



# HIMSS<sup>®</sup> 16

Conference & Exhibition

FEB 29 – MAR 4, 2016 | LAS VEGAS

**TRANSFORMING  
HEALTH THROUGH IT**



## Electronic Clinical Quality Measure (eCQM) Submissions: Ready, Set, Go → and Looking into the Crystal Ball March 2, 2016

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Center for Clinical Standards and Quality  
Centers for Medicare & Medicaid Services (CMS)

DISCLAIMER: The views and opinions expressed in this presentation are those of the author and do not necessarily represent official policy or position of HIMSS.

 #HIMSS16

[www.himssconference.org](http://www.himssconference.org)

# Conflict of Interest

Debbie Krauss, MS, BSN, RN and  
Minet Javellana, RN

Have no real or apparent conflicts of interest to report.

# Agenda

- Welcome
- **Ready** –Background current eCQM CMS programs
- **Set** - Where to find eCQM submission information
- **Go** – **E**lectronic **C**linical **Q**uality **I**mprovement (eCQI)  
Resource Center demonstration
- Crystal Ball – CMS future eCQM considerations
- Questions

## Learning Objectives

1. Review CMS Programs' eCQMs
2. View a virtual tour of the CMS eCQI Resource Center
3. Provide an overview & update on CMS Lean activities for eCQMs
4. Present an eCQM standards update and proposed implementation timeline
5. Provide a background & overview on the National Testing Collaborative
6. Recruit potential participants for National Test Collaborative

# eCQMs - Not just for the EHR Incentive Program anymore

eCQMs are now part of multiple CMS Programs – and growing, for example:

- ✓ EHR Incentive Program for Eligible Professionals
- ✓ EHR Incentive Program for Eligible Hospitals and Critical Access Hospitals
- ✓ Hospital Inpatient Quality Reporting (HIQR)
- ✓ Physician Quality Reporting System (PQRS)
- ✓ Comprehensive Primary Care (CPC) Initiative

## eCQMs in CMS Programs

- Initially part of CMS EHR Incentive Program rulemaking process
- Specific eCQM reporting requirements now in other rules, e.g.,
  - Hospital Inpatient Prospective Payment Systems for Acute Care Hospitals and the Long-Term Care Hospital Prospective Payment System (IPPS)
  - Physician Fee Schedule
- Pre-Rulemaking Process
  - Measures Under Consideration
  - Measure Applications Partnership

# Hospital eCQM eReporting in CY 2016

- Hospitals must submit a **minimum of four eCQMs for one quarter (Q3 or Q4) of CY 2016**
- No National Quality Strategy (NQS) Domain distribution is required
- Submission deadline is **February 28, 2017** through CMS Secure Portal

# Eligible Professional eCQM eReporting in CY 2016

- Eligible Professionals must submit a **minimum of nine eCQMs** covering **at least three National Quality Strategy domains**
- Submission deadline is **February 28, 2017**
- Eligible Professionals have multiple ways (e.g., qualified clinical data registry, group, individual) and formats (e.g., QRDA I and QRDA III) to submit eCQMs
- Visit the PQRS and EHR Incentive Programs websites for individual program requirements for reporting specifics

# eCQM Submissions Current Status

## Common HQR QRDA I Errors

- Non-conformance to QRDA format
- Discharge date is before the admission date
- Discharge date is not within the Program's discharge quarters

## Common EP QRDA I Errors

- Incorrect value set
- Incorrect format or template
- Missing values

## Common EP QRDA III Errors

- Incorrect GUID
- Numerator greater than denominator
- Invalid templates

## Resource for eCQMs

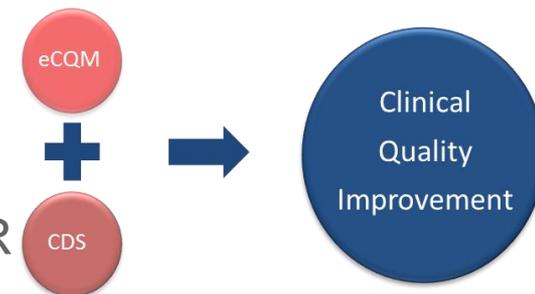
- A one stop shop for all things eCQM
- Spring 2015 CMS launched the *eCQI Resource Center*
- Since then, the Resource Center has grown and will continue to evolve
- Recently hosted over 1300 participants over two live demonstrations

# eCQI Resource Center - Live Tour

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

# Looking into the CMS Crystal Ball

- Looking to harmonize standards for eCQMs and clinical decision support (CDS)
- CDS and electronic clinical quality measurement are closely related, share many common requirements, and both support improving health care quality.
  - CDS guides a clinician to follow a standard plan of care
  - eCQMs assess the quality of care provided to patients, and may focus on processes of care, structural components of care, or outcomes
- Shared needs:
  - Define patient cohorts (sub-populations)
  - Standard ways to reference patient data in EHR



