



How to Implement eCQM Annual Updates

November 2023

Objectives

- Determine how to identify changes in the electronic clinical quality measure (eCQM) updates that could impact an existing eCQM implementation
- Evaluate existing processes for managing workflow when implementing a quality measure
- Understand the changes in measure specifications from one eCQM Annual Update to the next

Overview

- Overview of eCQM updates
- Preparing for the implementation of eCQM updates
- Step-by-step explanation of eCQM updates
 - Step 1: Get updates
 - Step 2: Gap analysis
 - Step 3: Data capture and workflow redesign
 - Step 4: Data extraction and eCQM calculation
 - Step 5: Validation
 - Step 6: Downstream uses of eCQM results
- Help regarding implementing eCQMs and eCQM updates
- Help regarding use of eCQMs in CMS quality programs

eCQM Updates

What changes and why?

- CMS makes updates to the eCQMs adopted for submission in CMS programs annually. CMS requires the use of updated eCQMs for all its quality programs.
- Updates to eCQMs may include:
 - Codes system changes – SNOMED CT, RxNorm, etc.
 - Logic, data model, value set and direct reference code (DRC) updates
 - Clinical updates based on new research, literature, and clinical guidelines
 - Clarifications based on implementation issues reported in the Office of the National Coordinator (ONC) Project Tracking System (JIRA)
 - Changes based on advances in technical standards and data exchange protocols

When does it change?

eCQM Annual Timeline

The eCQM Annual Timeline is a general guide provided for referencing scheduled updates for eCQMs, tools, reporting, rules, public comments and more. The timelines listed are subject to change. [Interactive pdf.](#) (PDF)

eCQM Annual Timeline by Calendar Quarter

P

1

2

3

4

1st Quarter

eCQM

- [CMS Measures Inventory Tool Updated](#)
- [CMS Quality Reporting Document Architecture I Implementation Guide Public Comments](#)
- [Draft Electronic Clinical Quality Measure Specifications Posted in ONC Project Tracking System \(Jira\) for Public Testing and Comments](#)

Reporting

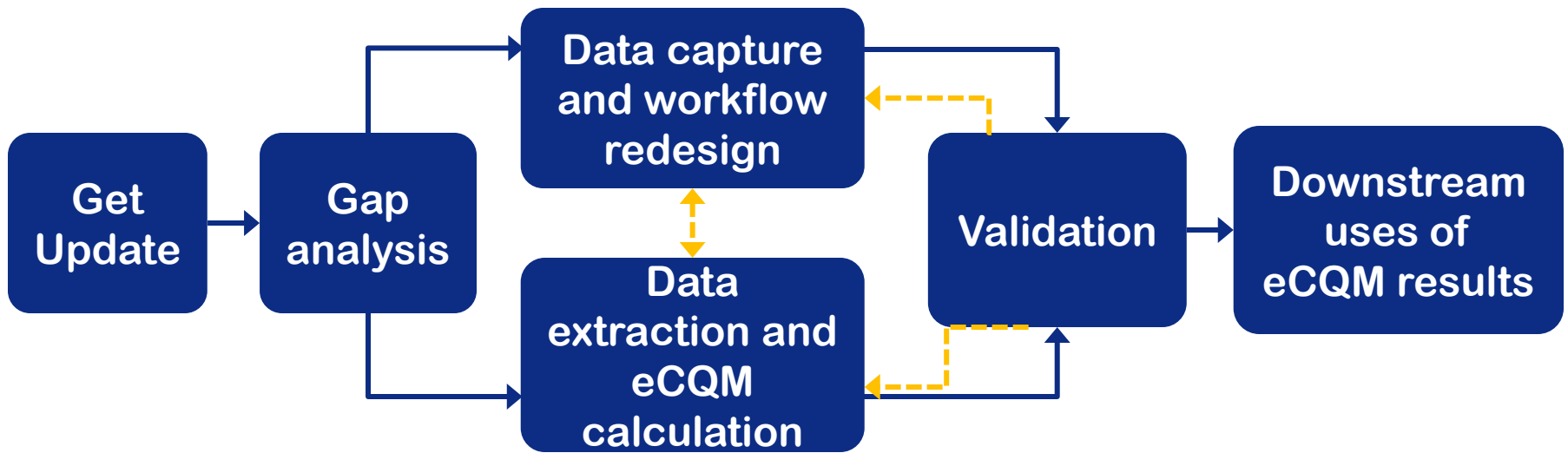
- [Inpatient Quality Reporting Submission Closed](#)
- [MIPS Quality Measure Benchmarks](#) [ZIP](#)
- [Quality Payment Program Reporting Submission Open and Closed](#)

Rule

- [Pre-Rulemaking: Measures Under Consideration Opens for New Measures](#)
- [Pre-Rulemaking: Pre-Rulemaking Measure Review Publishes Final Report](#)

<https://ecqi.healthit.gov/ecqm-annual-timeline>

eCQM Implementation Process¹



Preparing for the Implementation of eCQM Updates

eCQM Implementation Checklist: Pre-Check

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 submit data for the appropriate version of the [eCQMs](#) for the designated reporting/performance period for quality reporting programs using the eCQM specification.

The Preparation and Implementation Checklists assume a health care practice/organization has determined which eCQM version to implement. The [Update Implementation User Guide \(PDF\)](#) provides the necessary technical steps [health information technology \(IT\)](#) departments of [health care organizations](#) must take to update their systems and processes with the eCQM Annual Update for the upcoming reporting/performance periods. Please check the [eCQM Standards and Tools Versions](#) table for which version of the eCQM you should use for your reporting/performance period.

Follow the Preparation Checklist steps to prepare for updates to the eCQMs

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
- ▶ 5. Review the standards, tools, and documents used to support the eCQM specification for the upcoming reporting/performance year

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

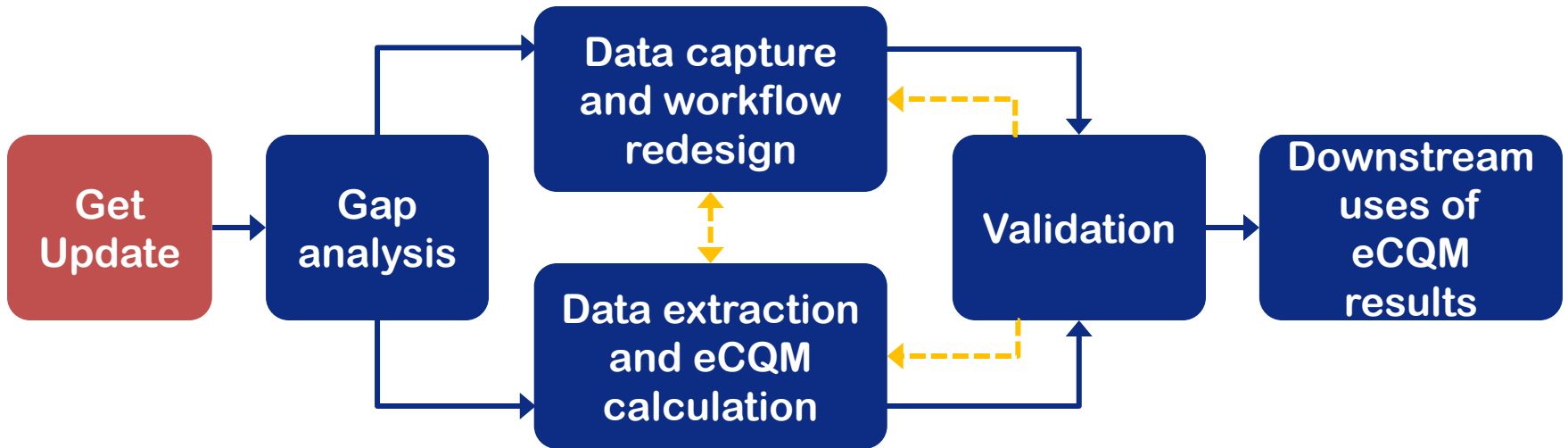
Pre-Check

- Sign up for a [Unified Medical Language System \(UMLS\)](#) account
- Sign up for an [ONC Project Tracking System \(JIRA\)](#) account
- Sign up for an [Electronic Clinical Quality Improvement \(eCQI\) Resource Center](#) account
- Subscribe to the [Eligible Clinician\(EC\)](#) and/or [Eligible Hospital \(EH\)/Critical Access Hospital \(CAH\)](#) pages for alerts when the EC or EH/CAH pages have been updated
- Review the code versions used in the Annual Update
 - [eCQM Pre-Publication document](#) and the [Value Set Authority Center \(VSAC\)](#) download page
- Review the standards, tools, and documents used in the Annual Update

