

Re-evaluated MSPB Clinician Measure

Draft Cost Measure Methodology

October 2018 Field Testing



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1.0 Introduction

This document details the draft methodology for the re-evaluated Medicare Spending Per Beneficiary (MSPB) clinician measure and should be reviewed along with the MSPB clinician Draft Measure Codes List file, which contains the medical codes used in constructing the measure.¹ These documents have been shared as part of field testing, where clinician groups and clinicians attributed at least 35 episodes received MSPB clinician Field Test Reports containing measure performance information.

Field testing allows the Centers for Medicare & Medicaid Services (CMS) and the measure developer, Acumen LLC (referred to as “Acumen”) to gather feedback on new episode-based cost measures and re-evaluated measures from clinicians and other stakeholders.² All stakeholders have the opportunity to provide feedback on the draft measure specifications and a Mock Field Test Report by reviewing this document and other supplemental documentation that are publicly posted on the CMS [MACRA feedback page](#).

We are collecting stakeholder feedback from **October 3, 2018 to October 31, 2018**. To provide feedback on any aspect of field testing please navigate to [this feedback survey](https://www.surveymonkey.com/r/2018-macra-cost-measures-field-testing): <https://www.surveymonkey.com/r/2018-macra-cost-measures-field-testing>.

1.1 Measure Name

Medicare Spending Per Beneficiary (MSPB) clinician measure

1.2 Measure Description

The re-evaluated MSPB clinician measure assesses the cost to Medicare of services provided to a beneficiary during an MSPB clinician episode (hereafter referred to as the “episode”), which comprises the period immediately prior to, during, and following the beneficiary’s hospital stay. An episode includes Medicare Part A and Part B 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, excluding a defined list of services that are unlikely to be influenced by the clinician’s care decisions and are, thus, considered unrelated to the index admission. In the Field Test Reports and all supplemental documentation, the term “cost” generally means the Medicare allowed amount, which includes both Medicare and trust fund payments and any applicable beneficiary deductible and coinsurance amounts Medicare spends on traditional, fee-for-service claims.

1.3 Measure Rationale

MSPB clinician is an important means of measuring Medicare spending, as health expenditures continue to increase in the United States. Total health care spending is estimated to have increased by 4.6 percent in 2017, reaching \$3.5 trillion, and spending for Medicare, which is still predominantly paid on a fee-for-service (FFS) basis, grew by 3.6 percent, reaching \$672.1 billion.³ In 2016, Medicare Fee-for-Service (FFS) paid \$183 billion for approximately 10 million Medicare inpatient admissions and 200 million outpatient services, which reflects a 2.3 percent increase in hospital spending per FFS beneficiary between 2015 and 2016 (MedPAC, 2018).

¹ CMS, “Episode-based cost measures,” MACRA Feedback Page, <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/MACRA-Feedback.html>

² CMS worked with Acumen to develop and re-evaluate cost measures for potential use in MIPS.

³ “National Health Expenditure Projections, 2017-2026.” US Centers for Medicare & Medicaid Services, 2018.

As background to this re-evaluated measure, a version of the MSPB measure has been part of the Merit-based Incentive Payment System (MIPS) cost performance category since the 2017 MIPS performance period. Prior to this current use in MIPS, CMS used a version of the MSPB measure in the Value Modifier Program and reported it in annual Quality and Resource Use Reports (QRURs) until MACRA ended the Value Modifier Program. The MSPB clinician measure is currently undergoing re-evaluation to address stakeholder feedback received via prior public comment periods. Refinements to MSPB clinician have focused on attribution, to identify the clinician(s) responsible for providing care during an episode, and service assignment, to exclude certain services as informed through expert stakeholder input.

1.4 Measure Numerator

The numerator for the re-evaluated MSPB clinician measure is the sum of the ratio of payment-standardized⁴ observed to expected episode costs for all episodes attributed to the clinician group, as identified by a unique Medicare Taxpayer Identification Number (TIN), or to the clinician, as identified by a unique TIN and National Provider Identifier pair (TIN-NPI). The sum is then multiplied by the national average payment-standardized observed episode cost to generate a dollar figure.

1.5 Measure Denominator

The denominator for the re-evaluated MSPB clinician measure is the total number of episodes attributed to a clinician or clinician group.

