

Quality Payment  
PROGRAM

**QCDR MEASURE  
DEVELOPMENT FOR  
THE MERIT-BASED  
INCENTIVE PAYMENT  
SYSTEM (MIPS)  
PROGRAM**

February 28, 2019



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# AGENDA AND OBJECTIVES OVERVIEW

Presenter: Dr. Daniel Green, Medical  
Officer, CMS, CCSQ-

# Agenda and Objectives



- Introduction
  - CMS Strategic Vision and Measure Initiatives
- QCDR measure development
  - Objectives
    - Overview of QCDR measure requirements
    - Describe measurement principles
    - Describe measure structure
    - Describe advanced measure concepts
- Resources
- Q & A



# INTRODUCTION

Presenter: Marla Throckmorton,  
MIPS QCDR/Registry Support Team

# CMS Strategic Vision – Measure Development Priorities



- CMS supports measure alignment across federal, state, and private programs.
- CMS is interested in promoting efficient data collection of measure-related data and in improving population health.
- CMS also continues to balance individual and shared provider accountability.
- Measures should address critical clinical gaps in care, support evidence-based medicine, and should engage patients as well as clinicians in care delivery.
- Additionally, measures should promote healthy living, assist in a better understanding of a patient’s overall health, promote coordinated care, and help in reducing disparities in healthcare.
- When publicly reported, these measures help consumers make informed decisions regarding their healthcare and choice of clinician, facility, and services.

# CMS Meaningful Measures Initiative



## ● Promote Effective Communication & Coordination of Care

### Meaningful Measure Areas:

- Medication Management
- Admissions and Readmissions to Hospitals
- Transfer of Health Information and Interoperability

## ● Promote Effective Prevention & Treatment of Chronic Disease

### Meaningful Measure Areas:

- Preventive Care
- Management of Chronic Conditions
- Prevention, Treatment, and Management of Mental Health
- Prevention and Treatment of Opioid and Substance Use Disorders
- Risk Adjusted Mortality

## ● Work with Communities to Promote Best Practices of Healthy Living

### Meaningful Measure Areas:

- Equity of Care
- Community Engagement

## ● Make Care Affordable

### Meaningful Measure Areas:

- Appropriate Use of Healthcare
- Patient-focused Episode of Care
- Risk Adjusted Total Cost of Care

## ● Make Care Safer by Reducing Harm Caused in the Delivery of Care

### Meaningful Measure Areas:

- Healthcare-associated Infections
- Preventable Healthcare Harm

## ● Strengthen Person & Family Engagement as Partners in their Care

### Meaningful Measure Areas:

- Care is Personalized and Aligned with Patient's Goals
- End of Life Care according to Preferences
- Patient's Experience of Care
- Patient Reported Functional Outcomes

# CMS Meaningful Measures Initiative



- Meaningful Measures assess core issues that CMS considers most vital to providing high-quality care and improving patient outcomes.
- CMS intends to prioritize outcome-based measures and reduce the focus on process measures.
- Meaningful Measures include those that focus on one or more of the following areas:
  - Address high impact measure areas that safeguard public health.
  - Patient-centered and meaningful to patients, clinicians, and providers.
  - Outcome-based where possible.
  - Fulfill requirements in programs' statutes.
  - Minimize level of burden for providers:
    - Remove measures where performance is already very high and that are low value.
  - Significant opportunity for improvement.
  - Address measure needs for population-based payment through alternative payment models.
  - Align across programs and/or with other payers (Medicaid, commercial payers).



# QCDR MEASURE DEVELOPMENT PROCESS

Presenter: Marla Throckmorton,  
MIPS QCDR/Registry Support Team

# QCDR Measure Basics



- QCDR Measures must have:
  - An evidence base (guideline based)
  - Clinically intuitive appeal (high face validity)
  - Potential for improvement (not topped out)
  - Variation across Eligible Clinicians (ECs)
  - Responsiveness to improvement activities
  - Targets a meaningful measure/measurement gap
  - Prefer limited reporting burden
  - Feasible

# QCDR Measure Basics



- Evidence Based
  - Cite clinical guidelines or recommendations from reputable sources.
  - Most recent or within the past 5 years.
- Measuring performance of a quality action with a known variation and gap in performance
  - Quantify the performance gap and variation in performance to demonstrate that there is room for improvement.
  - Submit QCDR performance data
  - Cite recent Literature (most recent or within the past 5 years) if QCDR performance data not available.
- Measuring a meaningful quality action (numerator)
  - Quality actions are the focus of the quality measure.
  - The quality action details the clinical action expected for the population identified in the denominator.
  - Focuses on outcomes - the health status or change in health status of a patient as a result of care – desirable or adverse, rather than processes.
- Not duplicative of existing MIPS clinical quality measures or QCDR measures.
- Beyond the conceptual state at the time of self-nomination:
  - Ideally, has been tested for implementation and reporting feasibility.
  - Has complete specifications.



