Low Back Pain Workgroup Meeting Summary

MACRA Episode-Based Cost Measures: Clinician Expert Workgroups
Workgroup Webinar, June 23, 2021
June 2021

Contents

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 4, instead of the typical Clinical Subcommittee (CS) process for episode group prioritization and selection, we obtained stakeholder input on candidate clinical areas and episode groups through a public comment period from December 16, 2020, to February 5, 2021.[2] This approach provided flexibility for a wider range of stakeholders to participate around their schedule. This approach will be revisited for future Waves of development. The prioritization criteria used to identify strong candidate episode groups and concepts were developed based on input from our technical expert panel (TEP), Person and Family Engagement (PFE), CS, and Clinician Expert Workgroups ("workgroups"). The following Wave 4 episode groups were finalized based on the prioritization criteria, public comments received, and discussions with CMS: (i) Emergency Medicine, (ii) Heart Failure, (iii) Low Back Pain, and (iv) Major Depressive Disorder.

We held a nomination period for workgroup members between April 26, 2021, and May 21, 2021. The workgroups are composed of clinicians with expertise directly relevant to the selected episode groups. Workgroups (of about 15-20 members) were finalized in June 2021, and they provided detailed input on the development of the selected episode groups during their first workgroup webinars from June 21 to June 24, 2021. For Wave 4, all workgroup meetings will be

[1] For information on measure development in Wave 3, refer to the 2020 Episode-Based Cost Measures Field Testing Wave 3 Measure Development Process document [PDF] (https://www.cms.gov/files/document/macra-cmft-ebcm-process-2020.pdf).
[2] For a summary of comments we received during the public comment period, refer to the MACRA Episode-Based Cost Measures: Wave 4 Measure Development Public Comment Summary Report document [PDF] (https://www.cms.gov/files/document/wave-4-public-comment-summary.pdf).

held virtually. The workgroups will convene for a second and third meeting to continue measure specification and refinement discussions before and after a national field test, currently slated for late 2021.

Low Back Pain Workgroup Webinar, June 23, 2021

This meeting summary document outlines the purpose, discussion, and recommendations from the Low Back Pain workgroup webinar. Section 1 provides an overview of the webinar goals and process. Section 2 summarizes the discussion and recommendations from the workgroup. Section 3 is an appendix that describes the materials and information provided to workgroup members prior to and during the webinar as preparation for discussion on detailed measure specifications.

1. Overview

The goals of the Low Back Pain workgroup webinar on June 23, 2021, 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 episode group trigger codes, trigger and attribution windows, how to account for patient sub-populations to ensure that the measure allows for meaningful clinical comparisons, and categories of services to assign to the episode group

The meeting was held via webinar and attended by all 21 of the workgroup members. The webinar was facilitated by an Acumen moderator, Dr. Walter Park. The Low Back Pain workgroup chair was Dr. Dheeraj Mahajan, who also facilitated meeting discussions. Karen Fernandes was the PFP who attended the webinar to discuss and address questions regarding the PFP findings. The MACRA Episode-Based Cost Measure Workgroup Composition List will contain the full list of members, including names, professional roles, employers, and clinical specialties; it will be posted on the MACRA Feedback Page.[3]

Stakeholders 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 (see Section 3). After the webinar, workgroup members were sent a recording of the webinar and were polled on their preferences to ensure the measures are developed based on well-documented stakeholder input. Based on National Quality Forum practices, the threshold for support was greater than 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.

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

2. Summary of Sessions and Discussion

This section is organized based on meeting sessions and describes workgroup member discussions and recommendations. The first sub-section summarizes the PFP findings discussed during the first session of the webinar (Section 2.1). The following sub-sections describe workgroup member discussions and recommendations on defining the episode group (Section 2.2), addressing sub-populations of interest for meaningful clinical comparison (Section 2.3), and assigning services to the episode group (Section 2.4), respectively. Section 2.5 describes the next steps.

2.1 Person and Family Partner (PFP) Findings and Discussion

The attending PFP presented findings from focus groups and interviews with 3 PFPs conducted prior to the meeting. PFPs provided feedback about the initial diagnosis, the healthcare team and services furnished, and opportunities to improve care for managing the condition.

The PFPs described their low back pain as beginning many years ago, often with experiences of sciatica. They described the onset of this acute pain (e.g., sciatica) as the point at which many sought treatment for their low back pain, with some PFPs reporting that their condition was initially misdiagnosed by their care team. Some PFPs attributed their low back pain to physical labor jobs or the presence of multiple chronic conditions (including environmentally caused conditions, such as cancer resulting from parental exposure to Diethylstilbestrol [DES]).

