

Movement Disorders Workgroup Webinar Meeting Summary

MACRA Episode-Based Cost Measures: Clinician Expert Workgroups
Workgroup Webinar, June 27, 2023
July 2023

Contents

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|--|----------|
| Project Overview | 1 |
| Movement Disorders Workgroup Webinar, June 27, 2023 | 2 |
| 1. Overview | 2 |
| 2. Summary of Sessions and Discussion..... | 3 |
| 2.1 PFP Findings and Discussion | 3 |
| 2.2 Defining the Patient Cohort..... | 4 |
| 2.3 Accounting for Patient Heterogeneity | 5 |
| 2.4 Identifying Clinically Related Services | 7 |
| 2.5 Next Steps..... | 8 |
| Appendix A : Chronic Condition Cost Measure Framework | 9 |

Project Overview

The Centers for Medicare & Medicaid Services (CMS) has contracted with Acumen, LLC to develop episode-based cost measures for potential use in the Merit-based Incentive Payment System (MIPS) to meet the requirements of the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA). Acumen’s measure development approach involves convening clinician expert panels to provide input in cycles of development (“Waves”).¹ In Wave 6, we reviewed feedback from prior Waves; this includes input from public comment periods in which we sought input on candidate clinical areas and episode groups for potential development.² We developed prioritization criteria used to identify strong candidate episode groups and concepts based on input from our technical expert panel (TEP), Person and Family Engagement (PFE), Clinical Subcommittees (CS), and Clinician Expert Workgroups (“workgroups”). The following Wave 6 episode groups were selected for development based on the prioritization criteria, prior input received, and discussions with CMS: (i) Movement Disorders: Parkinson’s Disease, Multiple Sclerosis [MS], Amyotrophic Lateral Sclerosis [ALS], Huntington’s Disease, and (ii) Non-Pressure Ulcers.

We held a nomination period for workgroup members between May 15, 2023, and June 2, 2023. The workgroups are composed of clinicians with expertise directly relevant to the selected episode groups. We finalized workgroups of about 15-20 members in June 2023, and they provided detailed input on the development of the selected episode groups during their first workgroup webinars from June 27 to 28, 2023. For Wave 6, all workgroup meetings were held virtually. The workgroups will convene for a second and third meeting to continue measure

¹ For information on measure development in Wave 5, refer to the [Wave 5 Measure Development Process](https://www.cms.gov/files/document/2023-cmft-ebcm-process.pdf) (PDF, 735 KB) document (<https://www.cms.gov/files/document/2023-cmft-ebcm-process.pdf>).

² For a summary of comments we received during the Waves 4 and 5 public comment periods, refer to the [Wave 4 Measure Development Public Comment Summary Report](https://www.cms.gov/files/document/wave-4-public-comment-summary.pdf) (PDF, 840 KB) document (<https://www.cms.gov/files/document/wave-4-public-comment-summary.pdf>) and the [Wave 5 Measure Development Public Comment Summary Report](https://www.cms.gov/files/document/wave-5-public-comment-summary-report.pdf) (PDF, 693 KB) document (<https://www.cms.gov/files/document/wave-5-public-comment-summary-report.pdf>).

specification and refinement discussions before and after a national field test, which is currently slated for early 2024.

Movement Disorders Workgroup Webinar, June 27, 2023

This meeting summary document outlines the purpose, discussion, and recommendations from the Movement Disorders Workgroup Webinar. Section 1 provides an overview of the webinar goals and process. Section 2 summarizes the discussion and recommendations from the workgroup. Appendix A provides an overview of the chronic condition cost measure framework.

1. Overview

The goals of the Movement Disorders Workgroup Webinar were the following:

- (i) Provide input to specify a cost measure for potential use in MIPS that can accurately distinguish between good and poor performance among clinicians in terms of cost efficiency
- (ii) Consider results of empirical analyses and the Person and Family Partner (PFP) findings
- (iii) Provide input on how to define the patient cohort, account for sub-populations to ensure that the measure allows for meaningful clinical comparisons, and identify clinically related services

The meeting was held online via webinar and attended by 14 of the 15 workgroup members. The webinar was facilitated by Acumen moderator, Heather Litvinoff. The Movement Disorders workgroup chair was Chloe Slocum, who also facilitated meeting discussions. Two PFPs, Cherie Binns and Alan Coker, attended the webinar to discuss and address questions regarding the PFP findings. The Workgroup Composition List will contain the full list of members, including names, professional roles, employers, and clinical specialties; it will be posted on the QPP Cost Measure Information pages.³

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

Prior to the webinar, workgroup members were provided with information and materials to inform their meeting discussions. This includes the meeting agenda, slide deck, and a reference document with background on chronic condition measures, their framework, draft trigger codes, and information about the base risk adjustment model. Members also received a welcome packet containing the following information: (i) a schedule of Wave 6 activities, (ii) an overview of the PFP engagement strategy, (iii) resources describing episode-base cost measures, and (iv) a guide on project background and the development process. Also, workgroup members received the investigations described in Table 1 below.

