

## National Summary Data Report on Five Episode-Based Cost Measures

- Asthma/Chronic Obstructive Pulmonary Disease (COPD)
- Colon and Rectal Resection
- Diabetes
- Melanoma Resection
- Sepsis

June 2021

# Table of Contents

<b>1.0 Introduction</b> .....	<b>3</b>
1.1 Summary of Wave 3 Cost Measures Field Testing .....	3
1.2 Episode-Based Cost Measure Development .....	4
1.3 Methodology .....	4
<b>2.0 National Summary Statistics</b> .....	<b>6</b>
2.1 Summary of Patient Demographics .....	6
2.2 Summary Information for Clinicians and Clinician Groups that are Attributed Cost Measures .....	6
2.3 Summary of Standardized Part D Drug Costs .....	10

## List of Tables

Table 1. Patient Demographics .....	6
Table 2. Number of TINs and TIN-NPIs Meeting Case Minima for One or More Wave 3 EBCMs .....	7
Table 3. Most Attributed Specialties by Number of Episodes .....	8
Table 4-A. Distribution of Episode Counts per TIN .....	9
Table 4-B. Distribution of Episode Counts per TIN-NPI .....	9
Table 5. Part D Enrollment by Measure .....	10
Table 6. Episode Cost Information by Part D Enrollment .....	11

# 1.0 Introduction

This National Summary Data Report provides the results of empirical analyses for 5 episode-based cost measures that were developed in Wave 3 of cost measure development (2019-2020). This report presents national-level summary statistics, calculated using data from January 1 to December 31, 2019, that stakeholders may use to understand the performance of clinicians and clinician groups relative to the performance of others nationally. Specifically, this report provides summary statistics on patient demographics, clinicians and clinician groups that are attributed cost measures based on the draft specifications, and standardized Part D drug costs. More detailed testing results for each measure can be found in the measure-specific Measure Justification Forms, available on the [MACRA Feedback Page](#).<sup>1</sup>

The rest of this section gives an overview of the Wave 3 cost measures field testing and Section 2 provides national summary statistics for each measure.

## 1.1 Summary of Wave 3 Cost Measures Field Testing

The Wave 3 episode-based cost measures underwent field testing from August 17 to September 18, 2020. The 5 episode-based cost that were field tested can be classified into 3 episode group types:

- Procedural Episode Group
  - Colon Resection and Rectal Resection
  - Melanoma Resection
- Acute Inpatient Medical Condition Episode Group
  - Sepsis
- Chronic Condition Episode Group
  - Asthma/Chronic Obstructive Pulmonary Disease (COPD)
  - Diabetes

During field testing, clinicians and clinician groups were able to access field test reports on the [Quality Payment Program website](#)<sup>2</sup> if they met one of the following case minimums during the measurement period: 10 episodes for procedural and acute inpatient medical condition cost measures and 20 episodes for chronic condition cost measures.

The measurement period for the field test reports was January 1, 2019 through December 31, 2019. The field test reports contained information on clinicians' and clinician groups' performance for these measures, and clinicians also received an episode-level file with more information about the episodes that were used to calculate the measures. Clinicians were identified by Taxpayer Identification Number and National Provider Identifier pairs (TIN-NPI), while clinician groups were identified by their TIN. A total of 214,592 field test reports were made available on the [Quality Payment Program website](#): 46,546 were for TINs and 168,046 were for TIN-NPIs.

---

<sup>1</sup> CMS, "Cost Measure Field Testing", MACRA Feedback Page, <https://www.cms.gov/Medicare/Quality-Payment-Program/Quality-Payment-Program/Give-Feedback>.

<sup>2</sup> CMS, "Quality Payment Program Account," Quality Payment Program, <https://qpp.cms.gov/login>.

Feedback was collected on the draft measure specifications and the field test reports during the field testing period. The draft measure specifications documents included Draft Cost Measure Methodology, Draft Measure Codes List file. A mock field test report, fact sheet, Frequently Asked Questions (FAQ) document, and an overview of the development process were also available on the [MACRA Feedback Page](#). The 2020 Cost Measures [Field Testing Feedback Summary Report](#)<sup>3</sup> is indexed on the [MACRA Feedback page](#).

