



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

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**March 2019**

# eCQM 101 Overview

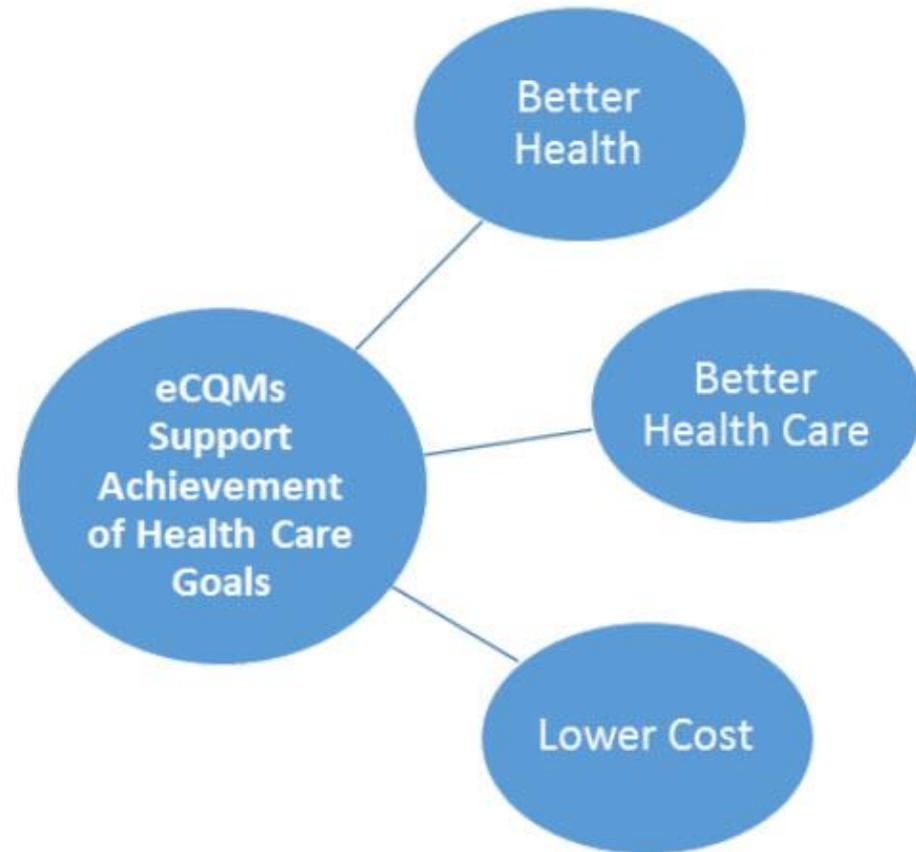
- What is an electronic clinical quality measure (eCQM)?
- Where do I find eCQMs?
- What is included in an eCQM specification?
- What resources are helpful to successfully implement eCQMs?
- What resources are available to help me test the eCQMs?
- Where do I find which eCQMs are used in Centers for Medicare & Medicaid Services (CMS) quality programs?
- Where do I find key resources to help me understand eCQMs?
- Where do I go for help regarding use of eCQMs in CMS Quality programs?
- How do I submit eCQMs to CMS?

# What is an eCQM?

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# eCQMs

- eCQMs use data electronically extracted from electronic health records (EHRs) and/or health information technology systems to measure the quality of health care provided.
- CMS uses eCQMs in a variety of quality reporting programs.
- Eligible Professional (EPs), Eligible Clinicians, Eligible Hospitals (EHs), and Critical Access Hospitals (CAHs) report eCQMs to CMS.

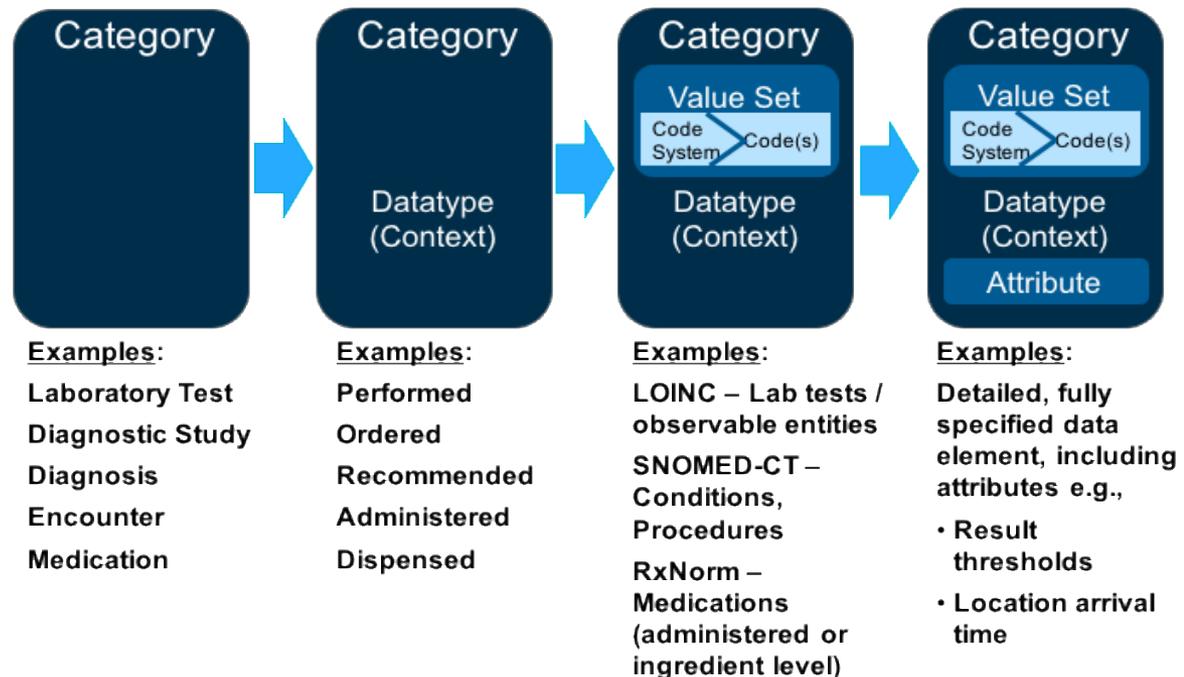


# Building an eCQM

- 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 in order to measure that 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 model is the current structure for electronically representing quality measure concepts in eCQM development and reporting.
- QDM Datatypes



# eCQM Data Element

- 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 version 5.3 contains 19 categories. Some examples of categories are Medication, Procedure, Condition/Diagnosis/Problem, and Encounter.
  - Examples: 'Medication', 'Laboratory Test'
- QDM Datatype - The context in which each category is used to describe a part of the clinical care process. Examples of QDM datatypes include 'Medication, Active' and 'Medication, Administered' as applied to the QDM Medication category.
  - Examples: 'Laboratory Test, Order', 'Laboratory Test, Performed'
- QDM Attribute - Provides specific details about a QDM data element. QDM data elements have two types of attributes, datatype-specific and dataflow attributes.
  - Example: 'Laboratory Test, Performed: (result)'

# eCQM Data Element Repository (DERep)

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.

## eCQM Data Element Repository (DERep)

The eCQM Data Element Repository (DERep) provides all the data elements associated with published and tested eCQMs for use in CMS quality programs as well as the definitions and clinical focus for each data element. An end user can sort information by data element, eCQM, union, QDM attribute, or QDM category and datatype data element.

The data elements provided are for use by Eligible Professional/Eligible Clinician and Eligible Hospital/Critical Access Hospital eCQMs for quality reporting and performance periods. Information contained within the DERep is derived from the eCQM specifications, Quality Data Model 5.3, and the Value Set Authority Center (VSAC). Each eCQM data element includes information about the value set, the QDM datatype, and attributes used by that data element. Note: The data element descriptions may be updated in the DERep as compared to the VSAC. These descriptions will ultimately be in sync with the descriptions contained in the VSAC in Spring 2019.

Select a Filter Option      Search      Sort by      Order      Apply      Reset

- All Data Elements -  
eCQM Data Elements  
eCQM Unions  
EH/CAH eCQMs  
EP/EC eCQMs  
QDM Attributes  
QDM Categories and QDM Datatypes

Apply to see results. Filter definitions are below:

The eCQM data elements provide a listing of all data elements used in eCQMs for 2019 CMS quality reporting and performance periods. Each eCQM data element includes information about the value set, the QDM datatype, and the QDM attributes used by that data element. Note: DERep data element descriptions may not yet be updated in the VSAC. The DERep and VSAC data element descriptions will be synchronized in Spring 2019.

### eCQM

The eCQM filter currently provides a list of 24 eCQMs in CMS programs – 14 Eligible Hospital/Critical Access Hospital and 8 Eligible Professional/Eligible Clinician.