# MEASUREMENT PRINCIPLES

Presenter: Jocelyn Meyer, MIPS  
QCDR/Registry Support Team

# QCDR Measure Checklist



## QCDR measures should:

- Use the measure development processes as defined in the Blueprint as a resource.
- Be clinically relevant and evidence based (following current clinical guidelines).
- Include evidence of a performance gap and/or eligible clinician performance variation.
- Address suggested revisions made by CMS during the previous performance period of MIPS (Provisionally Approved Measures) or provide rationale of why the CMS request is not clinically appropriate.
- Focus on a quality action instead of documentation.
- Focus on an outcome rather than a clinical process.

# QCDR Measure Checklist



## QCDR measures should:

- Preferably fall within clinical workflows so data collection is not burdensome.
- Address one or more meaningful measure areas and National Quality Strategy (NQS) domains.
- Be analytically sound and fully developed (not just in the concept development phase).
- Indicate accurate measure analytics (inverse, risk-adjusted, ratio, proportional, or continuous variable).
- Be thoroughly vetted by the QCDR to ensure proper spelling and grammar throughout the QCDR measure specification.
- If approved from a previous performance period of MIPS, identify whether or not there are changes to the QCDR measure specification for the upcoming performance period of MIPS. Substantive changes alter the intent of the QCDR measure and may impact the performance score.

# QCDR Measure Checklist



## QCDR measures should not:

- Duplicate an existing or proposed MIPS clinical quality measure.
- Include measures that are considered topped out with performance rates at or near 100% (0% for inverse measures). Generally, this is above 95% or less than 5% for inverse measures. Measures are considered topped out when there is little variance and/or high performance rates which disallows the creation of meaningful benchmarks.
- Duplicate an existing QCDR measure (unless the new measure is a dramatic improvement over the existing measure).
  - To reduce the number of duplicative QCDR measures in MIPS, CMS encourages QCDRs to share and/or harmonize QCDR measures that are similar in topic and/or concept. CMS will not likely approve measures that are duplicative or very similar to one another, since harmonized QCDR measures allow for a larger cohort on which clinicians can be compared.
- Duplicate a retired Physician Quality Report System (PQRS) measure.

# QCDR Measure Checklist



## QCDR measures should not:

- Split a single or related clinical process or outcome into several QCDR measures. For example: the results of three different tests are required for a standard of care. Each test should not be a single measure, but all three included in one measure.
- Have the potential of unintended consequences. For example, a measure that discourages an oncology patient from receiving oxygen therapy or other comfort measures.
- Focus on the elimination of serious, preventable, and costly medical errors that are highly unlikely to occur, so-called “Never Events.” For example: Surgery performed on the wrong patient or a fire in the operating room.

# Measurement Principles Summary



- QCDR measures must be clinically relevant, harmonized, should be aligned with public and private payers, and minimally burdensome to report.
- Ensure that the measures selected for the MIPS program reflect the best available science, and that may require retiring or revising measures so that they reflect the latest clinical guidelines and align with the MIPS program and scoring methodology.
- QCDR measures that have low performance rates or a performance gap in clinical care provide meaningful measurement, and benefit to the patient and/or clinician.
- CMS welcomes the opportunity via a measure concept call to meet with QCDRs to preview measure concepts and provide feedback prior to self-nomination.
  - See slide 44 for more information on how to request a measure concept preview call.



