Quality Payment
PROGRAM

2020 MIPS: Summary of Cost Measures

December 2019

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1.0 Introduction

This document provides a summary of cost measures in relation to the Merit-based Incentive Payment System (MIPS), one of the tracks of the Quality Payment Program. As required by Section 51003(a)(2) of the Bipartisan Budget Act of 2018, this document includes information on resource use (or cost) measures, currently in use in MIPS, cost measures under development and the time-frame for such development, potential future cost measure topics, a description of stakeholder engagement, and the percent of expenditures under Medicare Parts A and B that are covered by cost measures.[1] This section of the Bipartisan Budget Act of 2018 amended Section 1848(r)(2) of the Social Security Act and required that this information be provided on the website of the Centers for Medicare & Medicaid Services (CMS) not later than December 31st each year (beginning with 2018).

The Medicare Access and Children's Health Insurance Program (CHIP) Reauthorization Act (MACRA) of 2015 required CMS to collaborate with clinician and other stakeholder communities to develop measures for potential implementation in the cost performance category of MIPS. CMS has contracted with Acumen, LLC (hereafter, "Acumen") to develop methodology for analyzing cost, as appropriate, through consideration of patient condition groups and care episode groups. As a result, CMS and Acumen have developed episode-based cost measures, which are designed to inform clinicians on the cost of their beneficiary's care for which they are responsible during a specified timeframe.

Throughout this document, the term "cost" generally means the Medicare allowed amount, which includes both Medicare payments and any applicable beneficiary deductible and coinsurance amounts on traditional, fee-for-service claims. Medicare allowed amounts are adjusted through payment standardization to facilitate cost comparisons and limit observed differences in costs to those that may result from health care delivery choices. Payment standardized costs remove the effect of differences in Medicare payment among health care providers that are the result of differences in regional health care provider expenses measured by hospital wage indexes and geographic price cost indexes (GPCIs) or other payment adjustments such as those for teaching hospitals.

The rest of this document provides details on cost measures. Section 2 provides information on episode-based cost measures that have been developed pursuant to the MACRA, episode-based cost measures under development, and plans for future development. It also describes the avenues through which CMS's measure development contractor has gathered stakeholder input on each aspect of episode-based cost measures within the measure development framework. Section 3 provides similar information for population-based measures. Section 4 provides estimates on the percentage for Medicare Parts A and B expenditures and clinicians covered by measures that are finalized for use in MIPS.

[1] Bipartisan Budget Act, Pub. L. 115-123 (2018). https://www.congress.gov/bill/115th-congress/house-bill/1892/text

2.0 Episode-Based Cost Measures

Section 1848(r) of the Social Security Act, as added by section 101(f) of MACRA, requires the development of episode-based cost measures that take into consideration patient condition groups and care episode groups ("episode groups"), which are units of comparison that represent a clinically coherent set of medical services rendered to treat a given medical condition. Care episode groups consider the patient's clinical history at the time items and services are furnished during an episode of care and are used to define episode groups for procedures and acute inpatient medical conditions through service and/or diagnosis codes on claims. Patient condition groups consider the patient's clinical history at the time of a medical visit as well as their current health status and define episode groups for chronic conditions through diagnosis codes on claims.

Episode-based cost measures represent the cost to Medicare for the items and services furnished to a patient during an episode of care ("episode") and inform clinicians on the cost of their beneficiary's care for which they are responsible during an episode's timeframe. They differ from the TPCC and MSPB measures because they only include items and services that are related to the episode for a clinical condition or procedure (as defined by procedure and diagnosis codes), as opposed to including all services that are provided to a patient over a given timeframe.

Three types of episode groups serve as the basis for the episode-based cost measures: procedural, acute inpatient medical condition, or chronic condition. Procedural episode groups focus on procedures of a defined purpose or type. Acute inpatient medical condition episode groups represent treatment for a self-limited acute illness or treatment for a flare-up or an exacerbation of a condition that requires a hospital stay. Chronic condition episode groups represent ongoing management of a long-term health condition.

These measures are developed with extensive input from clinician experts and stakeholders through an iterative process, described in Section 2.4.

2.1 Fully Developed Episode-Based Cost Measures

To date, CMS has developed 19 measures pursuant to section 101(f) of MACRA. These include eight measures developed in wave 1 of measure development between May 2017 and January 2018 and eleven measures developed in wave 2 of measure development between April and December 2018. These measures are listed in Table 1 below. They were developed with extensive input from clinical experts, as described in Section 2.4.

