -->
  <templateId root="2.16.840.1.113883.10.20.27.3.23"/>
  <id root="55a43e20-6463-46eb-81c3-9a3alad41225"/>
  <code code="252116004"
        codeSystem="2.16.840.1.113883.6.96"
        displayName="Observation Parameters" />
  <effectiveTime>
    <!-- The low value is the start date of the reporting period -->
    <low value="20160101"/>
    <!-- The high value is the end date of the reporting period -->
    <high value="20161231"/>
  </effectiveTime>
</act>
```

8.3.10 Reporting Stratum (CMS EP)

[observation: templateId 2.16.840.1.113883.10.20.27.3.20 (open)]

Table 34: Reporting Stratum (CMS EP) Contexts

Contained By	Contains
Measure Data (CMS EP) (optional)	Aggregate Count (CMS EP) Continuous Variable Measure Value (CMS EP)

Stratifications are used to classify populations by 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.

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. Note that all strata must be present for CMS EP program reporting, even if the count is zero. Each stratum identified in the referenced eMeasure(s), must be reported for each population. Each stratum may only be reported once for a specific population.

Table 35: Reporting Stratum (CMS EP) Constraints Overview
 observation[templated/@root = '2.16.840.1.113883.10.20.27.3.20']

XPath	Card.	Verb	Data Type	CONF#	Fixed Value
@classCode	1..1	SHALL		17575	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		17576	2.16.840.1.113883.5.1001 (ActMood) = EVN
templated	1..1	SHALL		711274	
@root	1..1	SHALL		711275	2.16.840.1.113883.10.20.27.3.20
templated	1..1	SHALL		18093	
@root	1..1	SHALL		18094	2.16.840.1.113883.10.20.27.3.4
code	1..1	SHALL		17577	
@code	1..1	SHALL		17578	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		17579	
@code	1..1	SHALL		18201	2.16.840.1.113883.5.14 (ActStatus) = completed
value	0..1	SHOULD		17580	
entryRelationship	1..1	SHALL		17581	
@typeCode	1..1	SHALL		17582	SUBJ
@inversionInd	1..1	SHALL		17583	true
observation	1..1	SHALL		711197	
entryRelationship	0..*	MAY		19511	
observation	1..1	SHALL		711211	
reference	1..1	SHALL		18204	
@typeCode	1..1	SHALL		18205	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
external Observation	1..1	SHALL		18206	
id	1..1	SHALL		711210	

1. **Conforms to Reporting Stratum template**
(2.16.840.1.113883.10.20.27.3.4).
2. **SHALL** contain exactly one [1..1] `@classCode="OBS"` (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:17575).
3. **SHALL** contain exactly one [1..1] `@moodCode="EVN"` (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:17576).
4. **SHALL** contain exactly one [1..1] `templateId` (CONF:711274) such that it
 - a. **SHALL** contain exactly one [1..1]
`@root="2.16.840.1.113883.10.20.27.3.20"` (CONF:711275).
5. **SHALL** contain exactly one [1..1] `templateId` (CONF:18093) such that it
 - a. **SHALL** contain exactly one [1..1]
`@root="2.16.840.1.113883.10.20.27.3.4"` (CONF:18094).
Note: Reporting Stratum templateId
6. **SHALL** contain exactly one [1..1] `code` (CONF:17577).
 - a. This code **SHALL** contain exactly one [1..1] `@code="ASSERTION"` Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:17578).
7. **SHALL** contain exactly one [1..1] `statusCode` (CONF:17579).
 - a. This `statusCode` **SHALL** contain exactly one [1..1] `@code="completed"` Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:18201).
8. **SHOULD** contain zero or one [0..1] `value` (CONF:17580).
 - a. This value **SHALL** be the same as the contents of the observation/code element in the referenced eMeasure (e.g., 21112-8 'Birth date') (CONF:711232).
9. **SHALL** contain exactly one [1..1] `entryRelationship` (CONF:17581) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="SUBJ"` (CONF:17582).
 - b. **SHALL** contain exactly one [1..1] `@inversionInd="true"` (CONF:17583).
 - c. **SHALL** contain exactly one [1..1] Aggregate Count (CMS EP)
(`templateId:2.16.840.1.113883.10.20.27.3.24`) (CONF:711197).

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.

10. **MAY** contain zero or more [0..*] `entryRelationship` (CONF:19511) such that it
 - a. **SHALL** contain exactly one [1..1] Continuous Variable Measure Value (CMS EP)
(`templateId:2.16.840.1.113883.10.20.27.3.26`) (CONF:711211).
11. **SHALL** contain exactly one [1..1] `reference` (CONF:18204).
 - a. This reference **SHALL** contain exactly one [1..1] `@typeCode="REFR"` (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:18205).
 - b. This reference **SHALL** contain exactly one [1..1] `externalObservation` (CONF:18206).
 - i. This `externalObservation` **SHALL** contain exactly one [1..1] `id` (CONF:711210).
Note: This is the ID of the stratum in the referenced eMeasure.

Figure 40: Reporting Stratum (CMS EP) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Reporting Stratum template ID -->
  <templateId root="2.16.840.1.113883.10.20.27.3.4"/>
  <!-- Reporting Stratum (CMS EP) template ID -->
  <templateId root="2.16.840.1.113883.10.20.27.3.20"/>
  <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 (CMS EP) -->
    <observation classCode="OBS" moodCode="EVN">
      ...
    </observation>
  </entryRelationship>
  <reference typeCode="REFR">
    <!-- Reference to the relevant strata in the eMeasure -->
    <externalObservation classCode="OBS" moodCode="EVN">
      <id root="9ACF2C09-8C0A-4BAD-97C1-DF6CB37E1AEB"/>
    </externalObservation>
  </reference>
</observation>

```

8.3.11 Sex Supplemental Data Element (CMS EP)

[observation: templateId 2.16.840.1.113883.10.20.27.3.21 (open)]

Table 36: Sex Supplemental Data Element (CMS EP) Contexts

Contained By	Contains
Measure Data (CMS EP) (required)	Aggregate Count (CMS EP)

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. For CMS EP programs, all codes present in the value set must be reported, even if the count is zero. If the eMeasure is episode-based, the count will reflect the patient count rather than the episode count.

Table 37: Sex Supplemental Data Element (CMS EP) Constraints Overview
 observation[templateId/@root = '2.16.840.1.113883.10.20.27.3.21']

XPath	Card.	Verb	Data Type	CONF#	Fixed Value
@classCode	1..1	SHALL		18230	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		18231	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		711259	

XPath	Card.	Verb	Data Type	CONF#	Fixed Value
@root	1..1	SHALL		711260	2.16.840.1.113883.10.20.27.3.21
templateId	1..1	SHALL		18232	
@root	1..1	SHALL		18233	2.16.840.1.113883.10.20.27.3.6
code	1..1	SHALL		18234	
@code	1..1	SHALL		18235	2.16.840.1.113883.6.96 (SNOMED CT) = 184100006
statusCode	1..1	SHALL		18124	
@code	1..1	SHALL		18125	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	711291	2.16.840.1.113762.1.4.1 (ONC Administrative Sex)
entryRelationship	1..1	SHALL		18126	
@typeCode	1..1	SHALL		18127	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		18128	true
observation	1..1	SHALL		711202	

1. Conforms to Sex Supplemental Data Element template (2.16.840.1.113883.10.20.27.3.6).
2. **SHALL** contain exactly one [1..1] `@classCode="OBS"` (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:18230).
3. **SHALL** contain exactly one [1..1] `@moodCode="EVN"` (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:18231).
4. **SHALL** contain exactly one [1..1] `templateId` (CONF:711259) such that it
 - a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.27.3.21"` (CONF:711260).
5. **SHALL** contain exactly one [1..1] `templateId` (CONF:18232) such that it
 - a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.27.3.6"` (CONF:18233).
Note: Sex Supplemental Data Element templateId
6. **SHALL** contain exactly one [1..1] `code` (CONF:18234).
 - a. 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).
7. **SHALL** contain exactly one [1..1] `statusCode` (CONF:18124).
 - a. This `statusCode` **SHALL** contain exactly one [1..1] `@code="completed"` Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:18125).
8. **SHALL** contain exactly one [1..1] `value` with `@xsi:type="CD"`, where the code **SHALL** be selected from ValueSet ONC Administrative Sex Value Set 2.16.840.1.113762.1.4.1 **DYNAMIC** (CONF:711291).

- a. Certification validators will allow use of Value Set - ONC Administrative Sex 2.16.840.1.113762.1.4.1 or Value Set - Administrative Gender (HL7 V3) 2.16.840.1.113883.1.11.1 (CONF:711261).
9. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:18126) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="SUBJ"** Has Subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:18127).
 - b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** (CONF:18128).
 - c. **SHALL** contain exactly one [1..1] **Aggregate Count (CMS EP)** (templateId:2.16.840.1.113883.10.20.27.3.24) (CONF:711202).

Figure 41: Sex Supplemental Data Element (CMS EP) Example

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Sex Supplemental Data Element template ID -->
  <templateId root="2.16.840.1.113883.10.20.27.3.6"/>
  <!-- Sex Supplemental Data Element (CMS EP) template ID -->
  <templateId root="2.16.840.1.113883.10.20.27.3.21"/>
  <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 (CMS EP) -->
    <observation classCode="OBS" moodCode="EVN">
      ...