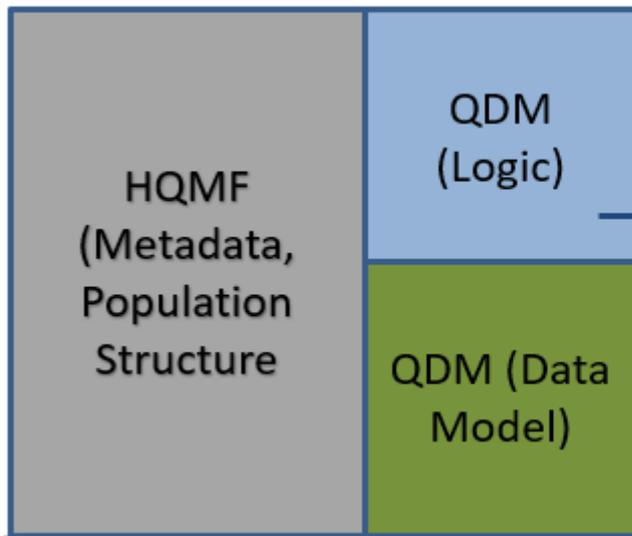
[https://ecqi.healthit.gov/collaborative-measure-development#quicktabs-tabs\\_cmd2](https://ecqi.healthit.gov/collaborative-measure-development#quicktabs-tabs_cmd2)

# Expression Logic

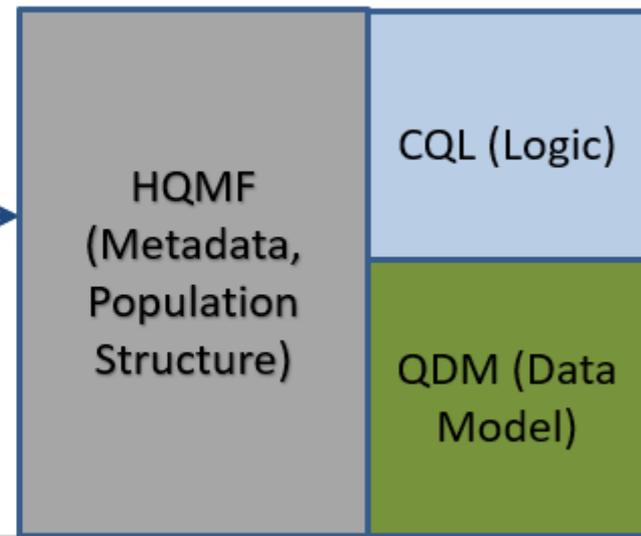
## Clinical Quality Language (CQL)

- CQL is a Health Level 7 International (HL7) authoring language standard that is human readable. CQL is the expression logic used in Health Quality Measure Format (HQMF) for eCQMs implemented in calendar year 2019.
- The HQMF is the basic electronic specification for the measure. It provides the metadata and population structure. The QDM provides the data model, but CQL represents the logic used in the HQMF.
- The QDM provides information to help finalize the HQMF which is divided into two parts: the data model and the logic. CQL replaces the logic expressions previously defined in the QDM.

### Reporting prior to CY2019



### CY2019 Reporting



# Benefits of CQL

- Expresses measure logic that is easily human readable yet structured enough for processing a query electronically
- Provides for measure logic that can be shared 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)

# Where do I find eCQMs?

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# eCQI Resource Center

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

The screenshot shows the eCQI Resource Center website. The browser address bar displays "https://ecqi.healthit.gov/". The navigation menu includes "eCQMs" (Electronic Clinical Quality Measures), "Resources" (Standards, Tools, & Resources), "About" (eCQI, CDS, FAQs, Engage), and "Sign In" (Manage Your Account). A search bar is located on the right. A prominent blue banner features the text "\*NEW\* Collaborative Measure Development Workspace" with a "Learn More" button. Below this, a description states: "Electronic Clinical Quality Improvement (eCQI) Resource Center - The one-stop shop for the most current resources to support electronic clinical quality improvement." The background of the banner shows a healthcare professional working on a laptop.

## Featured Resources

Eligible Professional / Eligible Clinician eCQMs

Eligible Hospitals / Critical Access Hospital eCQMs

Educational Resources

# Example: Finding Eligible Hospital / Critical Access Hospital eCQMs and Materials

## Eligible Hospital / Critical Access Hospital eCQMs

The electronic clinical quality measures (eCQMs) are updated for calendar year 2019 reporting for the Hospital Inpatient Quality Reporting (IQR) Program and the Medicare and Medicaid Promoting Interoperability programs for Eligible Hospitals and Critical Access Hospitals. Measures will not be eligible for 2019 reporting unless and until they are proposed and finalized through notice-and-comment rulemaking for each applicable program.

Each year, CMS makes updates to the eCQMs adopted for submission in CMS programs. CMS requires the use of updated eCQMs for all its quality programs because they include updated codes, logic corrections, and clarifications. Reporting eCQM data to the Hospital IQR Program and for aligned credit for reporting of eCQMs to the Promoting Interoperability programs requires that hospitals use the most current version of the eCQMs identified below for the applicable reporting period.

In addition, CMS may publish addenda to the eCQM updates. The addenda provide updates to the codes used in value sets based on code system changes.

CMS has updated eCQMs for potential inclusion in the following programs:



- [Hospital Inpatient Quality Reporting \(IQR\) Program](#) <sup>if</sup>
  - [Medicaid Promoting Interoperability Program for Eligible Hospitals and Critical Access Hospitals](#) <sup>if</sup> (formerly known as the Medicaid Electronic Health Record (EHR) Incentive Program)
  - [Medicare Promoting Interoperability Electronic Health Record \(EHR\) Incentive Programs for Eligible Hospitals and Critical Access Hospitals](#) <sup>if</sup> (formerly known as the Medicare EHR Incentive Program)
- Use the eCQM Materials and follow the [eCQM Implementation Checklist](#) to update your electronic health record and processes for eCQM use and reporting.

Select Reporting Period Search

2019

### 2019 REPORTING PERIOD ELIGIBLE HOSPITAL / CRITICAL ACCESS HOSPITAL ECQMS

[View Archive](#)

For Use <sup>if</sup>	eCQM Materials	Published <sup>if</sup>	File Type <sup>if</sup>
2019 Q1-Q4	<a href="#">Implementation Checklist eCQM Annual Update</a>	May 2018	link
2019 Q1-Q4	<a href="#">Guide for Reading eCQMs</a>	May 2018	pdf
2019 Q1-Q4	<a href="#">Eligible Hospitals Table of eCQMs</a>	May 2018	pdf
2019 Q1-Q4	<a href="#">eCQM Specifications for Eligible Hospitals</a>	May 2018	zip
2019 Q1-Q4	<a href="#">eCQM Value Sets</a> <sup>if</sup>	May 2018	link
2019 Q1-Q4	<a href="#">Binding Parameter Specification (BPS)</a> <sup>if</sup>	May 2018	zip
2019 Q1-Q4	<a href="#">eCQM Measure Logic Guidance v2.0</a>	May 2018	pdf
2019 Q1-Q4	<a href="#">Technical Release Notes (pdf)</a>	May 2018	pdf

# Example: Finding Eligible Hospital / Critical Access Hospital eCQMs and Materials (Cont'd)

Select Reporting Period Search

2019

[View Archive](#)

## 2019 REPORTING PERIOD ELIGIBLE HOSPITAL / CRITICAL ACCESS HOSPITAL ECQMS

For Use ↕	eCQM Materials	Published ↕	File Type ↕
2019 Q1-Q4	Implementation Checklist eCQM Annual Update	May 2018	link
2019 Q1-Q4	Guide for Reading eCQMs	May 2018	pdf
2019 Q1-Q4	Eligible Hospitals Table of eCQMs	May 2018	pdf
2019 Q1-Q4	eCQM Specifications for Eligible Hospitals	May 2018	zip
2019 Q1-Q4	eCQM Value Sets <sup>Ⓘ</sup>	May 2018	link
2019 Q1-Q4	Blinding Parameter Specification (BPS) <sup>Ⓘ</sup>	May 2018	zip
2019 Q1-Q4	eCQM Measure Logic Guidance v2.0	May 2018	pdf
2019 Q1-Q4	Technical Release Notes (pdf)	May 2018	pdf
2019 Q1-Q4	Technical Release Notes (zip)	May 2018	zip
2019 Q1-Q4	eCQM Annual Update Pre-Publication Document	Feb 2018	pdf
2019 Q1-Q4	2019 CMS QRDA I Implementation Guide for Hospital Quality Reporting	May 2018	pdf
2019 Q1-Q4	2019 CMS QRDA I Schematrons, and Sample Files for Hospital Quality Reporting	May 2018	zip



-USHIK Links are not updated for the 2019 Reporting Period.

