



eCQM 101 - Getting Started with Electronic Clinical Quality Measures for Quality Reporting Programs Introduction

March 2025

eCQM 101 Overview

- What is an electronic clinical quality measure (eCQM)?
- Where do I find eCQMs?
- What is included in an eCQM specification?

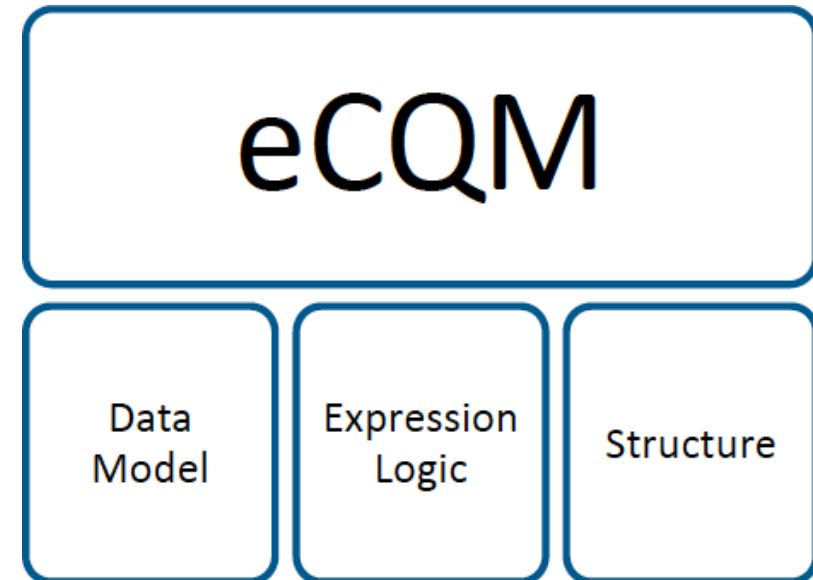
What is an eCQM?

eCQMs

- eCQMs use data electronically extracted from electronic health records and/or health information technology systems to measure the quality of health care provided.
- CMS uses eCQMs in a variety of quality reporting and incentive programs.
- Eligible Clinicians (ECs) and hospitals report inpatient and outpatient eCQMs to CMS.

Building an eCQM

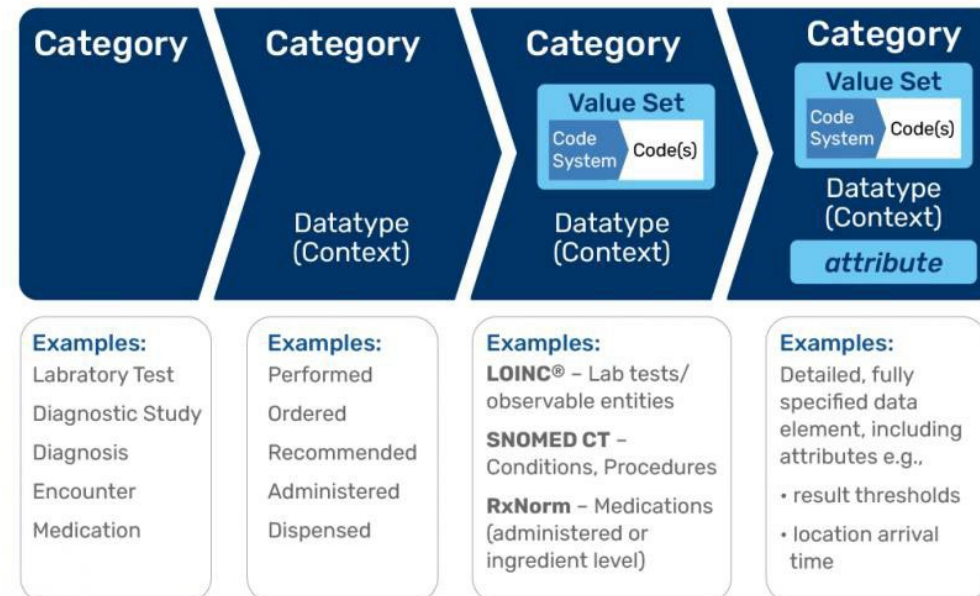
- Data Model - What data to look for in the patient's medical record to capture and report
- Expression Logic - How to calculate the results of the data captured to measure whether the 'right' care was provided
- Structure - metadata, numerator, denominator, exclusions, exceptions



Data Model

Quality Data Model (QDM)

- The QDM is an information model that defines relationships between patients and clinical concepts in a standardized format to enable electronic quality performance measurement.
- The QDM is the current structure for electronically representing quality measure concepts in eCQM development and reporting.
- QDM Data Element structure
- Find more information on the eCQI Resource Center [QDM page](#).