1.6 Data Sources

The MSPB clinician measure uses the following data sources:

- Medicare Parts A and B claims data from the Common Working File (CWF)
- Enrollment Data Base (EDB)
- Long Term Care Minimum Data Set (LTC MDS)
- Provider Enrollment, Chain and Ownership System (PECOS)

The measurement period is January 1, 2017 through December 31, 2017. Specifically, episodes ending between January 1, 2017 and December 31, 2017, inclusive, are included in the calculation of the MSPB clinician measure.

1.7 Care Settings

The MSPB clinician cost measure can be triggered at critical care and acute care facility hospitals.

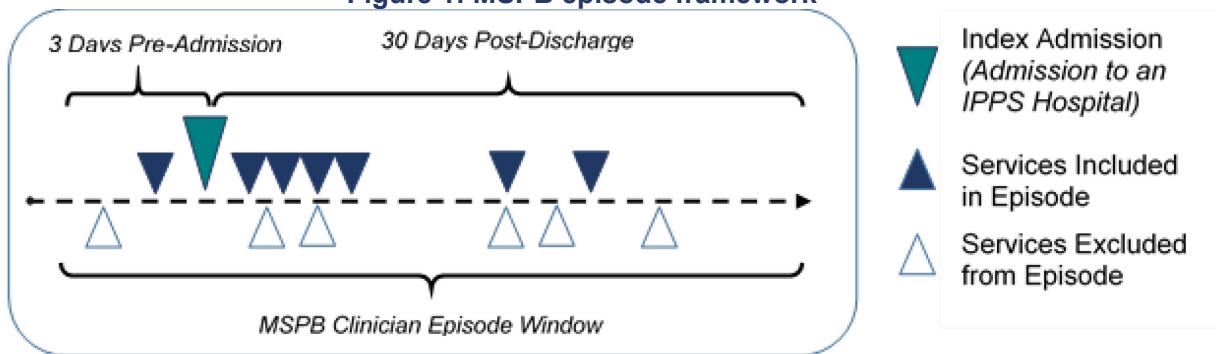
⁴ Claim payments are standardized to account for differences in Medicare payments for the same service(s) across Medicare providers. Payment standardized costs remove the effect of differences in Medicare payment among health care providers that are the result of differences in regional health care provider expenses measured by hospital wage indexes and geographic price cost indexes (GPCIs) or other payment adjustments such as those for teaching hospitals. For more information, please refer to the "CMS Price (Payment) Standardization - Basics" and "CMS Price (Payment) Standardization - Detailed Methods" documents posted on QualityNet: <http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic/Page/QnetTier4&cid=1228772057350>

2.0 Overview of Measure Methodology

There are two overarching processes in calculating MSPB clinician measure scores: episode construction (Steps 1-3) and measure calculation (Steps 4-6). This section provides a brief summary of these processes and Section 3.0 describes them in detail.

1. **Define the population of index admissions:** Episodes are opened, or triggered, by admission to an inpatient hospital. The episode window starts 3 days prior to this index admission and ends 30 days after discharge. Medicare Parts A and B claims concurrent to the episode window are considered for inclusion, and are refined as described in step 3.
2. **Attribute the episode to a clinician group:** Medical episodes are attributed to any clinician group rendering at least 30 percent of evaluation and management (E&M) services on Medicare Part B Physician/Supplier (PB) claims during the index admission and to any clinician who bills at least one E&M service in the attributed TIN's episode. Surgical episodes are attributed to the clinician and clinician group rendering any main procedure determined to be clinically relevant to the index admission.⁵
3. **Exclude unrelated services and calculate the episode observed cost:** Clinically unrelated services are removed from the episode. The costs of the remaining services are summed to obtain each episode's standardized observed cost.