# MEASURE STRUCTURE

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QCDR/Registry Support Team

# Measure Structure



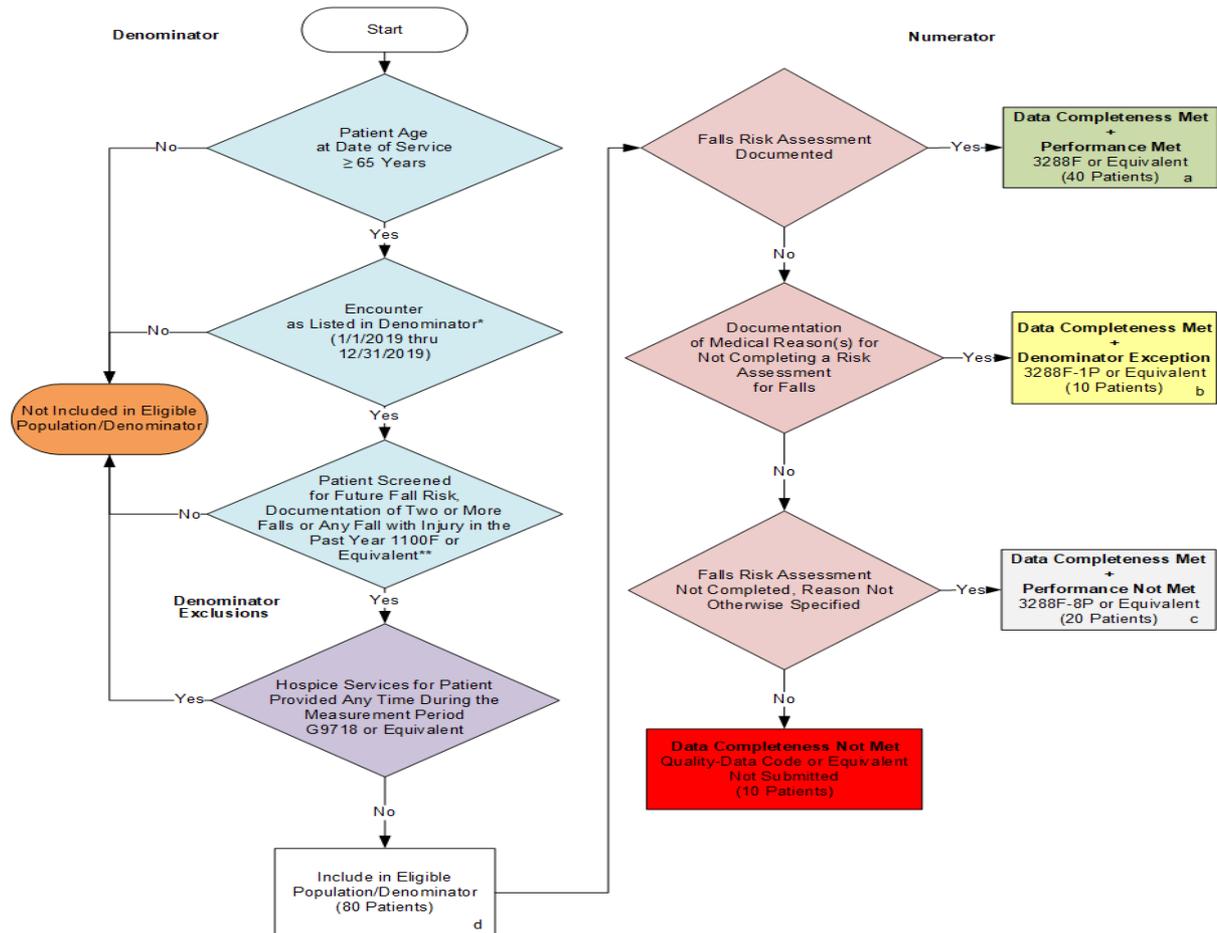
- **Denominator exclusion** refers to criteria that remove the encounter/patient from the denominator before determining if the quality action was completed. Exclusions are more absolute where the quality action is not applicable and would not be considered for a population.
- **Denominator exception** permits the exercise of clinical judgment and implies that the treatment was at least considered for the each eligible patient such as medical, patient or system reason.
- **Numerator exclusions** apply to ratio and proportion measures to define instances that should not be included in the numerator data.
  - Ratio: If the number of central line blood stream infections per 1000 catheter days were to exclude infections with a specific bacterium, that bacterium would be listed as a numerator exclusion.
  - Proportion: Typically used in inverse measures where a “lower score indicates better quality.”