eCQM Data Element

- QDM Category - Consists of a single clinical concept identified by a value set. A category is the highest level of definition for a QDM element. QDM versions 5.5 and 5.6 contain 22 categories.
 - Examples: Medication, Procedure, Condition/Diagnosis/Problem, and Encounter
- QDM Datatype - The context in which each category is used to describe a part of the clinical care process.
 - Examples: “Laboratory Test, Order”, “Laboratory Test, Performed”
- QDM Attribute - Provides specific details about a QDM datatype. QDM attributes represent metadata, or information about each QDM datatype that might be used in eCQM expressions to provide necessary details for calculation.
 - Example: “Laboratory Test, Performed: (result)”

Health Quality Measure Format (HQMF) and Expression Logic Clinical Quality Language (CQL)

- The HQMF is the basic electronic specification for the measure. It provides the metadata and population structure. The QDM provides the data model and CQL represents the logic used in the HQMF.
- The HQMF header includes descriptions of the measure populations, any stratifications, the measure steward, measure type, identifiers, rationale, scoring, and other details. The HQMF body includes the population criteria and the data criteria.
- CQL is a Health Level Seven International® (HL7®) human-readable authoring language standard. CQL is the expression logic used with HQMF for eCQMs.
- Find more information on the eCQI Resource Center [HQMF page](#).

Benefits of CQL

- Expresses measure in easy, human-readable logic structured for processing a query electronically.
- Provides for sharing measure logic between measures.
- Harmonizes the standards used for eCQMs and Clinical Decision Support (CDS).
- Simplifies calculation engine implementation.
- Can be used with multiple information data models, e.g., QDM, Fast Healthcare Interoperability Resources® (FHIR®).
- Find more information on the eCQI Resource Center [CQL page](#).

Where do I find eCQMs?

eCQI Resource Center

<https://ecqi.healthit.gov/>



eCQMs
Electronic Clinical
Quality Measures

dQMs
Digital Quality
Measures

Resources
Standards, Tools,
& Resources

About
eCQI, CDS, FAQs
Engage

My account
Manage Your
Account

Search keyword or phrases (phrase in)

Electronic Clinical Quality Improvement (eCQI) Resource Center

Transforming eCQI through collaboration, education, and standards

[Inpatient eCQMs](#) > [Outpatient eCQMs](#) >

[Eligible Clinician eCQMs](#) >

Featured News & Events

Feb 20, 2025
[Now Available: eCQM Annual Update Pre-Publication Document...](#)

Feb 27, 2025 @ 3:00pm EST
[Expert to Expert Webinar: 2025 Reporting Year Annual Updates for Safe Use of Opioids—Concurrent](#)

[View All](#)

ECQM: PERIOD: eCQM Title or CMSID: [Find an eCQM](#)

Get Started with eCQMs
New to eCQMs? Learn the basics about eCQMs, development, certification, and resources to get started.

Educational Resources
Educational resources available for eCQMs and eCQI, Tools, CQL, FHIR, QDM, and QRDA.

eCQM Standards
Key standards for the electronic transmission of health information used to support eCQMs.

FHIR®
Fast Healthcare Interoperability Resources® is a standard for exchanging healthcare information.

[We want your feedback](#)

Different ways to get to eCQMs

The screenshot shows the eCQI Resource Center website. At the top left is the logo for eCQI 10 Years Anniversary Resource Center. A navigation menu includes eCQMs (Electronic Clinical Quality Measures), dQMs (Digital Quality Measures), Resources (Standards, Tools, & Resources), About (eCQI, CDS, FADs Engage), and My account (Manage Your Account). A search bar is located on the right. The main banner features the text 'Electronic Clinical Quality Improvement (eCQI) Resource Center' and 'Transforming eCQI through collaboration, education, and standards'. Below this are three buttons: 'Inpatient eCQMs', 'Outpatient eCQMs', and 'Eligible Clinician eCQMs'. A 'Featured News & Events' section is on the right. A search bar is located below the banner with filters for 'ECQM' and 'PERIOD', and a 'Find an eCQM' button. At the bottom are sections for 'Get Started with eCQMs', 'Educational Resources', and 'eCQM Standards'. A 'We want your feedback' button is also present.