PFPs received care from a wide range of clinicians, including primary care physicians, physical therapists, chiropractors, physiatrists, surgeons, and various pain specialists. They identified physical therapy as the primary effective treatment for acute episodes of low back pain but also noted limited positive experiences with injections and the use of imaging for routine diagnostics and monitoring (e.g., monitoring the aneurysm-constricting blood flow to the lower back). PFPs also noted receiving acupuncture and chiropractic services but found these treatments to be less effective. Some PFPs expressed a preference to avoid the use of certain drugs for treatment (e.g., opioids, marijuana, non-steroidal anti-inflammatory drugs [NSAIDs]).

Overall, PFPs noted opportunities to improve care coordination, patient communication, and more. PFPs emphasized the importance of clear and frequent communication of treatment progress with the patient as well as the implementation of a quality care plan that enables timely access to physical therapy. One PFP noted coordination between members of their care team (e.g., their physical therapist would send the physiatrist assessments to get services renewed), but the care plan wasn't consistently communicated with the patient. Finally, some PFPs described monitoring their Medicare use and rationing physical therapy sessions to avoid hitting the Medicare coverage cap, which they noted as a significant point of concern and stress.

The workgroup considered these findings and conditions during subsequent sessions of the meeting. Specifically, the workgroup discussed the creation of an environmentally-caused low back pain patient sub-population to monitor for additional testing. PFP experiences with the risks and costs of various treatment options (e.g., the high cost of surgeries and imaging, relative to physical therapy) also informed preliminary discussion about which services to include in the measure to maximize the measure’s opportunity for care improvement.

2.2 Defining the Episode Group

In this session, Acumen reviewed the framework for defining an episode group and provided an overview of the draft set of trigger codes and windows under consideration for the Low Back Pain measure. The goals were to discuss and identify:

- Which combinations of codes and services indicate the start of a care relationship for the outpatient management of low back pain
- The appropriate length of time to allow between these initial services (i.e., the trigger window)
- The appropriate length of measurement for the low back pain care between a patient and clinician (i.e., the attribution window)

As a starting point for this discussion, Acumen outlined the motivation for developing the Low Back Pain measure. Acumen noted that a TEP suggested the development of a low back pain cost measure to fill the measurement gap for the large cohort of physical therapists and chiropractors who currently lack applicable cost measures under MIPS. Relevant literature also indicates that low back pain is both highly prevalent among Medicare patients and extremely costly, resulting in an estimated $80 to $90 billion in total annual expenditures.[4] The Low Back Pain measure offers opportunities to improve the cost efficiency and quality of care, including opportunities to reduce wasteful treatment (e.g., imaging in absence of clinical "red flags") and minimize downstream complications through early conservative care (e.g., physical therapy).

Acumen then outlined the existing framework for the chronic condition measures developed during Wave 3 (i.e., Diabetes and Asthma / Chronic Obstructive Pulmonary Disorder [COPD] measures) and highlighted potential modifications for the Low Back Pain measure. Under the existing chronic condition framework, episodes are triggered when an attributed clinician group (identified by their Tax Identification Number [TIN]) bills 2 claims with particular Current Procedural Terminology / Healthcare Common Procedure Coding System (CPT/HCPCS) codes[5] within a defined period of time. Both of these claims must have an International Classification of Diseases, 10th revision (ICD-10) diagnosis code indicating low back pain. As an example of a potential modification to this framework, Acumen noted that the trigger and attribution windows may need to be shortened to capture both acute and chronic forms of low back pain. This could be done in alignment with definitions from the National Institutes of Health (NIH)[6], which defines chronic low back pain as continuing for 12 weeks or longer, and acute pain as lasting from a few days to a few weeks.

Acumen presented results from an analysis on the draft trigger and attribution methodology. This analysis provided statistics on frequency of trigger and confirming services billed with a relevant low back pain diagnosis, the distribution of days between each of these types of services, and the relative prevalence of clinician specialties billing these services.

After the presentation, workgroup members discussed trigger codes, as well as trigger and attribution windows, to recommend for development. Sections 2.2.1, 2.2.2, and 2.2.3 provide a

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[4] Martin BI, Deyo RA, Mirza SK, Turner JA, Comstock BA, Hollingworth W, Sullivan SD. Expenditures and health status among adults with back and neck problems.
JAMA. 2008 Feb 13 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3423501/

[5] These CPT/HCPCS codes include the following: (i) On a trigger claim, an outpatient evaluation and management (E&M) code that includes clinician visits in the outpatient setting, clinician's office, nursing facility, or assisted living facility that are intended to identify primary care, and (ii) On a confirming claim, either another outpatient E&M code or a condition-related CPT/HCPCS code related to the treatment of low back pain.