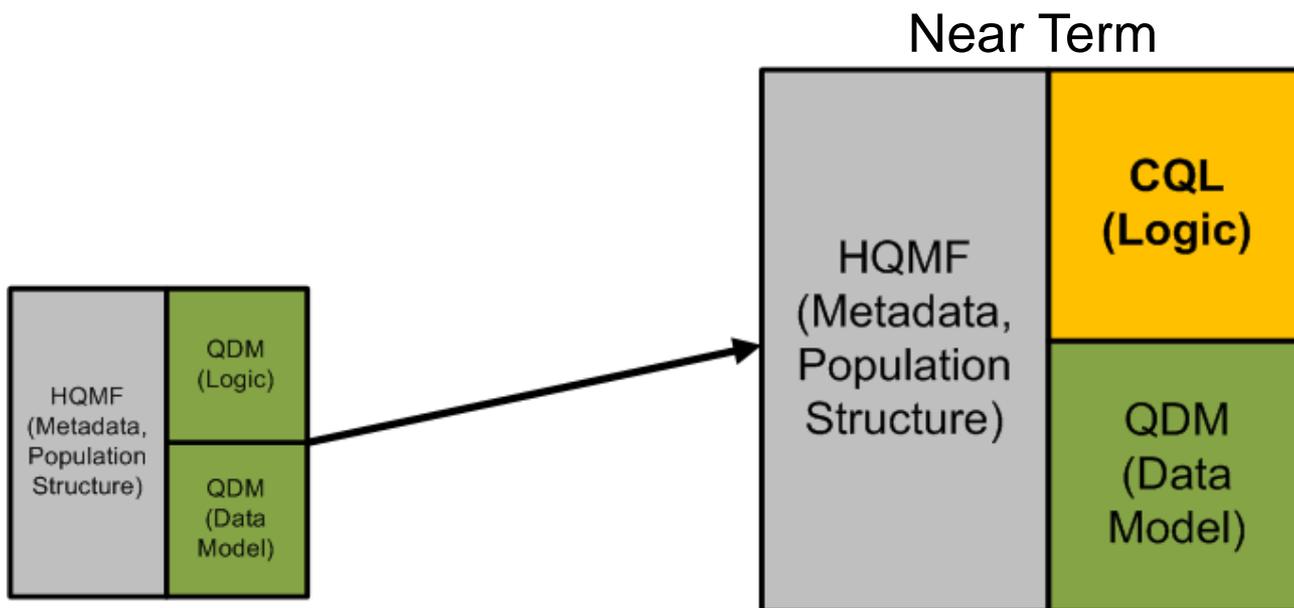
# Lean Methodology for eCQM Development

- Overview of Lean for eCQM development
  - Continuous process improvement methodology; goal is to be more effective and efficient by identifying and eliminating waste in processes and operations
  - Started in 2012
  - Business case: 100% defect rate on eCQM for MU2
  - Engaged internal and external stakeholders
- Kaizen (meaning “improvement”) events
  - Held Kaizen events February, 2013 February, 2014 and December, 2014
  - Attendees: CMS, ONC, measure developer contractors, providers, vendors, trade associations
  - Identified waste and inefficiencies through value stream mapping
  - Led to major changes in eCQM development

# Lean Methodology for eCQM Development

- Outcomes of Kaizens
  - Integrate tools to facilitate the measure authoring process: Measure Authoring Tool with the Value Set Authority Center
  - Enhanced tools for test driven development: Bonnie
  - Combine implementation guide for data submission to CMS: EP and EH/CAH eCQMs to be program specific
  - Aligned program years for EP and EH/CAH to start Calendar Year
  - One source of information for everything electronic clinical quality improvement: Resource Center
  - Multi-stakeholder engagement for Annual Update: Change Review Process
- <https://ecqi.healthit.gov/ecqi/kaizen>

# Evolving eCQM Standards



## Definitions:

**HQMF** – Healthcare Quality Measures Format

**CQL** – Clinical Quality Language

**QDM** – Quality Data Model

# Differences Between the Quality Data Model (QDM) and Clinical Quality Language (CQL)

## QDM

- Logic and Data Model in one
- Tightly Coupled Conceptual, Logical and Physical Layers
- Verbose and Data points required to intermingle with logic
- Rigid Expression Language

## CQL

- Logical Expression Language
- Separation of Conceptual, Logical, and Physical Layers
- Clear, Concise, and logically expressive language
- Flexible Expression Language

## Benefits of CQL

	QDM Logic	CQL Logic
Modularity and Computability	Low	High
Data Model Flexibility	None	High
Expressive and Robust Logic Expression	Low	High
Duplicative work for Implementers, Vendors, and Developers	Yes	Lower

# Proposed Timeline For Updating Standards

**Work Effort:** 2016 through Fall 2017 | Fall 2017 +

## Measures using QDM v4.2 & HQMF 2.1

Measure Development

- 2015
- 2016

### Testing CQL – QDM – HQMF 2.1

- Testing and Development
- Measure Developers
  - Implementers & Vendors
  - CQL Training/Education
  - Measure Authoring Tool
  - Bonnie & Cypress
  - Quality Data Model
  - Integration Testing
  - Feedback Loops

### Testing eCQM using CQL - – QDM – HQMF 2.1

- Measure Development and Testing in a simulated environment
- Starts 2017

# National Testing Collaborative

- Mission:
  - Accelerating **transformational change** through a **multi-disciplinary** collaborative that promotes and fosters the **early engagement** of stakeholders throughout the clinical quality measure development and testing process on a **sustained** basis.
- Public-private partnership eCQM stakeholders committed to improving the quality of eCQMs through robust and efficient testing activities
  - Federal sponsors
  - Measure developers
  - Providers
  - EHR vendors

# National Testing Collaborative

## Why does CMS need an NTC?

*Stakeholders need feasible, valid, reliable and implementable eCQMs*

- The next generation of eCQMs require novel data elements yet stakeholders need measures that
  - Reflect existing workflows
  - Can be implemented broadly in CMS programs
- eCQM testing processes are time and labor intensive
- eCQM standards are evolving: need to be current, relevant, and agile

# National Testing Collaborative

What are the benefits to providers who participate in the NTC?

- Opportunity for quality improvement of the eCQM through feedback on clinical processes and outcomes for measures in development
  - Pilot and prepare for measure implementation
- Opportunity to provide input on and refine measures
- Opportunity to use testing results for improvement on performance or future measure selection

# National Testing Collaborative

## What is the ‘ask’ of providers and vendors?

- Desire and willingness to be on the forefront of eCQM development
- Interest in CMS measurement priorities

Measure developer access to	Purpose for eCQM testing
Providers	Assess workflow feasibility, face validity and usability
EHR extract of de-identified patient data	Assess feasibility of data elements; reliability and validity of provider score
Full patient ‘chart’	Assess validity of data elements through comparison between extract and full patient record
EHR vendor staging environment	Assess implementability through automated consumption of eCQM specifications

# National Testing Collaborative

## What have we done so far?

- Accomplished
  - Paper Reduction Act (PRA) Exemption
- Work in Progress
  - Started onboarding calls for potential test sites
  - Templates for Business Associate Agreement (BAA) Template and Memorandum of Understanding (MOU)
  - Rolodex – tool for recruiting potential test sites

## Additional HIMSS16 Activities

- CMS Booth #10309: Office Hours – Quality Measurement and Reporting
  - March 2, 2016 – 2:00 – 3:00
  - March 3, 2016 – 1:00 – 2:00
- Interoperability Showcase
  - March 3, 2016 – 10:00: eCQM Submission Errors and Cypress Validation Utility Tool
- ESAC Booth #12028
- MITRE Room
  - Bonnie Demo
    - March 2, 2016: 3 – 3:30
  - Cypress Demo
    - March 2, 2016: 3:30 – 4:00

# Questions?

Thank you for your attention!