After the August to September 2020 field testing period, Acumen analyzed the measure-specific feedback received from stakeholders and provided summary reports to the measure-specific Clinician Expert Workgroups to inform post-field testing measure refinements.

## 1.2 Episode-Based Cost Measure Development

Stakeholder input is critical to the development of robust, meaningful, and actionable episode-based cost measures. For these five episode-based cost measures that were developed in 2019-2020, Acumen sought input from Clinical Subcommittees, Clinician Expert Workgroups, a technical expert panel (TEP), and Person and Family Partners. More information about the measure development is available in the [Wave 3 Measure Development Process](#)<sup>4</sup> document.

Episode-based cost measures represent the cost to Medicare for the items and services furnished to patients during an episode of care.<sup>5</sup> These measures are designed to inform clinicians on the cost of care they are responsible for providing to a patient during the episode's timeframe. The measures focus on costs that are clinically related to the care provided by clinicians to whom the episodes are attributed. In conjunction with quality of care assessment, cost measures aim to incentivize high-value, patient centered care across a patient's care trajectory.

## 1.3 Methodology

All empirical analyses presented in this document were conducted using the following data sources:

- Medicare Enrollment Database (EDB)
- Common Working File (CWF) Claims Data
  - Durable Medical Equipment (DME) Claims Data
  - Home Health (HH) Claims Data
  - Hospice (HS) Claims Data
  - Inpatient (IP) Claims Data
  - Outpatient (OP) Claims Data
  - Part B Physician/Supplier (PB) Claims Data
  - Skilled Nursing (SN) Claims Data

---

<sup>3</sup> CMS, "2020 Field Testing Feedback Summary Report for 5 Episode-Based Cost Measures," MACRA Feedback Page, <https://www.cms.gov/files/document/macra-2020-ft-feedback-summary-report.pdf>.

<sup>4</sup> CMS, "2020 Episode-Based Cost Measures FieldTesting Wave 3 Measure Development Process," MACRA Feedback Page, <https://www.cms.gov/files/document/macra-cmft-ebcm-process-2020.pdf>.

<sup>5</sup> The Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) requires the Secretary, as determined appropriate, to conduct an analysis of cost with respect to care episode and patient condition groups (referred to as "episode groups") and use the methodology developed for purposes of the cost performance category of the Merit-based Incentive Payment System (MIPS). CMS has contracted with Acumen to develop and re-evaluate cost measures for potential use in the MIPS cost performance category of the Quality Payment Program.

- Minimum Data Set (MDS)
- Medicare Prescription Drug Event Tap Data (PDT)

The term “cost” refers to allowed amounts on traditional, fee-for-service Medicare claims data which include the Medicare-allowed charge for a given service and both the amount of the Medicare trust fund payments and any applicable patient deductible and coinsurance amounts. Additionally, cost figures are standardized to 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. This standardization is intended to isolate cost differences that result from healthcare delivery choices, allowing for more accurate resource use comparisons between health care providers.<sup>6</sup>

The cost measures were developed and the cost measure scores were calculated based on the methodology documented in the measure specifications corresponding to each of the 5 cost measures.<sup>7</sup> All analyses were calculated on episodes ending during the measurement period of January 1, 2019 through December 31, 2019.

---

<sup>6</sup> CMS, “CMS Price (Payment) Standardization - Basics” and “CMS Price (Payment) Standardization - Detailed Methods” *QualityNet Page*, [https://www.qualitynet.org/files/5d27feb7203dc1001ffeb324?filename=Basics\\_payment\\_std\\_041819.pdf](https://www.qualitynet.org/files/5d27feb7203dc1001ffeb324?filename=Basics_payment_std_041819.pdf).

<sup>7</sup> CMS, Draft Cost Measure Methodology and Draft Measure Codes List files, *MACRA Feedback Page* (June 2021), <https://www.cms.gov/Medicare/Quality-Payment-Program/Quality-Payment-Program/Give-Feedback>.