Figure 1: MSPB episode framework



4. **Exclude episodes:** Exclusions remove a small, unique group of patients from cost measure calculation in cases where it may be impractical and unfair to compare the costs of caring for these patients to the costs of caring for the cohort at large.
5. **Calculate expected episode cost through risk adjustment:** Risk adjustment aims to isolate variation in clinician costs to only costs clinicians can reasonably influence (e.g., accounting for beneficiary age, comorbidities, and other factors). A regression model is applied to the risk adjustment variables to estimate the expected cost of each episode. Then, statistical techniques are applied to reduce the effect of extreme outliers on measure scores.
6. **Calculate the measure score:** For each episode, the ratio of standardized observed cost (from step 3) to risk-adjusted expected cost (from step 5) is calculated and averaged across all of a clinician or clinician group's attributed episodes to obtain the average episode cost ratio. The average episode cost ratio is multiplied by the national average observed episode cost to generate a dollar figure for the cost measure score.

⁵ In the current MIPS MSPB measure, attribution is applied at the TIN-NPI level to the clinician billing the plurality of PB claims, and costs for all services occurring during the episode window are included. For more detail about differences between the current and re-evaluated measures, please see Appendix A.

3.0 Detailed Measure Calculation Methodology

Construction of MSPB clinician measure episodes is divided into three steps: identifying index admissions, attributing episodes to clinicians, and calculating observed episode cost. Once measure episodes are constructed, measure calculation involves creating comparable costs across episodes by excluding certain episodes and estimating expected costs for the patient population based on patient comorbidities and other risk factors. The following sections describe the process of calculating the MSPB clinician measure scores in more detail. For a measure calculation example, please see Appendix C.

3.1 Define and Trigger Episodes

Episodes are opened, or triggered, by admissions to inpatient hospitals. The episode window is defined as the 3 days prior to this index admission to 30 days after the hospital discharge. There is a 90-day lookback period before the episode start date. This period is used to check beneficiary enrollment information for episode exclusions and beneficiary pre-existing health characteristics used for risk adjustment.

3.2 Attribute Episodes to Clinicians

Attribution is the process of determining which clinician groups are responsible for an episode. There are different methods of attribution depending on whether the Medicare Severity Diagnosis-Related Group (MS-DRG) is medical or surgical, with some exceptions.

As part of MSPB clinician measure re-evaluation, two alternative attribution methods for medical and surgical MS-DRG episodes were proposed for evaluation in the October 2018 field testing. Specifically, stakeholders expressed support for attributing medical MS-DRG episodes to any clinician group that is responsible for managing the medical condition, and for attributing surgical MS-DRG episodes to the surgeon(s) performing the main procedure of an episode.

- For episodes in which the index admission has a medical MS-DRG, the episode is attributed to the TIN that bills at least 30 percent of E&M codes found on PB claims during the inpatient stay.
- For episodes in which the index admission has a surgical MS-DRG, the episode is attributed to the surgeon(s) who performed any related surgical procedure during the inpatient stay. The full list of Current Procedural Terminology / Healthcare Common Procedure Coding System (CPT/HCPCS) codes determined as related to each surgical MS-DRG can be found in the MSPB clinician Draft Measure Codes List file.⁶

Although attribution is done at the TIN level, the MSPB clinician measure can be reported at both the TIN and TIN-NPI levels. For TIN-NPI level reporting, each TIN-NPI inherits all of the TIN's attributed episodes in which the TIN-NPI billed at least one claim. Specifically, episodes with medical MS-DRGs are attributed to any TIN-NPI that billed at least one E&M claim that was used to determine the TIN's attribution. Episodes with surgical MS-DRGs are attributed to any TIN-NPI that billed the relevant CPT/HCPCS code that was used to determine the TIN's attribution.

3.3 Exclude Clinically Unrelated Services to Calculate Observed Episode Cost

Medicare Part A and Part B services during the episode window are considered for inclusion toward the episode, with exceptions for services that are unlikely to be influenced by the clinician's care decisions. Clinically unrelated services are excluded based on service exclusion

⁶ For diagrams illustrating examples of attribution for medical and surgical episodes, please refer to Appendix B.

rules developed by the MSPB Service Refinement Workgroup. The service exclusion rules are defined specific to the Major Diagnostic Category (MDC) of the index admission. The service exclusion codes and logic for services deemed clinically unrelated can be found in the “SE_[General/Post]_Service_Category” tabs of the Draft Measure Codes List file.