- **QualityNet Help Desk:** 866-288-8912 (TTY 877-715-6222) or [qnetsupport@hcqis.org](mailto:qnetsupport@hcqis.org)
- **EHR Incentive Program Information Center:** 888-734-6433 (TTY 888-734-6563)

# Resources

- <https://ecqi.healthit.gov>
- <https://ecqi.healthit.gov/ecqm>
- [https://www.cms.gov/regulations-and-guidance/legislation/ehrincentiveprograms/ecqm\\_library.html](https://www.cms.gov/regulations-and-guidance/legislation/ehrincentiveprograms/ecqm_library.html)
- [https://cportal.qualitynet.org/QNet/pgm\\_select.jsp](https://cportal.qualitynet.org/QNet/pgm_select.jsp)
- <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityMeasures/Downloads/2015-Measures-Under-Consideration-List.pdf>
- [http://www.qualityforum.org/Setting\\_Priorities/Partnership/Measure\\_Applications\\_Partnership.aspx](http://www.qualityforum.org/Setting_Priorities/Partnership/Measure_Applications_Partnership.aspx)
- [https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/QRDA\\_2016\\_CMS\\_IG.pdf](https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/QRDA_2016_CMS_IG.pdf)
- <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/index.html>
- <https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/index.html>
- <https://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1228773849716>
- <https://www.gpo.gov/fdsys/pkg/FR-2015-08-17/pdf/2015-19049.pdf>
- <https://www.gpo.gov/fdsys/pkg/FR-2015-11-16/pdf/2015-28005.pdf>
- [http://www.hl7.org/implement/standards/product\\_brief.cfm?product\\_id=400](http://www.hl7.org/implement/standards/product_brief.cfm?product_id=400)
- Prospective Payment System (IPPS) <https://www.gpo.gov/fdsys/pkg/FR-2015-08-17/pdf/2015-19049.pdf>
- Physician Fee Schedule - <https://www.gpo.gov/fdsys/pkg/FR-2015-11-16/pdf/2015-28005.pdf>
- <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/index.html>
- <https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/index.html>

# Back up screen shots of eCQI Resource Center

## The one-stop shop for the most current resources to support Electronic Clinical Quality Improvement.

Learn about eCQI resources and connect with the community of professionals who are dedicated to clinical quality improvement for better health

**Getting Started**



A *gentle* introduction to understanding eCQI and this Resource Center

[More information](#)

**eCQMs**



The who, what, when, where, and why of eCQMs

[More information](#)

**Education**



A selection of educational materials and resources to broaden your eCQI knowledge

[More information](#)

### Latest News

- Wed 27 Jan **Education Space added to the eCQI Resource Center**

An *education-specific* space has been added to the eCQI Resource Center making it easier for users to find topic-specific educational presentations. The goal is to post or link to eCQI-related education materials as they become available. The space also includes a calendar of eCQI-related education events. Check back frequently for updates.
- Tue 26 Jan **NLM released VSAC update version 2.10.4**

NLM released VSAC update version 2.10.4 on January 19, 2016.

VSAC 2.10.4 includes the following updated code system versions:

CPT 2016, CPT 2016, CVX 2016, HCPCS 2016, ICD10CM 2016, ICD10PCS 2016, LOINC 2.54, RxNorm 2015-01

### Upcoming Events

- Jan 27 2016 **eCQI Resource Center Demonstration - Event is Full**

January 27, 2016 Webinar Registration is now closed.

Thank you for your interest in participating in the live demonstration of the eCQI Resource Center. Unfortunately, due to an unexpectedly large level of interest in the eCQI Resource Center webinar planned for January 27th, the registrations quickly exceeded the 1500 spots we had available.
- Jan 28 2016 **eCQI Resource Center Demonstration**

CMS and ONC would like to re-introduce you to the eCQI Resource Center, the one-stop shop for the most current



[Placeholder box with 'More information' button]

[Placeholder box with 'More information' button]

### Latest News

Wed 13 Jan **Inpatient Quality Reporting (IQR) Program Chart-Abstracted and eCQM Measure Submissions Requirements for CY 2016/FY 2018**  
The Centers for Medicare & Medicaid Services (CMS) has mandated that Eligible Hospitals (EHs) must submit eight chart-abstracted measures to meet the IQR Program requirement for Calendar Year (CY) 2016/Fiscal Year (FY) 2018, including: ED-1, ED-2, PC-01, STK-4, VTE-5, VTE-6, IMM-2, and SEP-1. In addition to the chart-abstracted measure requirements, an EH is required to submit a minimum of any four of the available 28 eCQMs. Please visit the *QualityNet* website to review the...  
[Read more](#)

Sat 09 Jan **QRDA eCQM Submission Customer Satisfaction Survey**  
The Centers for Medicare and Medicaid (CMS) would like to know more about your experience(s) submitting Quality Reporting Document Architecture (QRDA) electronic Clinical Quality Measures (eCQMs) for your hospital's participation in the Hospital Quality Reporting (HQR) program. Your feedback is very important. Help CMS to improve the submission process.  
  
All survey answers are anonymous and will help CMS to evaluate and improve your data submission experience. The survey will take approximately 5-10 minutes to complete. Your response to the survey is requested no later than close... [Read](#)

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Jan 28 2016 **eCQI Resource Center Demonstration**  
CMS and ONC would like to re-introduce you to the eCQI Resource Center, the one-stop shop for the most current resources to support electronic clinical quality improvement. We are presenting a demonstration of website core content, along with an overview of the latest website updates, enhancements, and features. The website provides a centralized location for critical clinical quality measure resources, including the electronic clinical

## The one-stop shop for the most current resources to support Electronic Clinical Quality Improvement.

Learn about eCQI resources and connect with the community of professionals who are dedicated to clinical quality improvement for better health

<h3>Getting Started</h3>  <p>A gentle introduction to understanding eCQI and this Resource Center</p> <p><a href="#">More information</a></p>	<h3>eCQMs</h3>  <p>The who, what, when, where, and why of eCQMs</p> <p><a href="#">More information</a></p>	<h3>Education</h3>  <p>A selection of educational materials and resources to broaden your eCQI knowledge</p> <p><a href="#">More information</a></p>
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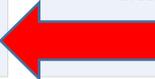
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## Putting eCQMs to Work

### 'The who, what, when, where and why'

#### Who are the key people that are involved in eCQM development or use?

- Providers
- Patients
- Implementers
- Measure stewards
- Measure developers
- Health IT developers
- Quality improvement organizations
- Insurers/Payers

#### What are the main components used to implement eCQMs?

- [EH Measures & specifications](#)
- [EP Measures & specifications](#)
- [Guidance documentation](#)
- [Tools](#)

#### When are key dates associated with eCQMs?

- Comment period(s)
- Measure and measure specification publication
- Measurement period

# eCQI Resource Center

The one-stop shop for the most current resources to support electronic clinical quality improvement.