Measure Name ↕	Short Name ↕	CMS eCQM ID ↕	NQF ID ↕	Meaningful Measure Area ↕	USHIK Version Links
Exclusive Breast Milk Feeding	PC-05	CMS9v7	0480	Preventive Care	Version Detail <sup>Ⓘ</sup> Version Compare <sup>Ⓘ</sup>
Home Management Plan of Care (HMPC) Document Given to Patient/Caregiver	CAC-3	CMS26v6	None	Preventive Care	Version Detail <sup>Ⓘ</sup> Version Compare <sup>Ⓘ</sup>
Hearing Screening Prior To Hospital Discharge	EHDI-1a	CMS31v7	1354	Preventive Care	Version Detail <sup>Ⓘ</sup> Version Compare <sup>Ⓘ</sup>
Median Time from ED Arrival to ED Departure for Discharged ED Patients	ED-3	CMS32v8	0496	Patients Experience of Care	Version Detail <sup>Ⓘ</sup> Version Compare <sup>Ⓘ</sup>



# Example: Individual Measure Page - Measure Specifications and DERep

RC Closing the Referral Loop: Receipt of Specialist Report

https://ecqi.healthit.gov/ecqm/measures/cms50v7

For quick access, place your bookmarks here on the bookmarks bar. Import bookmarks now...

eCQI RESOURCE CENTER

eCQMs v Electronic Clinical Quality Measures

Resources v Standards, Tools, & Resources

About v eCQI, CDS, FAQs, Engage

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CMS645v2

CMS22v7

CMS2v8

CMS50v7

CMS52v7

CMS56v7

CMS65v8

CMS66v7

CMS68v8

CMS69v7

CMS74v8

CMS75v7

CMS82v6

CMS90v8

Quality ID: 374

Meaningful Measure: [Transfer of Health Information and Interoperability](#)

Data Elements: [CMS50v7 - Closing the Referral Loop: Receipt of Specialist Report](#)

Specifications

[CMS50v7.html](#)

[CMS50v7.zip](#)

[CMS50v7\\_TRN.xlsx](#)

Release Notes

Header

- Updated Version Number.

Measure Section: eMeasure Version number

Source of Change: Measure Lead

- Updated Copyright.

# Example: Individual Measure - Data Element Repository



RC CMS50v7 - Closing the Referral L x +

← → ↻ 🏠 🔒 https://ecqi.healthit.gov/cmd/ecqm-measure.ep/cms50v7.html 🔍 ☆ 📌 🗑

For quick access, place your bookmarks here on the bookmarks bar. Import bookmarks now...

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## CMS50v7 - Closing the Referral Loop: Receipt of Specialist Report

🏠 DERep Home Page

### Rationale:

Closing the Referral Loop: Receipt of Specialist Report. Problems in the outpatient referral and consultation process have been documented, including lack of timeliness of information and inadequate provision of information between the specialist and the requesting physician (Gandhi, 2000; Forrest, 2000; Stille, 2005). In a study of physician satisfaction with the outpatient referral process, Gandhi et al. (2000) found that 68% of specialists reported receiving no information from the primary care provider prior to referral visits, and 25% of primary care providers had still not received any information from specialists 4 weeks after referral visits. In another study of 963 referrals (Forrest, 2000), pediatricians scheduled appointments with specialists for only 39% and sent patient information to the specialists in only 51% of the time. In a 2006 report to Congress, MedPAC found that care coordination programs improved quality of care for patients, reduced hospitalizations, and improved adherence to evidence-based care guidelines, especially among patients with diabetes and CHD. Associations with cost-savings were less clear; this was attributed to how well the intervention group was chosen and defined, as well as the intervention put in place. Additionally, cost-savings were usually calculated in the short-term, while some argue that the greatest cost-savings accrue over time (MedPAC, 2006). Improved mechanisms for information exchange could facilitate communication between providers, whether for time-limited referrals or consultations, on-going co-management, or during care transitions. For example, a study by Branger et al. (1999) found that an electronic communication network that linked the computer-based patient records of physicians who had shared care of patients with diabetes significantly increased frequency of communications between physicians and availability of important clinical data. There was a 3-fold increase in the likelihood that the specialist provided written communication of results if the primary care physician scheduled appointments and sent patient information to the specialist (Forrest, 2000). Care coordination is a focal point in the current health care reform and our nation's ambulatory health information technology (HIT) framework. The National Priorities Partnership recently highlighted care coordination as one of the most critical areas for development of quality measurement and improvement (NPP, 2008).

### Data Elements

<https://ecqi.healthit.gov/cmd/ecqm-measure.ep/cms50v7.html>

# What is included within an eCQM specification?

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# Measure Authoring Tool (MAT) - <https://www.emeasuretool.cms.gov/>

- eCQMs are developed in the MAT and produce human and machine readable files



## Measure Authoring Tool

[MAT Home](#)[News & Alerts](#)[Training & Resources](#)[Open Source Community](#)[Contact Us](#)

### Measure Authoring Tool Overview



The Measure Authoring Tool (MAT) is a web-based tool that allows measure developers to author electronic Clinical Quality Measures (eCQMs). Using the tool, authors create Clinical Quality Language (CQL) expressions, which have the conceptual portion of the Quality Data Model (QDM) as their foundation. The tool provides the capability to express complex measure logic and export measures in several formats, including a human-readable document that can be viewed in a web browser, an eCQM HQMF XML document which provides metadata,

terminology, data elements and specific population definitions respective to the measure, a CQL file which contains the terminology and expression logic used by the measure, an ELM XML export that is a computer readable XML version of the CQL file, and a Javascript Object Notation (JSON) export which is a serialized format of the ELM file. The data expressed in the tool by the users serves as the input for the creation of the defined export files.

### Secure Login

To log-in to the MAT, a user account is required. If you are unable to log-in to your MAT account, please contact the MAT Support desk.

[Log in to the MAT](#)[New User Registration](#)

### Announcements

Measure Authoring Tool Version 5.6 Released

[MAT v 5.6 Release Downtime](#)

[MAT Downtime Notification - August Monthly Maintenance](#)

# eCQM Components

- Human readable Hyper Text Markup Language (HTML) file
  - Ex: CMS2v8.html
- Machine readable
  - HQMF XML file
    - Ex: CMS2v8.xml
  - CQL files
  - Expression Logical Model (ELM) XML
  - ELM JavaScript Object Notation (JSON) XML

*Note: Value sets and direct reference codes in the eCQM specifications are found in the Value Set Authority Center (VSAC) and require a UMLS license to access.*

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

eCQM Title	Preventive Care and Screening: Screening for Depression and
eCQM Identifier (Measure Authoring Tool)	2
NQF Number	0418
Measurement Period	January 1, 20XX through December 31, 20XX
Measure Steward	Centers for Medicare & Medicaid Services (CMS)
Measure Developer	Quality Insights
Endorsed By	National Quality Forum
Description	Percentage of patients aged 12 years and older screened for depression using an appropriate standardized depression screening tool AND if possible, a positive screen.
Copyright	Limited proprietary coding is contained in the measure specifications. Measure sets should obtain all necessary licenses from the owners of the specifications. CPT(R) contained in the Measure specifications is copyright 2004-2017 copyright 2004-2017 Regenstrief Institute, Inc. This material is copyright 2004-2017 International Health Terminology Standardization
Disclaimer	These performance measures are not clinical guidelines and do not have been tested for all potential applications. THE MEASURES AND SPECIFICATIONS ARE PROVIDED "AS IS" Due to technical limitations, registered trademarks are indicated by (TM) or [TM].
Measure Scoring	Proportion
Measure Type	Process
Stratification	None
Risk Adjustment	None
Rate Aggregation	None
Rationale	Depression is a serious medical illness associated with higher rates of hospital utilization, and impaired functioning (Pratt, Brody 2014). 2014 (14.1 percent) adolescents aged 12 to 17 had a major depressive episode. 10.1 percent adults aged 18 or older had at least one MDE in the past year. One MDE with severe impairment in the past year (Center for Disease Control and Prevention, 2014). Indicators of severity of depressive symptoms factor into having a major depressive episode, for example, as the severity of depressive symptoms increased, rates of activities related to depressive symptoms increased. For those twelve and older with mild depressive symptoms, 45.7% reported difficulty with activities and those with severe depressive symptoms, 88.0% reported difficulty (Pratt & Brody, 2014). Children and teens with major depressive disorder (MDD) has been found to have difficulty carrying out their daily activities, relating to others, and growing up healthy with an increased risk of suicide (Siu and USPSTF, 2016). Additionally, among pregnant women, especially during the perinatal period, depression and other mood disorders, such as bipolar disorder and anxiety disorders, can have devastating effects on women, infants, and families. Maternal suicide rates rise over hemorrhage and hypertensive disorders as a cause of maternal mortality (American College of Obstetricians and Gynecologists, 2015).
3/20/2019	

The measure header in the human readable file includes:

- Measure Developer
- Measure Steward
- Brief description of the measure
- Rationale for the measure and evidence it is based on
- What relevant clinical guidelines exist
- What copyright restrictions exist
- What the measure type is
- How the measure is scored
- Who has endorsed the measure
- Any additional guidance
- A summary of the different fields/criteria

The measure header alone cannot be used to calculate the measure!