Table 1. Developed Episode-Based Cost Measures

Cost Measure	Episode Group Type	Development Cycle
Elective Outpatient Percutaneous Coronary Intervention	Procedural	Wave 1 (2017-2018)
Intracranial Hemorrhage or Cerebral Infarction	Acute Inpatient Medical Condition	Wave 1 (2017-2018)
Knee Arthroplasty	Procedural	Wave 1 (2017-2018)
Revascularization for Lower Extremity Chronic Critical Limb Ischemia	Procedural	Wave 1 (2017-2018)

Cost Measure	Episode Group Type	Development Cycle
Routine Cataract Removal with Intraocular Lens Implantation	Procedural	Wave 1 (2017-2018)
Screening/Surveillance Colonoscopy	Procedural	Wave 1 (2017-2018)
Simple Pneumonia with Hospitalization	Acute Inpatient Medical Condition	Wave 1 (2017-2018)
ST-Elevation Myocardial Infarction with Percutaneous Coronary Intervention	Acute Inpatient Medical Condition	Wave 1 (2017-2018)
Acute Kidney Injury Requiring New Inpatient Dialysis	Procedural	Wave 2 (2018)
Elective Primary Hip Arthroplasty	Procedural	Wave 2 (2018)
Femoral or Inguinal Hernia Repair	Procedural	Wave 2 (2018)
Hemodialysis Access Creation	Procedural	Wave 2 (2018)
Inpatient Chronic Obstructive Pulmonary Disease Exacerbation	Acute Inpatient Medical Condition	Wave 2 (2018)
Lower Gastrointestinal Hemorrhage	Acute Inpatient Medical Condition	Wave 2 (2018)
Lumbar Spine Fusion for Degenerative Disease, 1-3 Levels	Procedural	Wave 2 (2018)
Lumpectomy, Partial Mastectomy, Simple Mastectomy	Procedural	Wave 2 (2018)
Non-Emergent Coronary Artery Bypass Graft	Procedural	Wave 2 (2018)
Psychoses/Related Conditions	Acute Inpatient Medical Condition	Wave 2 (2018)
Renal or Ureteral Stone Surgical Treatment	Procedural	Wave 2 (2018)

At the time of this posting, three measures (Knee Arthroplasty, Routine Cataract Removal with Intraocular Lens Implantation, and Screening/Surveillance Colonoscopy) received preliminary recommendations of endorsement in the National Quality Forum (NQF) spring 2019 cycle. The remaining wave 1 and wave 2 measures will be submitted for NQF consideration in future endorsement cycles.

The wave 1 measures are in use for the 2019 and 2020 MIPS performance periods, and ten of the wave 2 measures will be in use for the 2020 MIPS performance period. Measure Information Forms for measures implemented in MIPS will be available in the QPP Resource Library.[2] While the Psychoses/Related Conditions measure was not finalized for use in the 2020 performance period, CMS will consider feedback collected through the request for comment in the CY2020 Physician Fee Schedule proposed rule to determine the potential implementation of the measure in future performance periods.

2.2 Measures Under Development

CMS is currently developing five new episode-based cost measures for potential future use in the MIPS cost performance category as part of wave 3 of measure development. These measures are listed below in Table 2. Wave 3 is the first time that measures are being developed based on chronic condition episode groups.

These measures are being developed with extensive stakeholder and clinician input. In May 2019, the measure development contractor convened four Clinical Subcommittees to obtain input on the selection of episode groups to develop into cost measures and the composition of

[2] Quality Payment Program, *Resource Library,* https://qpp.cms.gov/about/resource-library

measure-specific workgroups. CMS approved the development of five episode groups, after which Acumen convened workgroups to obtain detailed input on specifications for each measure. For more information on the development process for these measures, please visit the MACRA feedback page.[3]

Table 2. Episode-Based Cost Measures Under Development

Cost Measure	Episode Group Type
Asthma/ Inpatient Chronic Obstructive Pulmonary Disease	Chronic Condition
Colon and Rectal Resection	Procedural
Diabetes	Chronic Condition
Melanoma Resection	Procedural
Sepsis	Acute Inpatient Medical Condition

After the completion of measure development in 2020, CMS will consider a range of input before considering the potential use of these five episode-based cost measures in MIPS, including any recommendations from the Measure Applications Partnership and stakeholder feedback received throughout measure development. CMS also anticipates that these measures would be submitted to NQF.

2.3 Future Plans for Cost Measure Development

CMS plans to continue developing episode-based cost measures and to continue gathering input from the clinician community through the development process. New episode-based cost measures may include procedural, acute inpatient medical condition, and chronic condition episode groups from existing or new clinical areas. Potential clinical areas for development may be drawn from the episode groups included in the Draft List of Episode Groups and Trigger Codes,[4] which is a starting point for measure development. CMS also intends to consider future avenues for the alignment of quality and cost measures in the MIPS program.

2.4 Stakeholder Engagement

CMS relies on a comprehensive framework and systematic process for creating episode-based cost measures that account for the roles and responsibilities of individual clinicians in the care of individual patients experiencing specific health conditions. This framework includes the measure development contractor using a data-driven stakeholder input process for acquiring and implementing clinical input that ensures clinical face validity and actionability of constructed episode-based cost measures. Stakeholder input is critical to the development of robust, meaningful, and actionable episode-based cost measures. This section provides a summary of stakeholder engagement activities including Clinical Subcommittees, measure-specific workgroups, a Technical Expert Panel (TEP), a Person and Family Committee (PFC), and field

[3] CMS, "MACRA cost measure development," *MACRA Feedback Page*, https://www.cms.gov/medicare/quality-initiatives-patient-assessment-instruments/value-based-programs/macra-mips-and-apms/macra-feedback.html.
[4] CMS, "Draft list of episode groups and trigger codes," *MACRA Feedback*, https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/Draft-list-of-episode-groups-and-trigger-codes-December-2016.zip

testing. CMS also hosts education and outreach activities to inform stakeholders on the measure development process.