    </observation>
  </entryRelationship>
</observation>

```

APPENDIX

9 Troubleshooting and Support

9.1 Resources

The following provide additional information:

- **eCQM Library** contains resources for eCQMs including Measure Logic Guidance: http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/eCQM_Library.html
- **National Library of Medicine (NLM) Value Set Authority Center (VSAC)** contains the official versions of the value sets used for eCQMs: <https://vsac.nlm.nih.gov/>
- **Electronic Clinical Quality Measure specification feedback system** is a tool offered by CMS and the Office of the National Coordinator (ONC) for Health Information Technology for implementers to submit issues and request guidance on eCQM logic, specifications, and certification: <http://oncprojecttracking.org/secure/Dashboard.jspa>
- **eCQI Resource Center** is the one-stop shop for the most current resources to support electronic clinical quality improvement: <https://ecqi.healthit.gov/>

9.2 Support

Table 38: Support Contact Information

Contact	Org.	Phone	Email	Role	Responsibility
CMS IT Service Desk	CMS	(410) 786-2580 (800) 562-1963	CMS_IT_Service_Desk@cms.hhs.gov	Help desk support	1 st level user support & problem reporting
QNet Help Desk	QualityNet	(866) 288-8912	qnetsupport@hcqis.org	Help desk support	1 st level user support & problem reporting
CPC Help Desk	CPC / Telligen	(800) 381-4724	cpcisupport@telligen.org	Help desk support	CPC support & problem reporting

9.3 Errata or Enhancement Requests

Table 39: Errata or Enhancement Request Location

Contact	Organization	URL	Purpose
HL7 QRDA-I R1, DSTU Release 3 Comments page	HL7	http://www.hl7.org/dstucomments/showdetail.cfm?dstuid=152	Document errors or enhancement request to the HL7 standard.
HL7 QRDA-III, DSTU Release 1 Comments page	HL7	http://www.hl7.org/dstucomments/showdetail.cfm?dstuid=90	Document errors or enhancement request to the HL7 standard.

10 Additional QRDA-I Validation Rules for HQR Programs

This appendix details additional validation rules specified by CMS for the HQR Program. They apply only to HQR QRDA-I submissions. Submissions that do not conform to these constraints will result in files being rejected by the Hospital eCQM Reporting System.

10.1 Validation Rules for Encounter Performed (V2)

The effectiveTime low value represents the encounter performed admission time, and the effectiveTime high value represents the encounter performed discharge time.

The following are additional Encounter Performed validation rules for HQR QRDA-I submissions.

- i. The system SHALL reject QRDA-I files if the Encounter Performed Discharge Date is null (CONF: CMS_0060).
- ii. The system SHALL reject QRDA-I files if the Encounter Performed Discharge Date (effectiveTime/high value) is after the upload date (discharge date is in the future) (CONF: CMS_0061).
- iii. The system SHALL reject QRDA-I files if the Encounter Performed Admission Date (effectiveTime/low value) is after the Encounter Performed Discharge Date (effectiveTime/high value) (CONF: CMS_0062).
- iv. The system SHALL reject QRDA-I files if at least one of the Encounter Performed Discharge Dates is not within the Program's allowable Calendar Year discharge quarter³ (CONF: CMS_0063).

10.2 Validation Rules for CDAC Users

The following validation checks are made specifically for the Clinical Data Abstraction Center (CDAC) users.

- i. The system SHALL reject QRDA-I files submitted by CDAC users when the CMS Program Name within the file is not CDAC_HQR_EHR (CONF: CMS_0064).
- ii. The system SHALL reject QRDA-I files submitted by CDAC users when the QRDA is not submitted as a test file (CONF: CMS_0065).

10.3 Other HQR Validations

Table 40: Other Validation Rules for HQR Programs

CONF. #	Validation Performed	Cause of Error Message and File Rejection
CMS_0066	CCN (NULL) cannot be validated.	CCN passes Schematron format check but the value does not appear in HQR lookup of valid CCNs. Get this message if CCN is Null.

³ The allowable Calendar Year discharge quarters for the HQR programs will be available after the FY 2016 IPPS Final Rule is finalized.

CONF. #	Validation Performed	Cause of Error Message and File Rejection
CMS_0067	Submitter (%s) is not authorized to submit for this provider (%s)	Lookup performed and found that the Submitter (vendor) has not been authorized to submit data on behalf of the hospital (using the CCN in the QRDA).
CMS_0068	Provider is not allowed to use dummy CCN number (800890) for submissions	Only vendors can use the dummy CCN.
CMS_0069	Dummy CCN (800890) cannot be used for production submissions	Dummy CCN can only be used for Test Data submissions.
CMS_0070	Submission date is not within the submission period	The validation process compares the upload date with the Production Date Range values stored in internal table. Get this message if the upload date is outside the acceptable range(s).
CMS_0071	Data submitted is not a well formed QRDA XML.	Violates syntax rule in the XML specification, e.g., missing tag, empty file. Processing stops immediately on file.
CMS_0072	The document does not conform to QRDA document formats accepted by CMS	File doesn't match the CDA_SDTC.xsd schema. (E.g., it could be IQR xml, Word or Excel file, photo, etc.)
CMS_0073	The document does not conform to QRDA document formats accepted by CMS	Get this message if document type is not QRDA Category 1 Release1, DSTU Release 3 document.

11 Null Flavor Rules for Data Types

CDA, Release 2 uses the HL7 V3 Data Types, Release 1 abstract and XML-specific specification. Every data element either has a proper value or it is considered NULL. If and only if it is NULL, a "null flavor" provides more detail on why or in what way no proper value is supplied. The table below provides clarifications to proper nullFlavor use for a list of common data types used by this guide.

Table 41: Null Flavor Rules for Data Types

Data Type	Rules
Boolean (BL)	@value and @nullFlavor attributes are mutually exclusive.
Coded Simple (CS)	@code and @nullFlavor attributes are mutually exclusive.
Coded Descriptor (CD)	<p>@code or @nullFlavor or both @codeSystem and @nullFlavor="OTH" are allowed, but cannot have both @code and @nullFlavor and cannot have @codeSystem and @nullFlavor that does not equal "OTH".</p> <p>If @code is present, @codeSystem is always required.</p> <p>(Note: For clinical codes in the Patient Data Section of a QRDA-I file, PQRS does not support the use of @nullFlavor="OTH", it always require @code, @codeSystem, and @sdct:valueSet. See 5.2.3.3 Use of Translation Codes for PQRS for details.)</p>
Coded With Equivalents (CE)	Same as data type CD.
Instance Identifier (II)	@root is allowed to be present with @extension or @nullFlavor, but @root is not allowed with both @extension and @nullFlavor at the same time.
Integer Number (INT)	@value and @nullFlavor attributes are mutually exclusive.
Physical Quantity (PQ)	@value and @nullFlavor attributes are mutually exclusive. The unit attribute must be populated if the value attribute is present, and cannot be present when the value attribute is not present.
Real Number (REAL)	@value and @nullFlavor attributes are mutually exclusive.
Universal Resource Locator (URL)	@value and @nullFlavor attributes are mutually exclusive.

12 QRDA-I DSTU R3 Supplemental Implementation Guide Changes to Base Standard

This table lists all changes made to QRDA-I for Part A of this 2016 guide. The "Base Standard" is the *HL7 Implementation Guide for CDA Release 2: Quality Report Document Architecture, Category I, DSTU Release 3, June 2015*.

Table 42: Changes Made to the QRDA-I DSTU R3 Base Standard

CONF. #	Section	Base Standard	Changed To
CMS_0001	5.1.1	n/a	Conforms to QDM-Based QRDA (V2) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.1.2:2014-12-01). SHALL contain exactly one [1..1] templateId (CONF:CMS_0001) such that it
CMS_0002 CMS_0003	5.1.1	n/a	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.1.3" (CONF:CMS_0002). SHALL contain exactly one [1..1] @extension="2015-07-01" (CONF:CMS_0003).
CMS_0010	5.1.1	n/a	This languageCode SHALL contain exactly one [1..1] @code="en" (CONF:CMS_0010).

CONF. #	Section	Base Standard	Changed To
CMS_0004 CMS_0005 CMS_0052 CMS_0006 CMS_0008	5.1.1	n/a	<p>The participant, if present, SHALL contain exactly one [1..1] associatedEntity (CONF:CMS_0004).</p> <p>This associatedEntity SHALL contain exactly one [1..1] id (CONF:CMS_0005) such that it SHALL NOT contain [0..0] @nullFlavor (CONF:CMS_0052).</p> <p>SHALL contain exactly one [1..1] @root="2.16.840.1.113883.3.2074.1" CMS EHR Certification Number (formerly known as Office of the National Coordinator Certification Number) (CONF:CMS_0006).</p> <p>SHALL contain exactly one [1..1] @extension (CONF:CMS_0008).</p> <p>Note: The value of @extension is the Certification Number.</p>
CMS_0054 CMS_0055	5.1.2	<p>This patientRole SHOULD contain zero or one [0..1] id (CONF:1140-16857) such that it SHALL contain exactly one [1..1] @root="2.16.840.1.113883.4.572" Medicare HIC number (CONF:1140-16858).</p>	<p>This patientRole SHALL contain exactly one [1..1] id (CONF:CMS_0054) such that it SHALL contain exactly one [1..1] @root="2.16.840.1.113883.4.572" Medicare HIC number (CONF:CMS_0055).</p>
CMS_0009 CMS_0053 CMS_0007	5.1.2	n/a	<p>(Note: CEC only)</p> <p>This patientRole SHALL contain exactly one [1..1] id (CONF:CMS_0009) such that it SHALL contain exactly one [1..1] @root (CONF:CMS_0053).</p> <p>SHALL contain exactly one Patient Identifier Number (CONF:CMS_0007).</p>
1098_5284_C01	5.1.2	<p>This patient SHALL contain at least one [1..*] US Realm Person Name (PN.US.FIELDDED) (identifier:urn:oid:2.16.840.1.113883.10.20.22.5.1.1) (CONF:1098-5284).</p>	<p>This patient SHALL contain exactly one [1..1] US Realm Person Name (PN.US.FIELDDED) (identifier:urn:oid:2.16.840.1.113883.10.20.22.5.1.1) (CONF:1098-5284_C01).</p>

CONF. #	Section	Base Standard	Changed To
CMS_0011 CMS_0029	5.1.2	This patient SHALL contain exactly one [1..1] administrativeGenderCode , which SHALL be selected from ValueSet Administrative Gender (HL7 V3) urn:oid:2.16.840.1.113883.1.11.1 DYNAMIC (CONF:1098-6394).	This patient SHALL contain exactly one [1..1] administrativeGenderCode , which SHALL be selected from ValueSet ONC Administrative Sex urn:oid:2.16.840.1.113762.1.4.1 DYNAMIC (CONF:CMS_0011). If the patient's administrative sex is unknown, nullFlavor="UNK" SHALL be submitted (CONF:CMS_0029).