3.4 Exclude Episodes

Before measure calculation can occur, a series of episode exclusions are applied to remove certain episodes from measure score calculation. Episodes are excluded from the MSPB clinician measure if they meet any of the following conditions:

- The beneficiary was not continuously enrolled in both Medicare Parts A and B from 90 days before episode start date through 30 days after discharge.
- The beneficiary’s death occurred during the episode.
- The beneficiary is enrolled in a Medicare Advantage plan or Medicare is the secondary payer at any time during the episode window or 90-day lookback period.
- The index admission for the episode did not occur in neither a subsection (d) hospital paid under the Inpatient Prospective Payment System (IPPS) nor in an acute hospital in Maryland.⁷
- The discharge of the index admission occurred in the last 30 days of the measurement period.
- The index admission for the episode is involved in an acute-to-acute hospital transfer (i.e., the admission ends in a hospital transfer or begins because of a hospital transfer).
- The index admission inpatient claim indicates a \$0 actual payment or a \$0 standardized payment.

After applying the exclusions outlined above, all remaining episodes are included in the calculation of the MSPB clinician measure score.

3.5 Calculate Expected Episode Costs Through Risk Adjustment

Risk adjustment is used to estimate expected episode costs in recognition of the different levels of care beneficiaries may require due to comorbidities, disability, age, and other risk factors. A separate risk adjustment model is estimated for episodes within each MDC, which is determined by the MS-DRG of the index admission. This model includes variables from the CMS Hierarchical Condition Category Version 22 (CMS-HCC V22) 2016 Risk Adjustment Model⁸ and other standard risk adjusters to capture beneficiary characteristics.

Further detail about the MSPB clinician risk adjustment model is provided below:

- The model includes 12 age categorical variables
- Severity of illness is measured using the MS-DRG of the index hospitalization, an indicator for any prior acute hospital admission, and 79 HCC indicators with information derived from the beneficiary’s claims.

⁷ Subsection (d), which covers hospitals in the 50 states and D.C., does not include psychiatric hospitals, rehabilitation hospitals, hospitals whose inpatients are predominantly under 18 years old, hospitals whose average inpatient length of stay exceeds 25 days, and hospitals involved extensively in treatment for or research on cancer.

⁸ CMS uses an HCC risk adjustment model to calculate risk scores. The HCC model ranks diagnoses into categories that represent conditions with similar cost patterns. Higher categories represent higher predicted healthcare costs, resulting in higher risk scores. There are over 9,500 ICD-10-CM codes that map to one or more of the 79 HCC codes included in the CMS-HCC V22 model.

- The model includes status indicator variables for whether the beneficiary qualifies for Medicare through disability or age, End-Stage Renal Disease (ESRD), and whether the beneficiary is receiving long-term care.
- In addition, the model accounts for interactions between particular variables. Interaction terms are included because the presence of certain patient characteristics can increase expected cost in a greater way than predicted by the indicators alone.
- Patient characteristics are identified using Medicare Parts A and B claims that end in the 90-day lookback period from the episode start date.

Before determining measure scores, the episodes within each MDC are put through a statistical transformation called winsorization to reduce the impact of extreme cost values on the group average.⁹ This involves setting the expected cost of all episodes below the 0.5th percentile equal to the expected cost of the 0.5th percentile. All episodes are then “renormalized”¹⁰ by multiplying their winsorized expected cost by the ratio of the average expected cost within the MDC and the average winsorized expected cost within the MDC.

After winsorization, a “residual” value is created for each episode, by calculating the difference between the observed episode cost and the renormalized, winsorized expected cost for each episode. Episodes with residuals above the 99th percentile or below the 1st percentile are excluded from the calculation of the measure. All episodes are then renormalized by multiplying their cost by the ratio of the average observed episode cost and the average winsorized expected cost excluding outliers.

3.6 Calculate Measure Scores

The MSPB clinician measure is calculated for each clinician (TIN-NPI) or clinician group practice (TIN) by (i) calculating the ratio of standardized observed episode costs to winsorized expected episode costs and (ii) multiplying the average cost ratio across episodes for each TIN or TIN-NPI by the national average standardized episode cost. This method of cost ratio calculation allows for comparison of differences in observed and expected costs at the level of each individual episode before comparison at the clinician or clinician group level.

Step 1: Calculate risk-adjusted episode cost ratio

For each non-outlier episode, the episode’s total standardized cost is divided by the episode’s total expected cost.