## Interest Areas

**eCQM**  
Electronic Clinical Quality Measures

[Learn more](#)

**QDM**  
The Quality Data Model Standard

[Learn more](#)

**eCQM Tools**  
Authoring, Testing and Implementation Tools

[Learn more](#)

**eCQI Standards**  
Electronic Clinical Quality Improvement Standards

[Learn more](#)

## Helpful Links

- [What are eCQMs?](#)
- [eCQI Resource Center FAQs](#)
- [Glossary of Terminology](#)
- [Getting Started with eCQMs](#)
- [Send Feedback to eCQI Resource Center](#)

## Related Information

- [CMS Measures Management System \(Blueprint\)](#)
- [EHR Incentive Programs](#)
- [Health IT Enabled Quality Improvement](#)
- [Reporting Guide for Eligible Hospitals](#)
- [Reporting Guide for Eligible Professionals](#)
- [eCQM Library Page](#)

## External Links

- [HL7 QRDA Standard](#)
- [JIRA eCQM Issue Reporting](#)
- [Measure Authoring Tool \(MAT\)](#)
- [National Quality Strategy](#)
- [USHIK Meaningful Use Portal](#)
- [Value Set Authority Center \(VSAC\)](#)

# eCQI Resource Center

The one-stop shop for the most current resources to support electronic clinical quality improvement.



About    FAQ    Glossary of eCQI Terms    eCQI Resource Center Contact Information



Home Spaces

Topic areas: eCQI Standards, QDM, HQMF, QRDA, eCQM Tools, Kaizen

- Public Spaces
- CDS/eCQM Harmonization
- eCQI
- eCQI Standards
- eCQM
- eCQM Tools & Key Resources
- EH
- EP
- HQMF
- QDM
- QRDA
- All Spaces...
- Site map

**17**  
**2016**    QDM Call Information  
 NOTE: Participants are not required to register for this meeting.

1 2 next › last »

### Interest Areas

**eCQM**  
 Electronic Clinical Quality Measures  
[Learn more](#)

**QDM**  
 The Quality Data Model Standard  
[Learn more](#)

**eCQM Tools**  
 Authoring, Testing and Implementation Tools  
[Learn more](#)

**eCQI Standards**  
 Electronic Clinical Quality Improvement Standards  
[Learn more](#)

### Interest Areas

**eCQM**  
Electronic Clinical Quality Measures

[Learn more](#)

**QDM**  
The Quality Data Model Standard

[Learn more](#)

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## eCQM

### About electronic Clinical Quality Measures

#### Where can I find the eligible hospital measures?

Eligible Hospital (EH) electronic measure specifications and supporting documentation are on the [EH page](#) of the eCQI Resource Center.

AND

Eligible Hospital (EH) electronic measure specifications and supporting documentation are on the [CMS eCQM Library Page](#).

#### Where can I find the eligible professional measures?

Eligible Professional (EP) electronic measure specifications and supporting documentation are on the [EP page](#) of the eCQI Resource Center.

AND

Eligible Professional (EP) electronic measure specifications and supporting documentation are on the [CMS eCQM Library Page](#).

#### What are clinical quality measures (COMs)?

**EH**  
Eligible Hospital Measures



**EP**  
Eligible Professional Measures

Public

Request space membership

eCQI Implementer's Corner  
eCQM News  
eCQM Events  
eCQM Files

**Categories**

**eCQI Topic:**  
About eCQM  
Annual Measure Specification Updates  
Reporting Standards  
Tools & Resources

## EH

- Public
- Request space membership
- 2014 Measures 2014 Update  
2014 Measures 2015 Update
- Current Measure Specs**
- CMS100v4 - AMI2
- CMS102v4 - Stroke10
- CMS104v4 - Stroke2
- CMS105v4 - Stroke6
- CMS107v4 - Stroke8
- CMS108v4 - VTE1
- CMS109v4 - VTE4
- CMS110v4 - VTE5
- CMS111v4 - ED2
- CMS113v4 - PC01

Each year, CMS makes updates to the electronic specifications of the Clinical Quality Measures approved for submission in CMS programs. CMS encourages the use of the updates because they include new codes, logic corrections and clarifications. Below are Eligible Hospital (EH) electronic measure specifications and linked documentation.

### Eligible Hospital (EH) Downloads

#### June 2015 Update for the 2016 Reporting Year



- [2014 eCQMs for Eligible Hospitals Table Update May 2015 \(pdf\)](#)
- [2014 eCQM Specifications for Eligible Hospitals Update June 2015 \(zip\)](#)
- [2014 eCQM Eligible Hospital Technical Release Notes May 2015 \(zip\)](#)
- [2014 eCQM Eligible Hospital Technical Release Notes Update June 2015 \(zip\)](#)
- [2014 eCQM Measure Logic Guidance v1.11 Update June 2015 \(pdf\)](#)

#### April 2014 Update

- [2014 eCQM Eligible Hospital Table April 2014 \(pdf\)](#)
- [2014 eCQM Specifications for Eligible Hospitals Update April 2014 \(zip\)](#)

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**April 2014 Update**

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- 2014 eCQM Specifications for Eligible Hospitals Update April 2014 (zip)

# 2014 Measures 2015 Update

Clinical Quality Measures and their electronic specifications as defined in the 2015 update for Eligible Hospitals.

Measure Name	CMS ID	NQF ID
Exclusive Breast Milk Feeding	CMS9v4	0480
Home Management Plan of Care (HMPC) Document Given to Patient/Caregiver	CMS26v3	None
Statin Prescribed at Discharge	CMS30v5	0639
Hearing Screening Prior To Hospital Discharge	CMS31v4	1354
Median Time from ED Arrival to ED Departure for Discharged ED Patients	CMS32v5	0496
Primary PCI Received Within 90 Minutes of Hospital Arrival	CMS53v4	0163
Median Time from ED Arrival to ED Departure for Admitted ED Patients	CMS55v4	0495
Fibrinolytic Therapy Received Within 30 Minutes of Hospital Arrival	CMS60v4	0164
Anticoagulation Therapy for Atrial Fibrillation/Flutter	CMS71v5	0436
Antithrombotic Therapy By End of Hospital Day 2	CMS72v4	0438



Content Visibility

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# Hearing Screening Prior To Hospital Discharge

2014 Measures 2015 Update

Last updated: August 24, 2015

## Current Measure Specs

- CMS100v4 - AMI2
- CMS102v4 - Stroke10
- CMS104v4 - Stroke2
- CMS105v4 - Stroke6
- CMS107v4 - Stroke8
- CMS108v4 - VTE1
- CMS109v4 - VTE4
- CMS110v4 - VTE5
- CMS111v4 - ED2
- CMS113v4 - PC01
- CMS114v4 - VTE6
- CMS171v5 - SCIPInf1
- CMS172v5 - SCIPInf2
- CMS178v5 - SCIPInf9
- CMS185v4
- CMS188v5 - PN6
- CMS190v4 - VTE2
- CMS26v3 - HMPC
- CMS30v5 - AMI10

**CMS Measure ID:** CMS31v4

**Version:** 4

**NQF Number:** 1354

**Measure Description:** This measure assesses the proportion of births that have been screened for hearing loss before hospital discharge.