# Human Readable: Measure Logic

## Population Criteria

### Initial Population

"Patient Age 12 Years or Older at Start of Measurement Period"  
and exists ( "Qualifying Encounter for Depression Screening" )

### Denominator

"Initial Population"

### Denominator Exclusions

"Has Diagnosis of Bipolar Starting Before Qualifying Encounter"  
or "Has Diagnosis of Depression Starting Before Qualifying Encounter"

### Numerator

( "Patient Age 12 to 17 Years at Start of Measurement Period"  
and ( "Most Recent Adolescent Depression Screening Negative" is not null  
or "Follow up for Positive Adolescent Depression Screening"  
)  
)  
or ( "Patient Age 18 Years or Older at Start of Measurement Period"  
and ( "Most Recent Adult Depression Screening Negative" is not null  
or "Follow up for Positive Adult Depression Screening"  
)  
)

### Numerator Exclusions

None

### Denominator Exceptions

(( "Has No Adolescent Depression Screening Due to Medical Reason"  
or "Has No Adolescent Depression Screening Due to Patient Refusal"  
)  
and not "Has Adolescent Depression Screening"  
)  
or (( "Has No Adult Depression Screening Due to Medical Reason"  
or "Has No Adult Depression Screening Due to Patient Refusal"  
)  
and not "Has Adult Depression Screening"  
)

### Stratification

None

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

Excerpt from the eCQM Specification on the eCQI Resource Center:  
<https://ecqi.healthit.gov/system/files/ecqm/measures/CMS2v8.html>

