

# ST-Elevation Myocardial Infarction (STEMI) with Percutaneous Coronary Intervention (PCI) Comprehensive Reevaluation Webinar Meeting Summary

MACRA Episode-Based Cost Measures: Clinician Expert Workgroups  
Workgroup Webinar, October 11, 2022  
January 2023

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## Project Overview

The Centers for Medicare & Medicaid Services (CMS) has contracted with Acumen, LLC to develop and maintain episode-based cost measures for potential use in the Merit-based Incentive Payment System (MIPS) to meet the requirements of the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA). Acumen's measure development approach involves convening clinician expert panels ("workgroups") to provide input in cycles of development ("Waves"). As needed, workgroups are reconvened to provide input on measure maintenance.

Eight episode-based cost measures were added to the MIPS cost performance category in the 2019 performance year and are now being considered for comprehensive reevaluation as they've been in MIPS for 3 years. The purpose of comprehensive reevaluation is to ensure that measures continue to meet criteria for importance, scientific acceptability, and usability in line with the Measures Management System (MMS) Blueprint. In this process, we holistically review the measure, seek public comment, and consider whether any changes need to be made to measure specifications.

The following Wave 1 episode-based cost measures were selected for comprehensive reevaluation based on information gathering, public comments,<sup>1</sup> and discussions with CMS:

- (i) Routine Cataract Removal with IOL Implantation
- (ii) Simple Pneumonia with Hospitalization

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<sup>1</sup> For a summary of comments we received during the public comment period, refer to the [Wave 1 Comprehensive Reevaluation Public Comment Summary Report \(PDF\)](https://www.cms.gov/files/document/wave-one-public-comment-summary-report.pdf) (<https://www.cms.gov/files/document/wave-one-public-comment-summary-report.pdf>).

- (iii) ST-Elevation Myocardial Infarction with Percutaneous Coronary Intervention (STEMI-PCI)

We held a nomination period for workgroup members between August 19, 2022, and September 9, 2022. The workgroups are composed of clinicians with expertise directly relevant to the selected episode-based cost measures. Workgroups were finalized in October 2022, and they provided detailed input on potential updates to the selected episode-based cost measures groups during their webinars from October 6 to 12, 2022. For Wave 1 Comprehensive Reevaluation, all workgroup meetings will be held virtually. The workgroup discussions informed updates to the measure specifications to be used for a public comment period, which is currently slated for early 2023.

## **STEMI-PCI Comprehensive Reevaluation Webinar, October 11, 2022**

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This meeting summary document outlines the purpose, discussion, and recommendations from the STEMI-PCI Comprehensive Reevaluation Webinar. Section 1 provides an overview of the webinar goals and process. Section 2 summarizes the discussion and recommendations from the workgroup. Section 3 is an appendix that describes the materials and information provided to workgroup members prior to and at the beginning of the webinar as preparation for discussion on detailed measure specifications.

### **1. Overview**

The goals of the STEMI-PCI Comprehensive Reevaluation Webinar on October 11, 2022, were the following:

- (i) Provide input to refine a cost measure for potential continued use in MIPS that can accurately distinguish between good and poor performance among clinicians in terms of cost efficiency
- (ii) Consider findings from information gathering conducted since initial development (e.g., empirical analyses, public comments, literature reviews) and measure monitoring from measure implementation
- (iii) Provide input on defining the patient cohort, how to account for subpopulations to ensure that the measure allows for meaningful clinical comparisons, and categories of services to assign to the episode

The meeting was held online via webinar and attended by 8 of the 9 workgroup members. The webinar was facilitated by an Acumen moderator, Rose Do. The STEMI-PCI Comprehensive Reevaluation workgroup chair was William Van Decker who also facilitated meeting discussions. The MACRA Episode-Based Cost Measure Workgroup Composition List will contain the full list of members, including names, professional roles, employers, and clinical specialties; it will be posted on the MACRA Feedback Page.<sup>2</sup>

All interested parties beyond the workgroup members had access to a public dial-in number to observe the meeting as part of Acumen's continued effort to increase the transparency of the measure development and maintenance process.

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<sup>2</sup> The composition list will be posted on the [MACRA Feedback Page \(https://www.cms.gov/Medicare/Quality-Payment-Program/Quality-Payment-Program/Give-Feedback\)](https://www.cms.gov/Medicare/Quality-Payment-Program/Quality-Payment-Program/Give-Feedback).

Prior to the webinar, workgroup members were provided with information and materials to inform their meeting discussions (see [Section 3](#)). After the webinar, workgroup members were sent a recording of the webinar and polled on their preferences to ensure the measures are developed based on well-documented input. Based on National Quality Forum practices, the threshold for support was 60% consensus among poll responses. This document summarizes the workgroup members' input from both the discussion as well as the polls.