³ The composition list will be posted on the Current Work page on the QPP Cost Measure Information pages: <https://www.cms.gov/medicare/quality-payment-program/cost-measures/current>.

Table 1: Workgroup Webinar Investigations

| Investigation | Description |
|---|---|
| Sub-Population Analysis | <ul style="list-style-type: none">• Provides data on the frequency and cost associated with a set of sub-populations informed by public comments received and deliberations among the Acumen clinical team• Useful for discussion regarding accounting for patient heterogeneity |
| Service Utilization over Time Analysis | <ul style="list-style-type: none">• Provides data on the top 200 most frequent services for each claim setting across episodes for the draft version of the measure along with various metrics regarding those services (e.g., share of episodes with that service, average cost of the service per episode, share of attributed clinicians who furnished the service)• Useful for discussion regarding identifying clinically relevant services |

After the webinar, workgroup members were sent a recording of the webinar and polled on their preferences to ensure the measures are developed based on well-documented input. Based on similar meeting discussion practices, the threshold for support was >60% consensus among poll responses. This document summarizes the workgroup members' input from both the discussion as well as the polls.

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

2. Summary of Sessions and Discussion

This section is organized based on meeting sessions and describes workgroup member discussions and recommendations. The first subsection summarizes the Person and Family Partner (PFP) findings discussed during the webinar. The remaining subsections describe workgroup member discussions and recommendations on defining the patient cohort, accounting for patient heterogeneity, and identifying clinically related services, respectively. The final subsection provides an overview of next steps for the measure development process.

2.1 PFP Findings and Discussion

We conducted focus groups with 4 PFPs to gather input that would inform cost measure development for Movement Disorders. During the webinar, 2 PFPs shared these findings and fielded questions from workgroup members.

PFPs reported lengthy periods for receiving an accurate multiple sclerosis (MS) diagnosis and described often experiencing difficulties finding the proper specialist to diagnose their condition. One PFP highlighted a period of more than 10 years to get a final diagnosis. Common symptoms prior to diagnosis included falling, muscle weakness, fatigue, and vision issues.

While neurologists were frequently seen as the primary responsible clinician, PFPs also reported receiving care from ophthalmologists, psychiatrists, urologists, physical/occupational therapists, speech and language pathologists, gastroenterologists, acupuncturists, massage therapists, orthopedists, chiropractors, and nutritionists.

PFPs disclosed high out-of-pocket costs for the management of movement disorders. Patients were often in need of services from clinicians not covered by insurance, such as massage therapists. Likewise, medications were pointed out as significant burdening factors. As Part D plans don't include patients in price negotiations, PFPs had to incur co-pays as high as 30% of the retail price of medications before the repricing. They highlighted the importance of reducing costs by providing maintenance care to avoid crisis care.

PFPs indicated holistic management as a key indicator of quality. They emphasized the importance of having clinicians account for differences in care based on whether a patient was stable or in the middle of an acute phase. PFPs also expressed the need for more care coordination among clinicians and better medication management as patients age and their needs shift.

2.2 Defining the Patient Cohort

Acumen reviewed the methodology for constructing an episode-based cost measure, including the steps for defining the patient cohort. Cost measures for chronic conditions aim to identify a longitudinal patient-clinician relationship (i.e., trigger an episode of care for that condition) using the presence of related service and diagnosis codes on claims billed by the same provider (as identified by their Tax Identification Number [TIN]). The workgroup discussed these categories of service and diagnosis codes in the context of what patient and clinician populations they would capture and to what degree they would reliably indicate an ongoing care relationship. The steps for defining the patient cohort are described in Steps 1-4 of Table A1 in [Appendix A](#). Acumen asked the workgroup to review the triggering methodology, as well as the draft services and diagnoses, to discuss how the draft specifications may be improved.