Step-by-Step Process for Implementing eCQM Updates

Step 1: Get Updates

Get Update¹



What eCQM materials are updated?

- [Implementation Checklist](#)
- Guide for Reading eCQMs
- eCQM Tables
- Specifications (human-readable and machine-readable XMLs)
- Technical Release Notes
- Value Sets, Binding Parameter Specification (BPS), DRCs
- Measure Logic and Guidance Document
- Telehealth Guidance
- eCQM Flows *
- CMS Quality Reporting Document Architecture (QRDA) Implementation Guides *

* Usually published after the Annual Update

<https://ecqi.healthit.gov/eh-cah>

<https://ecqi.healthit.gov/ep-ec>

eCQM Implementation Checklist

Implementation 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.) Report eCQMs
- ▶ 7.) Reach out for help

Follow the Implementation Checklist steps to implement updates to the eCQMs

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

Implementation Checklist

- Access the appropriate eCQM Annual Update on the eCQI Resource Center [Eligible Clinician](#) and/or [EH/CAH](#) pages
- Secure detailed information about each measure
 - Click into an eCQM on the online table to view detailed human-readable information on the measure
 - Download and open zip files for the individual eCQMs your organization uses
 - Open the Hyper Text Markup Language (HTML) document that contains the human readable measure specification description
 - Review Health Quality Measure Format (HQMF) document (including specific reading instructions)
 - Review data elements for the eCQM in the [eCQM Data Element Repository](#) (DERep)
 - Use the Measure Compare feature on the individual measure pages to view specification changes

Implementation Checklist (Cont'd)

- Download Value Sets
 - Download corresponding annual update value sets, DRCs, and BPS from the [VSAC](#) using your UMLS license log in
- Use the [Value Set Comparison Tool](#) to identify changes to value sets
- Prepare to implement the updates by understanding changes to the eCQMs
- Prepare to report the updated eCQMs
- Reach out for help

Where do I find the updated specifications and materials?

The screenshot displays the eCQI Resource Center website. At the top left is the eCQI Resource Center logo. The navigation menu includes: eCQMs (Electronic Clinical Quality Measures), dQMs (Digital Quality Measures), Resources (Standards, Tools, & Resources), About (eCQI, CDS, FAQs, Engage), and Log in (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", with three buttons: "Eligible Clinician eCQMs", "Eligible Hospital / Critical Access Hospital eCQMs", and "Outpatient Quality Reporting eCQMs". The "Featured News & Events" section includes a "View All" link and two news items: "Nov 03, 2023 CMS Publishes 2024 Policy Changes for the Quality Payment Program..." and "Nov 14, 2023 @ 2:00pm EST CY 2023 eCQM Reporting and Data Submission Updates". Below this is a search filter bar with dropdowns for "ECQM" and "PERIOD" (both set to "- Any -"), a text input for "eCQM Title or CMSID" (containing "May use partial Title or ID"), and a "Find an eCQM" button. At the bottom are four informational cards: "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.), and "FHIR®" (Fast Healthcare Interoperability Resources® is a standard for exchanging healthcare information electronically.).

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

Finding EH/CAH eCQMs and Materials



Select Year

Measure dropdown

Receive updates on this to

Select Period 2024 Filter By eCQMs Apply Filters

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

eCQM Resources EH/CAH eCQMs About

2024 Reporting Period Eligible Hospital / Critical Access Hospital Resources

Filter Resources by

- Any - Implementation Guidance Reporting References Standards References Technical Specifications

eCQM Resources	Short Description	Published
Implementation Checklist eCQM Annual Update	Implementation checklist ⓘ	
Guide for Reading eCQMs v9.0 (PDF)	Assists implementers and measured entities with information on how to read eCQM specifications ⓘ	May 2023
Hospital Quality Reporting Table of eCQMs (PDF)	List of eCQMs available for use ⓘ	Oct 2023
eCQM Specifications for Hospital Quality Reporting	eCQM technical specifications ⓘ	May 2023

eCQM Materials

<https://ecqi.healthit.gov/eh-cah>

Finding EH/ CAH eCQMs and Materials (Cont'd)



Eligible Hospital / Critical Access Hospital eCQMs

[Receive updates on this topic](#)

Select Period

Filter By

Find older eCQM specifications in the [eCQM Standard](#) table.

[eCQM Resources](#)

[EH/CAH eCQMs](#)

[About](#)



2024 Reporting Period Eligible Hospital / Critical Access Hospital eCQMs

Total number of EH/CAH eCQMs: 12

Title	Short Name	CMS eCQM ID	NQF Number	Specifications	Notes
Anticoagulation Therapy for Atrial Fibrillation/Flutter	STK-3	CMS71v13	Not Applicable	CMS71v13.zip (ZIP)	
Antithrombotic Therapy By End of Hospital Day 2	STK-5	CMS72v12	Not Applicable	CMS72v12.zip (ZIP)	
Cesarean Birth	PC-02	CMS334v5	0471e	CMS334v5.zip (ZIP)	

<https://ecqi.healthit.gov/eh-cah>

Finding EH/CAH eCQMs and Materials (Cont'd)

eCQM Resources

EH/CAH eCQMs

About

2024 Reporting Period Eligible Hospital / Critical Access Hospital eCQMs

Total number of EH/CAH eCQMs: 12



Title	Short Name	CMS eCQM ID	NQF Number	Specifications	Notes
Anticoagulation Therapy for Atrial Fibrillation/Flutter	STK-3	CMS71v13	Not Applicable	CMS71v13.zip (ZIP)	
Antithrombotic Therapy By End of Hospital Day 2	STK-5	CMS72v12	Not Applicable	CMS72v12.zip (ZIP)	
Cesarean Birth	PC-02	CMS334v5	0471e	CMS334v5.zip (ZIP)	
Discharged on Antithrombotic Therapy	STK-2	CMS104v12	Not Applicable	CMS104v12.zip (ZIP)	
Global Malnutrition Composite Score	GMCS	CMS986v2	3592e	CMS986v2.zip (ZIP)	There is a known issue on CMS986v2. See issue EKI-21 on the ONC eCQM Known Issues Dashboard for details.
Hospital Harm - Opioid-Related Adverse Events	HH-ORAE	CMS819v2	3501e	CMS819v2.zip (ZIP)	
Hospital Harm - Severe Hyperglycemia	HH-Hyper	CMS871v3	3533e	CMS871v3.zip (ZIP)	
Hospital Harm - Severe Hypoglycemia	HH-Hypo	CMS816v3	3503e	CMS816v3.zip (ZIP)	