[6] National Institute of Neurological Disorders and Stroke, National Institutes of Health, Low Back Pain Fact Sheet (March 2020)
https://www.ninds.nih.gov/Disorders/Patient-Caregiver-Education/Fact-Sheets/Low-Back-Pain-Fact-Sheet

summary of the discussions and recommendations of trigger codes, trigger window, and attribution window, respectively.

2.2.1 Discussion of Trigger Codes

The workgroup discussed different types of CPT/HCPCS codes that could be used to trigger or confirm an episode and thus indicate the start of a care relationship for low back pain. For trigger codes, these include outpatient evaluation and management (E&M) codes, therapy evaluation visits, and chiropractic and osteopathic spinal manipulation services. For confirming codes, these also include spinal injections, neurostimulators, imaging (e.g., magnetic resonance imaging [MRI]), and additional therapeutic services (e.g., modalities, exercises). They also discussed the roles played by different specialties, including physical therapists, chiropractors, and primary care clinicians.

Workgroup members generally agreed with the list of CPT/HCPCS codes as indicative of the start of treatment for low back pain, and agreed that the codes would help capture various clinicians involved in care (e.g., physical therapists, chiropractors, physiatrists and other clinicians playing a key role in low back pain care).

During the meeting, the workgroup raised the following points about specific types of codes:

- **Osteopathic manipulation codes (98925-98929):** The workgroup discussed removing these codes as trigger services because osteopaths bill E&M codes at the start of treatment (i.e., prior to performing any manipulative treatment). However, since these osteopathic E&M codes aren't billed to Medicare, they can't be used in the cost measure methodology. Thus, Acumen would need to continue to include the manipulation codes to be able to identify the start of that patient-clinician relationship.
- **Non-spine chiropractic treatment code (98943):** Since this code represents treatment for areas other than the spine, the workgroup recommended removing this code from the list of trigger and confirming services.
- **Telehealth visits (98966-98969, 99441-99452):** The workgroup supported the use of telehealth service codes as trigger codes, particularly given the rise in telehealth during and potentially after the COVID-19 pandemic.

After the meeting, Acumen solicited additional input from workgroup members on the overall set of trigger codes, as well as the specific code discussions listed above. Acumen also asked the workgroup to provide input on the status of 2 types of codes as trigger and/or confirming services:

- **Therapy services:** These codes are currently only used as confirming services, while therapy evaluation codes (97161-97168) are used as both trigger and confirming services. The trigger analysis presented to the workgroup showed that there's likely a very high degree of overlap between patients identified by therapy evaluation and therapy service code pairs and those identified by pairs of therapy service codes, given the expected course of care and the observed gap between all types of therapy codes. However, there could be up to 100,000 more patients identified through 2 therapy service claims than a therapy evaluation followed by therapy service. Adding therapy services as trigger claims would also align the trigger methodology between therapists, chiropractors, and osteopaths by allowing 2 treatment services to serve as the start of the relationship. Given these considerations, Acumen asked the workgroup whether these therapy service codes should be added to the list of trigger services.

- **Outpatient E&M codes:** These codes are currently included as both trigger and confirming services. The trigger analysis shows that the combination of trigger claims with confirming outpatient E&M codes have larger gaps than other combinations with other services (i.e., 2 outpatient E&M codes have a mean of 70 days between them). Acumen asked the workgroup for help interpreting these results and presented 2 potential scenarios: (i) A TIN that sees a patient twice and doesn't furnish any other service related to low back pain treatment or management is unlikely to have started a care relationship for low back pain, or (ii) A TIN that sees a patient twice without furnishing other services related to low back pain is likely caring for a low acuity patient with well-managed low back pain. If scenario (i) is more likely, it could be appropriate to remove outpatient E&M codes to reduce the likelihood of picking up false positives. If scenario (ii) is more likely, it would be appropriate to continue to include outpatient E&M codes as confirming claims to ensure that the measure includes healthier patients. Considering these results and scenarios, Acumen asked the workgroup whether these outpatient E&M codes should be removed as confirming services (i.e., only included as trigger services).