The following paragraphs summarize discussion of the draft measure specifications, appropriate target scope of the measure, and what service and diagnosis codes should be used to identify the target population.

In the draft Movement Disorders measure, episodes are triggered when the same TIN bills Medicare one trigger claim (billing for any outpatient evaluation) and one confirming claim (billing any trigger service, rehabilitative service, or infusion) within 180 days. Both of these claims must have at least one qualifying International Classification of Diseases, 10th Revision (ICD-10) diagnosis code to indicate that the patient is receiving movement disorder-related care. Medication-related confirming services are identified using Part B Physician/Supplier claims. Part D prescription drugs aren't included in the trigger logic, as not all beneficiaries are enrolled in Part D. Acumen asked the workgroup to review the triggering methodology, as well as these services and diagnoses, to discuss how the draft specifications may be improved.

The workgroup discussed which conditions could be included within the Movement Disorders measure. They initially went over alternative disorders to the ones included in the initial draft specifications (Parkinson's, MS, Amyotrophic Lateral Sclerosis [ALS], and Huntington's Disease), such as rare diseases. Acumen explained that while it's desirable to make the patient cohort as broad as possible, very unique and rare conditions should likely not be included to appropriately compare clinicians treating movement disorders. One member suggested using "other movement disorders" to encompass any additional disorders.

Members pointed out that ALS and MS aren't traditionally considered Movement Disorders, although patients with MS can develop tremors. Movement Disorders traditionally include Parkinson's Disease, Parkinson's Plus syndromes, Tremor, Dystonia, and occasionally Tourette's. As the debate around the accuracy of the term progressed, the workgroup suggested renaming the measure to "Neurodegenerative Disorders" or "Chronic Neurologic Diseases with Motor Influence" to better reflect this scope.

The workgroup also discussed the validity of grouping these different disorders together. Some of the members were skeptical about the validity of grouping Parkinson's (which comprises 75% of the current population) and MS (which comprises 25% of the population), as patients in each

condition present different needs and are diagnosed at different ages. Members suggested focusing on Parkinson's as proof of principle, as it represents more cases in a more homogenous population of patients. Other participants also identified ALS as the biggest outlier in the proposed set, as it's rapidly progressive and presents different care patterns, such as ventilation needs, tracheostomy, or assisted augmentative communication. To account for the aforementioned differences, Acumen confirmed that they can sub-group MS and Parkinson's, and potentially ALS and Huntington's.

Members recommended a number of clinically related diagnoses to identify services indicative of ongoing treatment and management of movement disorders. They suggested movement disorders post hypoxic brain injury, hypoxic-ischemic encephalopathy (HIE), traumatic brain injury (TBI), progressive supranuclear palsy (PSP), multiple system atrophy (MSA), corticobasal syndrome (CBS), dementia with Lewy bodies (DLB), dysphagia, dysarthria, dysphonia, postural instability, tremor, and neurologic gait dysfunction. Other members recommended caution in including rare Parkinson Plus syndromes such as PSP, MSA, or DLB, as costs are significantly higher, and these diseases are much more rapidly progressive.

The workgroup recommended including rehabilitation as a trigger service, as patients that present declining conditions in function are likely to seek a rehabilitation provider as an initial step in their care plan. On the other hand, the workgroup members discussed their overall concerns with identifying common triggering and confirming events, as outpatient evaluation and management (E&M) services often vary based on the type of care provider and condition. For instance, while neurologists are more likely to provide referrals to rehabilitation, Parkinson's patients only see neurologists in 30% of the cases.

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

- Members voted in favor of including Parkinson's, MS, ALS, and Huntington's in the cost measure.
- Members proposed renaming the measure. Recurring suggestions included titles related to neurodegenerative disorders, and the workgroup will revisit this at the next meeting.
- Members recommended adding rehabilitation services as triggering services.
- The workgroup expressed interest in adding drug infusions as confirming services. Alternatively, they recommended not including imaging as a confirming service, as it would likely produce more false than true positives.
- The workgroup would like to see data on the frequency of PSP, MSA, DLB, dystonia, corticobasal degeneration, and Tourette's for additional discussion at the next workgroup meeting.

2.3 Accounting for Patient Heterogeneity

Members engaged in a detailed discussion about how to account for patient heterogeneity among various sub-populations within the Movement Disorders episode group. Sub-populations refer to patient cohorts as defined by their preexisting conditions and other patient characteristics. Acumen described the methods for accounting for patient heterogeneity, and those are described in Table 2 below.