1098_5300_C01	5.1.2	This patient SHALL contain exactly one [1..1] birthTime (CONF:1140-27571). SHOULD be precise to day (CONF:1098-5300).	This patient SHALL contain exactly one [1..1] birthTime (CONF:1140-27571). SHALL be precise to day (CONF:1098-5300_C01).
CMS_0013 CMS_0030 CMS_0031	5.1.2	This patient SHALL contain exactly one [1..1] raceCode , which SHALL be selected from ValueSet Race Category Excluding Nulls urn:oid:2.16.840.1.113883.3.2074.1.1.3 DYNAMIC (CONF:1098-5322).	This patient SHALL contain exactly one [1..1] raceCode , which SHALL be selected from ValueSet Race urn:oid:2.16.840.1.114222.4.1.1.836 DYNAMIC (CONF:CMS_0013). If the patient's race is unknown, nullFlavor="UNK" SHALL be submitted (CONF:CMS_0030). If the patient declined to specify his/her race, nullFlavor="ASKU" SHALL be submitted (CONF:CMS_0031).
CMS_0014	5.1.2	This patient MAY contain zero or more [0..*] sdtc:raceCode , which SHALL be selected from ValueSet Race urn:oid:2.16.840.1.113883.1.11.14914 DYNAMIC (CONF:1098-7263).	This patient MAY contain zero or more [0..*] sdtc:raceCode , which SHALL be selected from ValueSet Race urn:oid:2.16.840.1.114222.4.1.1.836 DYNAMIC (CONF:CMS_0014).
CMS_0032 CMS_0033	5.1.2	This patient SHALL contain exactly one [1..1] ethnicGroupCode , which SHALL be selected from ValueSet Ethnicity urn:oid:2.16.840.1.114222.4.1.1.837 DYNAMIC (CONF:1098-5323).	This patient SHALL contain exactly one [1..1] ethnicGroupCode , which SHALL be selected from ValueSet Ethnicity urn:oid:2.16.840.1.114222.4.1.1.837 DYNAMIC (CONF:1098-5323). If the patient's ethnicity is unknown, nullFlavor="UNK" SHALL be submitted (CONF:CMS_0032). If the patient declined to specify his/her ethnicity, nullFlavor="ASKU" SHALL be submitted (CONF:CMS_0033).

CONF. #	Section	Base Standard	Changed To
CMS_1140_28241_C01	5.1.3	This representedCustodianOrganization SHOULD contain zero or one [0..1] id (CONF:1140-28241) such that it	(Note: HQR only) [HQR] This representedCustodianOrganization SHALL contain exactly one [1..1] id (CONF:1140-28241_C01) such that it [HQR] SHALL NOT contain [0..0] @nullFlavor (CONF:CMS_0034).
CMS_0035	5.1.3	n/a	CCN SHALL be six to ten characters in length (CONF:CMS_0035).
1140_16703_C01	5.1.4	MAY contain zero or more [0..*] informationRecipient (CONF:1140-16703).	SHALL contain exactly one [1..1] informationRecipient (CONF:1140-16703_C01).
1140_16705_C01 CMS_0025 CMS_0026	5.1.4	This intendedRecipient SHALL contain at least one [1..*] id (CONF:1140-16705).	This intendedRecipient SHALL contain exactly one [1..1] id (CONF:1140-16705_C01). SHALL NOT contain [0..0] @nullFlavor (CONF:CMS_0043). This id SHALL contain exactly one [1..1] @root="2.16.840.1.113883.3.249.7" (CONF:CMS_0025). This id SHALL contain exactly one [1..1] @extension, which SHALL be selected from ValueSet QRDA-I CMS Program Name urn:oid:2.16.840.1.113883.3.249.14.103 STATIC 2015-07-01 (CONF:CMS_0026). Note: The value of @extension is CMS Program Name.
1140-16579_C01	5.1.5	MAY contain zero or one [0..1] documentationOf (CONF:1140-16579) such that it	SHALL contain exactly one [1..1] documentationOf (CONF:1140-16579_C01) such that it
1140-16587_C01	5.1.5	This assignedEntity SHOULD contain zero or one [0..1] id (CONF:1140-16587) such that it	This assignedEntity SHALL contain exactly one [1..1] id (CONF:1140-16587_C01) such that it
CMS_0019 CMS_0020	5.1.5	n/a	This assignedEntity MAY contain zero or one [0..1] assignedPerson (CONF:CMS_0019). The assignedPerson, if present, MAY contain zero or one [0..1] name (CONF:CMS_0020). Note: This is the provider's name.

CONF. #	Section	Base Standard	Changed To
1140-16591_C01 1140-16592_C01	5.1.5	This assignedEntity SHALL contain exactly one [1..1] representedOrganization (CONF:1140-16591). This representedOrganization SHOULD contain zero or one [0..1] id (CONF:1140-16592) such that it	This assignedEntity SHALL contain exactly one [1..1] representedOrganization (CONF:1140-16591_C01). This representedOrganization SHALL contain exactly one [1..1] id (CONF:1140-16592_C01) such that it
CMS_0022	5.1.5	n/a	This representedOrganization MAY contain zero or one [0..1] name (CONF:CMS_0022). Note: This is the organization's name, such as clinic's name.
CMS_0040 CMS_0041 CMS_0042 CMS_0023 CMS_0024	5.2.2	n/a	Conforms to Reporting Parameters Section template (identifier: urn:oid:2.16.840.1.113883.10.20.17.2.1). SHALL contain exactly one [1..1] templateId (CONF:CMS_0040) such that it SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.17.2.1" (CONF:CMS_0041). SHALL contain exactly one [1..1] @extension="2015-07-01" (CONF:CMS_0042). SHALL contain exactly one [1..1] entry (CONF:CMS_0023) such that it SHALL contain exactly one [1..1] <u>Reporting Parameters Act - CMS EP & HQR</u> (identifier: urn:hl7ii:2.16.840.1.113883.10.20.17.3.8:2015-07-01) (CONF:CMS_0024).
CMS_0044 CMS_0045 CMS_0046	5.2.2.1	n/a	Conforms to Reporting Parameters Act template (identifier: urn:oid:2.16.840.1.113883.10.20.17.3.8). SHALL contain exactly one [1..1] templateId (CONF:CMS_0044) such that it SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.17.3.8" (CONF:CMS_0045). SHALL contain exactly one [1..1] @extension="2015-07-01" (CONF:CMS_0046).

CONF. #	Section	Base Standard	Changed To
CMS_0048 CMS_0027 CMS_0050 CMS_0028	5.2.2.1	<p>SHALL contain exactly one [1..1] effectiveTime (CONF:23-3273). This effectiveTime SHALL contain exactly one [1..1] low (CONF:23-3274). This effectiveTime SHALL contain exactly one [1..1] high (CONF:23-3275).</p>	<p>SHALL contain exactly one [1..1] effectiveTime (CONF:23-3273). This effectiveTime SHALL contain exactly one [1..1] low (CONF:23-3274). This low SHALL contain exactly one [1..1] @value (CONF:CMS_0048). SHALL be precise to day (CONF:CMS_0027)</p> <p>This effectiveTime SHALL contain exactly one [1..1] high (CONF:23-3275). This high SHALL contain exactly one [1..1] @value (CONF:CMS_0050). SHALL be precise to day (CONF:CMS_0028)</p>
CMS_0036 CMS_0037	5.2.3	n/a	<p>Conforms to Patient Data Section QDM (V2) template (identifier: urn:h17ii:2.16.840.1.113883.10.20.24.2.1:2014-12-01). SHALL contain exactly one [1..1] templateId (CONF:CMS_0036) such that it SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.2.1" (CONF:CMS_0037).</p>
CMS_0051 CMS_0039	5.2.3	n/a	<p>SHALL contain at least one [1..*] entry (CONF:CMS_0051) such that it SHALL contain exactly one [1..1] entry template that is other than the Patient Characteristic Payer (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.55) (CONF:CMS_0039).</p>
1140-14430_C01	5.2.3	<p>MAY contain zero or more [0..*] entry (CONF:1140-14430) such that it</p>	<p>SHALL contain at least one [1..*] entry (CONF:1140-14430_C01) such that it SHALL contain at least one [1..*] Patient Characteristic Payer (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.55) (CONF:1140_14431).</p>

12.1 Program Specific Constraints

This table lists program specific constraints made to QRDA-I in Part A of this guide.