eCQM Menu

Inpatient, Outpatient, EC eCQMs

Find an eCQM search

<https://ecqi.healthit.gov/>

Example: Finding EH/CAH eCQM Resources

The screenshot shows the 'Hospital - Inpatient eCQMs' interface. At the top left is a hospital icon with a green plus sign. To the right is the title 'Hospital - Inpatient eCQMs' and a button 'Stop receiving updates on this topic'. Below the title are 'View', 'Edit', and 'Delete' buttons. A blue arrow labeled 'Select Year' points to the 'Select Period' dropdown menu, which is currently set to '2024'. To the right of the dropdown is an 'Apply Filters' button. Below this is a link: 'Find older eCQM specifications in the [eCQM Standards and Tools Version](#) table.' There are three tabs: 'eCQM Resources' (selected), 'eCQMs', and 'About'. Below the tabs is the heading '2024 Reporting Period Hospital - Inpatient Resources for eCQMs'. Underneath is a 'Filter Resources by' section with buttons for '- Any -', 'Implementation Guidance', 'Reporting References', 'Standards References', and 'Technical Resources'. A blue arrow labeled 'eCQM Resources' points to the table below. The table has three columns: 'eCQM Resources', 'Short Description', and 'Published'. The first row is 'Implementation Checklist eCQM Annual Update' with a short description 'Implementation checklist' and a published date of 'May 2023'. The second row is 'Guide for Reading eCQMs v9.0 (PDF)' with a short description 'Assists implementers and measured entities with information on how to read eCQM specifications' and a published date of 'May 2023'. A blue banner at the bottom right says 'We want your feedback'.

Example: Finding EH/CAH eCQMs

The screenshot shows the 'Hospital - Inpatient eCQMs' interface. At the top, there is a header with a hospital icon and a green cross. Below the header, there are navigation buttons: 'View', 'Edit', and 'Delete'. A 'Select Year' dropdown menu is set to '2025', with an arrow pointing to it. To the right of the dropdown is an 'Apply Filters' button. Below the dropdown, there is a link: 'Find older eCQM specifications in the [eCQM Standards and Tools Version](#) table.' Below this, there are three tabs: 'eCQM Resources', 'eCQMs', and 'About'. A text line states: 'The **2024** Reporting Period has 12 Hospital - Inpatient eCQMs:'. Below this is a 'Search eCQMs' section with a search input field and an 'Apply' button. At the bottom, there is a table with columns: 'Title', 'Short Name', 'CMS eCQM ID', 'CBE ID*', 'Download Specifications', and 'Notes'. Three rows are visible in the table, each with a download icon. An arrow points to the 'Short Name' column with the text 'Links to Individual Measures'. Another arrow points to the table header with the text 'Sortable Table'. In the top right corner, there is a button that says 'Stop receiving updates on this topic'.

Title	Short Name	CMS eCQM ID	CBE ID*	Download Specifications	Notes
Anticoagulation Therapy for Atrial Fibrillation or Flutter	STK-3	CMS71v13	Not Applicable		
Antithrombotic Therapy By End of Hospital Day 2					
Cesarean Birth	PC-02	CMS334v5	0471e		

Example: Finding EH/CAH Individual eCQM Specifications – General Information

Anticoagulation Therapy for Atrial Fibrillation or Flutter

View Edit Revisions

Measure Information Specifications & Measure Resources Technical Release Notes

Compare Versions of: "Anticoagulation Therapy for Atrial Fibrillation or Flutter"

The [Compare function \(PDF\)](#) compares two years of the measure specifications found in the header of the measure's HTML. It does not include a comparison of any information in the body of the HTML, e.g., population criteria, Clinical Quality Language, or value sets.

Strikethrough text highlighted in red indicates information changed from the previous version. Text highlighted in green indicates information updated in the new eCQM version.

COMPARE **2024** VERSION TO

2025

TABLE OPTIONS

DOWNLOAD

Download

Measure Information	2024 Reporting Period
Title	Anticoagulation Therapy for Atrial Fibrillation or Flutter
CMS eCQM ID	CMS71v13
Short Name	STK-3
CBE ID*	Not Applicable
Measure Steward	The Joint Commission

Example: Finding EH/CAH Individual eCQM Specifications, Data Element Repository and Value Set Links

Anticoagulation Therapy for Atrial Fibrillation or Flutter

View Edit Revisions

Measure Information Specifications & Measure Resources Technical Release Notes

Specifications

- [CMS71v13.html](#)
- [CMS71v13.zip \(ZIP\)](#)

HQMF and CQL files

Additional Resources for CMS71v13

- [Value Sets](#)
- [Data Elements](#)
- [eCQM Flow \(PDF\)](#)
- [Technical Release Notes \(Excel\)](#)
- [Jira Issue Tracker tickets](#)

Links to Value Sets, Human-Readable files, eCQM Flow, Technical Release Notes, and Jira Issue Tracker

*Note there may be more tickets for CMS71v13 in the [eCQM Tracker - ONC Project Tracking System \(Jira\)](#). Only tickets tagged with their associated CMS measure ID appear.

Use the eCQM Tracker to [open new issues](#) regarding eCQM implementation. [Log in](#) required.