**Initial Patient Population:** Live birth encounters at a hospital or birthing facility where the newborn was discharged during the measurement period.

**Measure Population:** Not applicable

**Measure Observations:** Not applicable

**Denominator Statement:** Denominator is equal to the Initial Population.

**Denominator Exclusions:** Live birth encounters where the patient expires prior to discharge and has not received hearing screening for the left or right ear

### Release Notes



#### Header

- Copyright updated.
- Disclaimer updated.
- eMeasure version number incremented.
- Updated criteria in the Denominator Exclusions representing when a patient expires to harmonize across measures.
- Updated the Denominator header statement to be consistent across hospital measures.
- Updated the Numerator header statement to better align with measure logic.

#### Logic

- Added 'during Occurrence A of Encounter, Performed: Encounter Inpatient' for each 'AND:' statement in the Denominator Exclusions to clarify the logic in the left-hand side or right-hand side of a timing clause.
- Changed data type of 'Result' or 'Finding' to 'Performed'.
- For consistency across all measures, Discharge Status: Patient Expired is used as the criteria to determine if a patient expired during an encounter.
- Introduced the 'Intersection of' operator to specify the selection of the data sets common to all individual statements underneath the 'Intersection of'.
- Introduced variable \$EncounterInpatient to allow re-use of logical expressions and reduce redundancy/complexity.
- Replaced 'ORs' with 'Union of' operator to provide a mechanism for specifying that qualifying event(s) must be a member of at least one of the data elements being unioned (if appropriate for measure intent).
- The top level logical operator for the Numerator Exclusions, Denominator Exclusions, Denominator Exceptions, and Measure Population Exclusions defaults to 'OR'.

#### Value Sets

No changes

#### External Resources

[United States Health Information Knowledgebase \(USHIK\)](#)

Short Name: EHDI\_1a

Previous Version: Hearing Screening Prior To Hospital Discharge

Measure Score: Proportion

Score Type: Process

Improvement Notation: Improvement noted as an increase in rate.

Guidance: The measurement period is one calendar year but the reporting period is jurisdictionally defined.

Specifications



- 📄 CMS31v4\_1.html
- 📄 CMS31v4\_1.xml
- 📄 CMS31v4\_SimpleXML\_1.xml
- 📁 EH\_CMS31v4\_NQF1354\_EHDI\_1a\_HearScreen\_1.zip
- 📄 CMS31v4TRNs05012015\_1.xlsx

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## eCQM

### About electronic Clinical Quality Measures

#### Where can I find the eligible hospital measures?

Eligible Hospital (EH) electronic measure specifications and supporting documentation are on the [EH page](#) of the eCQI Resource Center.

AND

Eligible Hospital (EH) electronic measure specifications and supporting documentation are on the [CMS eCQM Library Page](#).

#### Where can I find the eligible professional measures?

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#### What are clinical quality measures (COMs)?

**EH**  
Eligible Hospital Measures

**EP**  
Eligible Professional Measures



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Reporting Standards  
Tools & Resources

## EP

- Public
- Request space membership
- 2014 Measures 2014 Update  
2014 Measures 2015 Update
- Current Measure Specs**
- CMS117v4
- CMS122v4
- CMS123v4
- CMS124v4
- CMS125v4
- CMS126v4
- CMS127v4
- CMS128v4
- CMS129v5
- CMS130v4
- CMS131v4
- CMS132v4
- CMS133v4
- CMS134v4

Each year, CMS makes updates to the electronic specifications of the Clinical Quality Measures approved for submission in CMS programs. CMS encourages the use of the updates because they include new codes, logic corrections and clarifications. Below are Eligible Professional (EP) electronic measure specifications and linked documentation.

### Eligible Professional (EP) Downloads

#### June 2015 Update for the 2016 Reporting Year

- [2014 eCQMs for Eligible Professionals Table Update May 2015](#) (pdf)
- [2014 eCQM Specifications for Eligible Professionals Update June 2015](#) (zip)
- [2014 eCQM Eligible Professionals Technical Release Notes May 2015](#) (zip)
- [2014 eCQM Eligible Professionals Technical Release Notes Update June 2015](#) (zip)
- [2014 eCQM Measure Logic Guidance v1.11 Update June 2015](#) (pdf)
- [2014 eCQM Measure Logic Flows for Eligible Professionals Update June 2015](#) (zip)

#### July 2014 Update for the 2015 Reporting Year

- [2014 eCQMs for Eligible Professionals Table July 2014](#) (pdf)
- [2014 eCQM Specifications for Eligible Professionals Update July 2014](#) (zip)
- [2014 eCQM Measure Logic Guidance & Release Notes v1.9 Update July 2014](#) (pdf)
- [2014 eCQM Measure Logic Flows for Eligible Professionals July 2014 1 of 2](#) (zip)

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## eCQI Implementer's Corner

The eCQI Implementers' Corner provides information and tools to inform the design and execution of eCQI activities.

An "implementer" does many things to prepare processes and systems such as:

- putting measure data components into systems and workflow
- using measures when conducting health care activities
- providing information from measures to inform quality improvement

The success of eCQI activities depends on the tireless efforts of the entire care team and those that support them: practice administrators, quality improvement leadership, information technology staff, providers, and others. These individuals need to work together to execute a plan to improve quality and reduce costs.