# Machine Readable: Measure Header and Logic

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <QualityMeasureDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:cql-ext="urn:hhs-cql:hqmf-n1-extensions:v1"
  xmlns="urn:hl7-org:v3">
  <!-- ***** Measure Details Section ***** -->
  <typeId root="2.16.840.1.113883.1.3" extension="POQM_HD000001UV02"/>
  - <templateId>
    <item root="2.16.840.1.113883.10.20.28.1.2" extension="2017-08-01"/>
  </templateId>
  <id root="40280382-5fa6-fe85-0160-0ed2838423ca"/>
  - <code codeSystem="2.16.840.1.113883.6.1" code="57024-2">
    <displayName value="Health Quality Measure Document"/>
  </code>
  <title value="Preventive Care and Screening: Screening for Depression and Follow-Up Plan"/>
  <text value="Percentage of patients aged 12 years and older screened for depression on the date of the encounter using an age
    appropriate standardized depression screening tool AND if positive, a follow-up plan is documented on the date of the positive
    screen."/>
  <statusCode code="COMPLETED"/>
  <setId root="9a031e24-3d9b-11e1-8634-00237..."/>
  <versionNumber value="8.1.000"/>
  - <author>
    - <responsibleParty classCode="ASSIGNED">
      + <representedResponsibleOrganization classCode="ORG" determinerCode="INSTANCE">
        </representedResponsibleOrganization>
      </responsibleParty>
    </author>
  - <custodian>
    - <responsibleParty classCode="ASSIGNED">
      - <representedResponsibleOrganization classCode="ORG" determinerCode="INSTANCE">
        - <id>
          <item root="9048cd4c-b61b-11e4..."/>
        </id>
        - <name>
          - <item>
            <part value="Centers for Med..."/>
          </item>
        </name>
      </representedResponsibleOrganization>
    </responsibleParty>
  </custodian>
  - <verifier>
    - <responsibleParty classCode="ASSIGNED">
      - <representedResponsibleOrganization classCode="ORG" determinerCode="INSTANCE">
        - <id>
          <item root="2.16.840.1.113883.3.560"/>
        </id>
        - <name>
          - <item>
            <part value="National Quality Forum"/>
          </item>
        </name>
      </representedResponsibleOrganization>
```

The HQMF is an xml-based standard that shows the measure content, both machine-readable logic and the human-readable 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.

Excerpt from the eCQM Specification on the eCQI Resource Center:  
<https://ecqi.healthit.gov/system/files/ecqm/measures/CMS2v8.zip>

# **What resources are helpful to successfully implement eCQMs?**

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# Key eCQM Materials

- [Guide for Reading eCQMs](#) provides a detailed overview of reading eCQMs and eCQM-related documents.
- [eCQM Logic and Implementation Guidance document](#) provides guidance for understanding, using, and implementing eCQMs.
- [Implementation Checklist](#)
- Measure Specific:
  - Technical Release Notes
  - Value Sets and Direct Reference Codes in the VSAC
  - eCQM Flows

# eCQM Implementation Checklist

## eCQM Implementation Checklist

The Centers for Medicare & Medicaid Services (CMS) requires an [eligible professional](#) (EP), [eligible clinician](#), [eligible hospital](#) (EH) or [critical access hospital](#) (CAH) to use the most current version of the [eCQMs](#) for quality reporting programs.

This [Pre-Check and Checklist](#) (pdf) assume that a health care practice/organization has determined which measures to report on. It provides the necessary technical steps [health information technology](#) (IT) developers, implementers and health care organizations must take to update their systems and processes with the [eCQM](#) Annual Update for the upcoming reporting and performance periods. The most recent eCQM Annual Update should be applied to your system for use in electronic quality reporting.

### Pre-Check

1) [Sign up for a Unified Medical Language System \(UMLS\) account](#)

2) [Sign up for a JIRA account](#)

3) [Sign up for eCQM page change notifications on the eCQI Resource Center](#)

4) [Review the code versions used in the Annual Update](#)

5) [Review the standards, tools, and documents used in the Annual Update](#)

### Checklist

1) [Access the appropriate eCQM Annual Update](#)

2) [Secure detailed information about each measure](#)

3) [Download value sets](#)

4) [Prepare to implement the updates by understanding changes to the eCQM](#)

5) [Prepare to report the updated eCQMs](#)

6) [Reach out for help](#)

<https://ecqi.healthit.gov/ecqm-implementation-checklist>

# Technical Release Notes (TRNs)

2019 REPORTING PERIOD ELIGIBLE HOSPITAL / CRITICAL ACCESS HOSPITAL ECQMS

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For Use	eCQM Materials	Published
2019 Q1-Q4	<a href="#">Implementation Checklist eCOM Annual Update</a>	May 2018
2019 Q1-Q4	<a href="#">Implementation Checklist eCOM Addendum</a>	Sep 2018
2019 Q1-Q4	<a href="#">Guide for Reading eQCMs (pdf)</a>	May 2018
2019 Q1-Q4	<a href="#">Eligible Hospitals Table of eQCMs (pdf)</a>	Jun 2018
2019 Q1-Q4	<a href="#">eCOM Specifications for Eligible Hospitals (zip)</a>	May 2018
2019 Q1-Q4	<a href="#">eCOM Value Sets Addendum</a>	Sep 2018
2019 Q1-Q4	<a href="#">eCOM Direct Reference Codes List</a>	Sep 2018
2019 Q1-Q4	<a href="#">eCOM Value Set Addendum FAQs (pdf)</a>	Jul 2018
2019 Q1-Q4	<a href="#">Binding Parameter Specification (BPS) Addendum</a>	Sep 2018
2019 Q1-Q4	<a href="#">eCOM Measure Logic Guidance v2.0 (pdf)</a>	May 2018
2019 Q1-Q4	<a href="#">Technical Release Notes (code system updates only) Addendum (pdf)</a>	Nov 2018
2019 Q1-Q4	<a href="#">Technical Release Notes Addendum (pdf)</a>	Nov 2018
2019 Q1-Q4	<a href="#">Technical Release Notes (code system updates only) Addendum (zip)</a>	Sep 2018
2019 Q1-Q4	<a href="#">Technical Release Notes Addendum (zip)</a>	Sep 2018
2019 Q1-Q4	<a href="#">eCOM Flows (zip)</a>	Sep 2018
2019 Q1-Q4	<a href="#">CMS ORDA I Implementation Guide for Hospital Quality Reporting (pdf)</a>	May 2018
2019 Q1-Q4	<a href="#">CMS ORDA I Schematrons, and Sample Files for Hospital Quality Reporting (zip)</a>	May 2018



TRNs

# Value Set Authority Center

VSAC houses the value sets used by eCQMs and is maintained by the National Library of Medicine

## VSAC Downloadable Resources

This page contains groups of value sets designated for a particular program usage. You can search the entire repository of published VSAC value sets in the [Search Value Sets](#) tab.

### CMS eCQM Value Sets

### C-CDA Value Sets

### CDCREC Roll-up codes

### Centers for Medicare & Medicaid (CMS) Electronic Clinical Quality Measure (eCQM) Value Sets

eCQMs will not be eligible for reporting to CMS unless and until they are proposed and finalized through notice, public comment, and rulemaking for each applicable program. For more information about eCQMs please visit the [eCQI Resource Center](#).

▶ 2019 Reporting/Performance Period eCQM Value Sets

▶ 2018 Reporting/Performance Period eCQM Value Sets

▶ 2017 Reporting/Performance Period eCQM Value Sets

▶ 2016 Reporting/Performance Period eCQM Value Sets

▶ 2015 Reporting/Performance Period eCQM Value Sets

▶ 2014 Reporting/Performance Period eCQM Value Sets

▶ 2013 Reporting/Performance Period eCQM Value Sets

### eCQM Value Set Files:

#### \*Sorted by CMS ID:

- Excel presents eCQM value sets organized in individual worksheet tabs for each CMS Measure ID.
- XML contains an individual XML file for each CMS Measure ID, presented in the [IHE Sharing Value Sets \(SVS\) Integration Profile](#).

# 2019 Reporting/Performance Period eCQM Value Sets and Direct Reference Codes

Available Downloads	Sorted by CMS ID*	Sorted by Value Set Name*	Sorted by Quality Data Model Category*
eCQM Value Sets for Eligible Hospitals Published September 17, 2018	<a href="#">Excel (xlsx)</a> <a href="#">SVS (xml)</a>	<a href="#">Excel (xlsx)</a> <a href="#">SVS (xml)</a> <a href="#">SVS (text)</a>	<a href="#">Excel (xlsx)</a>
eCQM Value Sets for Eligible Professionals and Eligible Clinicians Published September 17, 2018	<a href="#">Excel (xlsx)</a> <a href="#">SVS (xml)</a>	<a href="#">Excel (xlsx)</a> <a href="#">SVS (xml)</a> <a href="#">SVS (text)</a>	<a href="#">Excel (xlsx)</a>