Example: Individual Measure Page - Downloadable Measure Specifications and DERep

Find an eCQM





Anticoagulation Therapy for Atrial Fibrillation/Flutter

[Receive updates on this topic](#)

Measure Information **Specifications and Data Elements** Notes



Specifications

Attachment	Size
 CMS71v13.html	84.71 KB
 CMS71v13.zip (ZIP)	83.49 KB
 CMS71v13-TRN.xlsx (Excel)	22.18 KB
 CMS71v13-eCQMFlow.pdf (PDF)	250.89 KB

Data Element Repository

[Data Elements contained within CMS71v13](#)

Value Sets

[Value Sets to be used with CMS71v13](#)



Data Elements

Measure Specification

- Contents of the measure specifications:
 - Human-Readable HTML file - Provides high level understanding of the element definition and the underlying logic used in measure calculation
 - Machine-Readable (XML) - Translates metadata from human-readable header into computer code, the XML also contains code to reflect the population criteria
 - Technical Release Notes (TRNs) - Provide a list of all changes by measure and identifies the updates that require action

Updated eCQM Value Sets

- The National Library of Medicine publishes updates to the eCQM value sets to align with the most recent releases to terminologies, including, but not limited to:
 - International Classification of Diseases (ICD)-10 Clinical Modification (CM) and Procedure Coding System (PCS)
 - SNOMED CT
 - Logical Observation Identifiers Names and Codes (LOINC)
 - RxNorm
- The changes to the value sets consist of
 - Deletion of expired codes
 - Addition of relevant replacement codes
 - Addition of newly available codes that represent concepts consistent with the intent of the value set and corresponding measure(s)
- Use the [Value Set Comparison Tool](#) to identify changes to value sets

<https://vsac.nlm.nih.gov/download/ecqm?rel=2023>

Where do I find the updated value sets?

The screenshot shows the National Library of Medicine Value Set Authority Center (VSAC) website. The 'Download' button in the top navigation bar is highlighted with a red box. A red arrow points from this button to the 'VSAC Downloadable Resources' section. The page content includes a sidebar with 'All Value Sets' and 'Programs' sections, and a main area with a list of value set categories and a table of available downloads.

VSAC Downloadable Resources

This page contains groups of value sets designated for a particular program usage. You can search the entire repository for value sets.

Available Downloads:

- CMS eCQM & Hybrid Measure Value Sets
- CMS Pre-rulemaking eCQM Value Sets
- C-CDA Value Sets
- CDCREC Roll-up codes

2024 Reporting/Performance Period of eCQM & Hybrid Measure Value Sets

May 2023 Release eCQM & Hybrid Measure Value Sets Publication Date: May 04, 2023

Note: Sign In to access all files
Expansion Version: eCQM Update 2023-05-04

All pre-rulemaking Eligible Hospital, Hospital Outpatient Quality Reporting (OQR), and Hospital Inpatient Quality Reporting (IQR) measures are located here in the CMS eCQM & Hybrid Measure Value Sets: CMS529, CMS826, CMS832, CMS844, CMS1074, and CMS1206.

Available Downloads	Sorted by CMS ID*	Sorted by Value Set Name*	Sorted by Quality Data Model Category*
eCQM Value Sets for Eligible Hospitals Published May 04, 2023	Excel (xlsx) SVS (xml)	Excel (xlsx) SVS (xml) SVS (text)	Excel (xlsx)
eCQM Value Sets for Eligible Clinicians Published May 04, 2023	Excel (xlsx) SVS (xml)	Excel (xlsx) SVS (xml) SVS (text)	Excel (xlsx)
eCQM Value Sets for Hospital Outpatient Quality Reporting	Excel (xlsx) SVS (xml)	Excel (xlsx) SVS (xml) SVS (text)	Excel (xlsx)

The VSAC publishes updated eCQM value sets annually. The **Downloadable Resource Table** provides prepackaged downloads for the most recently updated and released eCQM value sets, as well as for previously released versions.

<https://vsac.nlm.nih.gov>

Finding Value Sets (Cont'd)

Welcome Search Value Sets Download

VSAC Downloadable Resources

This page contains groups of value sets designated for a particular program usage. You can search the entire repository of published

Download value sets by measure, value set name, or quality data model category

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 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](#).

2024 Reporting/Performance Period of eCQM & Hybrid Measure Value Sets

May 2023 Release eCQM & Hybrid Measure Value Sets Publication Date: May 04, 2023

Note: Sign In to access all files
Expansion Version: eCQM Update 2023-05-04

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eCQM Value Sets for Eligible Clinicians Published May 04, 2023	Excel (xlsx) SVS (xml)	Excel (xlsx) SVS (xml) SVS (text)	Excel (xlsx)
eCQM Value Sets for Hospital Outpatient Quality Reporting Published May 04, 2023	Excel (xlsx) SVS (xml)	Excel (xlsx) SVS (xml) SVS (text)	Excel (xlsx)

Updated QRDA Implementation Guides (IGs)

QRDA – Quality Reporting Document Architecture

[Receive updates on this topic](#)

About	Tools & Resources	Previous Versions	Education	Connect
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The Quality Reporting Document Architecture (QRDA) is the data submission standard used for measurement and reporting initiatives. It is based on the Health Level Seven International® (HL7®) Clinical Data Interchange Standards Consortium (CDISC) (HL7® Clinical Data Interchange Standards Consortium (CDISC)). QRDA creates a standard method to report quality measure results in a structured, consistent format and to exchange eCQM data between systems.

Find most current QRDA IGs here and linked in the eCQM Materials on the measure pages

Current QRDA Reference and Implementation Guides:

Find QRDA Known Issues in the [ONC QRDA Known Issues Project](#).

2024 Reporting and Performance Period

The 2024 CMS QRDA I Implementation Guide for Hospital Quality Reporting for 2024 eCQM reporting is based on the HL7 CDA Release 2: QRDA Category I, Release 1, Standard for Trial Use Release 5.3 with errata (published December 2022).

- [2024 CMS QRDA I Implementation Guide for Hospital Quality Reporting \(PDF\)](#) (Updated August 2023)
- [2024 CMS QRDA I Schematron and Sample Files for Hospital Quality Reporting \(ZIP\)](#) (Updated August 2023)

The 2024 CMS QRDA III IG, Schematron, and Sample Files for Eligible Clinicians for 2024 eCQM reporting is based on the HL7 Implementation Guide for CDA Release 2: QRDA Category III, Release 1 (published September 2021).

- [2024 CMS QRDA III Implementation Guide for Eligible Clinicians](#) (published July 2023)
- [2024 CMS QRDA III Schematrons and Sample Files for Eligible Clinicians](#) (published July 2023)

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

Where do I find eCQM Tools and Resources?

eCQI Tools & Key Resources

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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

BY TITLE BY CATEGORY BY ROLE

Title	Category	Role	Description
Bonnie FHIR	Development, Implementation, Testing	Health IT Developer/Vendor, Measure Developer/Steward	Bonnie is a software tool that allows eCQM developers to test and verify the behavior of their eCQM logic. The Bonnie Fast Healthcare Interoperability Resources (FHIR) application allows eCQM developers to load FHIR measures they have constructed using the Measure Authoring Tool (MAT) , which helps measure developers execute the eCQM logic against the constructed patient test deck, and evaluates whether the logic aligns with the intent of the eCQM.
Bonnie Prior	Testing	Health IT Developer/Vendor, Measure Developer/Steward	The Bonnie Prior tool supports an earlier version of the QDM than the Bonnie QDM environment.