Hybrid Measures In Use and Pre-Rulemaking

Hospital - Inpatient eCQMs

Stop receiving updates on this topic

View Edit Delete Revisions Clone

Select Period 2025 Filter By eCQMs **Apply Filters**

Find older eCQM specifications in the eCQM Resources

- eCQMs
- Hybrid Measures
- Program Candidate eCQMs
- Program Candidate Hybrid Measures

Hybrid and Program Candidate eCQMs and Hybrid Measures

The **2024** Reporting Period has 12 Hospital - Inpatient **eCQMs**:

Search eCQMs

Apply

Title	Short Name	CMS eCQM ID	CBE ID*	Download Specifications	Notes
Anticoagulation Therapy for Atrial Fibrillation or Flutter	STK-3	CMS71v13	Not Applicable		

Finding Eligible Clinician (EC) eCQMs

The screenshot shows the eCQI Resource Center website. The top navigation bar includes links for eCQMs, dQMs, Resources, About, and My account. A search bar is located on the right. The main content area features a blue background with white text and orange buttons. A dark blue dropdown menu is open, highlighting the 'Eligible Clinician eCQMs' link. A large blue arrow points from the text 'Link to EC Page' to this link. Below the dropdown, there are sections for 'HOSPITAL' and 'PRACTICE COLLABORATION'. The right side of the page shows 'Featured News & Events' with a 'View All' button.

eCQI 10 Year ANNIVERSARY RESOURCE CENTER
SUCCESSFULLY SERVING THE ECQI COMMUNITY SINCE 2015.

eCQMs Electronic Clinical Quality Measures
dQMs Digital Quality Measures
Resources Standards, Tools, & Resources
About eCQI, CDS, FAQs Engage
My account Manage Your Account

Search keyword or phrases (phrase in)

ELIGIBLE CLINICIAN
Eligible Clinician eCQMs
HOSPITAL
Inpatient eCQMs
Outpatient eCQMs
PRACTICE COLLABORATION
Measure Collaboration (MC) Workspace
eCQM Data Element Repository (DERep)

Featured News & Events
Feb 20, 2025
[Now Available: eCQM Annual Update Pre-Publication Document...](#)
Feb 27, 2025 @ 3:00pm EST
[Expert to Expert Webinar: 2025 Reporting Year Annual Updates for Safe Use of Opioids—Concurrent](#)
View All

Finding EC eCQMs (cont.)



Eligible Clinician eCQMs

[Receive updates on this topic](#)

Select Period

2025

Filter By

eCQMs

Apply Filters

Find older eCQM specifications in the [eCQM Standards and Tools Version](#) table.

eCQM Resources

EC eCQMs

About

Layout of tabs are the same for ECs, EH/CAHs, and OQR eCQMs

2025 Performance Period Eligible Clinician **eCQMs**

Total number of EC eCQMs: 47

Search eCQMs

Apply

Title	CMS eCQM ID	CBE ID	MIPS Quality ID	Telehealth Eligible	Download Specifications
Antidepressant Medication Management	CMS128v13	Not Applicable	009	Yes	
Appropriate Testing for Pharyngitis	CMS146v13	Not Applicable	066	Yes	

eCQM Data Element Repository (DERep)

Measure Collaboration (MC) Workspace

About eCQM Concepts eCQM Testing Opportunities eCQM Data Element Repository

Electronic Clinical Quality Measure (eCQM) Data Element Repository (DERep)

The eCQM DERep provides clarification, definitions, and clinical focus for the data elements associated with eCQMs used in CMS quality reporting and incentive programs. Users can filter information by data element, eCQM, Quality Data Model (QDM) attribute, QDM category, QDM datatype, or QDM entities. See the [MC Workspace User Guide \(PDF\)](#) to learn more about how to use the MC Workspace eCQM DERep Module.

Information within the eCQM DERep is derived from the eCQM specifications, QDM, and the Value Set Authority Center (VSAC). Each eCQM data element includes information about the value set or the direct reference code (DRC), the QDM datatype, and the QDM attribute(s) used by that data element. The QDM information displayed for an eCQM reflects the version used in the development of the eCQM for a specific performance/reporting period.

Year: 2024
Select a Filter Option: - Any -
Search:
Apply

Select a filter or search...
eCQM Data Element
The eCQM Data Element...
reporting and performance...
coded QDM attribute or...
and the coded QDM attr...
Occasionally, more than...
name, their object ident...
eCQMs

The eCQMs filter currently provides a list of the Eligible Hospital/Critical Access Hospital, Eligible Clinician, Outpatient Quality Reporting, and Hybrid measures used in CMS quality reporting programs. The individual eCQM pages provide the eCQM rationale and a list of all the eCQM data elements associated with the eCQM and information about each data element.

<https://ecqi.healthit.gov/mc-workspace-2/data-element-repository>

The eCQM DERep provides all the data elements associated with published and tested eCQMs for use in CMS quality reporting programs including definitions and clinical focus for each data element.