All eCQM Value Sets (Eligible Professionals, Clinicians and Hospitals) Published September 17, 2018	<a href="#">Excel (xlsx)</a> <a href="#">SVS (xml)</a>	<a href="#">Excel (xlsx)</a> <a href="#">SVS (xml)</a> <a href="#">SVS (text)</a>	<a href="#">Excel (xlsx)</a>
Binding Parameter Specification for eCQM Value Sets Published September 17, 2018 <a href="#">?</a>	<a href="#">Excel (xlsx)</a>		
Retired/Legacy Codes Currently in eCQM Value Sets Published September 17, 2018 <a href="#">?</a>	<a href="#">Excel (xlsx)</a>		
Code System Versions Currently in eCQM Value Sets Published September 17, 2018 <a href="#">?</a>	<a href="#">Excel (xlsx)</a>		
Direct Reference Codes Specified within eCQM HQMF files, Publication Date: September 17, 2018 <a href="#">?</a>	<a href="#">Excel (xlsx)</a>		

# Value Sets

## Bipolar Diagnosis ICD10

Value Set Members Expansion ID: 20140513

Expanded Code List

View Toggle Clear Page 1 of 6 20

Code	Descriptor	Code System
<a href="#">10875004</a>	Severe mixed bipolar I disorder with psychotic features, mood-incongruent (disorder)	SNOMEDCT
<a href="#">10981006</a>	Severe mixed bipolar I disorder with psychotic features (disorder)	SNOMEDCT
<a href="#">111485001</a>	Mixed bipolar I disorder in full remission (disorder)	SNOMEDCT
<a href="#">1196001</a>	Chronic bipolar II disorder, most recent episode major depressive (disorder)	SNOMEDCT
<a href="#">13313007</a>	Mild bipolar disorder (disorder)	SNOMEDCT
<a href="#">13581000</a>	Severe bipolar I disorder, single manic episode with psychotic features, mood-congruent (disorder)	SNOMEDCT
<a href="#">13746004</a>	Bipolar disorder (disorder)	SNOMEDCT
<a href="#">14495005</a>	Severe bipolar I disorder, single manic episode without psychotic features (disorder)	SNOMEDCT
<a href="#">1499003</a>	Bipolar I disorder, single manic episode with postpartum onset (disorder)	SNOMEDCT

## Bipolar Diagnosis (Grouping)

Grouping Members

Name	OID
Bipolar Diagnosis ICD10	<a href="#">2.16.840.1.113883.3.600.448</a>
Bipolar Diagnosis ICD9	<a href="#">2.16.840.1.113883.3.600.447</a>
Bipolar Diagnosis SNOMED	<a href="#">2.16.840.1.113883.3.600.449</a>

Page 1 of 1 5

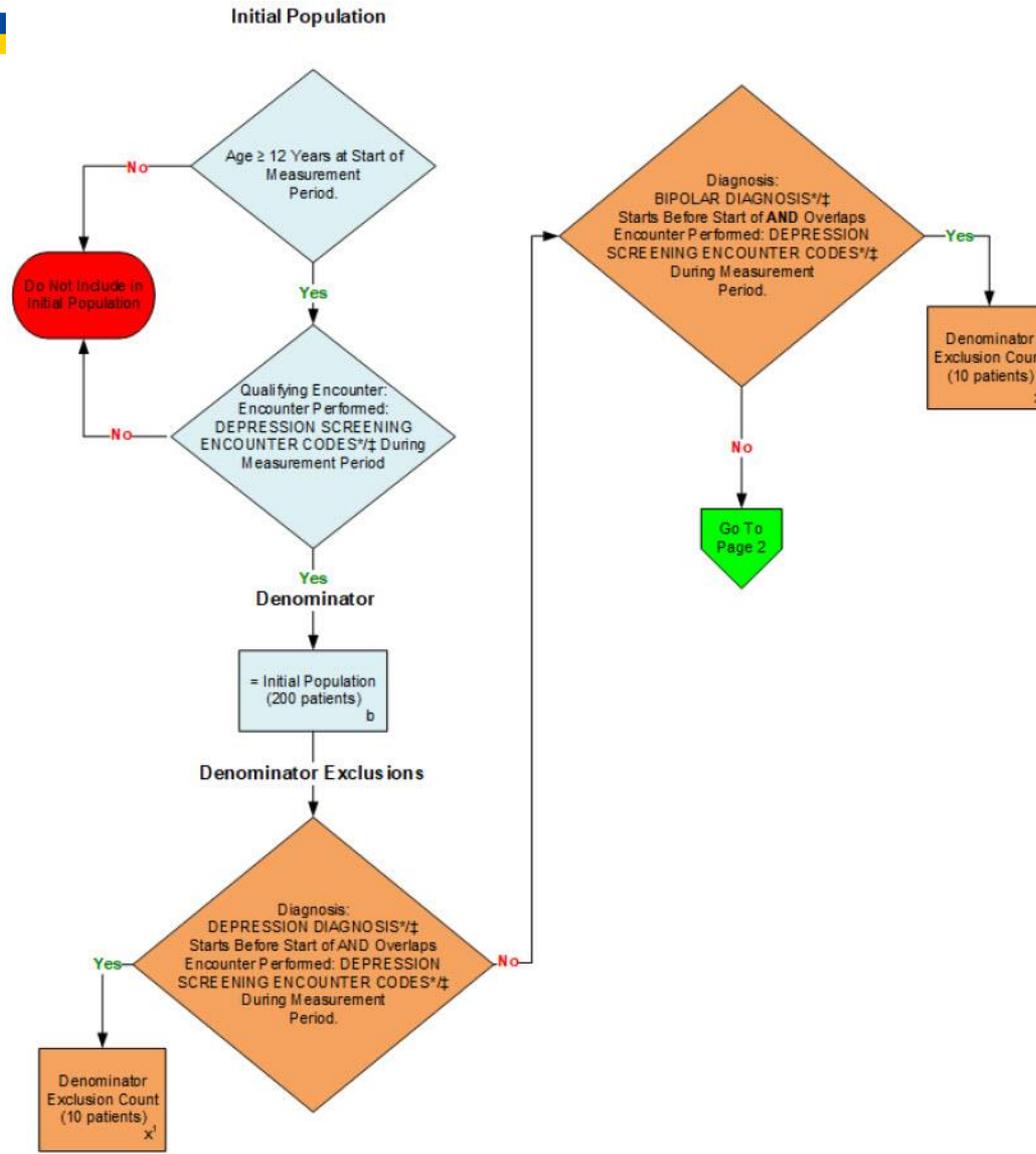
A **Value Set** is a list of specific values, terms, and their codes, used to describe clinical and administrative concepts used in eQMs

A **Direct Reference Code (DRC)** is a specific code that is referenced directly in the eQCM logic to describe a data element or one of its attributes. DRC metadata include the description of the code, the code system from which the code is derived, and the version of that code system.

Excerpt from National Library of Medicine (NLM) Value Set Authority Center (VSAC): <https://vsac.nlm.nih.gov/>

# eCQM Flow: CMS2v8

eCQM Flows provide an overview of the population criteria components and their inclusion or exclusions into the eCQM's numerator.



Screening for Clinical Depression and Follow-up Plan eCQM Flow

Excerpt from the eCQM measure flows:  
[https://ecqi.healthit.gov/system/files/2019\\_eCQM\\_Flow\\_s-1of3-V2.zip](https://ecqi.healthit.gov/system/files/2019_eCQM_Flow_s-1of3-V2.zip)

**What resources are available to help me test the eCQMs?**

---

# Bonnie: An eCQM Testing Tool

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

## BONNIE

LOGIN

A tool for testing electronic clinical quality measures

USER GUIDE

USER GROUP

API GUIDE

REPORT BUG

**streamlined and  
efficient**



pretesting for eCQMs

**developer  
empowerment**



provides specific feedback on the  
behavior of the CQM logic

**quality  
reporting**



supports the CMS Quality Reporting  
Programs

Bonnie is a tool for testing electronic clinical quality measures (eCQMs) designed to support streamlined and efficient pre-testing of eCQMs, particularly those used in the CMS Quality Reporting Programs.

# Bonnie: An eCQM Testing Tool

<https://bonnie.healthit.gov/> (Cont'd)

- Bonnie is a software tool that allows eCQM developers to test and verify the behavior of their eCQM logic.
- The Bonnie application allows measure developers to independently load measures that they have constructed using the Measure Authoring Tool (MAT) and helps measure developers execute the measure logic against the constructed patient test deck and evaluate whether the logic aligns with the intent of the measure.

# Cypress Testing Tool - Demo Server

[https://cypressdemo.healthit.gov/users/sign\\_in](https://cypressdemo.healthit.gov/users/sign_in)

cypress 4.0.2 Sign In Sign Up

# cypress

Rigorous & repeatable testing of Electronic Health Records

**Sign In**

Email

Password

Remember me

**Sign in**

[Sign up](#)  
[Reset password](#)  
[Resend confirmation email](#)

## What is Cypress?

Cypress is the open source, rigorous and repeatable testing tool of Electronic Health Records (EHRs) and EHR modules in calculating eQMs used by CMS's Promoting

## CQM Certification

Cypress tests four different certification criteria:

- Record and Export - Record clinical data and export it in a format usable by other EHRs

## Using Cypress

The Cypress software includes a standard test data of synthetic patient records that exercises all of the CQMs, for Eligible Professionals (EP) and Eligible Hospitals (EH).

# Cypress Testing Tool - Demo Server

[https://cypressdemo.healthit.gov/users/sign\\_in](https://cypressdemo.healthit.gov/users/sign_in)

(Cont'd)

- Cypress is an open source testing tool used by vendors to certify their EHRs and health information technology (IT) modules for calculating eCQMs. Cypress is an official testing tool for the ONC EHR Certification Program.
- Testing involves Cypress generating synthetic patient records for the subset of published eCQMs selected for certification and testing the ability of the EHR systems and health IT modules to accurately record, import, calculate, filter, and report eCQMs.

**Where do I find which eCQMs are used in CMS quality programs?**

---

# CMS Measures Inventory Tool



Centers for Medicare & Medicaid Services

## Measures Inventory Tool

[External Resources](#) [About](#)

MEASURE INVENTORY
MEASURE SUMMARY
0 MEASURE COMPARISON

How do I search?

x
Q

TABLE CONTROLS
Show/Hide Columns 
Export Excel File

53 MEASURE RESULTS
[View Results by Measure Program](#)
Show 10 rows 
« ‹ 1 2 3 4 5 6 › »

Measure Content Last Updated: 2018-08-23 [What are the Status Definitions?](#)

Clear All x Medicaid Promoting Intero... x

Add to Measure Comparison	Measure Title	NQF Endorsement Status	NQF ID	Programs	Measure Type
<span style="border: 1px solid #ccc; padding: 2px 5px;">Add +</span>	Adult Major Depressive Disorder (MDD): Suicide Risk Assessment (eCQM)	Endorsed	0104	<ul style="list-style-type: none"> <li>Medicare and Medicaid Electronic Health Record Incentive Program for Eligible Professionals (Removed) </li> <li>Merit-Based Incentive Payment System (MIPS) Program (Implemented) </li> <li>Medicaid Promoting Interoperability Program (Proposed) </li> </ul>	Process
<span style="border: 1px solid #ccc; padding: 2px 5px;">Add +</span>	Anti-depressant Medication Management (eCQM)	Endorsed	0105	<ul style="list-style-type: none"> <li>Medicare and Medicaid Electronic Health Record Incentive Program for Eligible Professionals (Removed) </li> <li>Merit-Based Incentive Payment System (MIPS) Program (Implemented) </li> <li>Medicaid Promoting Interoperability Program (Proposed) </li> </ul>	Process
<span style="border: 1px solid #ccc; padding: 2px 5px;">Add +</span>	Appropriate Testing for Children with Pharyngitis (eCQM)	Not Endorsed	9999	<ul style="list-style-type: none"> <li>Medicare and Medicaid Electronic Health Record Incentive Program for Eligible Professionals (Removed) </li> <li>Merit-Based Incentive Payment System (MIPS) Program (Implemented) </li> <li>Medicaid Promoting Interoperability Program (Proposed) </li> </ul>	Process

Compare Measures

**FILTERS**

- + Programs
- + Current Status
- + Measure Type
- + NQF Endorsement Status
- + Development Stage
- + Meaningful Measure Area
- + Measure Groups
- + Healthcare Priority
- + Reporting Level
- + Purposes
- + Care Settings
- + Core Measure Set
- + Data Sources
- + Conditions
- + Subconditions