<https://ecqi.healthit.gov/ecqi-tools-key-resources?qt-teste=0>

Where do I find eCQM Standards and Tools Versions Changes?

eCQI Tools & Key Resources

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eCQI Tools & Resources Library

eCQM Standards and Tools Versions

Education

The standards and tools versions listed for each reporting/performance period are the versions used to create and/or support the implementation of the specific reporting/performance period specifications. Newer versions of the standards and tools may be available, but were not used in the development of the reporting/performance period listed.

Reporting/Performance Period

Select a Reporting Period



Apply

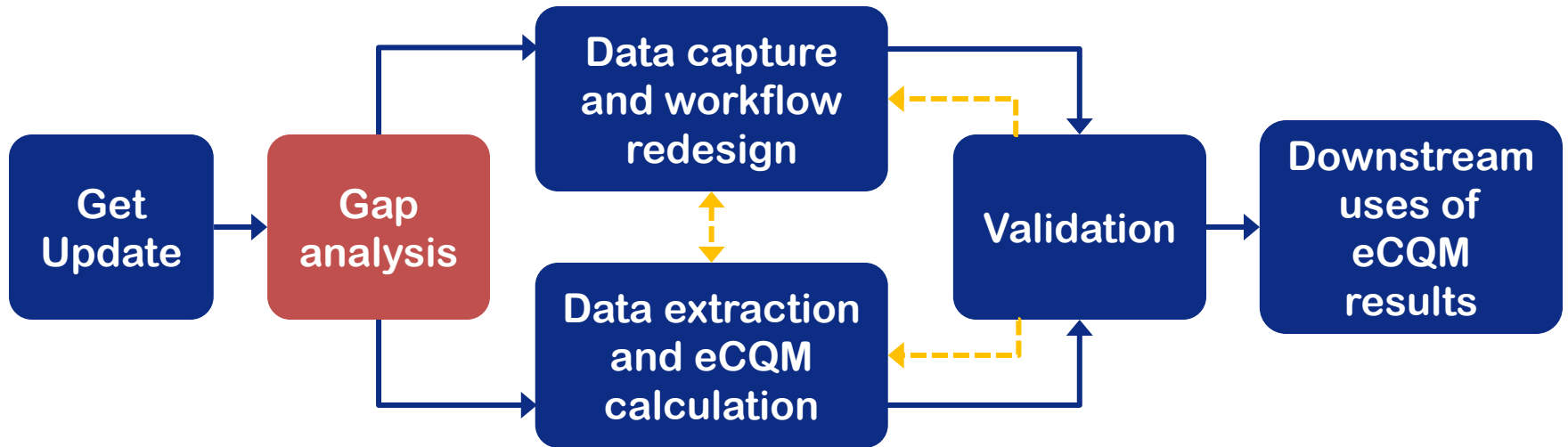
Reporting/Performance Period	eCQM Specifications and Resources	Tool and Resource Versions	Standard Versions
2024	<ul style="list-style-type: none">2024 EH/CAH Implementation Resources2024 Eligible Clinicians Implementation Resources	<ul style="list-style-type: none">MAT V6.10eCQM Logic and Implementation Guidance V7.0 (PDF)Cypress V7.1Bonnie V5.1.2QDM CQL-to-ELM Translator V1.5.3CQL Style Guide V7.0 (PDF)	<ul style="list-style-type: none">QDM v5.6 (PDF)HL7 V3 IG: CQL-based HQMF IG R1 STU 4.1HL7 CQL R1 v1.5HL7 V3 HQMF Normative Release 1HL7 QRDA I R1 STU R5.3 with errataHL7 QRDA III R1 Normative2024 CMS QRDA I IG for Hospital Quality Reporting

<https://ecqi.healthit.gov/ecqi-tools-key-resources?qt-teste=1>

Step-by-Step Process for Implementing eCQM Updates

Step 2: Gap Analysis

Gap Analysis¹



Gap Analysis: Analyzing Specifications

- Review eCQM Updates:
 - Are there new data elements that you need to capture?
 - Are there changes to the measure logic that may have workflow implications?
 - Are there changes that may impact calculation such as updates to inclusion/exclusion criteria?

What are the changes for my measures?

eCQM Resources	Short Description	Published ▲
Implementation Checklist eCQM Annual Update	Implementation checklist ⓘ	
Guide for Reading eCQMs v9.0 (PDF)	Assists implementers and measured entities with in to read eCQM specifications ⓘ	
Hospital Quality Reporting Table of eCQMs (PDF)	List of eCQMs available for use ⓘ	
eCQM Specifications for Hospital Quality Reporting (ZIP)	eCQM technical specifications ⓘ	
Measure Authoring Tool (MAT) Global Common Library (GCL) Technical Specifications (ZIP)	MAT-CGL specifications ⓘ	
eCQM and Hybrid Measure Value Sets ↗	Value sets used with eCQMs and Hybrid Measures ⓘ	
eCQM Direct Reference Codes List ↗	eCQM Direct Reference Codes used in eCQMs ⓘ	
Binding Parameter Specification (BPS) ↗	Value set metadata ⓘ	
eCQM Logic and Implementation Guidance v7.0 (PDF)	Assists implementers and measured entities with how to use eCQMs and report issues ⓘ	May 2023
Standards and tool versions used for reporting/performance period	Tools and standards versions measure developers used to create eCQMs and versions of standards and tools used for their reporting ⓘ	Mar 2023
Technical Release Notes (PDF)	Year over year changes to eCQMs, including logic and terminology ⓘ	Oct 2023
Technical Release Notes (ZIP)	Year over year changes to eCQMs, including logic and terminology ⓘ	Oct 2023
eCQM Flows (ZIP)	Assists implementers and measured entities with steps to take to calculate an eCQM ⓘ	Aug 2023

Technical Release Notes provide a list of all changes by measure so you can focus on those measures that you report on and identify the updates that require action

eCQM Data Element Repository (DERep)

MC Workspace

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 incentive programs. Users can filter information by data element, eCQM, Quality Data Model (QDM) attribute, QDM category, QDM datatype, and 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 element includes information about the value set or the direct reference code (DRC), the QDM datatype, and the QDM attribute(s) used by the element. The QDM information displayed for an eCQM reflects the version used in the development of the eCQM for a specific performance period.

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.

The screenshot shows the eCQM Data Element Repository interface. It features a navigation bar with 'About', 'eCQM Concepts', 'eCQM Testing Opportunities', and 'eCQM Data Element Repository'. Below the navigation bar is a section titled 'Electronic Clinical Quality Measure (eCQM) Data Element Repository (DERep)'. The main content area contains a search and filter interface. On the left, there is a 'Year' dropdown set to '2024' and a 'Select a Filter Option' dropdown menu. The dropdown menu is open, showing a list of filter options: '- Any -', 'eCQM Data Elements', 'EC eCQMs', 'EH/CAH eCQMs', 'Hybrid Measures', 'OQR eCQMs', 'EC Prerulemaking eCQMs', 'EH Prerulemaking eCQMs', 'Hybrid Pre-rulemaking Measures', 'OQR Pre-rulemaking eCQMs', 'QDM Categories', 'QDM Datatypes', 'QDM Attributes', and 'QDM Entities'. To the right of the dropdown menu is a 'Search' input field and an 'Apply' button. Below the search field, there is a section titled 'Filter definitions are' followed by a list of definitions for the filter options.

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

How should I implement changes?