Example: Individual eCQM - DERep

2024 » [Appropriate Treatment for Upper Respiratory Infection \(URI\)](#)

[DERep Home Page](#)

[Appropriate Treatment for Upper Respiratory Infection \(URI\)](#)

CMS Measure ID: CMS154v12 **Performance/Reporting Period:** 2024

Description:
Percentage of episodes for patients 3 months of age and older with a diagnosis of upper respiratory infection (URI) that did not result in an antibiotic order

Data Elements and coded QDM Attributes contained within the eCQM [+ Expand all](#)

- [\["Assessment, Performed": "Hospice care \[Minimum Data Set\]"\]](#) ^
- [\["Diagnosis": "Comorbid Conditions for Respiratory Conditions"\]](#) ^
- [\["Diagnosis": "Competing Conditions for Respiratory Conditions"\]](#) ^
- [\["Diagnosis": "Hospice Diagnosis"\]](#) ^
- [\["Diagnosis": "Upper Respiratory Infection"\]](#) ^
- [\["Encounter, Performed": "Emergency Department Evaluation and Management Visit"\]](#) ^
- [\["Encounter, Performed": "Encounter Inpatient"\]](#) ^
- [\["Encounter, Performed": "Home Healthcare Services"\]](#) ^



Data Element and Details

2024 » [Appropriate Treatment for Upper Respiratory Infection \(URI\)](#) » [Anti-depressant Medication Management](#) »

[\["Diagnosis": "Hospice Diagnosis"\]](#) » [\["Assessment_Performed": "Hospice care \[Minimum Data Set\]"\]](#) » [\["Diagnosis": "Major Depression"\]](#)

[DERep Home Page](#)

["Diagnosis": "Major Depression"]

[eCQM Data Element](#)

Performance/Reporting Period: 2024

Value Set Description from VSAC

CLINICAL FOCUS: The purpose of this value set is to represent concepts for a diagnosis of major depression.

DATA ELEMENT SCOPE: This value set may use a model element related to Diagnosis.

INCLUSION CRITERIA: Includes concepts that represent a diagnosis of major depression including mild, moderate, and severe, with or without psychotic features. Includes major depression during pregnancy and major depression in partial remission.

EXCLUSION CRITERIA: Excludes concepts that represent a diagnosis of major depression in remission or depression not specified as 'major depression.'

Constrained to codes in the Major Depression value set ([2.16.840.1.113883.3.464.1003.105.12.1007](#)). [↗](#)

Data Elements - Used By

Get to the same data element specifics including “eCQMs using this data element” by going directly to the data element.

["Diagnosis": "Upper Respiratory Infection"]

eCQM Data Element

Performance/Reporting Period: 2024


Value Set Description from VSAC

CLINICAL FOCUS: The purpose of this value set is to represent concepts for a diagnosis of an acute upper respiratory infection.

DATA ELEMENT SCOPE: This value set may use a model element related to Diagnosis.

INCLUSION CRITERIA: Includes concepts that represent a diagnosis of an acute upper respiratory infection.

EXCLUSION CRITERIA: No exclusions.

Constrained to codes in the Upper Respiratory Infection value set ([2.16.840.1.113883.3.464.1003.102.12.1022](#)) 

QDM Datatype and Definition

"Diagnosis"

Data elements that meet criteria using this datatype should document the Condition/Diagnosis/Problem and its corresponding value set. The *onset dateTime* corresponds to the implicit start dateTime of the datatype and the *abatement dateTime* corresponds to the implicit stop dateTime of the datatype. If the *abatement dateTime* is not present, then the diagnosis is considered to still be active. When this datatype is used with timing relationships, the criterion is looking for an active diagnosis for the time frame indicated by the timing relationships.

Timing: The *prevalencePeriod* references the time from the *onset date* to the *abatement date*.

eCQMs using this data element:

[CMS154v12 - Appropriate Treatment for Upper Respiratory Infection \(URI\)](#)



eCQMs using this data element

What is included within an eCQM specification?

eCQM Components

- Human-readable HyperText Markup Language (HTML) file
- Machine readable
 - HQMF XML file
 - The header identifies and classifies the document and provides important metadata about the measure
 - The body contains eCQM sections (e.g., definitions, population criteria, supplemental data elements)
 - Shared CQL Libraries (.cql, .xml, .json)
 - CQL file provides the formal description of the computable content in the measure and organized into libraries for reusing or sharing between measures and other artifacts
 - Expression Logical Model (ELM) XML is the machine-readable representation of the eCQM's logic in XML.
 - ELM JavaScript Object Notation (JSON) file is the ELM file in JavaScript Notation, as opposed to XML.