## 2.0 National Summary Statistics

This section provides national summary statistics and high-level trends for the 5 cost measures undergoing field testing. Section 2.1 presents summary statistics on patient demographics. Section 2.2 provides details on the number and specialties of clinicians and clinician groups that are attributed cost measures. Finally, Section 2.3 presents summary statistics of Medicare Part D prescription drug costs for the 3 cost measures that include those costs.

**Note:** Unless otherwise noted in the table description, only clinicians and clinician groups attributed at a case minimum of at least 10 episodes for Melanoma Resection and 20 episodes for all other measures including Colon and Rectal Resection, Sepsis, Asthma/Chronic Obstructive Pulmonary Disease (COPD), and Diabetes for the measurement period are included in the tables below.

### 2.1 Summary of Patient Demographics

The table below provides a summary of demographic information for patients with no case minima applied for the cost measures being field tested during the measurement period. There may be more episodes than patients since the same patient can have more than 1 episode in the period.

**Table 1. Patient Demographics**

Cost Measure	Number of Episodes	Number of Patients	Average Age (Years)	Sex (% Female)
Asthma/Chronic Obstructive Pulmonary Disease (COPD)	2,961,029	2,402,578	72.83	60.92%
Colon and Rectal Resection	54,626	54,414	73.71	58.76%
Diabetes	6,215,678	4,527,680	72.80	52.12%
Melanoma Resection	79,535	67,094	75.96	36.81%
Sepsis	514,234	448,430	74.59	51.94%

### 2.2 Summary Information for Clinicians and Clinician Groups that are Attributed Cost Measures

Episodes are attributed to a principal (or managing) clinician based on the claims information available at the time of the trigger. The principal clinician is held responsible for the services that are assigned to the episode based on their clinical relevance to the clinician's role in managing patient care.

The rules for attributing episodes vary depending on the type of episode group. For detailed information on the attribution methodologies for each of the cost measures, please refer to the corresponding measure methodology available on the [MACRA Feedback page](#).

Table 2 presents the number of clinicians (TIN-NPIs) and clinician groups (TINs) meeting the case minimum applied to their reported episodes for one or more Wave 3 EBCMs.

**Table 2. Number of TINs and TIN-NPIs Meeting Case Minima for One or More Wave 3 EBCMs**

Number of Episode-Based Cost Measures	Number of TINs	Number of TIN-NPIs
1	27,460	90,753
2	15,323	24,647
3	1,668	391
4	268	0
5	277	0

Table 3 summarizes the 3 most attributed specialties for each cost measure, based on the number of episodes attributed to clinicians from each specialty. Specialty information is based on the reported Health Care Finance Administration (HCFA) specialty designations found on the Medicare Part B Physician/Supplier claims included in the episode.

**Table 3. Most Attributed Specialties by Number of Episodes**

Cost Measure	Most Attributed Specialty			Second Most Attributed Specialty			Third Most Attributed Specialty		
	Specialty	# of TIN-NPIs	# Episodes	Specialty	# of TIN-NPIs	# Episodes	Specialty	# of TIN-NPIs	# Episodes
Asthma/Chronic Obstructive Pulmonary Disease (COPD)	Internal Medicine	12,182	485,368	Family Practice	8,878	300,942	Pulmonary Disease	6,172	573,308
Colon and Rectal Resection	Colorectal Surgery (formerly proctology)	292	7,801	General Surgery	170	4,154	Physician Assistant	23	690
Diabetes	Internal Medicine	30,187	1,549,909	Family Practice	28,213	1,275,168	Nurse Practitioner	5,879	229,526
Melanoma Resection	Dermatology	1,513	30,865	Plastic and Reconstructive Surgery	279	6,128	General Surgery	158	3,493
Sepsis	Internal Medicine	11,029	217,327	Hospitalist	5,259	105,120	Infectious Disease	1,857	59,621

The following tables provide a distribution of the number of episodes attributed to TINs and TIN-NPIs for each of the cost measures being field tested.