Key Takeaways from Discussion and/or Polls for Trigger Codes:

- Members agreed with the overall set of trigger and confirming claims as indicative of the start of care for low back pain.
- The workgroup agreed to remove the non-spinal chiropractic treatment code (98943) from the list of codes used for triggering and confirming.
- Members recommended expanding the list of trigger code services to include additional therapy services.
- The workgroup recommended keeping outpatient E&M codes as both trigger and confirming service codes.

2.2.2 Discussion of Trigger Window

The workgroup discussed the draft 60-day trigger window, which Acumen selected for testing for several reasons. Primarily, during the public comment period, stakeholders suggested that a period shorter than 180 days (the length of the trigger window under the existing chronic condition measure framework) would be more appropriate for the Low Back Pain measure. One stakeholder in particular referred the Acumen team to a study conducted by the Private Practice Section of the American Physical Therapy Association (APTA) on the role of physical therapy in low back pain care, which used a 60-day period. Furthermore, relevant literature suggests that patients may not be able to schedule a physical therapy appointment until 4 to 6 weeks after visiting their primary care clinician.

The workgroup considered analysis results showing the distribution (i.e., mean and percentiles) of days between trigger and confirming services. These results indicated that, with the exception of outpatient E&M services (which occur less frequently than the other services), 95% of trigger and confirming services occur within a 60-day window. In discussion of these results and other considerations (e.g., the APTA study, clinical experience), the workgroup generally agreed that 60 days would be an appropriate length for the trigger window, given the high proportion of trigger and confirming services occurring within this period of time.

Key Takeaways from Discussion and/or Polls for Trigger Window:

- Members recommended 60 days as an appropriate length for the trigger window.
    - However, a few members recommended a 90-day trigger window to capture a larger share of trigger events (i.e., the remaining 5% of services in the analysis) and lower acuity patients.

2.2.3 Discussion of Attribution Window

The workgroup also discussed different lengths for the attribution window, with some support for both 90 and 120 days. Some members noted that a course of treatment may finish more quickly than 120 days, particularly in cases where physical therapy is the most prevalent form of treatment. Other members noted that 120 days may be more appropriate to capture other non-therapeutic services that could occur during the last 30 days of this window. In response to these points, the Acumen team clarified that in cases where the clinician is providing efficient care during a shorter time period, it would be important to implement a longer attribution window to ensure that the measure can appropriately capture and distinguish these cases from those with higher costs over a longer period.

Key Takeaways from Discussion and/or Polls for Defining the Episode Group:

- Members recommended 120 days as an appropriate length for the attribution window.
    - However, a couple of members recommended a 180-day window to ensure that the measure can appropriately distinguish between efficient and inefficient care and align with a potential 90-day trigger window.

2.3 Addressing Patient Sub-Populations for Meaningful Clinical Comparison

Members also engaged in a detailed discussion about how to account for patient cohort heterogeneity among various sub-populations within the Low Back Pain episode group. Sub-populations refer to patient cohorts as defined by their pre-existing conditions and characteristics. Workgroup members discussed: (i) Stratifying the patient population into mutually exclusive and exhaustive sub-groups to define more homogenous patient cohorts,[7] (ii) Defining covariates in the risk adjustment model,[8] (iii) Identifying measure exclusions,[9] and (iv) Monitoring certain sub-populations for further testing.[10]

After Acumen provided a description of each method and presented analytic data on preliminary sub-populations (recommended or identified either through the literature scan, public comment, or Acumen clinical team), workgroup members discussed the patient sub-populations and their preferences for how to address them. The workgroup's discussions were focused on 2 broad sub-populations: Patients with a history of surgery and patients with various spinal disorders. Sections 2.3.1 and 2.3.2 summarize the workgroup discussions and recommendations regarding these sub-populations, respectively, while Section 2.3.3 summarizes the discussions and recommendations surrounding other sub-populations of interest.

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[7] 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.

[8] 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 is outside of the attributed clinician's reasonable influence. Risk-adjusted cost measures adjust observed episode spending to an expected episode spending (predicted by a risk adjustment model).

[9] 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.

[10] 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.

2.3.1 Patients with a History of Surgery

The workgroup reviewed preliminary analytic data for a sub-population of patients with a history of low back pain surgery, defined by having a surgery with a relevant ICD-10 diagnosis code during the year prior to the episode start date. This definition identified a history of low back pain surgery among 2% of the broader patient population, who had a higher average risk-adjusted cost ($3,881) compared with the broader population ($2,250). Considering these data, some members proposed excluding or sub-grouping this sub-population to address the apparent heterogeneity of this patient cohort.