2.4.1 Clinical Subcommittees and Measure-Specific Workgroups

Acumen convenes Clinical Subcommittees, each focused on a clinical area, to select episode groups for development and to provide input on the cost measures' specifications. Members of Clinical Subcommittees are nominated through a Call for Clinical Subcommittees Nominations.

The work of the Clinical Subcommittees builds on the previous work of the Clinical Committee convened from August to September 2016. This Committee included more than 70 clinicians from over 50 professional societies who provided expert input on identifying a draft list of episode groups for cost measure development and determining the billing codes that trigger each episode group. The clinical review and recommendations obtained from the Clinical Committee were used to inform CMS's December 2016 posting of a Draft List of MACRA Episode Groups and Trigger Codes and an accompanying document on episode-based cost measure development for the Quality Payment Program.[5,6] This draft list of episode groups and episode trigger codes served as a starting point for measure development. To date, three sets of Clinical Subcommittees have been convened, with 11 unique Clinical Subcommittees. Some of these Clinical Subcommittees were re-convened for multiple cycles of measure development when developing measures within the same clinical areas.

After wave 1, Acumen refined the measure development process based on feedback from members of the first set of Clinical Subcommittees, and now convenes smaller, measure-specific workgroups within each Clinical Subcommittee, to provide detailed input on each component of the cost measure approved for development. These workgroups are limited to 15-20 members to facilitate more focused discussions.

Acumen works with CMS to compose balanced workgroups reflecting the Clinical Subcommittees' suggestions of the specialties and types of expertise and experience that would be most relevant to the selected episode group and the clinicians who would be attributed the measure. Workgroup composition draws from the Clinical Subcommittees, supplemented by additional clinicians recruited through further outreach and/or from a standing pool of nominees.

Table 3 provides information on the Clinical Subcommittees and workgroups that have been convened during each cycle of measure development. Since the process was refined after wave 1, there were no workgroups convened during wave 1.

[5] CMS, "Draft List of MACRA Episode Groups and Trigger Codes", *MACRA Feedback Page* (December 2016), https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/draft-list-of-care-episode-and-patient-condition-groups-and-codes.zip.

[6] CMS, "Episode-Based Cost Measure Development for the Quality Payment Program", *MACRA Feedback Page* (December 2016), https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/Draft-list-of-episode-groups-and-trigger-codes-December-2016.zip.

Table 3. Clinical Subcommittees and Workgroups Convened for Episode-Based Cost Development

Development Cycle	Clinical Subcommittees			Workgroups		
	#	Members	Affiliated Professional Societies	#	Members	Affiliated Professional Societies
Wave 1 (2017 – 2018)	7	148	98	-	-	-
Wave 2 (2018)	10	267	120	11	138	79
Wave 3 (2019 – 2020)	4	137	100	5	85	68

For more information regarding the Clinical Subcommittees convened and the measures that were developed under each Clinical Subcommittee, refer to Appendix A.

2.4.2 Technical Expert Panel

In support of the measure development process, Acumen also convenes TEP meetings to gather high-level guidance on the measure development process from expert stakeholders. The advisory panel, which consists of 19 expert stakeholders representing specialty societies, academia, health care administration, and patient and family member organizations, was selected following a public call for nominations.[7] To date, Acumen has convened seven TEP meetings (August 2016, December 2016, March 2017, August 2017, May 2018, November 2018, and December 2018), each centered on particular topics to gather comprehensive feedback that could be operationalized throughout the development process.[8]

2.4.3 Person and Family Committee

A Person and Family Committee (PFC) has been convened since spring 2017 to gather actionable input from patients and caregivers for the cost measure development process. The PFC comprises Medicare beneficiaries and caregiver/family members of Medicare beneficiaries who have experience with health care and/or patient advocacy, health care delivery, concepts of value, and outcomes that are important to patients across delivery/disease/episodes of care.

Throughout the measure development process, the PFC provides different levels of input. Initial conversations with the PFC focus on the broad concepts of health care quality and value. Subsequent discussions focus on patient and caregiver perspectives on the types of episodes that should be prioritized for development. This feedback is summarized and provided to the Clinical Subcommittees for their consideration when selecting episode groups for a cycle of measure development.

The PFC also provides detailed input on pre- and post-trigger periods, inclusion of services and costs for attributed clinicians, and services perceived as aiding recovery or helping to avoid unnecessary costs and complications. This feedback is specific to the type of care represented by the episode group under development; for example, the PFC provided input on acute hospitalizations, which the Inpatient COPD Exacerbation and Lower Gastrointestinal Hemorrhage measure-specific workgroups considered in the June 2018 in-person meetings.