Table 2: Methods for Accounting for Patient Heterogeneity

| Method | Description |
|------------------------------------|---|
| Sub-Group | <ul style="list-style-type: none">• If applicable, we may stratify the patient population into mutually exclusive and exhaustive sub-groups to define more homogenous patient cohorts.• Sub-grouping is a method that's intended for when we would want to compare episodes only with other similar episodes within the same sub-group.• This approach is used when sub-groups are very different from one another, and each sub-group requires its own risk adjustment model.• Since each sub-group will have its own risk adjustment model, the size of each sub-group should be sufficiently large. |
| Risk Adjust | <ul style="list-style-type: none">• We may define covariates in the risk adjustment model for the measure.• Risk adjusting is a method to account for the case-mix of patients and other non-clinical characteristics that influence complexity. It's meant to be used for sub-populations that make up a large share of patients who have a characteristic that's outside of the attributed clinician's reasonable influence.• Risk-adjusted cost measures adjust observed episode spending to expected episode spending (predicted by a risk adjustment model). |
| Exclude | <ul style="list-style-type: none">• We may identify certain measure exclusions.• Excluding is a method in which we exclude certain patients or episodes to address issues with patient heterogeneity. This approach should be used when the sub-population affects a small, unique set of patients in which risk adjustment wouldn't be sufficient to account for their differences in expected cost. |
| Monitor for Further Testing | <ul style="list-style-type: none">• We may monitor certain sub-populations for further testing.• Monitoring for further testing is an option for flagging certain sub-populations that the workgroup may revisit later during measure development upon review of further data. This approach is best used when the workgroup requests additional data or information on a sub-population to discuss the appropriate method for meaningful clinical comparison. |

After Acumen provided a description of each method and presented analytic data on sub-populations, workgroup members discussed the patient sub-populations and their preferences for how to address them. Information about these methods are also described in Steps 3, 6, and 7 of Table A1 in [Appendix A](#).

The workgroup expressed overwhelming support for sub-grouping the conditions proposed under Movement Disorders to account for the different care patterns involved in the treatment of Parkinson's, MS, ALS, and Huntington's.

Workgroup members pointed out that disease staging and severity will have a large influence on cost and likely need to be accounted for in risk adjustment. Services provided at the initial stage of a condition, for instance, present different costs from services provided to patients at later stages. The members, thus, recommended the following risk adjusters: psychosis, dementia (with and without complications grouped together), wheelchair dependence, history of falling, fall from injury, Durable Medical Equipment [DME] as mobility indicators, swallowing, continence (bladder and bowel), spasticity, dysphasia, ventilation, joint contracture, impaired gait, gastrostomy, respiratory failure, frailty, pressure injuries, deep brain stimulators, living setting, dysarthria, dysphonia, and electromyography (EMG).

The workgroup also expressed a concern that cost measures would potentially disincentivize effective therapies with high upfront costs, such as surgical implants (e.g., deep brain stimulation, intrathecal pumps, or focused ultrasound). They recommended having these types of therapies excluded from the cost measure.

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

- The workgroup was in favor of sub-grouping the measure by disorder, such as by Parkinson's and MS. However, they didn't reach a consensus on including ALS and

Huntington's as sub-groups. As the workgroup voted in favor of including ALS and Huntington's in the measure, these disorders will be sub-grouped for testing purposes and revisited in the following workgroup meeting.

- Members recommended risk adjusting for psychosis, dementia, wheelchair dependence, fall history, fall from injury, bowel or bladder incontinence, mobility indicators, difficulty swallowing, cognitive status, tracheostomy, malnutrition, respiratory failure, spasticity, frailty, pressure injuries, dysarthria, dysphonia, deep brain stimulators, and living setting.
- Additional suggestions of risk-adjustors included social determinants of health, severe depression and/or anxiety, fall with injury, pain, ataxia, contractures, home health services, skilled nursing facility (SNF) stays, and inpatient rehabilitation facility (IRF) stays.
- The workgroup didn't reach a consensus on including sleep apnea as a risk adjustor, which will be monitored for future testing and consideration.

2.4 Identifying Clinically Related Services

Acumen described the purpose of service assignment so that members could discuss which services associated with the attributed clinician's role in managing the patient's care should be included in the cost measure. These assigned services should be inclusive enough to identify a measurable performance difference between clinicians but also not introduce excessive noise. Episode-based cost measures aim to only include clinically relevant costs whose occurrence, intensity, and/or frequency are within the reasonable influence of the attributed clinician. Service assignment can be an effective form of adjusting for patient risk by omitting unrelated costs not furnished for Movement Disorders. Information about identifying clinically related services is also described in Step 5 of Table A1 in [Appendix A](#).

