



eCQM 101 - Getting Started with Electronic Clinical Quality Measures (eCQMs) for Quality Reporting Programs Resources

Updated March 2025

eCQM 101 Overview

- What resources are helpful to successfully implement eCQMs?
- What resources are available to help me test the eCQMs?
- Where do I find key resources to help me understand eCQMs?

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

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 (DRCs) in the Value Set Authority Center (VSAC)
 - eCQM Flows

eCQM Implementation Checklist Snippet

eCQM Implementation Checklist

[Receive updates on this topic](#)

The Centers for Medicare & Medicaid Services (CMS) requires an [eligible clinician \(EC\)](#), [eligible hospital \(EH\)](#), or [critical access hospital \(CAH\)](#) to use the appropriate version of the [eCQMs](#) for the designated reporting/performance period for quality reporting programs using eCQMs.

The Preparation and Implementation Checklists assume a health care practice/organization has determined which eCQMs to report. The [eCQM Annual Update Implementation User Guide \(PDF\)](#) 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. Please check the [eCQM Standards and Tools Versions](#) table for which version of the eCQM you should use for a specific reporting/performance period.

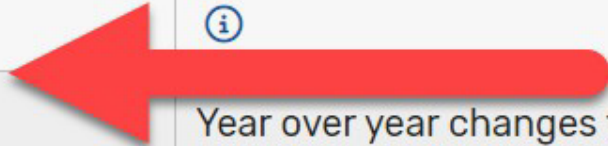
Preparation Checklist

- ▶ 1. Sign up for a Unified Medical Language System (UMLS) account to view codes within the value sets in VSAC
- ▶ 2. Sign up for an ONC Project Tracking Jira account to ask technical questions regarding eCQMs
- ▶ 3. Sign up for eCQM page change notifications on the eCQI Resource Center to receive updates on specific eCQMs
- ▶ 4. Review the code system versions used in the eCQM specification for the upcoming reporting/performance year

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

Technical Release Notes (TRNs)

Technical Release Notes (PDF)	Year over year changes to eCQMs, incl ⓘ
Technical Release Notes (ZIP)	Year over year changes to eCQMs, incl ⓘ



TRNs outline changes in eCQM specifications as compared with the previous version.

[Hospital - Inpatient eCQMs | eCQI Resource Center](#)

VSAC

Welcome

Search Value Sets

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VSAC Downloadable Resources

This page contains groups of value sets designated for a particular program.

CMS eCQM & Hybrid Measure Value Sets

CMS Pre-rulemaking eCQM Value Sets

C-CDA Value Sets

CDCREC Roll-up codes

eCQMs will not be eligible for reporting in each applicable program. For more information, see the following links:

▶ 2024 Reporting/Performance Period

▶ 2023 Reporting/Performance Period

▶ 2022 Reporting/Performance Period

▶ 2021 Reporting/Performance Period of eCQM & Hybrid Measure Value Sets

VSAC houses the value sets and DRCs used by eCQMs and is maintained by the National Library of Medicine (NLM)

You must have a free Unified Medical Language System (UMLS) license to access value set details

2025 Reporting/Performance Period eCQM Value Sets, DRCs, and More

Available Downloads	Sorted by CMS ID*	
eCQM Value Sets for Eligible Hospitals Published May 04, 2023	Excel (xlsx) SVS (xml)	Excel
eCQM Value Sets for Eligible Clinicians Published May 04, 2023	Excel (xlsx) SVS (xml)	Excel
eCQM Value Sets for Hospital Outpatient Quality Reporting Published May 04, 2023	Excel (xlsx) SVS (xml)	Excel
All eCQM Value Sets (Eligible Clinicians, Eligible Hospitals and Hospital Outpatient Quality Reporting) Published May 04, 2023	Excel (xlsx) SVS (xml)	Excel
Binding Parameter Specification for eCQM Value Sets Published May 04,	Excel (xlsx)	

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

A **DRC** is a specific code that is referenced directly in the eCQM 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.

Value Set Snippet

Value Set Information

Expansion Versions: ? Latest ▼

[Compare Versions](#)

[Exp](#)

Metadata

Description

Grouping Members

Name: Antithrombotic Therapy for Ischemic Stroke

Code System: RXNORM

Value Set Definition

Definition Type: Grouping

Expansion Details

Expansion Profile
Most Recent Code System Versions in VSAC [View](#)

Status: Active [View Status Descriptions](#)

OID: 2.16.840.1.113762.1.4.1110.62

Steward: [Contact](#)
The Joint Commission

Definition Version: ?
20210409

This update was generated by VSAC to align with code changes published by the code system of one or more member value sets.