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[7] CMS, "Technical Expert Panels" *CMS Measures Management System,* https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/MMS/TEP-Currently-Accepting-Nominations.html

[8] CMS, "Technical Expert Panels: Established TEPs" *CMS Measures Management System,* https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/MMS/TEP-Current-Panels.html

Throughout the measure development cycles to date, over 100 interviews have been conducted.

2.4.4 Field Testing

CMS conducts field testing to provide clinicians an opportunity to gain experience with and review their performance on cost measures under development. Extensive field testing outreach activities aim to ensure that clinicians will understand the episode-based measures and what actions they could take to improve their performance on the measures while continuing to provide high quality, cost-efficient care, before the measures are implemented into a future MIPS performance period. During field testing, clinicians and other stakeholders are invited to provide feedback on the draft measure specifications, the field test reports, and publicly posted supplemental materials. Field test reports aim to illustrate the clinician's performance on a cost measure and provide more detailed information to help clinicians understand their score, including the types of services that comprise a large or small share of episode costs.

To date, CMS has conducted field testing in waves 1 and 2 of measure development.[9,10] Clinicians and clinician groups who met the minimum number of cases for each measure during the measurement period had the opportunity to view a field test report on the CMS Enterprise Portal with information about their cost measure performance. Clinicians and other stakeholders were encouraged to view their field test reports or a publicly posted mock field test report and provide feedback through an online feedback survey. Acumen analyzed the measure-specific field testing feedback and provided summary reports to the Clinical Subcommittees and workgroups to inform additional refinements. Field testing feedback summary reports are publicly available.[11,12] CMS intends to field test measures currently under development and feedback from field testing may inform potential refinements to the draft measure specifications.

2.4.5 Education and Outreach

CMS has conducted education and outreach activities to inform stakeholders about MIPS, how they can operationalize cost performance information provided on the measures, and the measure development process. These activities include extensive email outreach, field testing, and various education and outreach events.

Education and outreach events have included informational webinars, such as the April 2017 Listening Session, the cost performance category webinars, and national field testing webinars:

- The April 2017 Listening Session was part of broad stakeholder outreach related to the December 2016 posting. It included a presentation of the components of an episode-

[9] CMS, "2017 Field Testing materials," *MACRA Feedback page,* https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/2017-field-test-materials.zip

[10] CMS, "2018 cost measure field testing?" *MACRA Feedback*, https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/MACRA-Feedback.html

[11] CMS, "Field Testing Feedback Summary Report for Eight MACRA Episode-Based Cost Measures," *MACRA Feedback Page*, https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/2018-field-testing-feedback-summary-report.pdf

[12] CMS, "October-November 2018 Field Testing Feedback Summary Report for MACRA Cost Measures," MACRA Feedback Page, https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/2019-ft-feedback-summary-report.pdf

based cost measure, an overview of the measure development process, and a feedback session where attendees were able to ask questions or provide comments.[13]

- The annual cost category webinars provide an overview of the cost performance category, including a review of new measures and new policies effective for the specific performance period. Slides, recordings, and transcripts from these webinars, including the 2019 MIPS Year 3 cost performance category webinar are available in the QPP Webinar Library.[14]
- National field testing webinars provide an overview of the draft measure specifications for measures undergoing field testing and provide stakeholders the opportunity to ask about any of the materials distributed for field testing. Two field testing webinars were held during the fall 2017 field testing, and one webinar was held during the fall 2018 field testing.[15] CMS also hosted a post-field testing webinar in March 2019 to provide an update on refinements that were made following the fall 2018 field testing period and the post-field testing refinement workgroup meetings that were subsequently convened. The transcript, recording, and slides from the post-field testing webinar are available in the QPP Webinar Library.[16]

Other outreach activities include office hours, which have been held to inform stakeholders about the measure development, opportunities to participate, and opportunities to provide input.

- The field testing office hours are held to inform specialty societies about field testing. These office hours consist of a short presentation on the field testing period, followed by an open question and answer session where attendees have the opportunity to ask any questions about field testing and provide recommendations for outreach efforts. Specialty office hours were held for the two field testing periods that have been conducted.
- The Clinical Subcommittee nomination period office hours are held to inform interested clinicians or specialty societies how to nominate themselves or others to participate in the Clinical Subcommittees, provide information on the Clinical Subcommittees planned to convene and the responsibilities of Clinical Subcommittee members, and allow participants to ask questions about Clinical Subcommittees or the measure development process. These are held every year during the call for nominations.