Step 2: Calculate the MSPB clinician measure for each TIN

After calculating each episode’s risk-adjusted cost ratio, the cost ratios for all episodes are averaged for each TIN or TIN-NPI. Multiplying this average cost ratio by the national average episode cost (all total standardized costs averaged over the universe of attributed, non-outlier episodes) gives the MSPB measure for each TIN or TIN-NPI. Multiplication of the ratio by national average cost per episode is done to convert the ratio into a figure that is more meaningful from a cost perspective by having the clinician’s average cost measure score represented as a dollar amount rather than a ratio.

Figure 2 below displays a formula representing how the measure score for any attributed clinician (or clinician group practice) “j” can be represented mathematically.

⁹ Winsorization aims to limit the effects of extreme values on expected costs. Winsorization of the lower end of the distribution (i.e., bottom coding) involves setting extremely low predicted values below a predetermined limit to be equal to that predetermined limit.

¹⁰ Renormalization is performed after adjustments are made to the episode’s expected cost, such as bottom-coding or residual outlier exclusion. This process multiplies the adjusted values by a scalar ratio to ensure that the resulting average is equal to the average of the original value.

Figure 2. MSPB Clinician Measure Score Formula

$$Measure\ Score_j = \left(\frac{1}{n_j} \sum_{i \in \{I_j\}} \frac{Y_{ij}}{\hat{Y}_{ij}} \right) \left(\frac{1}{n} \sum_{i \in \{I\}} Y_i \right)$$

where:

Y_{ij}	is the standardized payment for episode i and attributed clinician (or clinician group practice) j
\hat{Y}_{ij}	is the expected standardized payment for episode i and clinician (or clinician group practice) j , as predicted from risk adjustment
n_j	is the number of episodes for clinician (or clinician group practice) j
n	is the total number of episodes nationally
$i \in \{I_j\}$	is all episodes i in the set of episodes attributed to clinician (or clinician group practice) j
$i \in \{I\}$	is all episodes i in the set of episodes nationally

A lower measure score indicates that the observed episode costs are lower than or similar to expected costs for the care provided for the particular patients and episodes included in the calculation, whereas a higher measure score indicates that the observed episode costs are higher than expected for the care provided for the particular patients and episodes included in the calculation.

Appendix A. Summary of Refinements to the MSPB Clinician Measure

This section summarizes differences between the current MSPB used in MIPS and the re-evaluated MSPB clinician measures. The re-evaluated measure differs from the MIPS measure in two broad ways. First, the attribution method involves a new way to attribute medical episodes at the TIN level instead of the TIN-NPI level and to attribute surgical episodes at the TIN-NPI level. Second, service assignment involves the removal of certain services identified by expert stakeholder input to account for the more limited yet focused sphere of influence for clinicians as opposed to hospitals. Table A-1 below summarizes the refinements to the MSPB clinician measure.

Table A - 1. Refinements to the MSPB Clinician Measure

Refinement	MSPB measure currently in use for MIPS	Re-evaluated MSPB clinician measure
Attribution	Attributed first at the clinician (TIN-NPI) level	Attributed first at the clinician group (TIN) level
	Attributed each episode to the clinician billing the plurality of costs for Medicare Part B services rendered during an index admission	Separate attribution methods for medical and surgical episodes: <ul style="list-style-type: none"> - <u>Medical episodes</u>: Attribute medical episodes to any clinician group that is responsible for managing the medical condition - <u>Surgical episodes</u>: Attribute surgical episodes to the surgeon performing the main procedure of an episode
Service Assignment	All-cost measure that included all Medicare Parts A and B claims paid during the period from three days prior to the index admission through 30 days after discharge	Unrelated services excluded specific to groups of DRGs aggregated by MDC level Examples include: <ul style="list-style-type: none"> - No orthopedic procedures for episodes triggered by DRG under Disorders of Gastrointestinal System (MDC 06 and MDC 07) - No valvular procedures for episodes triggered by DRG under Disorders of the Pulmonary System (MDC 04) - No hospice costs

Appendix B. Illustrations of Attribution for Medical and Surgical MS-DRG Episodes