- + eCQM Spec Available

# CMS Quality Reporting Program Websites

- CMS publishes eCQMs for potential inclusion in several quality reporting programs:
  - Hospital Inpatient Quality Reporting (IQR) Program
  - Medicaid Promoting Interoperability Program
  - Medicare Promoting Interoperability Program for Eligible Hospitals and Critical Access Hospitals
  - Quality Payment Program: The Merit-based Incentive Payment System (MIPS) and Advanced Alternative Payment Models (Advanced APMs)
  - Advanced APM: Comprehensive Primary Care Plus (CPC+)

**Where do I find key resources to help me understand eCQMs?**

---

# eCQI Resource Center

<https://ecqi.healthit.gov>

The screenshot shows the eCQI Resource Center website. At the top, there is a navigation bar with the eCQI Resource Center logo on the left and several menu items: eCQMs (Electronic Clinical Quality Measures), Resources (Standards, Tools, & Resources), About (eCQI, CDS, FAQs, Engage), and Sign In (Manage Your Account). A search bar is located on the right side of the navigation bar. Below the navigation bar, there is a large blue banner on the left with the text "\*NEW\* Collaborative Measure Development Workspace" and a "Learn More" button. To the right of the banner is a photograph of a healthcare professional sitting at a desk with a laptop. Below the banner, there is a paragraph of text: "Electronic Clinical Quality Improvement (eCQI) Resource Center - The one-stop shop for the most current resources to support electronic clinical quality improvement."

The eCQI Resource Center is the 'one-stop shop' for the most current resources to support electronic quality improvement.

## Featured Resources

Eligible Professional / Eligible Clinician eCQMs

Eligible Hospitals / Critical Access Hospital eCQMs

Educational Resources

# eCQI Resource Center – eCQI Tools and Resources Library

The screenshot shows a web browser window with the URL [https://ecqi.healthit.gov/ecqi-tools-key-resources#quicktabs-tabs\\_tools3](https://ecqi.healthit.gov/ecqi-tools-key-resources#quicktabs-tabs_tools3). The page header includes the eCQI Resource Center logo and navigation menus for eCQMs, Resources, About, and Sign In. A search bar is also present. The main content area features three tabs: 'About', 'eCQM Standards and Tools Versions', and 'eCQI Tools and Resources Library', with the latter being the active tab. Below the tabs, a paragraph explains that eCQM tools provide a foundation for development, testing, certification, and implementation. A filter section allows users to search by Title, Category, and Who Uses Tool, with 'Apply' and 'Reset' buttons. The 'Cypress' tool is highlighted, with a list of links to related resources on the left and a detailed description on the right. The URL [https://ecqi.healthit.gov/ecqi-tools-key-resources#quicktabs-tabs\\_tools3](https://ecqi.healthit.gov/ecqi-tools-key-resources#quicktabs-tabs_tools3) is repeated at the bottom right.

**eCQI RESOURCE CENTER**

eCQMs ▾  
Electronic Clinical Quality Measures

Resources ▾  
Standards, Tools, & Resources

About ▾  
eCQI, CDS, FAQs Engage

Sign In ▾  
Manage Your Account

Search

[About](#)   [eCQM Standards and Tools Versions](#)   [eCQI Tools and Resources Library](#)

The [eCQM](#) tools and resources provide a foundation for the development, testing, certification, publication, implementation, reporting, and continuous evaluation of [quality measures](#) and their improvement. You can refine the tool list by selecting a category of interest and/or a role that best describes your needs, or you can also click a specific tool from the list below to view additional details.

**Title**   **Category**   **Who Uses Tool**

[Bonnie](#)  
[Bonnie User Group](#)  
[Binding Parameter Specification \(BPS\)](#)  
[CDS Connect](#)  
[Certified Health IT Product List \(CHPL\)](#)  
[Clinical Quality Framework](#)  
[Clinical Quality Language \(CQL\)](#)  
[CMS Measures Inventory Tool \(CMIT\)](#)  
[CMS Quality Reporting Document Architecture \(QRDA\)](#)  
[Implementation Guides \(IGs\)](#)  
[CMS QRDA Pre-Submission Validation Tools Guide](#)  
[CMS QualityNet Data Receiving Systems Edits Document](#)  
[CQL Formatting and Usage Wiki](#)  
[CQL Formatting and Usage Wiki - eCQM Known Issues](#)  
[CQL Style Guide](#)  
[CQL-to-ELM Translator Reference Implementation](#)  
[Cypress](#)

## Cypress

[Cypress](#)

**Category:** [Certification](#), [Implementation](#), [Testing](#)

**Who Uses Tool:** [Health IT Developer/Vendor](#)

[Cypress](#) is an open source testing tool used by vendors to certify their [EHRs](#) and [health information technology \(IT\)](#) modules for calculating [eCQMs](#). [Cypress](#) is an official testing tool for the ONC [EHR](#) Certification Program. Testing involves Cypress generating synthetic patient records for the subset of published [eCQMs](#) selected for certification and testing the ability of the [EHR](#) systems and [health IT](#) modules to accurately record, import, calculate, filter, and report eCQMs.

[https://ecqi.healthit.gov/ecqi-tools-key-resources#quicktabs-tabs\\_tools3](https://ecqi.healthit.gov/ecqi-tools-key-resources#quicktabs-tabs_tools3)

# eCQI Resource Center – eCQM and eCQI Educational Resources

The screenshot shows a web browser window with the URL <https://ecqi.healthit.gov/ecqm-and-ecqi-education-resources>. The page header includes the eCQI Resource Center logo and a navigation menu with the following items: eCQMs (Electronic Clinical Quality Measures), Resources (Standards, Tools, & Resources), About (eCQI, CDS, FAQs, Engage), and Sign In (Manage Your Account). A search bar is located on the right side of the header. The main content area features a large blue banner with the text "eCQM and eCQI Education Resources" and an image of a woman presenting to a group of people.

## General eCQM and eCQI Education

General resources from a variety of sources and presentations

## eCQM Tools Education

Resources available on eCQM tools such as Bonnie, Cypress, and PSVA

## eCQI Resource Center Live Demonstrations

Resources from live demonstrations of the eCQI Resource Center

## CQL Education

Resources available on the Clinical Quality Language (CQL) Standard

## QDM Education

Resources available on the Quality Data Model (QDM) Standard

## QRDA Education

Resources available on the Quality Reporting Document Architecture (QRDA) Standard

<https://ecqi.healthit.gov/ecqm-and-ecqi-education-resources>

# eCQI Glossary

RC Glossary | eCQI Resource Center x +

← → ↻ 🏠 🔒 https://ecqi.healthit.gov/glossary 🔍 ☆ 📄

For quick access, place your bookmarks here on the bookmarks bar. [Import bookmarks now...](#)

**eCQI**  
RESOURCE CENTER

eCQMs ▾  
Electronic Clinical Quality Measures

Resources ▾  
Standards, Tools, & Resources

About ▾  
eCQI, CDS, FAQs, Engage

Sign In ▾  
Manage Your Account

Search

## Glossary

[A](#) (1) | [C](#) (8) | [D](#) (6) | [E](#) (10) | [F](#) (1) | [H](#) (7) | [I](#) (4) | [M](#) (7) | [N](#) (4) | [O](#) (1) | [P](#) (7) | [Q](#) (5) | [R](#) (4) | [S](#) (8) | [T](#) (1) | [U](#) (1) | [V](#) (3)

### Alignment

Measure alignment includes using the same quality measures and value sets across settings and within multiple programs when possible. Alignment is achieved when a set of measures works well across settings or programs to produce meaningful information without creating extra work for those responsible for the measurement.

### Clinical Decision Support

Clinical Decision Support (CDS) is health information technology functionality that builds upon the foundation of an electronic health record (EHR) to provide persons involved in care processes with general and person-specific information, intelligently filtered and organized, at appropriate times, to enhance health and health care.

### Clinical Decision Support developer

A Clinical Decision Support (CDS) developer is an individual or organization that translates knowledge to a structured and/or executable tool that aids in making evidence-informed decisions about a patient's health care. CDS developers may or may not be the original knowledge authors (e.g., guideline developers, subject matter experts) or the final implementers. They are responsible for ensuring that the original clinical knowledge is reflected, accurately and consistently, in the appropriate standard coding schemes, e.g., CQL, and terminologies such as Current Procedural Terminology (CPT) and SNOMED CT, accounting appropriately for intellectual property and licensing.