CMS also prepares extensive educational materials to increase awareness and knowledge about the cost measures, and to provide updates on the measure development process. For field testing, CMS has prepared a set of materials aimed to provide both high-level and in-depth understanding of the measures' specifications and inform how clinicians may operationalize cost performance information provided in the field test reports. Field testing materials include a fact sheet, a frequently asked questions document, mock field test report(s), measure specifications documents, a description of the measure development process, and a national summary data report that provides national summary statistics on the measures. Stakeholders have the

[13] CMS, "2017 Cost Measure Development Listening Session," *Quality Payment Program Webinar and Events,* https://qpp.cms.gov/about/webinars.
[14] CMS, "Cost Performance Category Overview," *Quality Payment Program Webinar and Events,* https://qpp.cms.gov/about/webinars.
[15] CMS "MACRA Cost Measures Field Testing webinar," *Quality Payment Program Webinar and Events*, https://qpp.cms.gov/about/webinars.
[16] CMS, "MACRA Cost Measures Post Field Testing," *Quality Payment Program Webinar and Events,* https://qpp.cms.gov/about/webinars.

opportunity to ask about these materials during the office hours and the field testing webinars. More broadly, CMS has provided information on the various opportunities for participation.[17]

To increase engagement with the wider stakeholder community during measure development, CMS and Acumen implemented new activities during wave 3 of measure development in 2019:

- Hosted public office hours to provide an overview of the input provided during the Clinical Subcommittee meetings and updates on measures that CMS approved for development. The office hours allowed stakeholders less familiar with measure development to learn more about the meetings, the content and topics they cover, and the development process more broadly.
- Offered a public dial-in option for the workgroup meetings, allowing stakeholders who are not Clinical Subcommittee or workgroup members to listen in on the workgroup discussions and considerations that inform the preliminary measure specifications.
- Publicly posted meeting summaries for the May-June Clinical Subcommittee meetings and the August workgroup meetings on the MACRA Feedback Page following each meeting.

These new activities were implemented in consideration of feedback regarding expanding engagement in the development process to the wider stakeholder community. CMS will continue to explore ways to promote further engagement in the stakeholder community during the development process, in consideration of the preliminary nature of the measure development activities and discussions.

More broadly, CMS will continue to host education and outreach activities to increase clinician familiarity with the cost measures and to provide meaningful and actionable information to clinicians so that they can provide high quality, cost-efficient care to their patients.

[17] CMS, "Stakeholder Input Opportunities," *MACRA Feedback Page*, https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/2019-stakeholder-input-opportunities.pdf

3.0 Population-Based Cost Measures

The MIPS 2019 performance period includes two population-based measures: Medicare Spending Per Beneficiary (MSPB) and Total Per Capita Costs for All Attributed Beneficiaries (TPCC). These measures were comprehensively re-evaluated in 2018 as part of the measure maintenance process established in the CMS Measures Management System Blueprint (Blueprint v 15.0).[18] The revisions to these measures were informed by stakeholder input and were finalized through rulemaking for use in the MIPS 2020 performance period onwards.

The MSPB measure assesses the cost to Medicare for Parts A and B services provided to a beneficiary during an episode which comprises the period immediately prior to, during, and following a hospital stay, and compares the observed costs to expected costs. Specifically, an MSPB episode includes all Medicare Part A and Part B claims falling in the "episode window," including claims with a start date between 3 days prior to a hospital admission (also known as the "index admission" for the episode) through 30 days after hospital discharge. This measure was revised to attribute MSPB episodes at the clinician group (TIN) level first and then at the clinician (TIN-NPI) level, create two separate attribution methods for medical and surgical episodes, and remove certain services identified as unlikely to be influenced by the clinician's care decisions. The revised version of this measure is called the 'MSPB Clinician' measure to distinguish it from other MSPB measures that apply to different settings.

The TPCC measure is a payment-standardized, risk-adjusted, and specialty-adjusted cost measure focused on clinicians and clinician groups performing primary care services. Specifically, the measure is an average of per capita costs across all attributed beneficiaries and includes all Medicare Parts A and B costs. The TPCC measure was revised to account for timing and patterns in care delivery to more effectively identify a primary care relationship and ensure that beneficiary costs are assigned to clinicians after the primary care relationship is established.

Measure specification documentation for the MIPS 2019 versions and the revised MIPS 2020 versions of MSPB and TPCC measures are available.[19, 20]

Stakeholder input informed these measure refinements, specifically through a TEP, a refinement workgroup, field testing, and extensive education and outreach. The standing TEP discussed in Section 2.4.2, convened in August 2017 and May 2018 to provide high-level guidance on potential refinements to the MSPB and TPCC measures. The TEP recommended creating a MSPB Service Refinement Workgroup, which Acumen subsequently convened with 25 members. Workgroup members provided extensive input on the MSPB service exclusions. The revised measures underwent the same field testing process and education and outreach activities described in Sections 2.4.4 and 2.4.5. Following field testing, the TEP reconvened in November 2018 to consider additional refinements based on field testing feedback. CMS plans to continue monitoring the revised measures as part of ongoing maintenance.

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[18] CMS, "CMS Measures Management System Blueprint (Blueprint v 15.0)", Measures Management System, https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/MMS/Downloads/Blueprint.pdf.