Table 43: Program Specific Constraints to QRDA-I

CONF. #	Section	Data Element/ Section	Description
1140-16858	5.1.2	Medicare HIC Number	This data element is required for PQRS, if the payer is Medicare. This data element is not for required for HQR but should be submitted if the payer is Medicare and the patient has an HIC number assigned.
CMS_0055	5.1.2	Medicare HIC Number	This data element is required for CEC.
1140-28241_C01 CMS_0034 1140-28244 1140-28245 CMS_0035	5.1.3	CMS Certification Number	This data element is required for HQR only.
1140-16587_C01 1140-16588	5.1.5	National Provider Identification (NPI) Number	This data element is optional for GPROs and HQR by setting <id @root='2.16.840.1.113883.4.6' @nullFlavor='NA'/>. This data element is required for CEC, nullFlavor is not allowed.
1140-16592_C01 1182-43	5.1.5	Tax Identification Number (TIN)	This data element is required for PQRS. nullFlavor is not allowed. This data element is optional for CEC and HQR by setting <id @root='2.16.840.1.113883.4.2' @nullFlavor='NA'/>.
CMS_0019 CMS_0020	5.1.5	Provider Name (Given and Family)	This data element is optional for CEC and for HQR.
CMS_0022	5.1.5	Clinic Name	This data element is optional for CEC and for HQR.

12.2 Validation Rules for EP

The format of Medicare Health Insurance Claim (HIC) numbers shall meet the following requirements. (Note: this specified format validation rule is for EP only.)

- (a) No embedded dashes or spaces.
- (b) Must be alphanumeric.
- (c) Alpha characters must be upper case.
- (d) Length can't be > 12 or < 7.
- (e) If alphanumeric, all numbers cannot be 9s.
- (f) If length 7: must be 1 alpha + 6 numeric.
- (g) If length 8: must be 2 alpha + 6 numeric.
- (h) If length 9: must be 3 alpha + 6 numeric.
- (i) If length 10: can either be 1 alpha + 9 numeric, or 9 numeric + 1 alpha.
- (j) If length 11: must be 2 alpha + 9 numeric, or 9 numeric + 1 alpha + 1 numeric, or 9 numeric + 2 alpha.
- (k) If length 12: must be 3 alpha + 9 numeric.

13 QRDA-III DSTU R1 Supplemental Implementation Guide Changes to Base Standard

This table lists all changes made to QRDA-III for Part B of this 2016 guide. The "Base Standard" is the *HL7 Implementation Guide for CDA Release 2: Quality Reporting Document Architecture, Category III, DSTU Release 1* (November 2012) and its 2014 errata update.

Table 44: Changes Made to the QRDA-III Base Standard

CONF. #	Section	Base Standard	Changed To
711280	8.1	n/a	SHALL contain exactly one [1..1] templateId (CONF:711280) such that it
711281	8.1	n/a	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.1.2" (CONF:711281).
711174 / 711246	8.1	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).	SHALL contain exactly one [1..1] confidentialityCode (CONF:711174). This confidentialityCode SHALL contain exactly one [1..1] @code="N" Normal (CodeSystem: ConfidentialityCode 2.16.840.1.113883.5.25 STATIC) (CONF:711246).

CONF. #	Section	Base Standard	Changed To
711247	8.1	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).	This languageCode SHALL contain exactly one [1..1] @code="en" English (CodeSystem: Language 2.16.840.1.113883.6.121) (CONF:711247).
711240	8.1.2	n/a	This assignedAuthor SHALL contain exactly one [1..1] id (CONF:711240).
711158	8.1.4	n/a	SHALL contain exactly one [1..1] informationRecipient (CONF:711158).
711159	8.1.4	n/a	This informationRecipient SHALL contain exactly one [1..1] intendedRecipient (CONF:711159).
711160	8.1.4	n/a	This intendedRecipient SHALL contain exactly one [1..1] id (CONF:711160).
711161	8.1.4	n/a	The id/@root specifies that this identifier represents a CMS Program. This id SHALL contain exactly one [1..1] @root="2.16.840.1.113883.3.249.7" CMS Program (CONF:711161).
711162	8.1.4	n/a	The id/@extension contains the CMS Program the report is being submitted to. This id SHALL contain exactly one [1..1] @extension, which SHALL be selected from ValueSet CMS Program Name 2.16.840.1.113883.3.249.14.101 STATIC (CONF:711162).
7111248	8.1.4	n/a	If ClinicalDocument/informationRecipient/intendedRecipient/id/@extension="CP C", then ClinicalDocument/participant/@typeCode="LOC" SHALL be present (CONF:711248).
17225	8.1.5	SHALL contain exactly one [1..1] legalAuthenticator (CONF:17225).	SHALL contain exactly one [1..1] legalAuthenticator (CONF:17225). Note: If a Data Submission Vendor (DSV) is used, the DSV is the legalAuthenticator.

CONF. #	Section	Base Standard	Changed To
18167	8.1.5	This legalAuthenticator SHALL contain exactly one [1..1] time (CONF:18167).	This legalAuthenticator SHALL contain exactly one [1..1] time (CONF:18167). Note: This value is when the document was signed.
19670	8.1.5	This legalAuthenticator SHALL contain exactly one [1..1] assignedEntity (CONF:19670).	When the legalAuthenticator is a DSV, the representedOrganization/id is the DSV TIN. The representedOrganization, if present, SHALL contain at least one [1..*] id (CONF:19670).
711150	8.1.7	n/a	MAY contain zero or one [0..1] participant (CONF:711150) such that it
711151	8.1.7	n/a	SHALL contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:711151).
711152	8.1.7	n/a	SHALL contain exactly one [1..1] associatedEntity (CONF:711152).
711153	8.1.7	n/a	This associatedEntity SHALL contain exactly one [1..1] @classCode="SDLOC" Service Delivery Location (CodeSystem: RoleClass 2.16.840.1.113883.5.110) (CONF:711153).
711154	8.1.7	n/a	This associatedEntity SHALL contain exactly one [1..1] id (CONF:711154).
711155	8.1.7	n/a	This id SHALL contain exactly one [1..1] @root="2.16.840.1.113883.3.249.5.1" CPC Practice Site (CONF:711155).
711156	8.1.7	n/a	This id SHALL contain exactly one [1..1] @extension (CONF:711156). Note: This is the CPC Practice Site ID assigned to the CPC Practice Site.
711218	8.1.7	n/a	This associatedEntity SHALL contain exactly one [1..1] code (CONF:711218).
711219	8.1.7	n/a	This code SHALL contain exactly one [1..1] @code="394730007" Healthcare Related Organization (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96) (CONF:711219).

CONF. #	Section	Base Standard	Changed To
711157	8.1.7	n/a	This associatedEntity SHALL contain exactly one [1..1] addr (CONF:711157).
7111214	8.1.8	MAY contain zero or one [0..1] documentationOf (CONF:18170).	SHALL contain exactly one [1..1] documentationOf (CONF:711214).
711220	8.1.8	This serviceEvent SHALL contain at least one [1..*] performer (CONF:18173).	This serviceEvent SHALL contain at least one [1..*] performer (CONF:711220). Note: All providers seeking credit for CMS program reporting are listed as performers. For CPC reporting, only CPC Practice Site providers are listed as performers.
711167	8.1.8	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. This assignedEntity SHALL contain exactly one [1..1] id (CONF:18177) such that it	The assignedEntity id/@root = '2.16.840.1.113883.4.6' coupled with the id/@extension represents the individual provider's National Provider Identification number (NPI). NPI is required except for the Group Practice Reporting Option (GPRO). For GPRO, id/@root = '2.16.840.1.113883.4.6' is coupled with @nullFlavor="NA" , and @extension shall be omitted. This assignedEntity SHALL contain exactly one [1..1] id (CONF:711167) such that it
711249	8.1.8	n/a	MAY contain zero or one [0..1] @nullFlavor="NA" (CONF:711249). Note: @nullFlavor is only present for PQRS GPRO reporting.
711169	8.1.8	MAY contain zero or one [0..1] @root="2.16.840.1.113883.4.6" National Provider ID (CONF:18178).	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.4.6" National Provider ID (CONF:711169). Note: This value specifies that the id is the provider's National Provider Identifier (NPI).
711170	8.1.8	MAY contain zero or one [0..1] @extension (CONF:18247).	SHALL contain exactly one [1..1] @extension (CONF:711170). Note: This is the provider's NPI, it is only present when this is not PQRS GPRO reporting.
711168	8.1.8	This representedOrganization MAY contain zero or one [0..1] id (CONF:18181) such that it	This representedOrganization SHALL contain exactly one [1..1] id (CONF:711168) such that it

CONF. #	Section	Base Standard	Changed To
711171	8.1.8	SHALL contain exactly one [1..1] <code>@root="2.16.840.1.113883.4.2"</code> Tax ID Number (CONF:18182).	SHALL contain exactly one [1..1] <code>@root="2.16.840.1.113883.4.2"</code> Tax ID Number (CONF:711171). Note: This value specifies that this id is the organization's Tax Identification Number (TIN).
711172	8.1.8	SHALL contain exactly one [1..1] <code>@extension</code> (CONF:18190).	SHALL contain exactly one [1..1] <code>@extension</code> (CONF:711172).
711141	8.1.10	SHALL contain exactly one [1..1] QRDA Category III Reporting Parameters Section (templateId:2.16.840.1.113883.10.20.27.2.2) (CONF:17282).	SHALL contain exactly one [1..1] QRDA Category III Reporting Parameters Section (CMS EP) (templateId:2.16.840.1.113883.10.20.27.2.6) (CONF:711141).
711142	8.1.10	SHALL contain exactly one [1..1] QRDA Category III Measure Section (templateId:2.16.840.1.113883.10.20.27.2.1) (CONF:17301).	SHALL contain exactly one [1..1] QRDA Category III Measure Section (CMS EP) (templateId:2.16.840.1.113883.10.20.27.2.3) (CONF:711142).