Electronic health data can help providers and health care organizations transform the care they deliver through quality improvement activities. However, the existence of data alone does not improve quality. One must use the data with eCQI tools and activities to improve quality such as:

- Electronic Clinical Quality Measures (eCQMs) that help providers know how they compare with other providers on key quality indicators and whether or not they are using evidence-based care
- Clinical Decision Support (CDS) to ensure the 5 CDS Rights:
  - right information is provided
  - to the right person
  - in the right intervention format
  - through the right channel
  - at the right time in workflow
- Understanding and optimizing daily care activities and workflow to be effective and efficient

### Key Implementer Resources:

- [eCQM 101 - Getting Started with eCQM for Quality Reporting Programs - March 25, 2015](#) (pdf)
- [eCQM 101 Webinar](#)

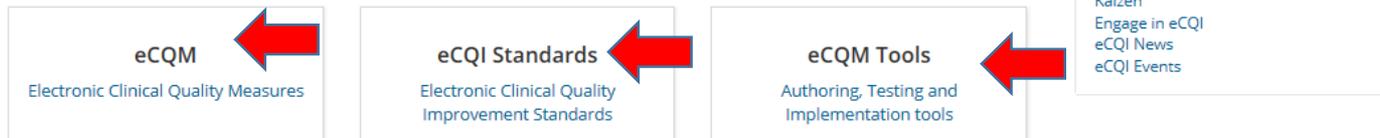
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## eCQI

### Electronic Clinical Quality Improvement (eCQI)

Electronic Clinical Quality Improvement (eCQI) uses a variety of processes, health IT tools, standards and measurement to help continuously improve the quality of care, support improved health and outcomes. Health IT enables this improvement through the rapid feedback of performance via electronic clinical quality measures (eCQMs) as well as real-time improvement tools such as clinical decision support (CDS).



Specifications for electronic clinical quality measures for use in Medicare and Medicaid programs are created by CMS and certified by ONC. Measures quantify improvement in the quality and safety of care, health outcomes of populations, and provider and patient experience of care. The standards used for the electronic representation of quality data formats in eCQMs are proposed and approved by standards organizations and stakeholders in the eCQI community and approved by CMS for measures used within their quality incentive programs. Tools are that help with the development, testing and certification of eCQMs are highlighted on the eCQM tools page.

## eCQM

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## eCQI Standards

### About electronic Clinical Quality Improvement standards

Standards are critical to data consistency, validity and interoperability. Their use makes it easier to:

- Share information
- Develop software
- Integrate data
- Implement systems

Standards constantly improve so that more sophisticated data can be captured, used and analyzed.

While eCQI is made up of eCQMs and Clinical Decision Support (CDS), you'd think both use the same standards, but they don't. It's important to understand the difference.

### Current eCQM standards

<b>QDM</b> Quality Data Model	<b>HQMF</b> Health Quality Measures Format	<b>QRDA</b> Quality Reporting Document Architecture
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### Current CDS standards:

- Virtual Medical Record (vMR) data model and templates
- Health eDecisions (HeD) CDS Knowledge Artifact Specification (KAS)

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[About eCQI](#)  
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**eCQI Author:**  
[CMS](#)  
[ONC](#)

**eCQI Function:**

# QRDA

## What's the Quality Reporting Document Architecture (QRDA)?

The Health Level Seven International (HL7) Quality Reporting Document Architecture (QRDA) is a standard document format for the exchange of electronic clinical quality measure (eCQM) data. QRDA reports:

- Contain data extracted from electronic health records (EHRs) and other health information technology systems.
- Can be used to exchange eCQM data between systems.
- Are the data submission standards for a variety of quality measurement and reporting initiatives.
- Were adopted by the Office of the National Coordinator for Health Information Technology (ONC) as the standard to support both QRDA Category I (patient) and QRDA Category III (aggregate) data submission approaches for Stage 2 of Meaningful Use (MU).

QRDA Category I and III specifications have and will be used as Draft Standards for Trial Use (DSTUs). HL7 issues DSTUs during the standards development life cycle when many, but not all, of the guiding requirements have been clarified. DSTUs are tested and then formalized in the HL7 ballot process into an American National Standards Institute (ANSI)-accredited normative standard. QRDA I was renewed in 2014; QRDA Cat III DSTU will be renewed in November 2015.

CMS has developed and published the CMS QRDA Category I Implementation Guides for Eligible Professionals and Eligible Hospitals for the 2014 eCQM reporting. These guides:

- Are based on the HL7 QRDA Category I, DSTU Release 2, and its December 2012 errata update.
- Provide CMS-specific requirements for the Eligible Professionals and Eligible Hospitals, such as requiring the CMS Certification Number for hospitals when submitting QRDA Category I reports, by further constraining the base HL7 standard.

For aggregated reporting, CMS has also developed and published the CMS QRDA Category III Implementation Guide for Eligible Professionals for the 2014 eCQM reporting. The guide further constrains the base HL7 QRDA Category III standard to define CMS specific requirements for Eligible Professionals.

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[Tools & Resources](#)

**eCQI Author:**  
 CMS

**eCQI Function:**  
[eCQM Implementation eCQM Reporting](#)

## QRDA Reference and Implementation Guides for eCQM



- [2016 CMS QRDA Implementation Guide for Eligible Professional Programs and Hospital Quality Reporting \(pdf\)](#)
- [2016 CMS QRDA-I Schematrons and Sample Files version 2 \(zip\)](#)
- [2016 CMS QRDA-III Schematrons and Sample Files version 3 \(zip\)](#)
- [HL7 QRDA Category I Specifications](#)
- [HL7 QRDA Category III Specifications](#)
  
- [2015 CMS QRDA Implementation Guide for Eligible Professional Programs and Hospital Quality Reporting \(pdf\)](#)
- [Addendum to 2015 CMS QRDA Implementation Guide for Eligible Professional and Hospital Quality Reporting \(pdf\)](#)
- [2015 CMS/CPC QRDA III Sample File updated October 2015 \(zip\)](#)
- [2014 CMS Performance Rate Calculation Requirement for Eligible Professionals QRDA-III \(pdf\)](#)
- [Guide to the Quality Reporting Data Architecture, QRDA, for 2014 eCQMs \(pdf\)](#)
- [2014 CMS QRDA Implementation Guide for Eligible Hospital Clinical Quality Measures \(pdf\)](#)
- [2014 CMS QRDA Implementation Guide for Eligible Hospital Clinical Quality Measures \(Effective July 1, 2014\) \(pdf\)](#)
- [2014 CMS QRDA I Implementation Guides for Eligible Professionals Clinical Quality Measures \(zip\)](#)
- [2014 CMS QRDA III Implementation Guides for Eligible Professionals Clinical Quality Measures \(zip\)](#)
- [2014 CMS QRDA Cat 1 Eligible Hospital Sample Files April 2014 \(zip\)](#)

### eCQI User Level:

Advanced  
Intermediate

### eCQI User Type:

Health IT  
Developer/Vendor  
Measure Developer  
Standard Development  
Organization

# eCQM Tools & Key Resources

## Overview of eCQM-related Tools

The eCQM tools and resources referenced in this section are openly available and are provided for stakeholder use. They provide a foundation for the development, testing, certification, implementation, reporting, continuous evaluation of quality measures and their improvement.