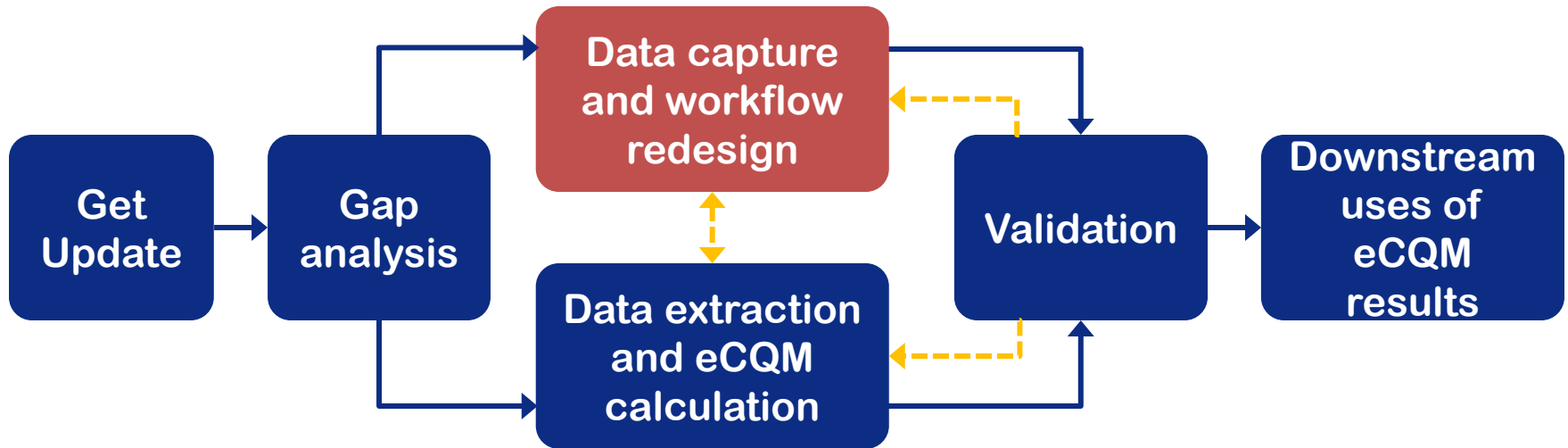
eCQM Resources	Short Description	Published
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eCQM Flows (ZIP)	Assists implementers and measured entities with steps to take to calculate an eCQM ⓘ	Aug 2023

The **eCQM Measure Logic and Implementation Guidance** document provides information for those using and/or implementing the eCQMs

Step-by-Step Process for Implementing eCQM Updates

Step 3: Data Capture and Workflow Redesign

Data Capture and Workflow Redesign¹



Workflow Analysis

- Definitions of workflow vary:
 - The flow of work through space and time, where work is comprised of three components: inputs are transformed into outputs.²
 - The activities, tools, and processes needed to produce or modify work, products, or services. More specifically, clinical workflow encompasses all of the 1) activities, 2) technologies, 3) environments, 4) people, and 5) organizations engaged in providing and promoting health care.³

Consider Different Workflow Interactions^{2,3}

- Clinic-level workflow: the flow of information, in paper or electronic formats, among people at a practice or clinic
- Intra-visit workflow: workflow during a patient visit
- Inter-organizational workflow: workflow between healthcare organizations
- Cognitive workflow: the workflow in the mind

Data Capture and Workflow Redesign

- Data Capture
 - Consider new query build in your electronic health record (EHR)
 - Interface to bring data from disparate application into certified EHR
 - Deploy alerts, reminders, and order sets judiciously
- Workflow Redesign
 - Work with subject matter experts to determine where/how data should be captured (e.g., cardiovascular services)
 - Evaluate aspects of care coordination or transitions of care

Workflow Analysis Process

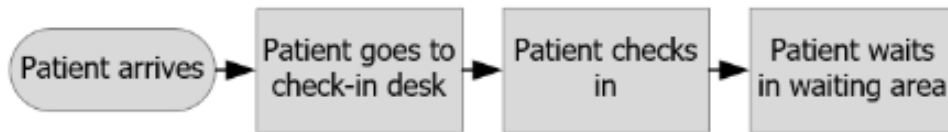
- Step 1: Decide what processes to examine
- Step 2: Create a preliminary flowchart
- Step 3: Add detail to the flowchart
- Step 4: Determine who you need to observe and interview
- Step 5: Perform observations and interviews

Goals of a Flowchart^{2,3}

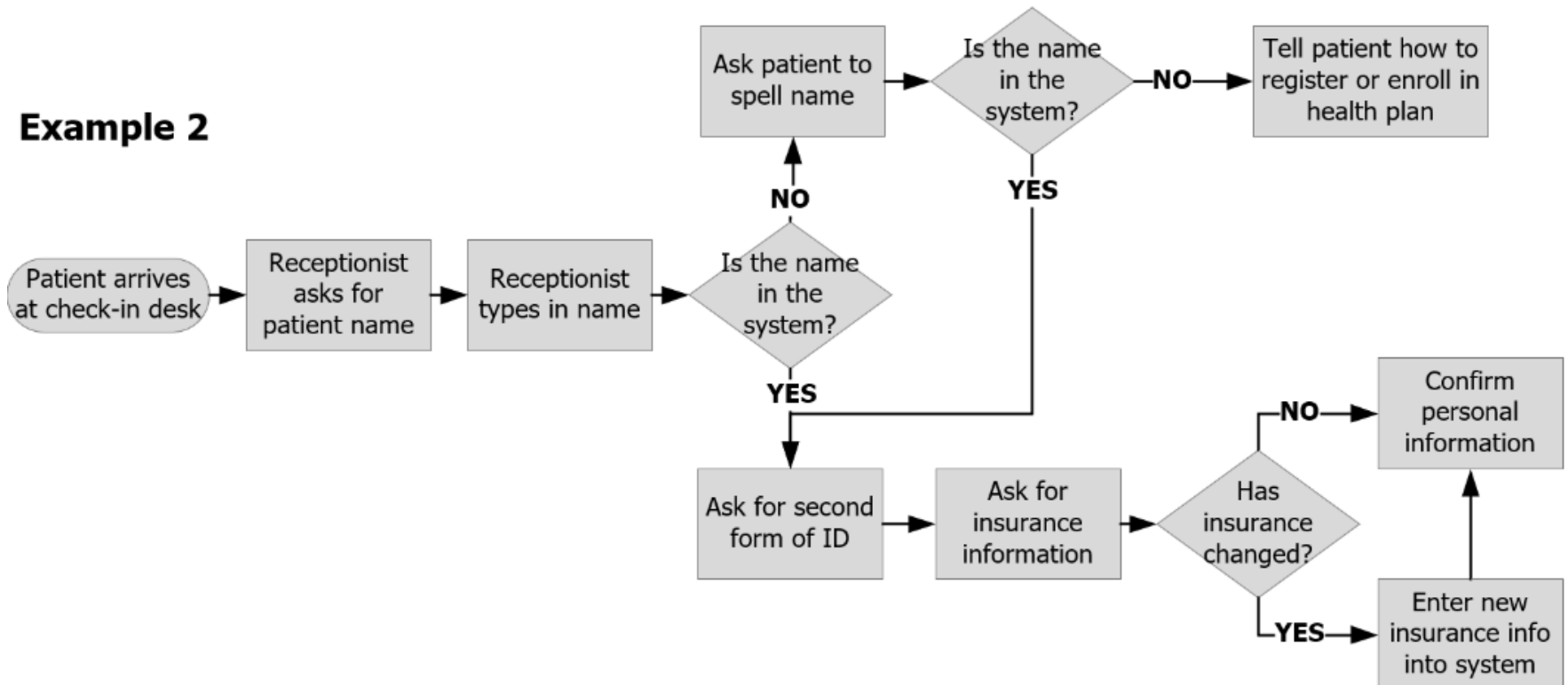
- Shows how processes *really* happen, as opposed to how they are supposed to happen or how we expect they will happen
- Allows a better understanding of what contributes to different types of flows for the same processes
- Helps to identify ways to improve the flows
- Can illustrate ways that health IT will affect workflows