Note: *Value sets and direct reference codes in the eCQM specifications are found in the [Value Set Authority Center \(VSAC\)](#) and require a free [Unified Medical Language System \(UMLS\) license](#) to access.*

Human Readable: Header Background, Owner, Endorsement...

eCQM Title	Appropriate Treatment for Upper Respiratory Infection (URI)		
eCQM Identifier (Measure Authoring Tool)	154	eCQM Version Number	12.0.000
NQF Number	Not Applicable	GUID	e455fac0-f2cb-4074-a351-1e68a90fb7cf
Measurement Period	January 1, 20XX through December 31, 20XX		
Measure Steward	National Committee for Quality Assurance		
Measure Developer	National Committee for Quality Assurance		
Endorsed By	None		
Description	Percentage of episodes for patients 3 months that did not result in an antibiotic order		
Copyright	<p>This Physician Performance Measure (Measure) was developed by the National Committee for Quality Assurance (NCQA). NCQA makes no representations, warranties, or endorsements for the use of performance measures and NCQA has no liability for the use of the Measure. NCQA holds a copyright in the Measure. The Measure is for noncommercial purposes (e.g., use by health care organizations) and requires approval from NCQA. Commercial use is defined as the use of the Measure for gain, or incorporation of the Measure into a product. All commercial uses or requests for modification require the discretion of NCQA. (C) 2012-2022 National Committee for Quality Assurance</p> <p>Limited proprietary coding is contained in this Measure. Users of this Measure should obtain all necessary licenses from the appropriate organizations for the accuracy of any third-party codes contained in this Measure.</p> <p>CPT(R) codes, descriptions and other data are trademarks of the American Medical Association and are included in CPT. The AMA assumes no liability for the data contained herein. Applicable FARS/DFARS restrictions apply to government use.</p> <p>LOINC(R) copyright 2004-2022 Regenstrief Institute, Inc.</p> <p>This material contains SNOMED Clinical Terms(R) (SNOMED CT[R]) copyright 2004-2022 International Health Terminology Standards Development Organisation.</p> <p>ICD-10 copyright 2022 World Health Organization. All Rights Reserved.</p>		

The measure header in the human readable file includes:

- Measure Developer
- Measure Steward
- Description of the Measure
- Rationale and Evidence for the Measure
- Relevant Clinical Guidelines
- Copyright Restrictions
- Measure Type
- How the Measure is Scored
- Who has Endorsed the Measure
- Any Additional Guidance
- Summary of the Different Fields/Criteria

Human Readable: Body- Population Criteria

Population Criteria

▲ Initial Population

```
"Encounter with Upper Respiratory Infection" EncounterWithURI  
where AgeInMonthsAt(date from start of "Measurement Period")>= 3  
return EncounterWithURI
```

▲ Denominator

```
"Initial Population"
```

▲ Denominator Exclusions

```
"Encounters and Assessments with Hospice Patient"  
union "Encounter with Comorbid Condition for Upper R  
union "Encounter with Upper Respiratory Infection and  
union "Encounter with Competing Diagnosis for Upper Respiratory Infection"
```

▲ Numerator

```
"Encounter with Upper Respiratory Infection" EncounterWithURI  
without ["Medication, Order": "Antibiotic Medications for Upper Respiratory Infection"] OrderedAntibiotic  
such that OrderedAntibiotic.authorDatetime 3 days or less on or after start of EncounterWithURI.relevantPeriod  
return EncounterWithURI
```

▲ Numerator Exclusions

```
None
```

▲ Denominator Exceptions

```
None
```

Think of the measure logic as an equation - it relates different pieces of information together and calculates a measure result.

Human Readable: Body- Definitions Snippet

Definitions

▲ Denominator

"Initial Population"

▲ Denominator Exclusions

"Encounters and Assessments with Hospice Patient"
union "Encounter with Comorbid Condition for Upper Respiratory Infection Prior"
union "Encounter with Upper Respiratory Infection and Antibiotics Active In 30 Days Prior to the Episode Date"
union "Encounter with Competing Diagnosis for Upper Respiratory Infection"

▲ Encounter with Comorbid Condition for Upper Respiratory Infection Prior

```
( "Encounter with Upper Respiratory Infection" EncounterWithURI  
  with ["Diagnosis": "Comorbid Conditions for Respiratory Conditions"] ComorbidCondition  
  such that start of ComorbidCondition.prevalencePeriod in day of Interval[start of EncounterWithURI.relevantPeriod - 1 year, start  
  return EncounterWithURI  
)
```

▲ Encounter with Competing Diagnosis for Upper Respiratory Infection

```
( "Encounter with Upper Respiratory Infection" EncounterWithURI  
  with ["Diagnosis": "Competing Conditions for Respiratory Conditions"] CompetingCondition  
  such that CompetingCondition.prevalencePeriod starts 3 days or less on or after day of start of EncounterWithURI.relevantPeriod  
  return EncounterWithURI  
)
```