# Measure Flow

## Determining the Eligible Patient Population



**2019 Clinical Quality Measure Flow for Quality ID #154 NQF #0101:  
Falls: Risk Assessment**



\*See the posted Measure Specification for specific coding and instructions to submit this measure. This measure flow is for registry-based submission of the measure.  
NOTE: Submission Frequency: Patient-process

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The measure diagrams were developed by CMS as a supplemental resource to be used in conjunction with the measure specifications. They should not be used alone or as a substitution for the measure specification.  
v3

# Performance Calculation



## SAMPLE CALCULATIONS:

Data Completeness=

$$\frac{\text{Performance Met (a=40 patients)} + \text{Denominator Exception (b=10 patients)} + \text{Performance Not Met (c=20 patients)}}{\text{Eligible Population / Denominator (d=80 patients)}} = \frac{70 \text{ patients}}{80 \text{ patients}} = 87.50\%$$

Performance Rate=

$$\frac{\text{Performance Met (a=40 patients)}}{\text{Data Completeness Numerator (70 patients) - Denominator Exception (b=10 patients)}} = \frac{40 \text{ patients}}{60 \text{ patients}} = 66.67\%$$

- **Denominator exclusions** are not included within the denominator/eligible patient population.
- **Denominator exceptions** are included within the numerator of the data completeness as submitted instances. To calculate the performance rate, denominator exceptions are removed from the denominator.

# Measure Type



- **Process Measure:** A measure that focuses on a process which may lead to a certain outcome, meaning that a scientific basis exists for believing that the process, when executed well, will increase the probability of achieving a desired outcome.
- Process measures are supported by evidence that the clinical process—that is the focus of the measure—has led to improved outcomes.
- **MIPS clinical quality measure example:** Quality ID #226: Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention.

# Measure Type



- **Outcome Measure:** A measure that assesses the results of healthcare that are experienced by patients: clinical events, recovery and health status, experiences in the health system, and efficiency/cost.
- Outcome measures are supported by evidence that the measure has been used to detect the impact of one or more clinical interventions.
- **MIPS clinical quality measure example:** Quality ID #191: Cataracts: 20/40 or Better Visual Acuity within 90 Days Following Cataract Surgery.

# Measure Type



- **Efficiency and Cost/Resource Use:** Measures of cost and resource use can be used to assess the variability of the cost of healthcare and to direct efforts to make healthcare more affordable.
- **MIPS clinical quality measure example:** Quality ID #102: Prostate Cancer: Avoidance of Overuse of Bone Scan for Staging Low Risk Prostate Cancer Patients

## Patient Reported Outcome (PRO) Measure

- Example: Patient-Reported Pain and Function Improvement after one year post <procedure/treatment>
- Numerator: Patients whose pain or function scores improved by at least 10% (e.g., 10 points on a 100-point scale) after one year.
- Measures that only capture the distribution of survey assessments will not be approved.
- PRO Measures should require positive outcome
  - Improved pain score
  - Improved functional status
  - Patients are satisfied

# Measure Analytics



- **Proportion:** A score derived by dividing the number of cases that meet a criterion for quality (the numerator) by the number of eligible cases within a given time frame (the denominator) where the numerator cases are a subset of the denominator cases (e.g., percentage of eligible women with a mammogram performed in the last year).
- The performance rate of a proportion measure is defined as the number of patients meeting the quality action, divided by the denominator eligible population.
- **MIPS clinical quality measure example:** Quality ID #128: Preventive Care and Screening: Body Mass Index (BMI) Screening and Follow-Up Plan.

# Measure Analytics



- **Continuous Variable:** A measure score in which each individual value for the measure can fall anywhere along a continuous scale (e.g., mean time to thrombolytics, which aggregates the time in minutes from a case presenting with chest pain to the time of administration of thrombolytics).
- Aggregate scores for continuous variable measures are more complex than for proportion measures in that they are more than just the counts of individuals in each population.
- **MIPS clinical quality measure example:** Quality ID #461: Average Change in Leg Pain Following Lumbar Discectomy and/or Laminotomy.

# Measure Analytics



- **Ratio:** A score that may have a value of zero or greater that is derived by dividing a count of one type of data by a count of another type of data. The key to the definition of a ratio is that the numerator is not in the denominator (e.g., the number of patients with central lines who develop infection divided by the number of central line days).
- Rates closer to 1 represent the expected outcome.
- Example: Actual/Expected
  - Average Length of Stay for Heart Failure
    - Actual: 5.5
    - Expected: 4.5 days
    - Ratio: 1.2

# Non-Proportional Scoring Implications



- Non-Proportional measures include a variety of different data elements that are captured as the numerator information. The variability in these data points would make decile creation based on a mathematical analysis very unpredictable.
- Some examples of the variability can be seen below:
  - Average Time (in minutes)
  - Average Time (in hours)
  - Change in Outcome (related to improvement tests)
  - Length of Stay
  - Ratio
- In addition to the variability above, we would be unable to determine if the numbers are truly reflective of the clinician's practice/quality. Outliers can have a large impact in modeling if not realized and adjusted.
  - We would be unable to equate for and normalize the data based on:
    - practice size
    - physical location
    - general patient pop (which we do not have)
    - risk-adjustment factors