Example Flowcharts: Simple vs. Detailed^{2,3}

Example 1



Example 2



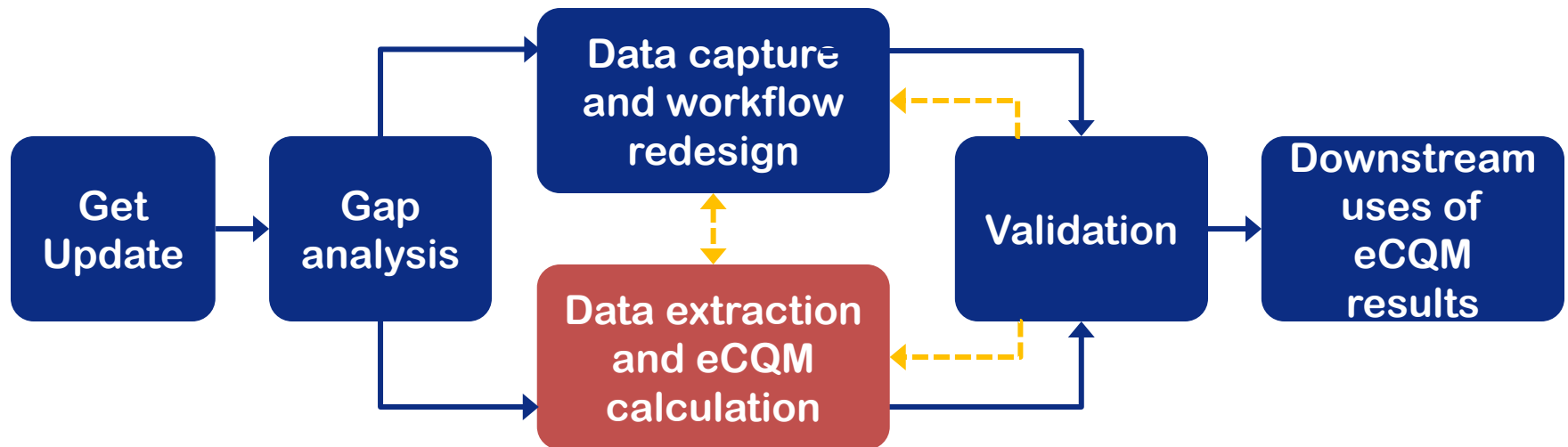
Example: Flowchart comparison^{2,3}

- Both flowcharts show the workflow of “patient check-in”
- Both are accurate descriptions of the same process at a particular clinic, but only example #2 shows the details of what the workflow really is
- The details of the workflow will change when you implement health IT
 - If you don’t understand the details, you cannot plan for the changes that will come

Step-by-Step Process for Implementing eCQM Updates

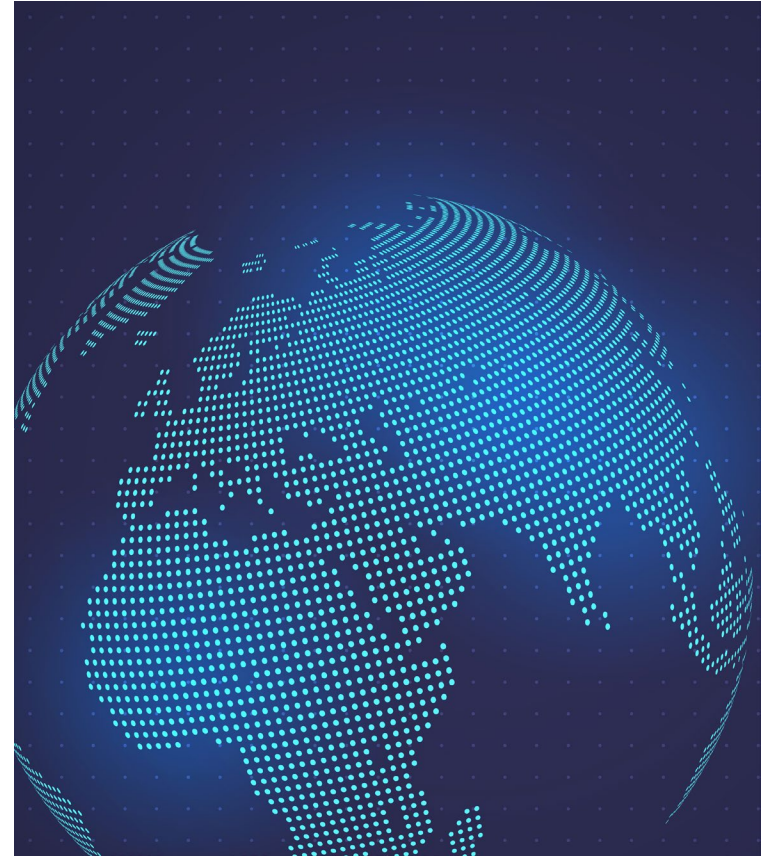
Step 4: Data Extraction and eCQM Calculation

Data Extraction and eCQM Calculation¹



Data Extraction and eCQM Calculation

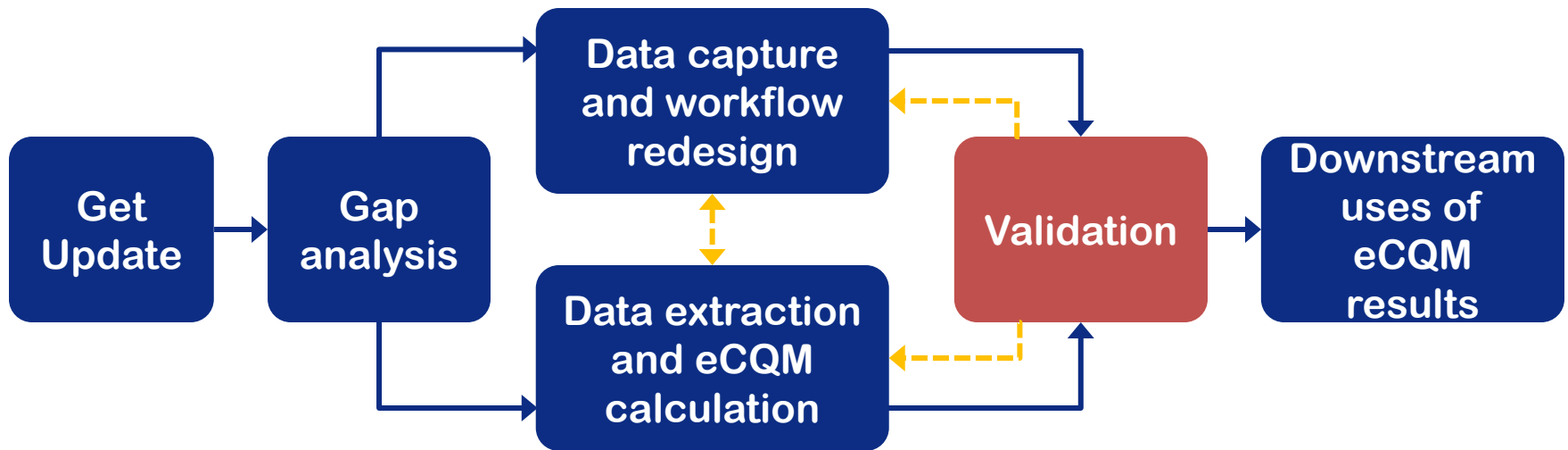
- Once data are available, move forward with data extraction and calculation
- Continue iterative process of validation
- Make tweaks to data capture and/or workflow after validation if necessary
- Update internal documentation based on workflow changes



Step-by-Step Process for Implementing eCQM Updates

Step 5: Validation

Validation¹



Validation (Cont'd)

- Utilize available data, knowledge of patient population, and secondary data sources to review performance
- If performance not as expected, immediately engage entire collaborative team to determine the source
 - Data capture issue
 - Mapping issue
 - Measure issue
 - Value set issue
 - Workflow issue

Testing QRDA: Cypress Validation Utility (CVU)

- [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.