711276	8.2.1	n/a	SHALL contain exactly one [1..1] <code>templateId</code> (CONF:711276) such that it
711277	8.2.1	n/a	SHALL contain exactly one [1..1] <code>@root="2.16.840.1.113883.10.20.27.2.3"</code> (CONF:711277).
711283	8.2.1	n/a	SHALL contain at least one [1..*] <code>entry</code> (CONF:711283) such that it
711284	8.2.1	n/a	SHALL contain exactly one [1..1] Measure Reference and Results (CMS EP) (templateId:2.16.840.1.113883.10.20.27.3.17) (CONF:711284).
711278	8.2.2	n/a	SHALL contain exactly one [1..1] <code>templateId</code> (CONF:711278) such that it
711279	8.2.2	n/a	SHALL contain exactly one [1..1] <code>@root="2.16.840.1.113883.10.20.27.2.6"</code> (CONF:711279).
711285	8.2.2	n/a	SHALL contain exactly one [1..1] <code>entry</code> (CONF:711285) such that it
711286	8.2.2	n/a	SHALL contain exactly one [1..1] <code>@typeCode="DRIV"</code> Is derived from (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:711286).

CONF. #	Section	Base Standard	Changed To
711175	8.2.2	n/a	SHALL contain exactly one [1..1] Reporting Parameters Act (CMS EP) (templateId:2.16.840.1.113883.10.20.27.3.23) (CONF:711175).
711262	8.3.1	n/a	SHALL contain exactly one [1..1] templateId (CONF:711262) such that it
711263	8.3.1	n/a	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.24" (CONF:711263).
711244	8.3.1	n/a	SHALL contain exactly one [1..1] statusCode (CONF:711244).
711245	8.3.1	n/a	This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:711245).
711264	8.3.2	n/a	SHALL contain exactly one [1..1] templateId (CONF:711264) such that it
711265	8.3.2	n/a	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.26" (CONF:711265).
711243	8.3.2	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).	This code element SHALL equal the code element in that eMeasure's measure observation definition (CONF:711243).
711241	8.3.2	n/a	SHALL contain exactly one [1..1] statusCode (CONF:711241).
711242	8.3.2	n/a	This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:711242).
711205	8.3.2	This externalObservation SHALL contain exactly one [1..1] id (CONF:18245). If this reference is to an eMeasure, this id SHALL equal the id in that eMeasure's measure observation definition (CONF:18255).	This externalObservation SHALL contain exactly one [1..1] id (CONF:711205). Note: This is the id in the eMeasure's measure observation definition.

CONF. #	Section	Base Standard	Changed To
711253	8.3.3	n/a	SHALL contain exactly one [1..1] templateId (CONF:711253) such that it
711254	8.3.3	n/a	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.22" (CONF:711254).
711201	8.3.3	SHALL contain exactly one [1..1] Aggregate Count (templateId:2.16.840.1.113883.10.20.27.3.3) (CONF:18123).	SHALL contain exactly one [1..1] <u>Aggregate Count (CMS EP)</u> (templateId:2.16.840.1.113883.10.20.27.3.24) (CONF:711201).
711266	8.3.4	n/a	SHALL contain exactly one [1..1] templateId (CONF:711266) such that it
711267	8.3.4	n/a	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.16" (CONF:711267).
711198	8.3.4	SHALL contain exactly one [1..1] Aggregate Count (templateId:2.16.840.1.113883.10.20.27.3.3) (CONF:17620).	SHALL contain exactly one [1..1] <u>Aggregate Count (CMS EP)</u> (templateId:2.16.840.1.113883.10.20.27.3.24) (CONF:711198).
711180	8.3.4	SHALL contain exactly one [1..1] Reporting Stratum (templateId:2.16.840.1.113883.10.20.27.3.4) (CONF:17920).	SHALL contain exactly one [1..1] <u>Reporting Stratum (CMS EP)</u> (templateId:2.16.840.1.113883.10.20.27.3.20) (CONF:711180).
711190	8.3.4	MAY contain zero or more [0..*] entryRelationship (CONF:18136) such that it	SHALL contain at least one [1..*] entryRelationship (CONF:711190) such that it
711181	8.3.4	SHALL contain exactly one [1..1] Sex Supplemental Data Element (templateId:2.16.840.1.113883.10.20.27.3.6) (CONF:18138).	SHALL contain exactly one [1..1] <u>Sex Supplemental Data Element (CMS EP)</u> (templateId:2.16.840.1.113883.10.20.27.3.21) (CONF:711181).
711191	8.3.4	MAY contain zero or more [0..*] entryRelationship (CONF:18139) such that it	SHALL contain at least one [1..*] entryRelationship (CONF:711191) such that it
711182	8.3.4	SHALL contain exactly one [1..1] Ethnicity Supplemental Data Element (templateId:2.16.840.1.113883.10.20.27.3.7) (CONF:18149).	SHALL contain exactly one [1..1] <u>Ethnicity Supplemental Data Element (CMS EP)</u> (templateId:2.16.840.1.113883.10.20.27.3.22) (CONF:711182).
711192	8.3.4	MAY contain zero or more [0..*] entryRelationship (CONF:18140) such that it	SHALL contain at least one [1..*] entryRelationship (CONF:711192) such that it

CONF. #	Section	Base Standard	Changed To
711183	8.3.4	SHALL contain exactly one [1..1] Race Supplemental Data Element (templateId:2.16.840.1.113883.10.20.27.3.8) (CONF:18150).	SHALL contain exactly one [1..1] <u>Race Supplemental Data Element (CMS EP)</u> (templateId:2.16.840.1.113883.10.20.27.3.19) (CONF:711183).
711193	8.3.4	MAY contain zero or more [0..*] entryRelationship (CONF:18141) such that it	SHALL contain at least one [1..*] entryRelationship (CONF:711193) such that it
711184	8.3.4	SHALL contain exactly one [1..1] Payer Supplemental Data Element (templateId:2.16.840.1.113883.10.20.27.3.9) (CONF:18151).	SHALL contain exactly one [1..1] <u>Payer Supplemental Data Element (CMS EP)</u> (templateId:2.16.840.1.113883.10.20.27.3.18) (CONF:711184).
711212	8.3.4	SHALL contain exactly one [1..1] Continuous Variable Measure Value (templateId:2.16.840.1.113883.10.20.27.3.2) (CONF:18153).	SHALL contain exactly one [1..1] <u>Continuous Variable Measure Value (CMS EP)</u> (templateId:2.16.840.1.113883.10.20.27.3.26) (CONF:711212).
711233	8.3.4	This externalObservation SHALL contain exactly one [1..1] id (CONF:18241). If this reference is to an eMeasure, this id SHALL equal the id defined in the corresponding eMeasure population criteria section (CONF:18258).	This externalObservation SHALL contain exactly one [1..1] id (CONF:711233). Note: This is the id defined in the corresponding eMeasure population criteria section.
711268	8.3.5	n/a	SHALL contain exactly one [1..1] templateId (CONF:711268) such that it
711269	8.3.5	n/a	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.17" (CONF:711269).
711213	8.3.5	SHALL contain exactly one [1..1] Performance Rate for Proportion Measure (templateId:2.16.840.1.113883.10.20.27.3.14) (CONF:17904).	SHALL contain exactly one [1..1] <u>Performance Rate for Proportion Measure (CMS EP)</u> (templateId:2.16.840.1.113883.10.20.27.3.25) (CONF:711213).
711296	8.3.5	SHALL contain exactly one [1..1] Measure Data (templateId:2.16.840.1.113883.10.20.27.3.5) (CONF:18426).	SHALL contain exactly one [1..1] <u>Measure Data (CMS EP)</u> (templateId:2.16.840.1.113883.10.20.27.3.16) (CONF:711296).
711270	8.3.6	n/a	SHALL contain exactly one [1..1] templateId (CONF:711270) such that it
711270	8.3.6	n/a	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.18" (CONF:711271).

CONF. #	Section	Base Standard	Changed To
7111230	8.3.6	n/a	This value SHALL contain exactly one [1..1] translation (CONF:711230).
711231	8.3.6	n/a	This translation SHALL contain exactly one [1..1] @code , which SHALL be selected from ValueSet CMS Payer Groupings 2.16.840.1.113883.3.249.14.102 (CONF:711231).
711229	8.3.6	n/a	This value SHALL contain exactly one [1..1] @nullFlavor="OTH" (CONF:711229).
711199	8.3.6	SHALL contain exactly one [1..1] Aggregate Count (templateId:2.16.840.1.113883.10.20.27.3.3) (CONF:18111).	SHALL contain exactly one [1..1] Aggregate Count (CMS EP) (templateId:2.16.840.1.113883.10.20.27.3.24) (CONF:711199).
711255	8.3.7	n/a	SHALL contain exactly one [1..1] templateId (CONF:711255) such that it
711256	8.3.7	n/a	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.25" (CONF:711256).
711203	8.3.7	MAY contain zero or one [0..1] reference (CONF:19651).	SHALL contain exactly one [1..1] reference (CONF:711203).
711204	8.3.7	The externalObservationID contains the ID of the numerator in the referenced eMeasure. This externalObservation SHALL contain exactly one [1..1] id (CONF:19655).	This externalObservation SHALL contain exactly one [1..1] id (CONF:711204).
711294	8.3.7	n/a	The value, if present, SHALL be greater than or equal to 0 and less than or equal to 1 (CONF:711294).