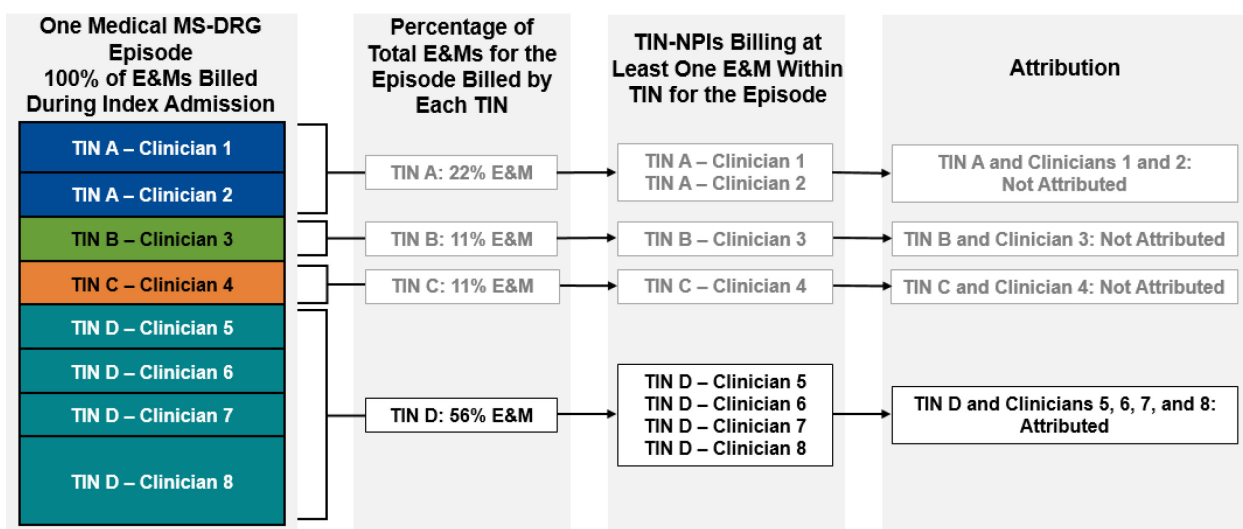
This appendix provides some further details and examples of attribution for episodes with medical and surgical MS-DRGs.

Medical MS-DRG Episode Attribution

An episode with a medical MS-DRG is attributed to a:

- TIN if that TIN billed at least 30 percent of the E&M claims billed during the inpatient stay, and to a
- TIN-NPI if a clinician within an attributed TIN billed at least one E&M claim that was used to determine the episode's attribution to the TIN.

Figure B - 1. Diagram of E&Ms Billed within a Medical MS-DRG Episode



In the example shown above, the stacked, colored boxes on the left represent E&M claims billed by eight different clinicians (Clinicians 1 through 8) across four TINs (TINs A through D) during the index admission for one medical MS-DRG episode. Clinicians 1 through 7 billed one E&M claim, and Clinician 8 billed two E&M claims under TIN D. The next set of boxes to the right of the colored boxes shows the percentage of total E&Ms for that index admission billed by each of the four TINs. Moving right, the next set of boxes lists the clinicians within each of the four TINs who had billed at least one E&M during the index admission. Finally, the last set of boxes shows a summary of how this affects attribution.

Only TIN D billed at least 30 percent of the E&M codes during the index admission. This means:

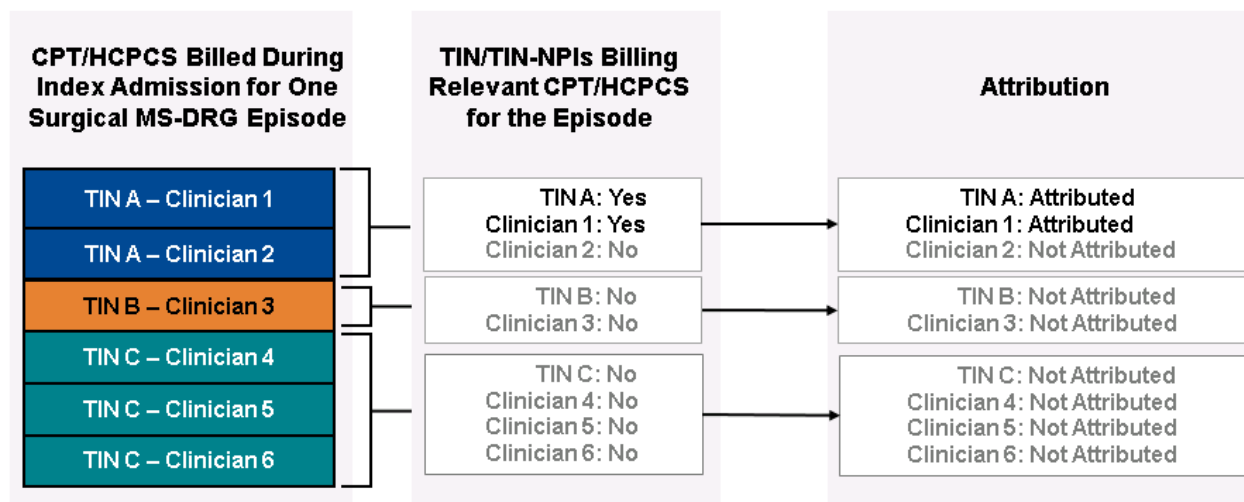
- At the TIN level, only TIN D is attributed this episode.
 - TINs A, B, and C did not meet the 30 percent threshold, so they are not attributed this episode.
- At the TIN-NPI level, each TIN-NPI (Clinicians 5, 6, 7, and 8) billing at least one E&M claim within TIN D is attributed this episode.
 - TINs A, B, and C did not meet the 30 percent threshold, so the TIN-NPIs billing within them are not attributed this episode.

Surgical MS-DRG Episode Attribution

An episode with a surgical MS-DRG is attributed to a:

- TIN if that TIN billed the relevant CPT/HCPCS code determined as related to the surgical MS-DRG, and to a
- TIN-NPI if that clinician billed the relevant CPT/HCPCS code determined as related to the surgical MS-DRG.

Figure B - 2. Diagram of CPT/HCPCS Billed within a Surgical MS-DRG Episode



In the example shown above, the stacked, colored boxes on the left represent CPT/HCPCS codes billed by six different clinicians (Clinicians 1 through 6) across three TINs (TINs A through C) during the index admission for one surgical MS-DRG episode. The next set of boxes to the right of the colored boxes shows whether each TIN/TIN-NPI billed a relevant or a non-relevant CPT/HCPCS code to the episode's surgical MS-DRG. Finally, the last set of boxes shows a summary of how this affects attribution.

Only TIN A billed the relevant CPT/HCPCS to the episode's surgical MS-DRG during the index admission. This means that only TIN A is attributed this episode. TINs B and C did not bill any relevant CPT/HCPCS, so they are not attributed this episode. At the TIN-NPI level, only Clinician 1, who billed the relevant CPT/HCPCS code within TIN A, is attributed this episode. Clinicians 2 through 6 did not bill any relevant CPT/HCPCS codes, so they are not attributed this episode.

Appendix C. Example of MSPB Clinician Measure Score Calculation

1. Calculate the observed cost of each episode by summing all payment-standardized Medicare claims payments during the episode window and excluding a defined list of services.
2. Calculate the expected cost of each episode using the risk adjustment model.
3. Divide each episode's observed standardized cost by the expected cost to obtain the episode cost ratio for each episode.
 - If the observed cost ratio is greater than 1, this indicates that the episode's observed cost was greater than expected. A ratio less than 1 indicates that the observed cost was less than expected.
 - For example, if an episode's observed cost is \$7,000 and the episode's expected cost is \$5,000, then the ratio will be $\$7,000/\$5,000 = 1.4$, which would indicate that the episode cost is greater than expected.
 - If an episode's observed cost is \$5,000 and the episode's expected cost is \$7,000, then the ratio will be $\$5,000/\$7,000 = 0.71$, which would indicate that the episode cost is less than expected.
4. Exclude outliers to mitigate the impact of extremely high- or low-cost episodes on the total measure score. Average the episode cost ratio across all episodes attributed to the clinician or clinician group.
5. Multiply the average episode cost ratio obtained in step (4) by the standardized national average episode cost to obtain the measure score.
 - This step is done to convert the average ratio into a figure that is more meaningful from a cost perspective by having the average cost measure score represented as a dollar amount rather than a ratio without any units.
 - Multiplying by the national average observed episode spending yields a measure score that is similar in scale to the amount a given episode might actually cost. Choosing to multiply by a different dollar constant would not affect clinicians' rankings on the measure, but the national average cost is used for ease of interpretation.