Testing QRDA: Cypress Validation Utility + Calculation Check (CVU+) and Pre-Submission Validation Application (PSVA)

cypress 7.0.4 Dashboard Master Patient List Download Bundles API dczulada@mitre.org Admin Log Out

Dashboard Vendor: CVU+ Vendor Product: 2023 EH Measures

2023 EH Measures Edit Product Download Report

	EC Measure Test	EH Measure Test	CMS Program Tests
✓ Passing Tests			
✗ Failing Tests			
○ Not started Tests		1	6

Download Full Test Deck

This download contains a folder for each measure selected for this product. Inside these folders are XML documents for each patient associated with that measure.

Download All Patients (.zip)


MultiMeasureTest **CMSProgramTest**

Test Name	Quick Upload	Last Updated
HQR_PI Test	▶ start upload	🕒 39 seconds ago
HQR_IQR Test	▶ start upload	🕒 39 seconds ago
HQR_PI_IQR Test	▶ start upload	🕒 39 seconds ago
HQR_OQR Test	▶ start upload	🕒 39 seconds ago
HL7 Cat I (STU 5.3) Test	▶ start upload	🕒 39 seconds ago
HL7 Cat III (R1) Test	▶ start upload	🕒 39 seconds ago

The CVU+ utility within Cypress allows implementers to validate the conformance of QRDA Category I and Category III documents to CMS implementation guides and verify the results of eCQM calculation.

Testing QRDA: Cypress Validation Utility + Calculation Check (CVU+) and Pre-Submission Validation Application (PSVA) (Cont'd)

Results Most Recent - Upload 1 of 1 (passing) [Refresh View](#)

 **Passed**

Test Date: March 21, 2023 4:08pm
Files Uploaded: _641a0cfdfe4bda13a2fcee3.debug.zip
Total Test Executions: 1

Warnings

- 0_Carolyn_Gardner.xml
- 1_Christine_Harrington.xml
- 2_Martha_Waters.xml
- 3_Matthew_Davidson.xml
- 4_Maurice_Garcia.xml
- 5_Tracy_Hampton.xml

0_Carolyn_Gardner.xml

Measure Calculations

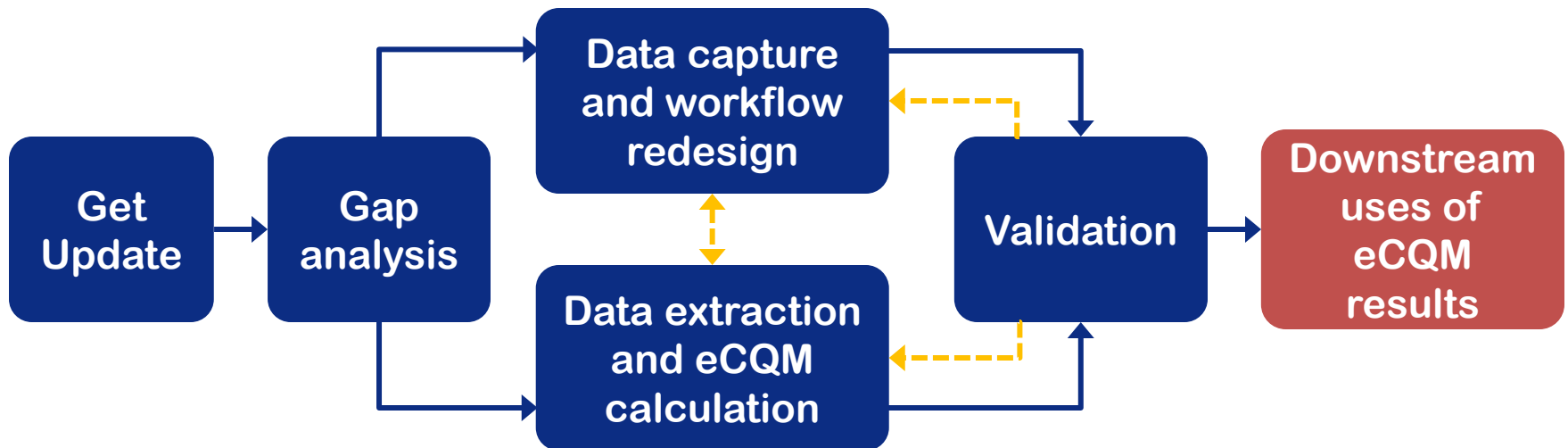
	IPOP	MSRPOPL	MSRPOPLEX	OBSERV
CMS111v11 - PopulationSet 1	1	1	○	50
CMS111v11 - PopulationSet 1 Stratification 1	1	1	○	50

Cypress Validation Utility + Calculation Check allows for the testing of QRDA Category I and Category III documents for conformance to CMS reporting submission requirements and to verify the results of eCQM calculation.

Step-by-Step Process for Implementing eCQM Updates

Step 6: Downstream uses of eCQM results

Downstream Uses of eCQM Results¹



Downstream Uses of eCQM Results (Cont'd)

- Improve quality of care
- Decrease healthcare disparities
- Inform practice
- Propagate research
- Guide value-based care

Where do I go for help regarding implementing eCQMs and eCQMs updates?

Log and Review eCQM Implementation Issues ONC Project Tracking System (JIRA)

ONC Project Tracking System

Learning Resources Create an Issue Ticket Search for an Issue Create An Account Log In

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.

BONNIE and MAT Issue Tracker ↗ ↗ **BONNIEMAT**

CMS Hybrid Measures ↗ ↗ **CHM**

Comments on eCQMs under development ↗ ↗ **PCQM**

CQL Issue Tracker ↗ ↗ **CQLIT**

CYPRESS Issue Tracker ↗ ↗ **CYPRESS**

eCQM Issue Tracker ↗ ↗ **CQM**

eCQM Known Issues ↗ ↗ **EKI**

ODM Issue Tracker ↗ ↗ **ODM**

ONC's Health IT Feedback and Inquiry Portal
Share your health IT-related feedback or concerns that you wish to bring to the ONC's attention: <https://inquiry.healthit.gov>