[19] CMS, "2019 Cost Measure Information Forms," *QPP Resource Library,* https://qpp-cm-prod-content.s3.amazonaws.com/uploads/345/2019+Cost+Measure+Information+Forms.zip

[20] CMS, "2020 Cost Measure Information Forms and Measure Codes Lists," *QPP Resource Library,* https://qpp.cms.gov/about/resource-library

4.0 Cost Measure Coverage Metrics

This section provides estimated cost and clinician coverage metrics for the episode-based and population-based cost measures finalized for use in MIPS.

4.1 Cost Coverage

Table 4 presents the estimated cost coverage for the population-based measures and the wave 1 and 2 episode-based cost measures that have been finalized for use in MIPS 2019 and 2020, calculated on a study period of January 1- December 31, 2018.[21] The table does not include the Psychoses/Related Conditions measure as it was not implemented in MIPS.

The table includes two estimates based on the application of case minimums. The case minimums applied for the coverage estimates are:

- 10 episodes for procedural episode-based cost measures,
- 20 episodes for acute inpatient medical condition episode-based cost measures,
- 35 episodes for the current and revised MSPB measures, and
- 20 beneficiaries for the current and revised TPCC measures.

Costs for each measure are calculated by summing the cost of services included in the measure. The cost coverage figures are estimates assuming that all clinicians meeting the attribution criteria for cost measures are MIPS participants (e.g., we do not remove APM participants from the estimate), and that all MIPS participants are participating as a group. More details on the costs counted for the denominators and the numerators of these coverage estimates are provided in the table.

Any percentages representing the union of certain groups of cost measures (e.g., “Episode-Based Cost Measures”) do not count claims more than once if included in multiple measures. All figures in this table are estimates for reference only and do not reflect cost coverage for the measures as implemented in MIPS.

[21] The percentage figures provided in this posting are only estimates, and do not reflect the coverage of these measures as used in MIPS. Performance data on the measures in the MIPS 2019 and 2020 performance periods would not be available until after the end of the respective performance periods.

Table 4. Cost Coverage at the Group Level for MIPS 2019 and 2020 Cost Measures[22]

Cost Measures	% of Total Medicare Parts A and B Spending w/ No Case Min[23]	% of Total Medicare Parts A and B Spending w/ Case Min Applied[24]
Population-Based Cost Measures	**-**	**-**
Medicare Spending Per Beneficiary	29.2%	27.4%
Total Per Capita Cost for All Attributed Beneficiaries	86.1%	85.1%
Medicare Spending Per Beneficiary Clinician (Revised)	26.5%	25.9%
Total Per Capita Cost (Revised)	82.6%	82.6%
Episode-Based Cost Measures[25]	**6.8%**	**6.3%**
Procedural Episode-Based Cost Measures	4.5%	4.3%
Acute Inpatient Medical Episode-Based Cost Measures	2.3%	1.9%
Wave 1 Episode-Based Cost Measures	**3.9%**	**3.6%**
Elective Outpatient Percutaneous Coronary Intervention	0.3%	0.3%
Intracranial Hemorrhage Or Cerebral Infarction	0.8%	0.7%
Knee Arthroplasty	1.1%	1.1%
Revascularization for Lower Extremity Chronic Critical Limb Ischemia	0.5%	0.5%
Routine Cataract Removal with Intraocular Lens Implantation	0.4%	0.4%
Screening/Surveillance Colonoscopy	0.2%	0.2%
Simple Pneumonia with Hospitalization	0.5%	0.4%
ST-Elevation Myocardial Infarction with Percutaneous Coronary Intervention	0.1%	0.1%
Wave 2 Episode-Based Cost Measures[26]	**2.9%**	**2.7%**
Acute Kidney Injury Requiring New Inpatient Dialysis	0.1%	0.1%
Elective Primary Hip Arthroplasty	0.6%	0.5%
Femoral or Inguinal Hernia Repair	0.1%	0.1%
Hemodialysis Access Creation	0.1%	0.1%
Inpatient Chronic Obstructive Pulmonary Disease Exacerbation	0.8%	0.7%
Lower Gastrointestinal Hemorrhage	0.2%	0.2%

[22] The denominator ($401,916,690,571) for all metrics in this table is the sum of positive payment-standardized allowed amounts for all inpatient, outpatient, Part B Physician/Supplier, home health, skilled nursing facility (SNF), durable medical equipment, prosthetics, orthotics and supplies (DMEPOS), and hospice claims billed during the study period.

[23] Share of Total Medicare Parts A and B spending for all Medicare clinicians billing a claim during the study period with no case minimum applied. The numerator includes costs for clinicians with at least one episode or beneficiary for the given measure.

[24] Share of Total Medicare Parts A and B spending for all Medicare clinicians billing a claim during the study period with case minima applied. The numerator includes costs for only clinicians who meet the case minimum for a given measure.

[25] Psychoses/Related Conditions is not included in this cost coverage estimate. The cost coverage for all developed episode-based cost measures including Psychoses/Related Conditions with no case minimum is 7.4 percent and the cost coverage for all acute inpatient medical condition measures including Psychoses/Related Conditions with no case minimum is 2.9 percent.