711295	8.3.7	n/a	The value, if present, SHALL contain no more than 6 digits to the right of the decimal (CONF:711295)
711257	8.3.8	n/a	SHALL contain exactly one [1..1] templateId (CONF:711257) such that it
711258	8.3.8	n/a	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.19" (CONF:711258).
711200	8.3.8	SHALL contain exactly one [1..1] Aggregate Count (templateId:2.16.840.1.113883.10.20.27.3.3) (CONF:18117).	SHALL contain exactly one [1..1] Aggregate Count (CMS EP) (templateId:2.16.840.1.113883.10.20.27.3.24) (CONF:711200).

CONF. #	Section	Base Standard	Changed To
711272	8.3.9	n/a	SHALL contain exactly one [1..1] templateId (CONF:711272) such that it
711273	8.3.9	n/a	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.23" (CONF:711273).
711292	8.3.9	n/a	This low SHALL contain exactly one [1..1] @value="20160101" (CONF:711292).
711293	8.3.9	n/a	This high SHALL contain exactly one [1..1] @value="20161231" (CONF:711293).
711274	8.3.10	n/a	SHALL contain exactly one [1..1] templateId (CONF:711274) such that it
711275	8.3.10	n/a	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.20" (CONF:711275).
711232	8.3.10	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).	This value SHALL be the same as the contents of the observation/code element in the referenced eMeasure (e.g., 21112-8 'Birth date') (CONF:711232).
711197	8.3.10	SHALL contain exactly one [1..1] Aggregate Count (templateId:2.16.840.1.113883.10.20.27.3.3) (CONF:17584).	SHALL contain exactly one [1..1] <u>Aggregate Count (CMS EP)</u> (templateId:2.16.840.1.113883.10.20.27.3.24) (CONF:711197).
711211	8.3.10	SHALL contain exactly one [1..1] Continuous Variable Measure Value (templateId:2.16.840.1.113883.10.20.27.3.2) (CONF:19513).	SHALL contain exactly one [1..1] <u>Continuous Variable Measure Value (CMS EP)</u> (templateId:2.16.840.1.113883.10.20.27.3.26) (CONF:711211).
711210	8.3.10	If this reference is to an eMeasure, this id equals the referenced stratification id defined in the eMeasure. This externalObservation SHALL contain exactly one [1..1] id (CONF:18207).	This externalObservation SHALL contain exactly one [1..1] id (CONF:711210). Note: This is the ID of the stratum in the referenced eMeasure.
711259	8.3.11	n/a	SHALL contain exactly one [1..1] templateId (CONF:711259) such that it

CONF. #	Section	Base Standard	Changed To
711260	8.3.11	n/a	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.27.3.21" (CONF:711260).
711291	8.3.11	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).	SHALL contain exactly one [1..1] value with @xsi:type="CD" , where the code SHALL be selected from ValueSet ONC Administrative Sex Value Set 2.16.840.1.113762.1.4.1 DYNAMIC (CONF:711291). Certification validators will allow use of Value Set - ONC Administrative Sex 2.16.840.1.113762.1.4.1 or Value Set - Administrative Gender (HL7 V3) 2.16.840.1.113883.1.11.1 (CONF:711261).
711261	8.3.11	n/a	Certification validators will allow use of Value Set - ONC Administrative Sex 2.16.840.1.113762.1.4.1 or Value Set - Administrative Gender (HL7 V3) 2.16.840.1.113883.1.11.1 (CONF:711261).
711202	8.3.11	SHALL contain exactly one [1..1] Aggregate Count (templateId:2.16.840.1.113883.10.20.27.3.3) (CONF:18129).	SHALL contain exactly one [1..1] <u>Aggregate Count (CMS EP)</u> (templateId:2.16.840.1.113883.10.20.27.3.24) (CONF:711202).

14 Change Log for 2016 CMS QRDA Implementation Guide from the 2015 CMS QRDA Implementation Guide

This appendix summarizes the changes made in this 2016 CMS QRDA Implementation Guide since the release of 2015 CMS QRDA Implementation Guide and Addendum to the 2015 CMS QRDA IG.

14.1 PART A

The table below lists the changes made for the Part A—QRDA-I DSTU R3 Supplementary Implementation Guide for Eligible Professional Programs and Hospital Quality Reporting of the 2016 CMS QRDA IG from the Part A—QRDA-I DSTU R2 Supplementary Implementation Guide for Eligible Professional Programs and Hospital Quality Reporting of the 2015 CMS QRDA IG (and the 2015 CMS QRDA IG Addendum).

Table 45: Changes Made for 2016 CMS QRDA IG Part A from 2015 CMS QRDA IG Part A

	2016 CMS QRDA IG	2015 CMS QRDA IG
Base Standard	<p>HL7 Implementation Guide for CDA Release 2: Quality Reporting Document Architecture Category I, Release 1, Draft Standard for Trial Use (DSTU) Release 3, US Realm, June 2015</p> <p>Template ids and conformance numbers in the 2016 CMS QRDA IG are different from what are in the 2015 CMS QRDA IG as a result of the base standard change. The detailed changes to template ids and conformance numbers are not listed in this appendix.</p>	<p>HL7 Implementation Guide for CDA Release 2: Quality Reporting Document Architecture, Category I, DSTU Release 2, (US Realm), Draft Standard for Trial Use—July 2012 (and its December 2012 and 2014 errata updates)</p>
Conformance Number Convention	<p>The “CMS_” prefix is used to indicate the new conformance statements. The “_C01” postfix is used to indicate that the conformance statement from the base HL7 QRDA-I, R3 standard is further constrained in the guide.</p>	<p>The “CMS_” prefix is used to indicate the new conformance statements including those existing conformance statements that are further constrained in the guide.</p>
4 QRDA Category I Requirements	<p>Language is updated to reflect the requirement updates for the 2016 reporting year.</p>	n/a
5.1.1 General Header	<p>QRDA Category I Report – CMS EP & HQR (V2) (Note: this template is based on QRDA-I, DSTU R3)</p>	<p>QRDA Category I Report – CMS EP & HQR (Note: this template is based on QRDA-I, R2)</p>

	2016 CMS QRDA IG	2015 CMS QRDA IG
<p>5.1.1 General Header</p>	<p>This associatedEntity SHALL contain exactly one [1..1] id (CONF:CMS_0005) such that it SHALL NOT contain [0..0] @nullFlavor (CONF:CMS_0052). SHALL contain exactly one [1..1] @root="2.16.840.1.113883.3.2074.1" CMS EHR Certification Number (formerly known as Office of the National Coordinator Certification Number) (CONF:CMS_0006). SHALL contain exactly one [1..1] @extension (CONF:CMS_0008). Note: The value of @extension is the Certification Number.</p>	<p>This associatedEntity SHALL contain exactly one [1..1] id (CONF:CMS_0005) such that it SHALL contain exactly one [1..1] @root='2.16.840.1.113883.3.2074.1' CMS EHR Certification Number (formerly known as Office of the National Coordinator Certification Number) and the value of @extension is the Certification Number (CONF: CMS_0006).</p>
<p>5.1.2 recordTarget</p>	<p>[HQR,PQRS] This patientRole SHOULD contain zero or one [0..1] id (CONF:1140-16857) such that it SHALL contain exactly one [1..1] @root="2.16.840.1.113883.4.572" Medicare HIC number (CONF:1140-16858). [CEC] This patientRole SHALL contain exactly one [1..1] id (CONF:CMS_0054) such that it SHALL contain exactly one [1..1] @root="2.16.840.1.113883.4.572" Medicare HIC number (CONF:CMS_0055).</p>	<p>This patientRole SHOULD contain zero or one [0..1] id (CONF:16857) such that it SHALL contain exactly one [1..1] @root='2.16.840.1.113883.4.572' Medicare HIC number (CONF:16858).</p>
<p>5.1.2 recordTarget</p>	<p>This patientRole SHALL contain exactly one [1..1] id (CONF:CMS_0009) such that it SHALL contain exactly one [1..1] @root (CONF:CMS_0053). SHALL contain exactly one Patient Identifier Number (CONF:CMS_0007).</p>	<p>This patientRole SHALL contain exactly one [1..1] id such that it SHALL contain exactly one [1..1] Patient Identifier Number (CONF:CMS_0007)</p>

	2016 CMS QRDA IG	2015 CMS QRDA IG
5.1.2 recordTarget	<p>This patient SHALL contain exactly one [1..1] administrativeGenderCode, which SHALL be selected from ValueSet ONC Administrative Sex urn:oid:2.16.840.1.113762.1.4.1 DYNAMIC (CONF:CMS_0011). If the patient's administrative sex is unknown, nullFlavor="UNK" SHALL be submitted (CONF:CMS_0029).</p>	<p>This patient SHALL contain exactly one [1..1] administrativeGenderCode, which SHALL be selected from either ValueSet ONC Administrative Sex 2.16.840.1.113762.1.4.1 or ValueSet Administrative Gender (HL7 V3) 2.16.840.1.113883.1.11.1 DYNAMIC (CONF:CMS_0011).</p>
5.1.2 recordTarget	<p>This patient SHALL contain exactly one [1..1] raceCode, which SHALL be selected from ValueSet Race urn:oid:2.16.840.1.114222.4.11.836 DYNAMIC (CONF:CMS_0013). If the patient's race is unknown, nullFlavor="UNK" SHALL be submitted (CONF:CMS_0030). If the patient declined to specify his/her race, nullFlavor="ASKU" SHALL be submitted (CONF:CMS_0031).</p>	<p>This patient SHALL contain exactly one [1..1] raceCode, which SHALL be selected from ValueSet Race 2.16.840.1.114222.4.11.836 DYNAMIC (CONF:CMS_0013). Note: Use nullFlavor="ASKU" when the patient declined to specify his/her race. Use nullFlavor="UNK" when the patient's race is unknown.</p>