▲ Encounter with Upper Respiratory Infection

```
from  
  "Qualifying Encounters" QualifyingEncounters,  
  ["Diagnosis": "Upper Respiratory Infection"] URI  
  where URI.prevalencePeriod starts during day of QualifyingEncounters.relevantPeriod  
  or URI.prevalencePeriod overlaps before QualifyingEncounters.relevantPeriod  
  return QualifyingEncounters
```

Human Readable: Body- Functions and Terminology

Functions

▲ Global.NormalizeInterval(pointInTime DateTime, period Interval<DateTime>)

```
if pointInTime is not null then Interval[pointInTime, pointInTime]
else if period is not null then period
else null as Interval<DateTime>
```

Terminology

- code "Discharge to healthcare facility for hospice care (procedure)" ("SNOMEDCT Code (428371000124100)")
- code "Discharge to home for hospice care (procedure)" ("SNOMEDCT Code (428361000124107)")
- code "Hospice care [Minimum Data Set]" ("LOINC Code (45755-6)")
- code "Unlisted preventive medicine service" ("CPT Code (99429)")
- code "Yes (qualifier value)" ("SNOMEDCT Code (373066001)")
- valueset "Antibiotic Medications for Upper Respiratory Infection" (2.16.840.1.113883.3.464.1003.1190)
- valueset "Comorbid Conditions for Respiratory Conditions" (2.16.840.1.113883.3.464.1003.102.12.1025)
- valueset "Competing Conditions for Respiratory Conditions" (2.16.840.1.113883.3.464.1003.102.12.1017)
- valueset "Emergency Department Evaluation and Management Visit" (2.16.840.1.113883.3.464.1003.101.12.1010)
- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Home Healthcare Services" (2.16.840.1.113883.3.464.1003.101.12.1016)
- valueset "Hospice Care Ambulatory" (2.16.840.1.113883.3.526.3.1584)
- valueset "Hospice Diagnosis" (2.16.840.1.113883.3.464.1003.1165)
- valueset "Hospice Encounter" (2.16.840.1.113883.3.464.1003.1003)
- valueset "Initial Hospital Observation Care" (2.16.840.1.113883.3.464.1003.101.12.1002)
- valueset "Medical Disability Exam" (2.16.840.1.113883.3.464.1003.101.12.1073)
- valueset "Observation" (2.16.840.1.113883.3.464.1003.101.12.1086)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "ONC Administrative Sex" (2.16.840.1.113762.1.4.1)
- valueset "Online Assessments" (2.16.840.1.113883.3.464.1003.101.12.1089)
- valueset "Outpatient Consultation" (2.16.840.1.113883.3.464.1003.101.12.1008)
- valueset "Payer" (2.16.840.1.114222.4.11.3591)
- valueset "Preventive Care Services Established Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1025)
- valueset "Preventive Care Services Group Counseling" (2.16.840.1.113883.3.464.1003.101.12.1027)
- valueset "Preventive Care Services Individual Counseling" (2.16.840.1.113883.3.464.1003.101.12.1026)
- valueset "Preventive Care Services Initial Office Visit, 18 and Up" (2.16.840.1.113883.3.464.1003.101.12.1023)
- valueset "Preventive Care Services, Initial Office Visit, 0 to 17" (2.16.840.1.113883.3.464.1003.101.12.1022)
- valueset "Preventive Care, Established Office Visit, 0 to 17" (2.16.840.1.113883.3.464.1003.101.12.1024)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Telephone Visits" (2.16.840.1.113883.3.464.1003.101.12.1080)
- valueset "Upper Respiratory Infection" (2.16.840.1.113883.3.464.1003.102.12.1022)

Human Readable: Body- Data Criteria

Data Criteria (QDM Data Elements)