[26] Psychoses/Related Conditions is not included in this cost coverage estimate. If the Psychoses/Related Conditions measure were included, the cost coverage for Wave 2 measures with no case minimum would be 3.6 percent.

Cost Measures	% of Total Medicare Parts A and B Spending w/ No Case Min[23]	% of Total Medicare Parts A and B Spending w/ Case Min Applied[24]
Lumbar Spine Fusion for Degenerative Disease, 1-3 Levels	0.5%	0.5%
Lumpectomy, Partial Mastectomy, Simple Mastectomy	0.1%	0.1%
Non-Emergent Coronary Artery Bypass Graft	0.4%	0.4%
Renal or Ureteral Stone Surgical Treatment	0.1%	0.1%

Additional analyses for these measures are available in the national summary data reports.[27,28]

[27] CMS, "2017 Field Testing materials," *MACRA Feedback Page,* https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/2017-field-test-materials.zip

[28] CMS, "2018 National Summary Data Report," *MACRA Feedback Page,* https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/2018-national-summary-data-report.zip

4.2 Clinician Coverage

Table 5 presents clinician coverage estimates for the population-based and episode-based cost measures that have been finalized for use in MIPS 2019 and 2020, calculated using the study period January 1- December 31, 2018. The table does not include the Psychoses/Related Conditions measure as it was not implemented in MIPS.

The table displays the share of clinician groups that meet the case minimum and two ways of estimating individual clinician coverage for group reporting:

1. The share of clinicians under a clinician group that billed at least one trigger claim, to approximate clinicians with some involvement in the type of care that the measure is assessing, and
2. The share of clinicians who could potentially receive a cost measure score assuming they were reporting as part of a clinician group.

The percentages estimate coverage with case minimums, which are listed in Section 4.1. Clinician groups are identified by a Taxpayer Identification Number (TIN), and clinicians are identified by a TIN and National Provider Identifier combination (TIN-NPI).

As with Table 4, estimates in Table 5 assume that all clinicians meeting the attribution criteria for cost measures are MIPS participants and that all MIPS participants report as part of a clinician group. The percentages representing the union of the cost measures do not count clinicians more than once if they are attributed by multiple measures. All figures in this table are for reference only and do not reflect clinician coverage for the measures as implemented in MIPS.[29]

Table 5. Clinician Coverage at the Group Level for MIPS 2019 and 2020 Cost Measures[30]

Cost Measures	Coverage for TINs Meeting Case Minimums		
	% TINs	% TIN-NPIs Billing A Trigger Claim Under the TIN[31]	% TIN-NPIs Billing Any Paid Part B Claim Under the TIN[32]
Population-Based Measures	-	-	-

[29] The clinician coverage for MSPB and TPCC as implemented in MIPS in 2018 will be available in the 2018 QPP Experience Report, which outlines participation, reporting options and performance categories, and final score and payment adjustment metrics for the 2018 reporting year. The report will be available in early 2020 at https://qpp.cms.gov/about/resource-library

[30] The denominators for all metrics in the table are as follows: For the %TIN metrics, the denominator is the number of TINs with at least one eligible NPI who billed a positive claim amount or were attributed an episode during the study period. For CY2018, this total number of TINs is 267,861. For the %TIN-NPI metrics, the denominator is the number of eligible TIN-NPIs who billed a positive claim amount during the study period or were attributed an episode for one of the measures. For CY2018 the total number of TIN-NPIs is 1,586,533.

[31] The numerator for this metric includes only TIN-NPIs billing under a MIPS eligible clinician specialty who billed at least one trigger claim under a TIN that meets the case minimum for the measure. No other MIPS eligibility criteria are applied.

[32] The numerator for this metric represents a broader clinician population and includes TIN-NPIs with a MIPS eligible clinician specialty billing a paid Medicare Part B Physician/Supplier (Carrier) claim during the study period under a TIN that meets the case minimum as well as TIN-NPIs under the TIN who are attributed at least one episode during the study period. No other MIPS eligibility criteria are applied.