Use this interactive graphic to explore current eCQM tools and resources openly available for stakeholder use. The tools and resources provide developers, implementers, and other stakeholders a foundation for the development, testing, implementation, reporting, and continuous evaluation of eCQMs. Each tool and resource icon has a link for more information.

We encourage your feedback on this graphic. Please e-mail us at [ecqi-resource-center@hhs.gov](mailto:ecqi-resource-center@hhs.gov).

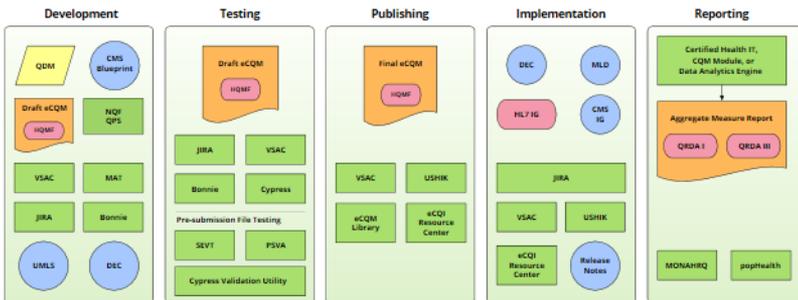
### eCQM Tools & Resources

Version 1.0  
December 2015



**Acronyms**

- CDS** Clinical Decision Support
- CMS** Centers for Medicare & Medicaid Services
- COF** Clinical Quality Framework
- COE** Clinical Quality Measure
- COE** Data Element Coding
- eCQI** Electronic Clinical Quality Improvement
- eCQM** Electronic Clinical Quality Measure
- HL7** Health Level Seven International
- HQMF** Health Quality Measure Format
- IG** Implementation Guides
- JIRA** Issue and Project Tracking Software
- MAT** Measure Authoring Tool
- MLD** Measure Logic Document
- NQF** National Quality Forum
- ONC** Office of the National Coordinator for Health Information Technology
- PSVA** Pre-Submission Validation Application
- QDM** Quality Data Model
- QPS** Quality Positioning System
- QRDA** Quality Reporting Document Architecture
- SEVT** Submission Engine Validation Tool
- SAI** Standards & Interoperability
- UMLS** Unified Medical Language System
- USHIK** United States Health Information Knowledgebase
- VSAC** Value Set Authority Center and Collaboration Tool



### Foundational Components



Download the PDF version of this diagram here: [ecqm\\_ecosystem.pdf](#).

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Tools News  
Tools Events  
Tool Library

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**eCQM Tool Categories**

- Certification
- Communication
- Continuous Evaluation
- Development
- Implementation
- Publication
- Reporting
- Submission
- Testing

## Bonnie

[Bonnie website](#)

Category: Development, Testing

Bonnie is a tool for testing electronic clinical quality measures (eQMs). This tool is designed for use by measure developers as part of their development process and validates that the eCQM logic matches the measure's intent. Bonnie uses patient scenarios to represent each logic component of the measure specification such as the IPP, denominator, numerator, exclusions, etc. Health IT developers and implementers may also use the tool to evaluate measure implementation into their systems. Measure developers use both Bonnie and MAT in concert to promote test driven development.

## Bonnie User Forum

[Bonnie User Forum](#)

Category: Development, Testing

This user forum is a community of Bonnie users that benefit from one another's experience and questions, and allows the development team to easily reach out to the community regarding new releases, proposed features, and focus group opportunities.

To join:

## Cypress

[Cypress website](#)

Category: Certification, Testing

Cypress is an open source certification testing tool for evaluating the accuracy of clinical quality measure calculations in electronic health records (EHRs) systems and EHR modules. Cypress enables testing of an EHR's ability to accurately calculate eQMs. Cypress serves as the official eCQM testing tool for the 2014 EHR Certification program by the Office of the National Coordinator for Health IT (ONC). View slides from [Cypress 101](#) session.

## Cypress Tech Talks

[Cypress Tech Talks Signup](#)

Category: Communication, Continuous Evaluation

Cypress Tech Talks are an open forum for discussing technical implementation and tool issues with the Cypress team.

## Data Element Catalog (DEC)

[Data Element Catalog webpage](#)

Category: Development, Implementation

A data element is a clinical concept such as a diagnosis, lab value or gender that is coded using standardized terminologies and

**eCQI Resource Center**  
The one-stop shop for the most current resources to support Electronic Clinical Quality Improvement.

Navigation: Home, eCQI, eCQM Tools & Key Resources

Topic areas: EH Measures, EP Measures, QDM, HQMF, QRDA, eCQM Tools, Kaizen, Education

## eCQM Tools & Key Resources

### Overview of eCQM-related Tools

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CMS QRDA Pre-Submission Validation Tools

**eCQM Tool Categories**

- Certification
- Communication
- Continuous Evaluation

**eCQM Tools & Resources**  
Version 1.0 December 2015

Key: Tool, Output, Model, Standard, Resource

Acronyms					
<b>CDS</b>	Clinical Decision Support Centers for Medicare & Medicaid Services	<b>HLP</b>	Health Level Seven International Health Quality Measure Format	<b>PSVA</b>	Pre-Submission Validation Application
<b>CMS</b>	Centers for Medicare & Medicaid Services	<b>HQMF</b>	Health Quality Measure Format	<b>QDM</b>	Quality Data Model
<b>CQF</b>	Clinical Quality Framework	<b>IG</b>	Implementation Guides	<b>QPS</b>	Quality Positioning System
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<b>DEC</b>	Data Element Catalog	<b>MAT</b>	Measure Authoring Tool	<b>SEVT</b>	Submission Engine Validation Tool
<b>eCQI</b>	Electronic Clinical Quality Improvement	<b>MLD</b>	Measure Logic Document	<b>S&amp;I</b>	Standards & Interoperability
<b>eCQM</b>	Electronic Clinical Quality Measure	<b>NQF</b>	National Quality Forum	<b>UMLES</b>	Unified Medical Language System
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				<b>VSAC</b>	Value Set Authority Center and Collaboration Tool

Development      Testing      Publishing      Implementation      Reporting

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# CMS QRDA Pre-Submission Validation Tools

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This interactive tool details the different aspects of multiple QRDA validation tools that are available to submitters. It is intended to give users a single point of reference for these tools and assist them in selecting the most appropriate tool to meet their individual needs.