Value Set Members

Expanded Code List				
Code	Descriptor	Code System	Version	C
~ [input] x	~ [input] x	~ [input] x	~ [input] x	~ [input]
1037045	dabigatran etexilate 150 MG Oral Capsule	RXNORM	2023-11	2.16.84
1037179	dabigatran etexilate 75 MG Oral Capsule	RXNORM	2023-11	2.16.84

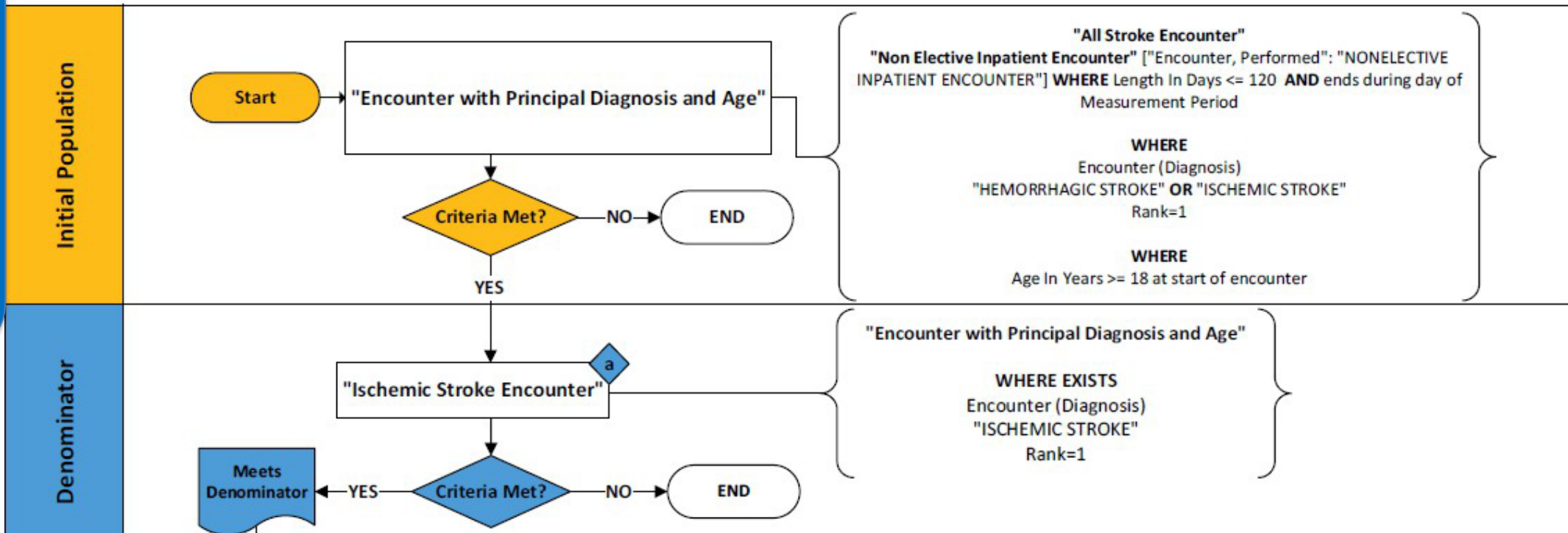
eCQM Flow Snippet: Discharged on Antithrombotic Therapy

2024 eCQM Flow – CMS104v12: Discharged on Antithrombotic Therapy (STK-02)*

*This flow diagram represents an overview of population criteria requirements. Please refer to the eCQM measure specification for a complete list of definitions, direct reference codes, data or timing elements included in this measure and required for submission.

Measure Flow Diagram

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



What resources are available to help me test the eCQMs?

MADiE: an eCQM Development and Testing Workspace

MAT and Bonnie were sunsetted June 28, 2024. Measure developers are to use the Measure Authoring Development Integrated Environment ([MADiE](#)).

Measure Authoring Development Integrated Environment (MADiE)

MADiE allows users to develop and test measures in an integrated workspace. MADiE supports QI-Core profile informed authoring and testing of FHIR measures.

Secure Login

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

[Log in to MADiE >](#)

[MADiE Access Guide >](#)

<https://www.emasuretool.cms.gov/>

MADiE: an eCQM Development and Testing Workspace (cont'd)

- [MADiE](#)
 - Is a software tool redefining the electronic clinical quality measure (eCQM) development and testing process by making it a self-contained process including dynamic authoring and testing within a single application.
 - Allows eCQM developers to author eCQMs using Quality Improvement (QI)-Core, the Quality Data Model (QDM), Fast Healthcare Interoperability Resources[®] and to test and verify eCQM behavior.
 - Helps eCQM developers execute eCQM logic against the constructed test cases and evaluates if the eCQM logic aligns with the intent of the eCQM.