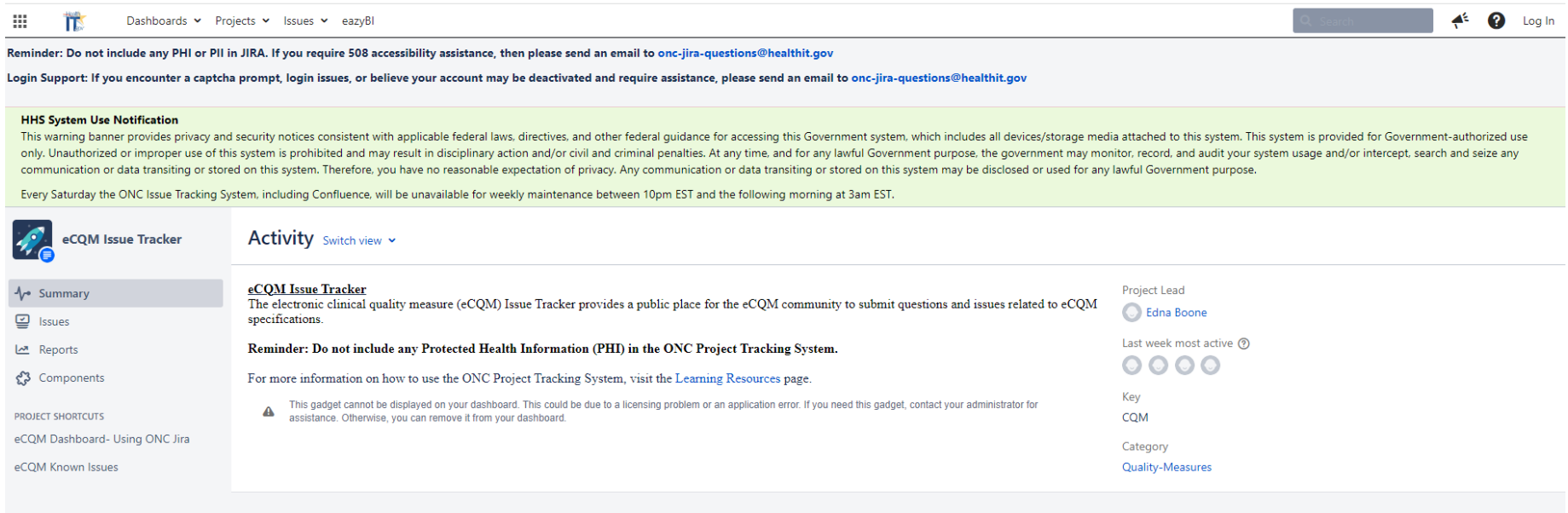
Hospital Inpatient Quality Reporting (IQR)
Contact the Hospital Inpatient Support Team:
https://cmsqualitysupport.servicenow.com/qnet_qa
(844) 472-4477

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

Medicare and Medicaid Promoting Interoperability Programs
Contact the Quality Net Help Desk:
qnet-support@cms.hhs.gov

<https://oncprojecttracking.healthit.gov/wiki/olp>

ONC eCQM Issue Tracker (JIRA)



Dashboards ▾ Projects ▾ Issues ▾ easyBI

Search Log In

Reminder: Do not include any PHI or PII in JIRA. If you require 508 accessibility assistance, then please send an email to onc-jira-questions@healthit.gov

Login Support: If you encounter a captcha prompt, login issues, or believe your account may be deactivated and require assistance, please send an email to onc-jira-questions@healthit.gov

HHS System Use Notification

This warning banner provides privacy and security notices consistent with applicable federal laws, directives, and other federal guidance for accessing this Government system, which includes all devices/storage media attached to this system. This system is provided for Government-authorized use only. Unauthorized or improper use of this system is prohibited and may result in disciplinary action and/or civil and criminal penalties. At any time, and for any lawful Government purpose, the government may monitor, record, and audit your system usage and/or intercept, search and seize any communication or data transiting or stored on this system. Therefore, you have no reasonable expectation of privacy. Any communication or data transiting or stored on this system may be disclosed or used for any lawful Government purpose.

Every Saturday the ONC Issue Tracking System, including Confluence, will be unavailable for weekly maintenance between 10pm EST and the following morning at 3am EST.

eCQM Issue Tracker

Activity [Switch view](#) ▾

eCQM Issue Tracker
The electronic clinical quality measure (eCQM) Issue Tracker provides a public place for the eCQM community to submit questions and issues related to eCQM specifications.

Reminder: Do not include any Protected Health Information (PHI) in the ONC Project Tracking System.

For more information on how to use the ONC Project Tracking System, visit the [Learning Resources](#) page.

Project Lead
Edna Boone

Last week most active ⑤

Key
CQM

Category
Quality-Measures

PROJECT SHORTCUTS

- eCQM Dashboard- Using ONC Jira
- eCQM Known Issues

⚠ This gadget cannot be displayed on your dashboard. This could be due to a licensing problem or an application error. If you need this gadget, contact your administrator for assistance. Otherwise, you can remove it from your dashboard.

<https://oncprojecttracking.healthit.gov/support/projects/CQM/summary>

Using ONC eCQM Tracker (JIRA)

- [Create an Account \(Optional\)](#). You will need an account to create a new issue or to track (watch) an existing issue, but you don't need one to search for a public issue.
- [Search for an Issue](#). Have a question? Search by keyword or project, see if others have submitted the same question, and review the responses.
- [Track an Issue](#). Find an issue that you're interested in? Keep track of changes or comments on a ticket by clicking '*Start watching this issue*' on the right-hand side of the issue. You will need to be logged into your JIRA account.
- [Create an Issue](#). Can't find your issue? Make sure you're logged in – create an issue by clicking the orange “Create Issue” button at the top of the screen. [Be sure to select the correct project](#) and issue type from the dropdown menu in the form. Reminder: Do not include any Protected Health Information (PHI).
- [Review your Issue](#). Once you create an issue, you will be listed as a reporter of that issue. You can make comments, edits, change, add attachments, and communicate with assigned subject matter experts via the comments feature. Additionally, you will receive an email notification of any status changes to your issue.

**Where do I go for help regarding
use of eCQMs in CMS Quality
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://cmsqualitysupport.servicenowservices.com/qnet_qa or (844) 472-4477
- Medicare and Medicaid Promoting Interoperability Programs - Quality Net Help Desk qnetsupport@cms.hhs.gov or (866) 288-8912
- Quality Payment Program (QPP) - QPP@cms.hhs.gov or (866) 288-8292
- Quality Net reporting, data upload - Quality Net Help Desk qnetsupport@cms.hhs.gov or (866) 288-8912

How do I get involved?

- [Engage in eCQI](#)
 - This overview provides a listing of ways to engage with the community including open meetings, public comment periods, workgroups, technical expert panels, and educational events

References

1. Eisenberg, F., Lasome, C., Advani, A., Martins, R., Craig, P., & Sprenger, S. (2013). A study of the impact of meaningful use clinical quality measures. American Hospital Association.
<https://www.ahe.org/sites/default/files/hospitals-face-challenges-using-electronic-health-records-to-generate-clinical-quality-measures.pdf>
2. Carayon, P., & Karsh, B. T. B. (2010, June). Workflow toolkit and lessons in user centered design. Paper presented at the AHRQ Annual Health IT Grantee and Contractor Meeting; Washington, DC.
3. Niazkhani, Z., van der Sijs, H., Pirnejad, H., Redekop, W. K., & Aarts, J. (2009). Same system, different outcomes: comparing the transitions from two paper-based systems to the same computerized physician order entry system. *International Journal of Medical Informatics*, 78(3), 170-181.

Acronyms

Term	Definition
API	Application Program Interface
BPS	Binding Parameter Specification
CAH	Critical Access Hospital
CVU	Cypress Validation Utility
DERep	Data Element Repository
DRC	Direct Reference Code
eCQI	Electronic Clinical Quality Improvement
eCQM	Electronic Clinical Quality Measure
EH	Eligible Hospital
EHR	Electronic Health Record
HL7	Health Level Seven International
HQMF	Health Quality Measure Format
HTML	Hyper Text Markup Language
ICD-10-CM/PCS	International Classification of Diseases, 10 th Revision, Clinical Modification/Procedure Coding System

Acronyms (Cont'd)

Term	Definition
IG	Implementation Guide
IQR	Inpatient Quality Reporting
IT	Information Technology
LOINC	Logical Observation Identifiers Names and Codes
ONC	Office of the National Coordinator for Health Information Technology
PCS	Procedure Coding System
PHI	Protected Health Information
QDM	Quality Data Model
QPP	Quality Payment Program
QRDA	Quality Reporting Document Architecture
TRN	Technical Release Notes
UMLS	Unified Medical Language System
VSAC	Value Set Authority Center