Acumen asked for feedback on whether the following preliminary service assignment categories and examples capture both standard treatment and services provided to treat complications or other consequences of care:

- Routine provider visits (Physician office visit, telehealth)
- Rehab (Physical therapy [PT], occupational therapy [OT], speech therapy)
- Labs (Complete blood count, metabolic panel)
- Behavioral Health (Psychiatric care)
- Related Hospitalizations and Post-Acute Care (PAC) (Admissions for Parkinson's, MS)
- Imaging (magnetic resonance imaging [MRI], computed tomography [CT] scan)
- Home Health (Nursing, PT)
- Emergency Department (ED) Visits (Altered mental status, Parkinson's)
- Durable Medical Equipment (Wheelchair, cane)

The workgroup identified a diverse set of clinically related services, including pulmonology, respiratory therapy, exercise physiology, three-phase bone scans for evaluation of heterotopic ossification (HO), sleep-related studies, contractures, psychotherapy, psychiatric inpatient stays, gastrostomy, tracheostomy (specifically for ALS), nutritionists, hospitalizations for seizures, hospitalizations for transaminitis, falls, videofluoroscopic, video swallow (and other imaging), OT, PT, aspiration pneumonia, swallow studies, sepsis, pressure injuries, ambulatory surgical treatments, high-cost drugs/infusions, speech-language pathology, home health, and hospice.

Members identified a few complications that could indicate differences in cost performance, such as joint contractors, aspiration pneumonia, and seizures as a side effect of baclofen withdrawal for spasticity management.

There was also vocal support for including Part D drugs due to the wide-ranging use of expensive medications to treat movement disorders. A few suggestions included midodrine and sodium tablets used in Orthostatic issues for Parkinson's patients.

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

- Members were in favor of including Part D clinically-related medications due to the wide-ranging use of expensive medications to treat movement disorders.
- Members recommended a number of clinically related services, such as routine provider visits, rehab (PT, OT, speech therapy), labs, behavioral health, related hospitalizations and post-acute care, imaging, home health, related ED visits, durable medical equipment (DME), pulmonary services, respiratory therapy, sleep-related studies, contractures, psychotherapy, psychiatric inpatient admissions, gastrostomy, tracheostomy, nutrition services, fall-related care, swallow studies, and infusions.
- The workgroup didn't reach a consensus on including transaminitis, sepsis, and ambulatory surgical treatments as clinically related services, which will be monitored for the workgroup's consideration in future meetings.

2.5 Next Steps

In the last session, Acumen provided an overview of the next steps. After the meeting, Acumen distributed the Workgroup Webinar Poll to gather input from members on the discussions held during the webinar. In this poll, we also asked workgroup members for their availability for the second webinar in October 2023. Acumen will operationalize input for the measure specifications based on workgroup webinar discussion and poll results and will follow-up with workgroup members with more information about the next steps in the measure development process.

APPENDIX A: CHRONIC CONDITION COST MEASURE FRAMEWORK

The table below provides an overview of the chronic condition episode-based cost measure framework.