**Table 4-A. Distribution of Episode Counts per TIN**

Cost Measure	# of TINs	Mean # of Episodes	Episode Count Percentile					
			10th	25th	50th	75th	90th	99th
Asthma/Chronic Obstructive Pulmonary Disease (COPD)	19,876	133	23	29	46	97	261	1,505
Colon and Rectal Resection	759	51	22	26	38	62	96	215
Diabetes	38,996	149	24	32	53	103	233	1,920
Melanoma Resection	1,794	35	11	14	21	38	73	209
Sepsis	4,142	130	23	30	55	135	311	1,168

**Table 4-B. Distribution of Episode Counts per TIN-NPI**

Cost Measure	# TIN-NPIs	Mean # of Episodes	Episode Count Percentile					
			10th	25th	50th	75th	90th	99th
Asthma/Chronic Obstructive Pulmonary Disease (COPD)	33,797	50	21	25	33	54	96	262
Colon and Rectal Resection	502	28	20	22	25	31	39	57
Diabetes	81,786	51	22	27	39	60	92	208
Melanoma Resection	2,186	21	10	12	16	24	36	80
Sepsis	22,949	33	21	23	28	38	51	91

## 2.3 Summary of Standardized Part D Drug Costs

Part D drugs have been identified by stakeholders as an important clinical component of costs for the episode-based cost measures. Three of the 5 cost measures include Part D drug costs: Asthma/Chronic Obstructive Pulmonary Disease (COPD), Diabetes, and Sepsis. Part D drug costs likely account for a greater share of the overall episode cost for these measures. An adjustment to account for post-point-of-sale rebates within Part D standardized amounts (which only reflect point-of-sale drug costs) is included in the Part D payment standardization methodology to ensure that the cost of Part D branded drugs do not appear disproportionately costly relative to generic and/or Part B drug substitutes.

The rules for including Part D drugs vary depending on the cost measure. For detailed information on the inclusion of Part D drug costs for each of the 3 cost measures, please refer to the corresponding measure methodology available on the [ResDAC page](#).<sup>8</sup>

The following tables provide Part D coverage statistics for each of the 3 cost measures. Table 5 provides summary statistics for the cost measures that include Part D drug costs. Table 6 presents episode cost information, broken out by the patient's Part D enrollment status, including the ratio of observed to expected cost (O/E), risk scores indicating how costly episodes are expected to be as predicted through risk adjustment, and observed costs.

**Table 5. Part D Enrollment by Measure**

Cost Measure	Total # of Episodes	# of Episodes with Part D Enrollment	% of Episodes with Part D Enrollment
Asthma/Chronic Obstructive Pulmonary Disease (COPD)	2,961,029	2,256,245	76.2%
Diabetes	6,215,678	4,696,742	75.6%
Sepsis	514,234	403,710	78.5%

<sup>8</sup> CMS Price (Payment) Standardization Overview | ResDAC Data Dictionary, "CMS Price (Payment) Standardization Overview" ResDAC Page, <https://resdac.org/articles/cms-price-payment-standardization-overview>.

**Table 6. Episode Cost Information by Part D Enrollment**

Cost Measure	Part D Enrollment Status	O/E Cost Ratio		Risk Score		Observed Cost	
		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Asthma/Chronic Obstructive Pulmonary Disease (COPD)	All	1.05	1.57	1.02	0.71	\$4,989	\$7,557
	Yes	1.05	1.44	1.13	0.73	\$5,497	\$7,895
	No	1.07	1.93	0.68	0.49	\$3,365	\$6,074
Diabetes	All	1.05	1.68	1.02	0.79	\$7,025	\$10,444
	Yes	1.05	1.51	1.15	0.82	\$7,831	\$10,924
	No	1.06	2.10	0.65	0.55	\$4,530	\$8,315
Sepsis	All	1.02	0.61	1.01	0.43	\$20,458	\$15,462
	Yes	1.02	0.61	1.02	0.44	\$20,774	\$15,764
	No	1.02	0.60	0.95	0.38	\$19,305	\$14,245