<https://www.emeasuretool.cms.gov/>

Cypress Testing Tool

cypress

Rigorous & repeatable testing of
Electronic Health Records

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[SITE](#)

[Download Cypress v7.2.0](#)

[Cypress Demo Server](#)

What is Cypress?

Cypress is the rigorous and repeatable testing tool of Electronic Health Records (EHR) and EHR modules in calculating eQMs used by CMS's Quality Reporting Programs. The

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Objective

The objective of Cypress is to enable repeatable and rigorous testing of an EHR's ability to accurately calculate eQMs. Cypress has been recognized by ONC as the official

<https://www.healthit.gov/cypress/>

Cypress Tech Talks

NEW DIAL-IN INFORMATION

As of October 18, 2022, the Tech Talk dial-in information has changed. See below:

Cypress Testing Tool (Cont'd)

- Cypress is an open-source testing tool used by vendors to certify their electronic health records (EHRs) and health information technology (IT) modules for calculating eCQMs. Cypress is an official testing tool for the Office of the National Coordinator for Health IT 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.
- Cypress integrated the Cypress Validation Utility + Calculation Check (CVU+) into the Cypress application. The CVU+ facilitates real world testing, providing health IT vendors the ability to perform tests using their own test patients.
- For measured entities submitting Quality Reporting Document Architecture (QRDA) files - The CVU+ also supports validation with the CMS QRDA Implementation Guides and performs eCQM calculation with measure logic highlighting.

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

eCQI Resource Center

<https://ecqi.healthit.gov>



SUCCESSFULLY SERVING THE ECQI COMMUNITY SINCE 2015.

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Quality Measures

dQMs 
Digital Quality
Measures

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Transforming eCQI through collaboration, education, and standards

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[Eligible Clinician eQMs](#) >

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ECQM

- Any -

PERIOD

- Any -

eCQM Title or CMSID

May use partial Title or ID

[Find an eCQM](#)

eCQI Resource Center – eCQI Tools & Resources Library

eCQI Tools & Resources Library

eCQM Standards and Tools Versions

Education

The eCQI Tools and Resources Library provides a foundation for electronic quality improvement, and development, testing, certification, publication, implementation, reporting, and continuous evaluation of eCQMs. You can refine the 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 to view additional details.

Filter Tools & Resources

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Title	Category	Role	Description
Bonnie FHIR	Development, Implementation, Testing	Health IT Developer/Vendor, Measure Developer/Steward	Bonnie is a software tool that allows <u>eCQM</u> developers to test and verify the behavior of their eCQM logic. The Bonnie Fast Healthcare Interoperability Resources (FHIR) application allows eCQM developers to load <u>FHIR</u> measures they have constructed using the <u>Measure Authoring Tool (MAT)</u> , which helps <u>measure developers</u> execute the eCQM logic against the

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<https://ecqi.healthit.gov/ecqi-tools-key-resources>

eCQI Resource Center - eCQM Educational Resources

Get Started with eCQMs

General resources for developing, implementing, updating, and reporting eCQMs

eCQI Tools & Key Resources

Resources available include tools & resources library, standards and tools versions, and education

CQL

Resources available on the Clinical Quality Language (CQL) standard

FHIR

Resources available on the Fast Healthcare Interoperability Resources® (FHIR) standard

QDM

Resources available on the Quality Data Model (QDM) standard

QRDA

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

eCQI Glossary

Glossary

Search

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Agile development

Agile development is a term used to describe iterative software development used to shorten the software development lifecycle. Agile development teams execute the entire software development lifecycle in smaller increments, usually called sprints, typically 1-4 weeks long. The software development industry often contrasts agile development with traditional or waterfall development, where the planning for larger projects occurs up front and executed against that plan. Agile development is an iterative approach to development with regular feedback loops or intervals. These iterations allow diversion of a team to be productive in one part of a project while resolving a problem or issue in another part.

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.

Additional Information

- Companion eCQM 101 Presentations
 - [Introduction](#)
 - [Specifics](#)
- [eCQI Resource Center](#)
- [Ask questions or provide website feedback](#)

Acronyms

Acronym	Definition
CMS	Centers for Medicare & Medicaid Services
CVU	Cypress Validation Utility
DRC	Direct Reference Code
eCQI	Electronic Clinical Quality Improvement
eCQM	Electronic Clinical Quality Measure
EHR	Electronic Health Record
FHIR	Fast Healthcare Interoperability Resources
HARP	HCQIS Access and Roles Profile
HCQIS	Health Care Quality Information Systems
IT	Information Technology
MAT	Measure Authoring Tool
NLM	National Library of Medicine
QDM	Quality Data Model
QRDA	Quality Reporting Document Architecture
TRN	Technical Release Note
UMLS	Unified Medical Language System
VSAC	Value Set Authority Center