Table A1. Chronic Condition Cost Measure Framework

| Step | Description |
|--|--|
| Step 1: Trigger – Identify a Clinician Patient Relationship | <ul style="list-style-type: none"> • Trigger logic looks for a pair of services billed by the same clinician group (identified by their Taxpayer Identification Number [TIN]) to identify a clinician-patient relationship. The time period between the 2 services that constitute a trigger event is referred to as the 'trigger window' and reflects how often the clinician group sees the patient. • A trigger event consists of (i) a trigger claim, and (ii) a confirming claim. <ul style="list-style-type: none"> ○ A trigger claim is an outpatient evaluation and management (E&M) code with a relevant diagnosis ○ A confirming claim is either another outpatient E&M code with a relevant diagnosis, or a condition-related Current Procedural Terminology/Healthcare Common Procedure Coding System (CPT/HCPCS) code with a relevant diagnosis |
| Step 2: Reaffirm – Identify the Total Length of Care | <ul style="list-style-type: none"> • Once a clinician-patient relationship is identified, this starts a period of time when the TIN is measured on related costs (i.e., 'attribution window'). • The attribution can be extended if we continue to see that the TIN is providing care for the patient for this condition (as identified by 'reaffirming claims'). The same trigger and confirming codes are typically used to reaffirm the clinician-patient relationship. |
| Step 3: Define an Episode During Which Cost will be Assessed | <ul style="list-style-type: none"> • An 'episode' is a segment of care that allows clinicians to be assessed in a measurement (or performance) period. • An episode window length is one year at a minimum. Episodes are assessed in the measurement period in which they end and only include days not previously measured in preceding measurement periods. <ul style="list-style-type: none"> ○ The episode window length may vary depending on the length of the total relationship between a patient and clinician group ('total attribution window'), and the data that hasn't been assessed in preceding measurement periods. ○ Clinicians or clinician groups are measured on a patient at the end of the calendar year if there are 365 days' worth of claims data that hasn't previously been assessed or when the total attribution window ends, ensuring costs are only assessed once. • Once an episode window is defined, if applicable, the episode is placed into one of the episode sub-groups to enable meaningful clinical comparisons. |
| Step 4: Attribute the Episode to the Clinician Group and Clinician(s) | <ul style="list-style-type: none"> • Attribute episode to the TIN that billed the trigger services (trigger claim and confirming claim) for the 'total attribution window.' • Attribute episode to the clinicians [identified by their TIN-National Provider Identifier (TIN-NPI)] within the attributed TIN that played a substantial role in the patient's care: <ul style="list-style-type: none"> ○ Billed at least 30% of outpatient E&M codes with a relevant diagnosis and/or condition-related CPT/HCPCS codes with a relevant diagnosis • The clinician (identified by their unique TIN and National Provider Identifier combination, or TIN-NPI) must also meet particular requirements to ensure that no costs are assigned to the attributed TIN-NPI prior to seeing the patient and that we're attributing episodes to clinicians who manage a patient's chronic care. The TIN-NPI must have: <ul style="list-style-type: none"> ○ <u>Check #1</u>: Provided condition-related care to the patient prior to or on the episode start date (to ensure that clinicians are attributed episodes after they met the patient) ○ <u>Check #2</u>: Prescribed at least 2 condition-related medications to 2 different patients during the current plus prior performance period (to ensure that attributed clinicians are actually involved in providing ongoing chronic care management) <ul style="list-style-type: none"> ▪ This check is only used in measures where the use of prescriptions is informative about the nature of care that the clinician provides. When some of the types of clinicians that manage the condition don't always prescribe the relevant medication (e.g., clinicians that can't prescribe), a chronic condition cost measure wouldn't use this check. |

| Step | Description |
|---|--|
| Step 5: Assign the Cost of Clinically Related Services | <ul style="list-style-type: none"> Measures include only the costs for clinically related services, rather than all costs within the episode. Clinically related services include treatment, monitoring, complications, and other services where the attributed clinician has reasonable influence on occurrence, frequency, and/or intensity. Costs are payment standardized to remove variation due to geographic region or provider-specific adjustments. These are identified through medical service codes and diagnosis codes. The measure calculates the cost of these specific services observed during the episode window. |
| Step 6: Apply Measure Exclusions | <ul style="list-style-type: none"> Exclusions remove unique groups of patients or episodes from cost measure calculation in cases where it may be impractical or unfair to compare the costs of caring for these patients to the costs of caring for the cohort at large. |
| Step 7: Risk-Adjust Episode Cost | <ul style="list-style-type: none"> Risk adjustment predicts the expected cost of an episode by adjusting for factors outside of the clinician's control. The risk adjustment model includes many variables the workgroup will discuss throughout development. As a starting point, we assess the following: (i) Hierarchical Condition Categories (HCCs) from the CMS-HCC Version 24 (V24) Risk Adjustment Model, which includes 86 HCCs, (ii) age variables, (iii) indicator variables, and (iv) interaction variables. In addition, each measure may have tailored risk adjustors for factors specific to the condition. If the cost measure has episode sub-groups, the risk adjustment model is run separately for each sub-group. |
| Step 8: Calculate the Measure Score | <ul style="list-style-type: none"> The measure is calculated as the ratio of the observed cost (standardized to remove geographic and other differences) to the expected cost, averaged across all episodes attributed to the provider. Longer episodes are weighted more heavily than shorter ones to ensure fair comparisons; a scaled approach is used to calculate observed and expected costs. The average ratio of observed-to-expected costs per provider is then translated into a dollar amount as the provider's measure score. |

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