# Non-Proportional Scoring Implications



- We consider you to be the experts within your medical communities and believe that you will have greater insights into the benchmarks related to these measures.
  - Solution: Revise the numerators to establish an expected benchmark based on guidelines or national performance data. By comparing the observed data to the benchmark, this would allow for these measures to be converted into a proportional measure.
  - Utilize performance data to determine performance met or performance not met criteria.
  - Allow creation of a quality measure that is easier to analyze and produce reliable scoring benchmarks.
    - Example: Door to Balloon time
      - Continuous variable: Mean time from arrival to balloon
- VS.
- Proportional: Balloon time under two hours

# Non-Proportional Scoring Implications



- To accommodate measures that are non-proportional in the program, a new format was created that will facilitate the benchmarking process
  - All fields are writeable
  - Submission should follow measure specification
  - reportingRate will allow for benchmarks to be created based on distribution of values and allow for high priority bonus to be awarded for high priority measures

```
{
  "id": //string,
  "measurementSetId": //string
  "measureId": //string
  "value": {
    "numerator": //float
    "denominator": //float
    "isEndToEndReported": //boolean
    "denominatorException": //float
    "numeratorExclusion": //float
    "reportingRate": //float
  }
}
```



# ADVANCED MEASURE CONCEPTS

Presenter: Jocelyn Meyer, MIPS  
QCDR/Registry Support Team

# Composite Measure



- A combination of two or more individual performance measures that results in a single score.
- Composite measures can provide a broader assessment of quality care.
- Appropriate denominator exceptions should be evaluated for the quality action being measured.

# Composite Measure



**All-or-none Measures** - Only those patients who received all indicated quality actions will be considered numerator compliant.

## *MIPS clinical quality measure example:*

- Quality ID #441: Ischemic Vascular Disease (IVD) All or None Outcome Measure (Optimal Control)
- Most recent blood pressure (BP) measurement is less than 140/90 mm Hg -- And
- Most recent tobacco status is Tobacco Free -- And
- Daily Aspirin or Other Antiplatelet Unless Contraindicated -- And
- Statin Use Unless Contraindicated

# Composite Measure



- **Any-or-none:** Similar to all-or-none, but is used for events that should not occur. A patient is counted as failing if he or she experiences at least 1 adverse outcome from a list of 2 or more adverse outcomes.
- **Linear combinations:** May be simple average or weighted average of individual measure scores
- **Regression-based composite performance measures:** The weight assigned to each item is directly related to its reliability and the strength of its association with the gold standard end point.

# Multi-Strata Measure



- Multiple denominator options to reduce the number of measures addressing a similar condition, quality action or topic.
  - Reasons for stratification: age groupings, specific condition, specific location, different complications of the same procedure, vaccinations, etc.

## Measure construction:

- Each denominator (patient population) can be limited to the appropriate patient population.
- Each numerator (quality action) can be adjusted for the denominator eligible patient population.

# Multi-Strata Measure



## MIPS clinical quality measure example:

- Quality ID #7: Coronary Artery Disease (CAD): Beta-Blocker Therapy – Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF < 40%):
  - Patients who are 18 years and older with a diagnosis of CAD or history of cardiac surgery who have a current or prior LVEF < 40%.
  - Patients who are 18 years and older with a diagnosis of CAD or history of cardiac surgery who have a prior myocardial infarction.

# Multiple Performance Rate Calculation



- Multiple Performance Rates
  - Weighted Average:
    - Add the numerator counts of each submeasure and divide by the sum of the denominator counts of each submeasure.
    - **MIPS clinical quality measure example:** Quality ID #7: Disease (CAD): Beta-Blocker Therapy – Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF < 40%).

$$\frac{\text{Performance Met (a}^1\text{+a}^2\text{=80 visits) = 80 visits}}{\text{Data Completeness Numerator (140 visits) – Denominator Exception (b}^1\text{+b}^2\text{=20 visits) = 120 visits}} = 66.67\%$$

- Simple Average:
  - Add the percentages for each submeasure and divide by the total number of component submeasures.
  - **MIPS clinical quality measure example:** (eCQM only) Quality ID #9: Anti-Depressant Medication Management.