### Clinical Quality Measure

A clinical quality measure (CQM) is a mechanism used for assessing the degree to which a provider competently and safely delivers clinical services that are appropriate for the patient in an optimal time frame. CQMs are a subset of the broader category of performance measures.

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

# Where do I go for help regarding use of eCQMs in CMS Quality programs?

---

# eCQM Implementation Questions ONC Project Tracking System (JIRA)

<https://oncprojecttracking.healthit.gov>

Powered by The Office of the National Coordinator for Health Information Technology (ONC)

CREATE AN ACCOUNT LOGIN

ONC Project Tracking System

LEARNING RESOURCES | CREATE AN ISSUE TICKET | SEARCH FOR AN ISSUE | REQUEST A NEW PROJECT

The ONC Project Tracking System is a collaboration platform in which users can **log**, **track**, and **discuss** issues with subject matter experts in support of health information technology implementation. It also provides tools to facilitate knowledge sharing and agile project management.

**Reminder:**  
This is an open platform that does not intend for users to communicate sensitive or confidential information such as protected health information and personal identifiable information.

All CQMs Certification Other

BONNIE Issue Tracker BONNIE

CMS Hybrid Measures CHM

Hospital Inpatient Quality Reporting (IQR)  
Contact the IQR Information Website:  
<https://cms-ip.custhelp.com>  
(844) 472-4477

Quality Payment Program (QPP)  
Contact the QPP Information Center:  
[QPP@cms.hhs.gov](mailto:QPP@cms.hhs.gov)  
(866) 288-8292

Medicare and Medicaid Promoting Interoperability Programs

# CMS Policy/Quality Reporting Program Questions

- Hospital Inpatient Quality Reporting (IQR) Program - Hospital Inpatient Value, Incentives, and Quality Reporting Outreach and Education Support <https://cms-ip.custhelp.com> or (844) 472-4477
- Medicare and Medicaid Promoting Interoperability Programs - Quality Net Help Desk [qnetsupport@hcqis.org](mailto:qnetsupport@hcqis.org) or (866) 288-8912
- Quality Payment Program (QPP) - [QPP@cms.hhs.gov](mailto:QPP@cms.hhs.gov) or (866) 288-8292
- Quality Net reporting, data upload, Pre-Submission Validation Application (PSVA), etc. - Quality Net Help Desk [qnetsupport@hcqis.org](mailto:qnetsupport@hcqis.org) or (866) 288-8912

# How do I report eCQMs to CMS?

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# eCQM Reporting Standards

---

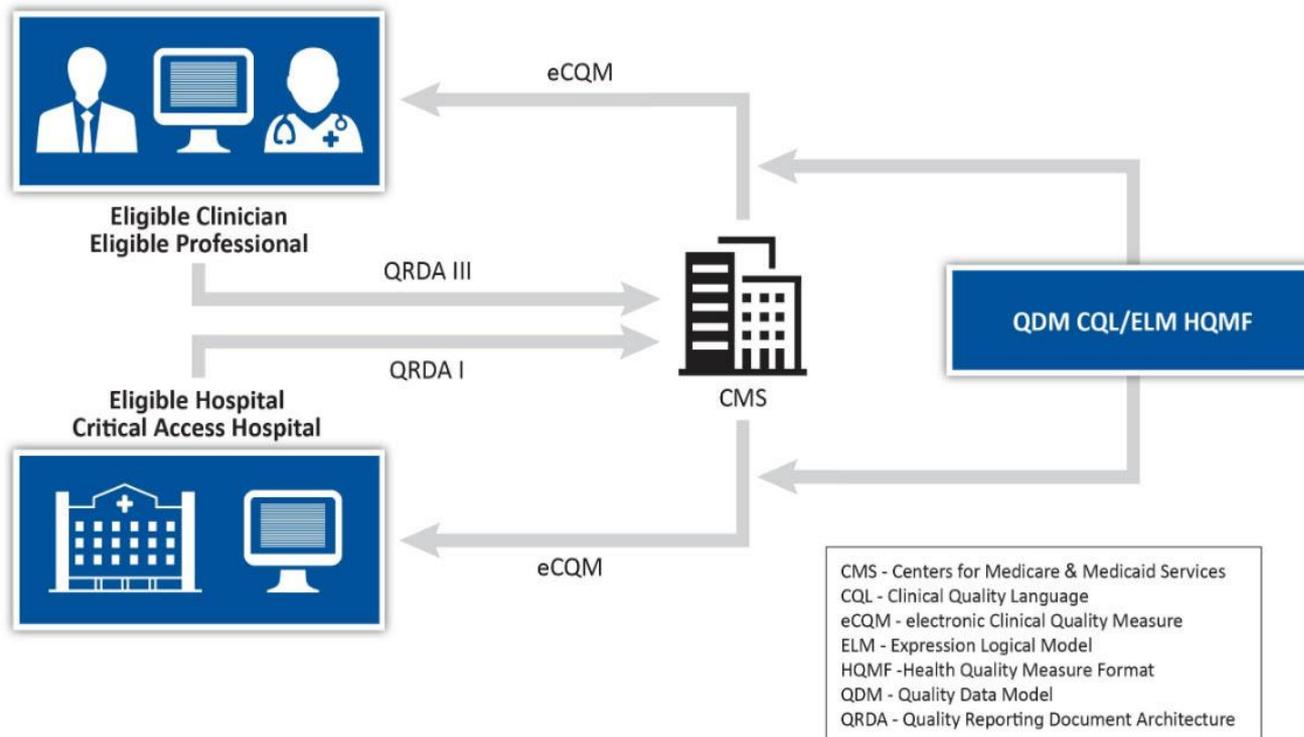
- Quality Reporting Document Architecture (QRDA)
  - Category I for patient level data
  - Category III for aggregate data

# Quality Reporting Document Architecture (QRDA)

- The QRDA is the data submission standard used for a variety of quality measurement and reporting initiatives. It creates a standard method to report quality measure results in a structured, consistent format and can be used to exchange eCQM data between systems.
- An HL7 Clinical Document Architecture (CDA)-based standard which further constrains CDA Release 2 for exchange of eCQM data.
- CMS publishes QRDA Implementation Guides (IGs), Schematrons, and sample files annually to provide technical guidance for implementing the HL7 QRDA standards for reporting to CMS quality reporting programs.

# QRDA (Cont'd)

- QRDA was adopted by the Office of the National Coordinator for Health Information Technology (ONC) as the standard to support both QRDA Category I (individual patient) and QRDA Category III (provider's aggregate) data submission for quality reporting.



# Testing QRDA: Cypress Validation Utility (CVU) and Pre-Submission Validation Application (PSVA)

- Cypress Validation Utility
  - The Cypress Validation Utility (CVU) conformance tool provides implementers with the ability to validate the conformance of QRDA Category I and Category III documents to CMS implementation guides.
- Pre-Submission Validation Application (PSVA)
  - The PSVA is an application program interface (API) which provides vendors, hospitals, and providers with a method for validating eCQM files within their own system/environment prior to submission and for securely transporting valid files to the CMS. The PSVA tool has three interfaces as part of the download package and a user is able to select the option that best meets their needs.

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

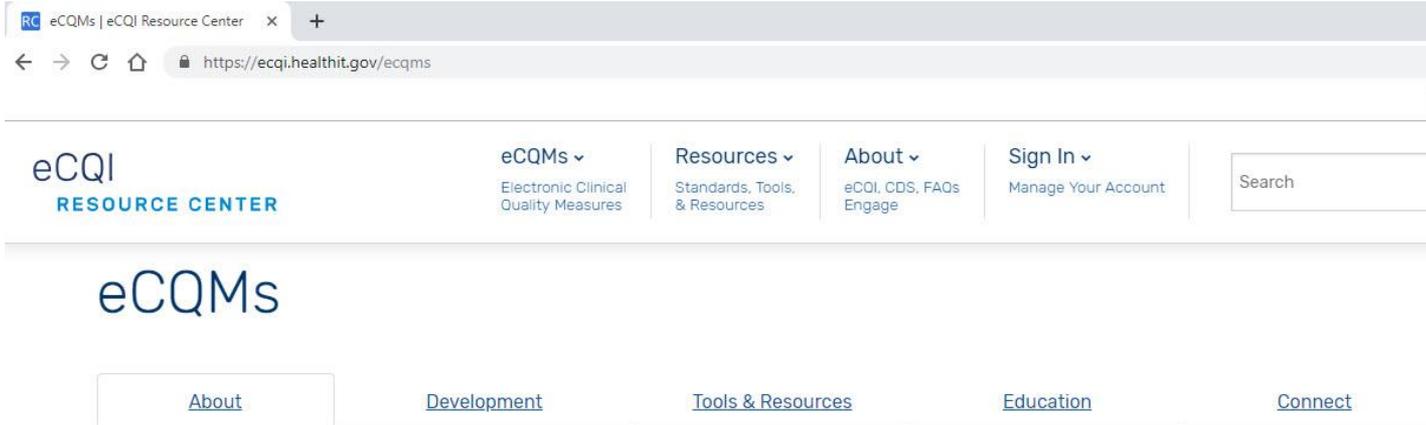
<https://ecqi.healthit.gov/ecqi-tools-key-resources/cms-grda-pre-submission-validation-tools-guide>

# Where to Submit eCQMs

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- Eligible Clinicians - QPP - <https://qpp.cms.gov/>
- Eligible Hospitals and Critical Access Hospitals - QualityNet - <https://www.qualitynet.org/>

# Where do I find more information about the eCQMs?



The screenshot shows a web browser window with the URL <https://ecqi.healthit.gov/ecqms>. The page header includes the eCQI Resource Center logo and navigation links: eCQMs (Electronic Clinical Quality Measures), Resources (Standards, Tools, & Resources), About (eCQI, CDS, FAQs, Engage), and Sign In (Manage Your Account). A search bar is also present. Below the header, the main heading is "eCQMs" with a navigation bar containing tabs for About, Development, Tools & Resources, Education, and Connect.

Electronic clinical [quality measures](#)® (eCQMs®) use data electronically extracted from electronic health records (EHRs®) and/or [health information technology](#)® systems to measure the quality of health care provided. The Centers for Medicare & Medicaid Services (CMS) use eCQMs in a variety of quality reporting and value-based purchasing programs.

There are several benefits of using eCQMs

- eCQMs use detailed clinical data to assess the outcomes of treatment by healthcare providers and organizations
- eCQMs reduce the burden of manual abstraction and reporting for provider organizations
- eCQMs foster the goal of access to real-time data for bedside quality improvement and clinical decision support

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

Hospitals, professionals, and clinicians use eCQMs to provide feedback on their care systems and to help them identify opportunities for clinical quality improvement. eCQMs are also used in reporting to CMS, The Joint Commission, and commercial insurance payers in programs that reimburse providers based on quality reporting.

## Find eCQMs:

[Eligible hospital](#)® (EH) and [critical access hospital](#)® (CAH) eCQMs and supporting materials are on the [eligible hospital/critical access hospital](#) page of this website.

[Eligible professional](#)® (EP) and [eligible clinician](#)® eCQMs and supporting materials are on the [eligible professional/eligible clinician](#) page of this website.

# Acronyms

Acronym	Definition
CDA	Clinical Document Architecture
CDS	Clinical Decision Support
CMS	Centers for Medicare & Medicaid Services
CQL	Clinical Quality Language
CAH	Critical Access Hospitals
DERep	Data Element Repository
DRC	Direct Reference Code
eCQI	Electronic Clinical Quality Improvement
eCQM	Electronic Clinical Quality Measure
EHR	Electronic Health Record
EH	Eligible Hospitals
ELM	Expression Logical Model
EP	Eligible Professionals
FHIR	Fast Healthcare Interoperability Resources
HL7	Health Level Seven International

# Acronyms (Cont'd)

Acronym	Definition
HQMF	Health Quality Reporting Format
HTML	Hyper Text Markup Language
IG	Implementation Guide
IQR	Inpatient Quality Reporting Program
JSON	JavaScript Object Notation
NLM	National Library of Medicine
ONC	Office of the National Coordinator for Health Information Technology
PSVA	Pre-Submission Validation Application
QDM	Quality Data Model
QPP	Quality Payment Program
QRDA	Quality Reporting Document Architecture
TRN	Technical Release Notes
VSAC	Value Set Authority Center
XML	eXtensible Markup Language