5.1.2 recordTarget	<p>This patient MAY contain zero or more [0..*] sdct:raceCode, which SHALL be selected from ValueSet Race urn:oid:2.16.840.1.114222.4.11.836 DYNAMIC (CONF:CMS_0014). Note: If a patient has more than one race category, one race is reported in raceCode, and additional races are reported using sdct:raceCode.</p>	<p>This patient MAY contain zero or more [0..*] sdct:raceCode, where the @code SHALL be selected from ValueSet 2.16.840.1.114222.4.11.836 DYNAMIC (CONF:CMS_0014).</p>

	2016 CMS QRDA IG	2015 CMS QRDA IG
5.1.2 recordTarget	<p>This patient SHALL contain exactly one [1..1] ethnicGroupCode, which SHALL be selected from ValueSet Ethnicity urn:oid:2.16.840.1.114222.4.11.837 DYNAMIC (CONF:1098-5323).</p> <p>If the patient's ethnicity is unknown, nullFlavor="UNK" SHALL be submitted (CONF:CMS_0032).</p> <p>If the patient declined to specify his/her ethnicity, nullFlavor="ASKU" SHALL be submitted (CONF:CMS_0033).</p>	<p>This patient SHALL contain exactly one [1..1] ethnicGroupCode, which SHALL be selected from ValueSet Ethnicity Value 2.16.840.1.114222.4.11.837 DYNAMIC (CONF:CMS_0015).</p> <p>Note: Use nullFlavor="ASKU" when the patient declined to specify his/her ethnicity. Use nullFlavor="UNK" when the patient's ethnicity is unknown.</p>
5.1.3 Custodian	<p>[HQR] This representedCustodianOrganization SHALL contain exactly one [1..1] id (CONF:1140-28241_C01) such that it [HQR] SHALL NOT contain [0..0] @nullFlavor (CONF:CMS_0034).</p> <p>[HQR] SHALL contain exactly one [1..1] @root="2.16.840.1.113883.4.336" CMS Certification Number (CONF:1140-28244).</p> <p>[HQR] SHALL contain exactly one [1..1] @extension (CONF:1140-28245).</p> <p>Note: A fixed CCN value 800890 shall be used for HQR test submission when no hospital is associated with a submitted QRDA document.</p> <p>CCN SHALL be six to ten characters in length (CONF:CMS_0035).</p>	<p>This representedCustodianOrganization SHALL contain exactly one [1..1] id (CONF:CMS_0016) such that it It SHALL contain exactly one [1..1] @root='2.16.840.1.113883.4.336' CMS Certification Number (CONF:26960).</p> <p>SHALL contain exactly one [1..1] @extension (CONF:26959).</p> <p>Note: nullFlavor is not allowed for CCN.</p> <p>(In footnote: CMS Certification Number (CCN) is six characters in length. A fixed CCN value 800890 shall be used for HQR test submission when no hospital is associated with a submitted QRDA document.)</p>
5.1.4 informationRecipient	<p>This intendedRecipient SHALL contain exactly one [1..1] id (CONF:1140-16705_C01).</p> <p>SHALL NOT contain [0..0] @nullFlavor (CONF:CMS_0043).</p> <p>This id SHALL contain exactly one [1..1] @root="2.16.840.1.113883.3.249.7" (CONF:CMS_0025).</p>	<p>(5.1.5 informationRecipient)</p> <p>This intendedRecipient SHALL contain exactly one [1..1] id (CONF:CMS_0024)</p> <p>It SHALL contain exactly one [1..1] @root='2.16.840.1.113883.3.249.7' (CONF:CMS_0025)</p>

	2016 CMS QRDA IG	2015 CMS QRDA IG
<p>5.1.4 informationRecipient</p> <p>QRDA-I CMS Program Name Value Set</p>	<p>Codes contained in the value set:</p> <p>PQRS_MU_INDIVIDUAL PQRS_MU_GROUP CEC HQR_EHR HQR_IQR HQR_EHR_IQR CDAC_EHR_IQR</p> <p>(Note: Removed PIONEER_ACO, added CEC and CDAC_EHR_IQR)</p>	<p>Codes contained in the value set:</p> <p>PQRS_MU_INDIVIDUAL PQRS_MU_GROUP PIONEER_ACO HQR_EHR HQR_IQR HQR_EHR_IQR</p>
<p>5.1.5 documentationOf/serviceEvent</p>	<p>PQRS Individual: When the CMS Program Name is "PQRS_MU_INDIVIDUAL", there can be one and only one 'performer' element.</p> <p>PQRS GPRO: When the CMS Program Name is "PQRS_MU_GROUP", multiple 'performer' elements are allowed but they must all have the same TIN.</p> <p>This serviceEvent SHALL contain at least one [1..*] performer (CONF:1140-16583).</p>	<p>This serviceEvent SHALL contain at least one [1..*] performer (CONF:16583).</p>
<p>5.1.5 documentationOf/serviceEvent</p>	<p>Updated narrative notes about NPI for each CMS program for clarity.</p>	
<p>5.1.5 documentationOf/serviceEvent</p>	<p>Updated narrative notes about TIN for each CMS program for clarity.</p>	

	2016 CMS QRDA IG	2015 CMS QRDA IG
<p>5.2.2 Reporting Parameters Section – CMS EP & HQR</p>	<p>(Note: Reporting Parameters Section – CMS EP & HQR is a new template that conforms to the Reporting Parameters Section template) Conforms to Reporting Parameters Section template (identifier: urn:oid:2.16.840.1.113883.10.20.17.2.1). SHALL contain exactly one [1..1] templateId (CONF:CMS_0040) such that it SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.17.2.1" (CONF:CMS_0041). SHALL contain exactly one [1..1] @extension="2015-07-01" (CONF:CMS_0042). SHALL contain exactly one [1..1] entry (CONF:CMS_0023) such that it SHALL contain exactly one [1..1] Reporting Parameters Act - CMS EP & HQR (identifier: urn:hl7ii:2.16.840.1.113883.10.20.17.3.8:2015-07-01) (CONF:CMS_0024).</p>	<p>(5.2.2 Reporting Parameters Section)</p>

	2016 CMS QRDA IG	2015 CMS QRDA IG
<p>5.2.2.1 Reporting Parameters Act – CMS EP & HQR</p>	<p>(Note: Reporting Parameters Act – CMS EP & HQR is a new template that conforms to the Reporting Parameters Section template) Conforms to Reporting Parameters Act template (identifier: urn:oid:2.16.840.1.113883.10.20.17.3.8). SHALL contain exactly one [1..1] templateId (CONF:CMS_0044) such that it SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.17.3.8" (CONF:CMS_0045). SHALL contain exactly one [1..1] @extension="2015-07-01" (CONF:CMS_0046). HQR: For HQR reporting ONLY - The system SHALL reject QRDA-I R3 files if the Reporting Parameter Section Effective Date Range does not align with one of the Program's allowable calendar year discharge quarters. SHALL contain exactly one [1..1] effectiveTime (CONF:23-3273). This effectiveTime SHALL contain exactly one [1..1] low (CONF:23-3274). This low SHALL contain exactly one [1..1] @value (CONF:CMS_0048). SHALL be precise to day (CONF:CMS_0027) This effectiveTime SHALL contain exactly one [1..1] high (CONF:23-3275). This high SHALL contain exactly one [1..1] @value (CONF:CMS_0050). SHALL be precise to day (CONF:CMS_0028)</p>	<p>(5.2.2 Reporting Parameters Section) SHALL contain exactly one [1..1] effectiveTime (CONF:3273). This effectiveTime SHALL contain exactly one [1..1] low (CONF:3274). SHALL be precise to day (CONF:CMS_27) This effectiveTime SHALL contain exactly one [1..1] high (CONF:3275). SHALL be precise to day (CONF:CMS_28)</p>

	2016 CMS QRDA IG	2015 CMS QRDA IG
<p>5.2.3 Patient Data Section QDM (V2) – CMS EP & HQR</p>	<p>(Note: Patient Data Section QDM (V2) – CMS EP & HQR is a new template that conforms to the Patient Data Section QDM (V2) template)</p> <p>Conforms to Patient Data Section QDM (V2) template (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.2.1:2014-12-01).</p> <p>SHALL contain exactly one [1..1] templateId (CONF:CMS_0036) such that it</p> <p style="padding-left: 20px;">SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.2.1" (CONF:CMS_0037).</p> <p style="padding-left: 20px;">SHALL contain exactly one [1..1] @extension="2015-07-01" (CONF:CMS_0038).</p> <p>SHALL contain at least one [1..*] entry (CONF:CMS_0051) such that it</p> <p style="padding-left: 20px;">SHALL contain exactly one [1..1] entry template that is other than the Patient Characteristic Payer (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.55) (CONF:CMS_0039).</p> <p>SHALL contain at least one [1..*] entry (CONF:1140-14430_C01) such that it</p> <p style="padding-left: 20px;">SHALL contain at least one [1..*] Patient Characteristic Payer (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.55) (CONF:1140_14431).</p>	<p>(5.2.3 Patient Data Section)</p> <p>SHALL contain at least one [1..*] entry (CONF:CMS_0029)</p> <p>Where the clinical statement codes SHALL contain the @sdct:valueSet extension to reference the value set from which the supplied code was drawn (CONF:16573).</p> <p>Note: For PQRS program, validation for the generic constraint CONF:16573 is applied at an individual data element constraint level where applicable.</p>
<p>5.2.3.1 "Note Done" with a Reason</p>	<p>New section.</p>	<p>n/a</p>
<p>5.2.3.2 Entry Template Requirements for PQRS</p>	<p>New section.</p>	<p>n/a</p>
<p>5.2.3.3 Use of Translation Codes for PQRS</p>	<p>New section.</p>	<p>n/a</p>

14.2 PART B

The table below lists the changes made for the Part B—QRDA-III DSTU R1 Supplementary Implementation Guide for Eligible Professional Programs of the 2016 CMS QRDA IG from the Part B—QRDA-III DSTU R1 Supplementary Implementation Guide for Eligible Professional Programs of the 2015 CMS QRDA IG (and the 2015 CMS QRDA IG Addendum).