Cost Measures	Coverage for TINs Meeting Case Minimums		
	% TINs	% TIN-NPIs Billing A Trigger Claim Under the TIN[31]	% TIN-NPIs Billing Any Paid Part B Claim Under the TIN[32]
Medicare Spending Per Beneficiary	6.5%	19.9%	52.0%
Total Per Capita Cost for All Attributed Beneficiaries	23.8%	32.8%	61.3%
Medicare Spending Per Beneficiary Clinician (Revised)	7.2%	22.1%	49.0%
Total Per Capita Cost (Revised)	27.7%	34.0%	63.2%
Episode-Based Cost Measures[33]	**6.5%**	**14.2%**	**45.6%**
Procedural Episode-Based Cost Measures	5.7%	5.9%	41.4%
Acute Inpatient Medical Episode-Based Cost Measures	1.4%	9.5%	35.6%
Wave 1 Measures	**5.0%**	**10.6%**	**43.3%**
Elective Outpatient Percutaneous Coronary Intervention	0.6%	0.5%	24.1%
Intracranial Hemorrhage Or Cerebral Infarction	0.6%	5.0%	30.1%
Knee Arthroplasty	1.1%	1.1%	26.3%
Revascularization for Lower Extremity Chronic Critical Limb Ischemia	0.7%	0.5%	23.1%
Routine Cataract Removal with Intraocular Lens Implantation	1.6%	0.6%	17.0%
Screening/Surveillance Colonoscopy	1.5%	1.2%	30.7%
Simple Pneumonia with Hospitalization	0.8%	5.1%	30.2%
ST-Elevation Myocardial Infarction with Percutaneous Coronary Intervention	0.1%	0.8%	12.6%
Wave 2 Measures[34]	**3.3%**	**10.5%**	**40.8%**
Acute Kidney Injury Requiring New Inpatient Dialysis	0.3%	0.4%	13.8%
Elective Primary Hip Arthroplasty	0.7%	0.8%	23.7%
Femoral or Inguinal Hernia Repair	0.8%	0.7%	26.7%
Hemodialysis Access Creation	0.4%	0.3%	21.9%
Inpatient Chronic Obstructive Pulmonary Disease Exacerbation	1.1%	6.4%	33.4%
Lower Gastrointestinal Hemorrhage	0.5%	3.8%	26.1%
Lumbar Spine Fusion for Degenerative Disease, 1-3 Levels	0.5%	0.5%	19.0%
Lumpectomy, Partial Mastectomy, Simple Mastectomy	0.5%	0.3%	23.5%
Non-Emergent Coronary Artery Bypass Graft	0.3%	0.3%	19.3%
Renal or Ureteral Stone Surgical Treatment	0.6%	0.5%	22.3%

[33] Psychoses/Related Conditions is not included in this estimate. The estimates for all epsiode-based cost measures are 15.1 percent for clinicans billing at least one trigger claim, 46.8 percent for clinicans billing at least one Part B claim under a TIN, and 7.1 percent for TINs. For all acute inpatient measures, the estimates are 10.5 percent for clinicians that billed at least one trigger claim, 37.4 percent for clinicians billing a Part B claim under a TIN, and 2.0 percent for TINs.

[34] Psychoses/Related Conditions is not included in this estimate. The estimates for all Wave 2 measures are 11.5 percent for clinicians billing at least one trigger claim, 42.2 percent for clinicians billing at least one Part B claim under a TIN, and 3.8 percent for TINs.

Appendix A: List of Clinical Subcommittees and Episode-based Measures

Clinical Subcommittee	Episode-Based Cost Measure	Implementation Status
Cardiovascular Disease Management	Elective Outpatient Percutaneous Coronary Intervention	MIPS 2019 onward
	Non-Emergent Coronary Artery Bypass Graft	MIPS 2020 onward
	ST-Elevation Myocardial Infarction with Percutaneous Coronary Intervention	MIPS 2019 onward
Chronic Condition and Disease Management	Asthma/ Inpatient Chronic Obstructive Pulmonary Disease	Under Development
	Diabetes	Under Development
Dermatologic Disease Management	Melanoma Resection	Under Development
Gastrointestinal Disease Management - Medical and Surgical	Femoral or Inguinal Hernia Repair	MIPS 2020 onward
	Lower Gastrointestinal Hemorrhage	MIPS 2020 onward
	Screening/Surveillance Colonoscopy	MIPS 2019 onward
General and Colorectal Surgery	Colon and Rectal Resection	Under Development
Hospital Medicine	Sepsis	Under Development
Musculoskeletal Disease Management - Non-Spine	Elective Primary Hip Arthroplasty	MIPS 2020 onward
	Knee Arthroplasty	MIPS 2019 onward
Musculoskeletal Disease Management – Spine	Lumbar Spine Fusion for Degenerative Disease, 1-3 Levels	MIPS 2020 onward
Neuropsychiatric Disease Management	Intracranial Hemorrhage Or Cerebral Infarction	MIPS 2019 onward
	Psychoses/Related Conditions	In consideration for future use
Oncologic Disease Management - Medical, Radiation, and Surgical	Lumpectomy, Partial Mastectomy, Simple Mastectomy	MIPS 2020 onward
Ophthalmologic Disease Management	Routine Cataract Removal with Intraocular Lens Implantation	MIPS 2019 onward
Peripheral Vascular Disease Management	Hemodialysis Access Creation	MIPS 2020 onward
	Revascularization for Lower Extremity Chronic Limb Ischemia	MIPS 2019 onward
Pulmonary Disease Management	Inpatient Chronic Obstructive Pulmonary Disease Exacerbation	MIPS 2020 onward
	Simple Pneumonia with Hospitalization	MIPS 2019 onward
Renal Disease Management	Acute Kidney Injury Requiring New Inpatient Dialysis	MIPS 2020 onward

Clinical Subcommittee	Episode-Based Cost Measure	Implementation Status
Urologic Disease Management	Renal or Ureteral Stone Surgical Treatment	MIPS 2020 onward