[Get Started](#)



## CMS QRDA Pre-Submission Validation Tool

Click to close X

### HOW THIS TOOL WORKS

- 1) Hover over any of the 4 QRDA Validation Tools for Quick Facts.
- 2) Then click one of the tools for more information.

For more information, please view the [QRDA Validation Tool Spreadsheet](#) [.xlsx, 19 KB]



## Cypress QRDA Validation Utility

Quick Check

How To Access

Technical Specifications

CMS Supported Programs

Error Reporting & Stored Results

Other Features & Comments

Support Contacts

Hover over a category, and click to learn more about this tool

Cypress QRDA Validation Utility

Pre-Submission Validation Application (PSVA)

CMS Secure Portal

Submission Engine Validation Tool (SEVT)

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Learn about eCQI resources and connect with the community of professionals who are dedicated to clinical quality improvement for better health

<p><b>Getting Started</b></p>  <p>A <i>gentle</i> introduction to understanding eCQI and this Resource Center</p> <p><a href="#">More information</a></p>	<p><b>eQMs</b></p>  <p>The who, what, when, where, and why of eQMs</p> <p><a href="#">More information</a></p>	<p><b>Education</b></p>  <p>A selection of educational materials and resources to broaden your eCQI knowledge</p> <p><a href="#">More information</a></p>
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### Latest News

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- Tue 26 Jan **NLM released VSAC update version 2.10.4**

NLM released VSAC update version 2.10.4 on January 19, 2016.

VSAC 2.10.4 includes the following updated code system versions:

CDT 2016, CPT 2016, CVX 2016, HCPCS 2016, ICD10CM 2016, ICD10PCS 2016, LOINC 2.54, RxNorm 2015-01

### Upcoming Events

- Jan 27 2016 **eCQI Resource Center Demonstration - Event is Full**

January 27, 2016 Webinar Registration is now closed.

Thank you for your interest in participating in the live demonstration of the eCQI Resource Center. Unfortunately, due to an unexpectedly large level of interest in the eCQI Resource Center webinar planned for January 27th, the registrations quickly exceeded the 1500 spots we had available.
- Jan 28 **eCQI Resource Center Demonstration**

CMS and ONC would like to re-introduce you to the eCQI Resource Center, the one-stop shop for the most current

## Education

### eCQI Educational Resources

eCQM Education

### January 2016

Sun	Mon	Tue	Wed	Thu	Fri	Sat
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16

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There is no content in this space.



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**Getting Started**

A *gentle* introduction to understanding eCQI and this Resource Center

[More information](#)

**eCQMs**

The who, what, when, where, and why of eCQMs

[More information](#)

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## eCQI Resource Center Contact Information

### Getting in touch with the eCQI Resource Center

The eCQI Resource Center will be constantly improving to better meet the needs of its users, and we are counting on your input to make it as useful as possible. Please send any news, events, content or questions you have about the eCQI Resource Center to [ecqi-resource-center@hhs.gov](mailto:ecqi-resource-center@hhs.gov).

A [checklist](#) and [information on 508 requirements](#) for content are found at these links.

#### Getting help with eCQMs

**Direct MU Policy and Program Questions to:** The Electronic Health Record (EHR) Information Center

7:30 a.m. — 6:30 p.m. (Central Time) Monday through Friday, except federal holidays

888-734-6433 (press option 1) TTY: 888-734-6563

**Direct PQRS and IQR Policy and Program Questions to:** The QualityNet Help Desk

E-mail: [qnetsupport@hcqis.org](mailto:qnetsupport@hcqis.org)

Phone: (866) 288-8912 TTY: (877) 715-6222

Spaces

- Public Spaces
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  - eCQM
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## The one-stop shop for the most current resources to support Electronic Clinical Quality Improvement.

Learn about eCQI resources and connect with the community of professionals who are dedicated to clinical quality improvement for better health



### Getting Started

A gentle introduction to understanding eCQI and this Resource Center

[More information](#)

### eCQMs

The who, what, when, where, and why of eCQMs

[More information](#)

### Education

A selection of educational materials and resources to broaden your eCQI knowledge

[More information](#)

### Latest News

- Wed 27 Jan **Education Space added to the eCQI Resource Center**

An education-specific space has been added to the eCQI Resource Center making it easier for users to find topic-specific educational presentations. The goal is to post or link to eCQI-related education materials as they become available. The space also includes a calendar of eCQI-related education events. Check back frequently for updates.
- Tue 26 Jan **NLM released VSAC update version 2.10.4**

NLM released VSAC update version 2.10.4 on January 19, 2016.

VSAC 2.10.4 includes the following updated code system versions:

CDT 2016, CPT 2016, CVX 2016, HCPCS 2016, ICD10CM 2016, ICD10PCS 2016, LOINC 2.54, RxNorm 2015-01

### Upcoming Events

- Jan 27 2016 **eCQI Resource Center Demonstration - Event is Full**

January 27, 2016 Webinar Registration is now closed.

Thank you for your interest in participating in the live demonstration of the eCQI Resource Center. Unfortunately, due to an unexpectedly large level of interest in the eCQI Resource Center webinar planned for January 27th, the registrations quickly exceeded the 1500 spots we had available.
- Jan 28 2016 **eCQI Resource Center Demonstration**

CMS and ONC would like to re-introduce you to the eCQI Resource Center, the one-stop shop for the most current

# CDS/eCQM Harmonization

## How are CDS & eCQM different?

Clinical Decision Support (CDS) and electronic Clinical Quality Measurement (eCQM) are closely related, share many common requirements, and support health care quality improvement. It's important to also understand, though, the differences between them and the efforts to help them work together (harmonize).

The standards used for the electronic representation of CDS and eCQM were developed separately and use different data models and computable expression languages. Different standards make:

- Re-using or sharing machine readable logic between eCQMs and CDS rules very difficult.
- A burden for health IT developers and those who give provider technical support.

## Why harmonize CDS & eCQM?

When CDS and eCQM standards can work together or "harmonize," it's easier to implement them. Harmonization also makes it easier to integrate and facilitate health IT enabled clinical quality improvement.

Ultimately, same or similar standards will be made and used to:

- Measure if appropriate care was given.
- Suggest care to providers and care teams when there are opportunities to improve care quality.

Instead of developing a new standard that could be used for eCQM and CDA, the focus is on:

- "Modularizing" or organizing the existing standards so they're more flexible.
- Making common components that can be shared by both.

The diagram below shows this approach.

### Goal: Shared Standards

Clinical Quality Measurement and Clinical Decision Support

Public

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**Related Links**

**eCQI Topic:**  
[About CDS](#)  
[About eCQM Standards](#)

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