- "Assessment, Performed: Hospice care [Minimum Data Set]" using "Hospice care [Minimum Data Set] (LOINC Code 45755-6)"
- "Diagnosis: Comorbid Conditions for Respiratory Conditions" using "Comorbid Conditions for Respiratory Conditions (2.16.840.1.113883.3.464.1003.102.12.1025)"
- "Diagnosis: Competing Conditions for Respiratory Conditions" using "Competing Conditions for Respiratory Conditions (2.16.840.1.113883.3.464.1003.102.12.1017)"
- "Diagnosis: Hospice Diagnosis" using "Hospice Diagnosis (2.16.840.1.113883.3.464.1003.1165)"
- "Diagnosis: Upper Respiratory Infection" using "Upper Respiratory Infection (2.16.840.1.113883.3.464.1003.102.12.1022)"
- "Encounter, Performed: Emergency Department Evaluation and Management Visit" using "Emergency Department Evaluation and Management Visit (2.16.840.1.113883.3.464.1003.101.12.1010)"
- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient (2.16.840.1.113883.3.666.5.307)"
- "Encounter, Performed: Home Healthcare Services" using "Home Healthcare Services (2.16.840.1.113883.3.464.1003.101.12.1016)"
- "Encounter, Performed: Hospice Encounter" using "Hospice Encounter (2.16.840.1.113883.3.464.1003.1003)"
- "Encounter, Performed: Initial Hospital Observation Care" using "Initial Hospital Observation Care (2.16.840.1.113883.3.464.1003.101.12.1002)"
- "Encounter, Performed: Medical Disability Exam" using "Medical Disability Exam (2.16.840.1.113883.3.464.1003.101.12.1073)"
- "Encounter, Performed: Observation" using "Observation (2.16.840.1.113883.3.464.1003.101.12.1086)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Online Assessments" using "Online Assessments (2.16.840.1.113883.3.464.1003.101.12.1089)"
- "Encounter, Performed: Outpatient Consultation" using "Outpatient Consultation (2.16.840.1.113883.3.464.1003.101.12.1008)"
- "Encounter, Performed: Preventive Care Services Established Office Visit, 18 and Up" using "Preventive Care Services Established Office Visit, 18 and Up (2.16.840.1.113883.3.464.1003.101.12.1025)"
- "Encounter, Performed: Preventive Care Services Group Counseling" using "Preventive Care Services Group Counseling (2.16.840.1.113883.3.464.1003.101.12.1027)"

Human Readable: Body- Supplemental Data Elements

Supplemental Data Elements

▲ SDE Ethnicity

["Patient Characteristic Ethnicity": "Ethnicity"]

▲ SDE Payer

["Patient Characteristic Payer": "Payer"]

▲ SDE Race

["Patient Characteristic Race": "Race"]

▲ SDE Sex

["Patient Characteristic Sex": "ONC Administrative Sex"]

Machine Readable XML: Measure Header and Logic - Snippet

```
▼<QualityMeasureDocument xmlns="urn:h17-org:v3" xmlns:cql-ext="urn:hhs-cql:hqmf-n1-extensions:v1"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <!--
    *****
    Measure Details Section
    *****
  -->
  <typeId extension="POQM_HD000001UV02" root="2.16.840.1.113883.1.3"/>
  ▼<templateId>
    <item extension="2021-02-01" root="2.16.840.1.113883.10.20.28.1.2"/>
  </templateId>
  <id root="2c928084-8389-524e-0183-c8d7a6700f02"/>
  ▼<code code="57024-2" codeSystem="2.16.840.1.113883.6.1">
    <displayName value="Health Quality Measure Document"/>
  </code>
  <title value="Appropriate Treatment for Upper Respiratory Infection (URI)"/>
  <text value="Percentage of episodes for patients 3 months of age and older with
  not result in an antibiotic order"/>
  <statusCode code="COMPLETED"/>
  <setId root="e455fac0-f2cb-4074-a351-1e68a90fb7cf"/>
  <versionNumber value="12.0.000"/>
  ▼<author>
    ▼<responsibleParty classCode="ASSIGNED">
      ▼<representedResponsibleOrganization classCode="ORG" determinerCode="INSTANCE">
        ▼<id>
          <item root="2.16.840.1.113883.3.464"/>
        </id>
        ▼<name>
          ▼<item>
            <part value="National Committee for Quality Assurance"/>
          </item>
        </name>
      </representedResponsibleOrganization>
    </responsibleParty>
  </author>
```

The HQMF is an xml-based standard that shows the measure content, both machine-readable logic and header, in a way that a machine can parse the content into sections and perform calculations.

While it does take some investment to create a tool that "reads" the HQMF, it can be used to import the measure and generate the measure results automatically.

Companion eCQM 101 Presentations

- Find additional eCQM presentations on the [eCQM Resources](#) page of the eCQI Resource Center
- Email the [eCQI Resource Center](#) to ask questions or provide website feedback

Acronyms

Acronym	Definition
CAH	Critical Access Hospital
CDS	Clinical Decision Support
CQL	Clinical Quality Language
DERep	Data Element Repository
eCQM	Electronic Clinical Quality Measure
EH	Eligible Hospital
ELM	Expression Logical Model
FHIR	Fast Healthcare Interoperability Resources
HL7	Health Level Seven International
HQMF	Health Quality Reporting Format
HTML	Hyper Text Markup Language
JSON	JavaScript Object Notation
LOINC	Logical Observation Identifiers, Names, and Codes
QDM	Quality Data Model
UMLS	Unified Medical Language System
VSAC	Value Set Authority Center
XML	eXtensible Markup Language