Appendix D. TEP and MSPB Service Assignment Workgroup

Acumen gathered stakeholder feedback as part of the measure re-evaluation process. A technical expert panel (TEP) provided high-level guidance for the overall project and considered stakeholder feedback received through public comment to recommend refinements to the MSPB measures at two meetings in August 2017 and May 2018.¹¹ The TEP consists of 19 members representing a diverse range of perspectives, including clinicians, healthcare providers, academia, and patient advocacy organizations. The TEP recommended the creation of a targeted MSPB Service Assignment Workgroup to provide detailed clinical input on service assignment rules. The MSPB Service Assignment Workgroup comprises 25 clinicians representing a wide range of types of clinicians who may be attributed the re-evaluated MSPB clinician measure.

The MSPB Service Assignment workgroup attended two webinars in the summer of 2018 to develop the service exclusion list. After these webinars, Acumen shared the MSPB workgroup's service exclusion list with the TEP, along with updates on proposed attribution changes that the TEP members had recommended at the in-person meeting in May 2018.

Table D-1 below lists the members of the MSPB Service Assignment Workgroup along with their specialty, city, and state.

Table D - 1. Composition of the MSPB Service Assignment Workgroup

Name and Credentials	Specialty	City, State
Dr. Adolph Yates, MD	Orthopedic Surgery	Pittsburgh, PA
Dr. Clemens Schirmer, MD, PhD, FAANS, FACS, FAHA	Neurosurgery	Wilkes-Barre, PA
Dr. Dheeraj Mahajan, MD, FACP, CIC, CMD, CHCQM	Internal Medicine	Chicago, IL
Dr. Jennifer Bracey, MD	Internal Medicine	Charleston, SC
Dr. Steve Sentovich, MD, MBA	Colorectal Surgery	Pasadena, CA
Dr. Marc Raphaelson, MD	Neurology	Upperville, VA
Dr. Evan Lipsitz, MD, MBA	Vascular Surgery	Bronx, NY
Dr. Carol Koscheski, MD, FACG	Gastroenterology	Charlotte, NC
Dr. Richard Dutton, MD, MBA	Anesthesiology	Dallas, TX
Dr. Kathleen Blake, MD, MPH	Cardiac Electrophysiology	Washington, D.C.
Dr. Anupam Jena, MD, PhD	Internal Medicine	Boston, MA
Dr. Alec Koo, MD	Urology	Hermosa Beach, CA
Dr. Sanjay Samy, MD	Cardiac Surgery	Albany, NY
Dr. Juana Hutchinson-Colas, MD	Obstetrics & Gynecology	Teaneck, NJ
Dr. Naakesh Dewan, MD	Psychiatry	Palm Harbor, FL

¹¹ For more information on the TEP in-person meetings that were held in August 2017 and May 2018, please refer to the meeting summary reports available on the CMS Measures Management System website: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/MMS/TEP-Current-Panels.html>

Name and Credentials	Specialty	City, State
Dr. Jayme Lieberman, MD, MBA, FACS	General Surgery	Allentown, PA
Dr. Tracey Weisberg, MD	Medical Oncology	Portland, ME
Dr. William Borden, MD	Cardiology	Washington, DC
Dr. Anders Chen, MD, MHS	Internal Medicine	Seattle, WA
Dr. Nancy Greenwell, MD	Family Medicine	Anchorage, AK
Dr. Stephen Lahey, MD	Cardiac Surgery	Ipswich, MA
Dr. Terry "Lee" Mills, MD, MMM, CPE, FAAFP	Family Medicine	Tulsa, OK
Dr. Peter Ray, MD	Plastic and Reconstructive Surgery	Huntington, WV
Dr. Barbara Spivak, MD	Internal Medicine	Brighton, MA
Dr. Robert Lorenz, MD, MBA	Otolaryngology	Cleveland, OH