This meeting was convened by Acumen as part of the measure maintenance process to gather expert clinical input; as such, these are preliminary discussions and materials, which don't represent any final decisions about the measure specifications or MIPS.

## 2. Summary of Sessions and Discussion

This section is organized based on meeting sessions and describes workgroup members' discussions and recommendations. Section 2.1 describes workgroup member discussions and recommendations on defining the patient cohort. Section 2.2 outlines workgroup members' discussions and recommendations about methods to account for heterogeneity. Section 2.3 summarized discussions and recommendations related to assigning clinically related services. Section 2.4 provides an overview of next steps for the measure comprehensive reevaluation process.

### 2.1 Defining the Patient Cohort

Acumen reviewed the methodology for constructing an episode-based cost measure, with a focus on defining the patient cohort. The current patient cohort is defined as an inpatient PCI for STEMI (MS-DRGS 246-251 with a STEMI diagnosis). The original measure specifications narrowly defined a subset of STEMI-PCI patients to promote homogeneity of the cohort.

Acumen presented analyses showing very few groups and clinicians that meet the MIPS case minimum required to be scored on the measure. Additional analyses showed STEMI-PCI episodes only accounts for 21% of PCI episodes. Further, PCI episodes with and without STEMI appeared to have similar cost profiles and involve similar clinician types. The analyses suggest that the patient cohort could be expanded to include episodes beyond those with STEMI diagnoses (i.e., PCI for non-STEMI (NSTEMI), PCI without either STEMI or NSTEMI). Acumen also presented an option to broaden the measure to include all inpatient acute myocardial infarctions (AMI), or some or all of the following categories of inpatient myocardial infarction (MI) episodes:

- Medical treatment of STEMI and NSTEMI (MS-DRGs 280-282 with STEMI/NSTEMI diagnosis)
- AMI associated with Coronary Artery Bypass Graft (CABG) (MS-DRG 231-235 and AMI)
- AMI associated with critical care (MS-DRG 003 and AMI)
- AMI associated with heart assist (MS-DRG 215 and AMI)

Workgroup members voiced support for expanding the PCI cohort beyond STEMI diagnoses. One member noted that PCI would be a good option since there are clear, known quality markers. Members were concerned that an all-AMI measure may include disease processes that wouldn't be appropriate to include in this measure (e.g., due to heterogeneity in patients or treatment options that can't otherwise be accounted for). There was verbal consensus that AMI associated with critical care shouldn't be added to the patient cohort due to low frequency and high observed costs. Workgroup members also noted the importance of accounting for patient

heterogeneity if the patient cohort is expanded, such as by creating subgroups for different treatment options or excluded unrelated conditions (e.g. pneumonia, sepsis).

#### Key Takeaways from Discussion and/or Polls for Defining the Patient Cohort:

- Members recommended to expand the patient cohort to include additional inpatient PCI episodes, regardless of diagnosis.
- Members didn't recommend including AMI associated with CAB, critical care, or heart assist.

## 2.2 Accounting for Patient Heterogeneity

Acumen reviewed methods used to account for patient heterogeneity and to allow for meaningful clinical comparisons:

- (i) risk adjustment<sup>3</sup>
- (ii) subgrouping<sup>4</sup>
- (iii) exclusion<sup>5</sup>
- (iv) monitoring<sup>6</sup>

The current specifications use a default risk adjustment model to account for clinical complexity, and also include additional measure-specific risk adjustment and exclusion variables. The workgroup discussed whether any refinements should be made to the current risk adjustment and exclusion variables, and what additional changes might be needed if the patient cohort is expanded to include additional PCI or AMI episodes.

Acumen asked the workgroup to consider whether the current measure-specific risk adjustment variables (recent cardiac arrest or STEMI, certain comorbid conditions, history of gastrointestinal bleed, prior multiple stents, and prior PCI) and exclusions (history of intracranial hemorrhage or cerebral infarction, patient with new cardiac device implantation, recent hospitalization for STEMI or respiratory failure, shock, transplant patients, ventilator dependence) are still warranted, and whether any refinements are needed. Workgroup members briefly discussed the current approaches for accounting for patient heterogeneity, but were generally supportive of using these methods for STEMI-PCI.

The workgroup also discussed accounting for patient heterogeneity if the patient cohort is expanded, as there are expected cost differences based on the diagnosis and treatment pathways for non-STEMI-PCI and other AMI episodes. Acumen noted that the specifications could be updated to use subgrouping and risk adjustment to account for these cost differences. For example, in an "All PCI" measure, Acumen might subgroup by PCI with STEMI, PCI with NSTEMI, and PCI with other diagnoses. The workgroup members generally agreed that the

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<sup>3</sup> Risk adjusting is a method to account for the case-mix of patients and other non-clinical characteristics that influence complexity. It's meant to be used for subpopulations that make up a large share of patients who have a characteristic that's outside of the attributed clinician's reasonable influence. Risk-adjusted cost measures compare observed episode spending to an expected episode spending (predicted by a risk adjustment model).