Table 46: Changes Made for 2016 CMS QRDA IG Part B from 2015 CMS QRDA IG Part B

	2016 CMS QRDA IG	2015 CMS QRDA IG
7 QRDA-III Category III Submission Rules	Language is updated to reflect the requirement updates for the 2016 reporting year.	n/a
8.2.2 QRDA Category III Reporting Parameters Section (CMS EP)	The following is added to the template description. “The reporting parameter dates are equivalent to the measurement period dates for the data being aggregated. For Program Year 2016, the reporting parameter start date SHALL be "20160101" (i.e. 01/01/2016), and the reporting parameter end date SHALL be "20161231" (i.e., 12/31/2016).”	n/a
8.3.4 Measure Data (CMS EP)	The following is added to the template description. “A measure may not be submitted more than once in the same file. The same population may not be submitted more than once in the same measure. Uniqueness of a measure is determined based on the UUID provided for it in the associated reference/externalDocument/id. This id SHALL equal the version specific identifier that comes from the applicable HQMF file. Uniqueness of a population is determined based on the UUID provided for it in the associated reference/externalObservation/id. This id SHALL equal the respective population identifier that comes from the applicable HQMF file.”	This clarification is in the 2015 CMS QRDA IG Addendum.

	2016 CMS QRDA IG	2015 CMS QRDA IG
<p>8.3.7 Performance Rate for Proportion Measure (CMS EP)</p>	<p>The following is added to the template description.</p> <p>“Based on the Performance Rate calculation, a Performance Rate must not exceed 1 (e.g., 100, 1.5), since a value of 1 indicates 100%. The Performance Rate value that is provided in a QRDA Category III file should not be the Performance Rate times 100, but instead should be the value obtained from the calculation of $\text{NUMER}/(\text{DENOM} - \text{DENOM EXCL} - \text{DENOM EXCEP})$, rounded to the nearest millionth; refer to the rounding rules listed later in this section. In addition, if the expression $(\text{DENOM} - \text{DENOM EXCL} - \text{DENOM EXCEP})$ results in a null or a value of 0, then a nullFlavor of "NA" should be provided for the Performance Rate. Finally, if the expression $(\text{DENOM} - \text{DENOM EXCL} - \text{DENOM EXCEP})$ results in a value greater than or equal to 1 and a Numerator count equal to 0 is provided, then a Performance Rate of "0" should be submitted.</p> <p>The following rounding rules must be used when submitting performance rates:</p> <ul style="list-style-type: none"> • For a calculated performance rate that has ≥ 7 digits after the decimal point, round the decimal number to the millionth. • For a calculated performance rate that has ≤ 6 digits after the decimal point, rounding is not permitted for the performance rate.” 	<p>This clarification is in the 2015 CMS QRDA IG Addendum.</p>
<p>8.3.7 Performance Rate for Proportion Measure (CMS EP)</p>	<p>SHALL contain exactly one [1..1] value with @xsi:type="REAL" (CONF:18399).</p> <p>The value, if present, SHALL be greater than or equal to 0 and less than or equal to 1 (CONF:711294). The value, if present, SHALL contain no more than 6 digits to the right of the decimal (CONF:711295).</p>	<p>n/a</p>

	2016 CMS QRDA IG	2015 CMS QRDA IG
<p>8.3.9 Reporting Parameters Act (CMS EP)</p>	<p>SHALL contain exactly one [1..1] effectiveTime (CONF:3273). This effectiveTime SHALL contain exactly one [1..1] low (CONF:3274). This low SHALL contain exactly one [1..1] @value="20160101" (CONF:711292). Note: For Program Year 2016, the reporting parameter start date SHALL be "20160101". This effectiveTime SHALL contain exactly one [1..1] high (CONF:3275). This high SHALL contain exactly one [1..1] @value="20161231" (CONF:711293). Note: For Program Year 2016, the reporting parameter start date SHALL be "20161231".</p>	<p>SHALL contain exactly one [1..1] effectiveTime (CONF:3273). This effectiveTime SHALL contain exactly one [1..1] low (CONF:3274). SHALL be precise to day (CONF:711288). This effectiveTime SHALL contain exactly one [1..1] high (CONF:3275). SHALL be precise to day (CONF:711289).</p>
<p>8.3.10 Reporting Stratum (CMS EP)</p>	<p>The following is added to the template description. "Each stratum may only be reported once for a specific population."</p>	<p>This clarification is in the 2015 CMS QRDA IG Addendum.</p>
<p>8.3.11 Sex Supplemental Data Element (CMS EP)</p>	<p>SHALL contain exactly one [1..1] value with @xsi:type="CD", where the code SHALL be selected from ValueSet ONC Administrative Sex Value Set 2.16.840.1.113762.1.4.1 DYNAMIC (CONF:711291). Certification validators will allow use of Value Set - ONC Administrative Sex 2.16.840.1.113762.1.4.1 or Value Set - Administrative Gender (HL7 V3) 2.16.840.1.113883.1.11.1 (CONF:711261).</p>	<p>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). Certification validators will allow use of Value Set - ONC Administrative Sex 2.16.840.1.113762.1.4.1 or Value Set - Administrative Gender (HL7 V3) 2.16.840.1.113883.1.11.1 (CONF:711261).</p>

15 Acronyms

This section describes acronyms used in this guide.

Acronym	Literal Translation
ASKU	Asked, but not known
CAH	Critical Access Hospitals
CCN	CMS Certification Number
CDA	Clinical Document Architecture
CDAC	Clinical Data Abstraction Center
CEC	Comprehensive End-Stage Renal Disease Care Initiative
CMS	Centers for Medicare & Medicaid Services
CONF	conformance
CPC	Comprehensive Primary Care Initiative
CQM	Clinical Quality Measure
DSTU	Draft Standard for Trial Use
DSV	Data Submission Vendor
eCQI	electronic clinical quality improvement
eCQM	electronic Clinical Quality Measure
EHR	electronic health record
EP	Eligible Professional
FAP	Final Action Processing
GPRO	Group Practice Reporting Option
HIC	Health Insurance Claim
HL7	Health Level Seven
HL7 V3	Health Level 7 Version 3
HQMF	Health Quality Measures Format
HQR	Hospital Quality Reporting
ID	identifier
IHTSDO	International Health Terminology Standard Development Organization
IPP	initial patient population

Acronym	Literal Translation
IPPS	Inpatient Prospective Payment Systems
IQR	Inpatient Quality Reporting
LOINC	Logical Observation Identifiers Names and Codes
MU	Meaningful Use
n/a	not applicable
NA	Not applicable
NLM	National Library of Medicine
NPI	National Provider Identification Number
OID	Object Identifier
ONC	Office of the National Coordinator for Health Information Technology
PHDSC	Public Health Data Standards Consortium
PQRS	Physician Quality Reporting System
QDM	Quality Data Model
QRDA	Quality Reporting Data Architecture
QRDA-I	Quality Reporting Data Architecture Category I
QRDA-III	Quality Reporting Data Architecture Category III
S2SIG	Program Year 2016 Supplementary 2 Supplementary Implementation Guide
SNOMED CT	Systematized Nomenclature of Medicine, Clinical Terms
TIN	Taxpayer Identification Number
UNK	Unknown
UTC	Coordinated Universal Time
UUID	Universally Unique Identifier
VSAC	Value Set Authority Center
XML	Extensible Markup Language

16 Glossary

Term	Definition
Electronic health record (EHR)	Electronic records of patient health information gathered and/or generated in any care delivery setting. This information includes patient demographics, progress notes, medications, vital signs, past medical history, immunizations, laboratory data, and radiology reports. This provides the ability to pass information from care point to care point providing the ability for quality health management by physicians.
eMeasure	A standardized performance measure in the Health Quality Measures Format (HQMF). CMS uses "eCQM" (electronic Clinical Quality Measure) for the eMeasures developed under the Meaningful Use program.
Physician Quality Reporting System (PQRS)	A quality reporting system that includes an incentive payment for eligible professionals who satisfactorily report data on quality measures for covered professional services provided during the specified program year.
XML Path Language (XPath)	This notation provides a mechanism that will be familiar to developers for identifying parts of an XML document. 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.

17 References

CMS, eCQM Library. http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/eCQM_Library.html

eCQI Resource Center. <https://ecqi.healthit.gov/>

HL7 Implementation Guide for CDA Release 2: Quality Reporting Document Architecture, Category I, Draft Standard for Trial Use Release 3 (QRDA-I R3). June 2015.

http://www.hl7.org/implement/standards/product_brief.cfm?product_id=35

HL7 Implementation Guide for CDA Release 2: Quality Reporting Document Architecture, Category III, Draft Standard for Trial Use, Release 1, November 2012 and its July 2014 errata update http://www.hl7.org/implement/standards/product_brief.cfm?product_id=286

ONC, Electronic Clinical Quality Measure issue reporting system.

<http://oncprojecttracking.org/secure/Dashboard.jspa>

U.S. National Library of Medicine, Value Set Authority Center. <https://vsac.nlm.nih.gov>