# Multiple Performance Rate Calculation



- Multiple Performance Rates
  - Indicated Performance Rate:
    - The measure steward will indicate performance rate used for the overall performance rate.
    - **MIPS clinical quality measure example:** Quality ID #238: Use of High-Risk Medications in the Elderly.

# Measure Analytics



- **Risk Adjustment:** Risk adjustment is the statistical process used to identify and adjust for differences in patient characteristics (or risk factors) before examining outcomes of care.
- The purpose of risk adjustment is to allow for more accurate comparison of outcomes of care across healthcare organizations.
- Statistical risk models should not include factors associated with disparities of care as these factors will obscure quality problems related to disparities.
- Refer to the CMS Blueprint Section 3, Chapter 19 for details regarding risk adjustment models.

# Measure Analytics



- **Risk Stratification:** Separates reporting outcomes for different groups, unadjusted by a risk model.

## *Examples*

- A vaccination measure numerator that includes the following: (1) the patient received the vaccine, (2) the patient was offered the vaccine and declined, or (3) the patient has an allergy to vaccine.
- Overall rate includes all three numerator conditions in the calculation of the rate.
- Overall rate is reported along with the percentage of the population in each of the three categories.
- Overall rate is reported with the vaccination rate. The vaccination rate would include only the first condition—that the patient received the vaccine—in the numerator.
- A measure is to be stratified by population type (e.g., race, ethnicity, age, social risk factors, income, region, gender, primary language, disability).

# Electronically Derived Measure Requirements



- A QCDR measure that is being electronically derived/data mined from an EHR, the electronic QCDR measure is still benchmarked as a QCDR measure.
  - EHR data mining is permitted without eCQM designation.
- When measures are e-specified:
  - Collaborate with measure steward prior to creating an eCQM version of the measure.
    - For example, identifying SNOMED and/or ICD-10 codes.
  - Must be tested and produce valid data.
  - Maintain the measure's intent.
  - Be respectful of copyright protected intellectual property.



# RESOURCES

Marla Throckmorton, MIPS  
QCDR/Registry Support Team

# Resources

## Measure Concept Preview Call



- CMS and the MIPS QCDR/Registry Support Team welcome the opportunity to preview measure concepts and provide feedback prior to self-nomination
  - Request a measure concept call by contacting: [QCDRVendorSupport@gdit.com](mailto:QCDRVendorSupport@gdit.com)
    - QCDR Measure Preview will be available approximately April through June
    - See google calendar for availability
      - <https://calendar.google.com/calendar?cid=cWNkcmZvcnVtQGdtYWlsLmNvbQ>
    - Provide available timeslot at the time of the request
    - Include email addresses of those you would like to attend
    - QCDR measure concepts and specifications must be sent **at least one week prior** to the scheduled meeting in a single Word or Excel document.
      - If not received 1 week prior to the scheduled meeting, the meeting is subject to be rescheduled.
- QCDR Measure Development Google Group. A space for QCDRs to collaborate on QCDR measures and share ideas throughout the QCDR measure development process.
  - <https://groups.google.com/forum/#!forum/qcdr-forum>

# Resources

## Resources and Who to contact for Assistance



- Blueprint for the CMS Measures Management System
  - <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/MMS/Downloads/BlueprintVer14.pdf>
- National Quality Forum Measure Evaluation Criteria
  - <http://www.qualityforum.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=88439>
- Measure Development Plan (May 2, 2016)
  - <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/Final-MDP.pdf>
- Measures Management System
  - <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/MMS/Downloads/A-Brief-Overview-of-Qualified-Clinical-Data-Registries.pdf>
- 2019 QCDR Measure Specification file
  - <https://qpp-cm-prod-content.s3.amazonaws.com/uploads/430/2019%20QCDR%20Measure%20Specifications.xlsx>
- The CMS Resource Library has additional reference material which will be updated in the spring for the 2020 performance period of MIPS.

# Resources



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

- eCQI Resource Center – Home page
  - <https://ecqi.healthit.gov/>
- eCQI Resource Center – Tools
  - <https://ecqi.healthit.gov/ecqm-tools-key-resources>
- eCQI Resource Center – eCQM Education
  - <https://ecqi.healthit.gov/ecqm-education>
- eCQI Resource Center – Implementers
  - <https://ecqi.healthit.gov/ecqms/ecqi-implementers>



# QUESTION AND ANSWER

Anastasia Robben, MIPS  
QCDR/Registry Support Team