<sup>4</sup> Subgrouping is a method that's intended for when we would want to compare episodes only with other similar episodes within the same subgroup. This approach is used when subgroups are very different from one another, and each subgroup requires its own risk adjustment model. Since each subgroup will have its own risk adjustment model, the size of each subgroup should be sufficiently large.

<sup>5</sup> Excluding is a method in which we exclude certain patients or episodes to address issues with patient heterogeneity. This approach should be used when the subpopulation affects a small, unique set of patients in which risk adjustment wouldn't be sufficient to account for their differences in expected cost.

<sup>6</sup> Monitoring is a method in which we gather additional data to see how best to account for factors resistant to the other methods specified above.

specifications needed to account for differences between patient cohorts, though the specific approach would depend on if or how the patient cohort is expanded.

Key Takeaways from Discussion and/or Polls for Accounting for Patient Heterogeneity:

- Members recommended to investigate differences in cost when expanding the patient cohort, including possible subgrouping within PCI as STEMI, NSTEMI, and other diagnoses.

## 2.3 Identifying Clinically Related Services

In this session, Acumen presented considerations for service assignment rules. Services are attributed to a clinician when they can reasonably influence occurrence, intensity, or frequency. In this measure, attributed services currently capture 5 clinical themes:

- complications
- myocardial infarction or coronary revascularization
- non-invasive cardiac testing
- other cardiovascular admissions/emergency department visits
- services related to bleeding

Acumen asked the workgroup to consider whether there are any additional services that should be assigned to the measure to capture additional sources of cost variation and to reflect potential updates to the patient cohort.

Workgroup members discussed whether to assign Part D medication costs to the episode standardized Part D costs that weren't available at the time of measure development but can now be considered for inclusion in the cost measure. Workgroup members noted that there are clinically related Part D medications that could be assigned to the cost measure, but they also identified potential drawbacks. For example, some workgroup members were concerned that assigning the costs of these medications could disincentivize their use, even when appropriate. Other workgroup members said that clinicians are unlikely to withhold clinically-indicated medications even if the medications are included in the cost measure. Members also noted that alignment with quality measures and the ability for the cost measure to capture costs associated with adverse outcomes could help offset concerns about including Part D costs.

Key Takeaways from Discussion and/or Polls for Identifying Clinically Related Services:

- Members didn't recommend updates to the service assignment rules.

## 2.4 Next Steps

In the last session, Acumen provided an overview of the next steps. After the meeting, Acumen distributed the Comprehensive Reevaluation Webinar Poll to gather input from members on the discussions held during the webinar. Acumen will operationalize input for the measure specifications based on the Comprehensive Reevaluation Webinar Poll results and follow up with workgroup members with more information about the next steps in the comprehensive reevaluation process.

### 3. Appendix: Overview of Workgroup Member Preparation and Shared Materials

#### 3.1 Introduction

Section 3.2 provides an overview of the materials shared with the workgroup members prior to the workgroup webinar, and Section 3.3 provides a recap of the measure comprehensive reevaluation process concepts presented by Acumen.

#### 3.2 Overview of Meeting Materials

Prior to the meeting, workgroup members were provided with the following information to inform their discussions and votes:

- Agenda and Slide Deck, which outlined the topics and process used for the webinar, including embedded empirical analysis results
- Measure specifications (Measure Information Form, Measure Codes List), which were a reference for the current measure specifications
- Investigation workbook, which presented detailed findings from empirical analyses:
  - Service Utilization over Time Analysis, which lists the top 200 most frequent services for each claim setting across episodes for the draft version of the measure along with various metrics regarding those services (e.g., share of episodes with that service, average cost of the service per episode, share of attributed clinicians who furnished the service).

The materials shared were based on analyses run on current measure specifications and informed by prior Wave 1 development and maintenance activities.

#### 3.3 Overview of Cost Measure Comprehensive Reevaluation

At the beginning of the meeting, Acumen presented an introductory session on the following topics:

- The activities done to date for the comprehensive reevaluation of selected episode-based cost measures, including the Wave 1 Reevaluation public comment period and information gathering
- The goals of the meeting and timeline of activities for Wave 1 measures
- A brief recap of the Quality Payment Program and episode-based cost measures for MIPS
- A recap on the different sources of information for the workgroup to consider in addition to their clinical expertise, including information gathering, public comments, and analyses and data

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Please contact **Acumen MACRA Clinical Committee Support** at [macra-clinical-committee-support@acumenllc.com](mailto:macra-clinical-committee-support@acumenllc.com) if you have any questions. If you're interested in receiving updates about MACRA Episode-Based Cost Measures, please complete this [Mailing List Sign-Up Form](#) to be added to our mailing list.