The workgroup also discussed the need to look further back beyond one year for spine surgeries to adequately identify this sub-population. Based on this feedback, Acumen will test this sub-population using a longer lookback window (e.g., 2 or 3 years). However, given the data limitations with implementing a lookback window of more than a few years, Acumen solicited additional input from the workgroup on other methods to identify this sub-population beyond the evidence of surgery itself (e.g., using diagnoses as proxies for surgical history).

Key Takeaways from Discussion and/or Polls for Patients with a History of Surgery:

- Members generally noted that there's no reliable alternative method for identifying patients with surgical histories.
- However, a few members proposed using certain conditions or services as proxies for surgical histories:
    - Post-laminectomy syndrome (identified by ICD-10 diagnosis code, M96.1)
    - Injections (which commonly precede surgeries)
    - High frequency of falls (resulting from back surgeries)
    - Pseudo-arthritis

2.3.2 Patients with Spinal Disorders

Workgroup members also discussed the need to account for complex cases of low back pain, such as patients with spinal disorders. These disorders included relatively rare conditions like cauda equina syndrome, as well as various spinal deformities (e.g., scoliosis) and infections (e.g., discitis). Members largely suggested excluding these sub-populations to address their increased complexity.

In response to this discussion and in consideration of the workgroup interest in alternative methods to account for patients with surgical complexities, Acumen proposed constructing a larger sub-population of patients with spinal disorders as an indicator of severe low back pain warranting surgical treatment. This larger sub-population could also include other sub-populations proposed by the workgroup during the meeting (e.g., neurologic injuries, such as patients with radiculopathy and myelopathies), beyond the initial list included in the analysis. Acumen solicited additional input from the workgroup on the creation and further testing of this broad sub-population of patients with the following spinal disorders:

- Thoracic and lumbosacral root disorders
- Cauda equine syndrome
- Spondylolisthesis
- Fusion of spine
- Other spondylosis with myelopathy
- Other spondylosis with radiculopathy
- Spinal stenosis

- Collapsed vertebra
- Intervertebral disc disorders with myelopathy
- Intervertebral disc disorders with radiculopathy
- Spinal instabilities
- Radiculopathy
- Injury of nerve root of lumbar spine
- Neurogenic claudication
- Scoliosis

Key Takeaways from Discussion and/or Polls for Patients with Spinal Disorders:

- Some members agreed with this list of spinal disorders as indicative of severe low back pain treated with surgery.
- Some members recommended removing the following disorders from this list:
    - Collapsed vertebra
    - Spinal stenosis
    - Radiculopathy
    - Spondylolisthesis
    - Scoliosis
    - Trauma
    - Cauda equina
    - Myelopathy
- Some members recommended adding the following disorders to this list:
    - Spondylosis without myelopathy or radiculopathy
    - Degenerative disc disease
    - Myalgia of the back
    - Dorsalgia
    - Osteomyelitis-discitis
    - Metastatic disease

2.3.3 Other Sub-Populations of Interest

The workgroup also discussed other patient cohorts where further testing data would be useful. One member recommended exploring sub-populations of patients with mental disorders such as bipolar disorder and schizophrenia, while another proposed sub-populations of patients with tumors and other forms of cancer for additional testing. The attending PFP suggested evaluating a sub-population of patients with environmentally caused conditions, such as cancer caused by DES exposure. Acumen noted that some of these sub-populations proposed by the workgroup may already be accounted for by the standard risk-adjustment model (e.g., Hierarchical Condition Category [HCC] 57: Schizophrenia; HCC 58: Major Depressive, Bipolar, and Paranoid Disorders; HCC 10: Lymphoma and Other Cancers) but will investigate further to determine the need to consider these separate sub-populations for further testing. Acumen solicited additional input from the workgroup on whether there are other sub-populations that should be considered for testing.

Key Takeaways from Discussion and/or Polls for Addressing Sub-Populations for Meaningful Clinical Comparison:

- The workgroup recommended classifying the existing sub-populations (i.e., those presented to the workgroup with data during the webinar) as follows:
    - Exclusions:
        - Spinal infections (Pott disease, discitis)
    - Risk adjustors:

        - Smoking
        - Osteoporosis
    - Sub-populations that didn't reach consensus will undergo further testing and will be discussed by the workgroup later on during measure development

2.4 Assigning Services to the Episode Group

Prior to the meeting, workgroup members participated in a survey that asked them to provide preliminary input on the types of services to assign for the Low Back Pain episode group. This input was intended to serve as the starting point for discussion during this session. During the meeting, Acumen asked members to provide additional input on services to assign for the measure. Members suggested adding various services to the measure, including behavioral health services, medications (e.g., opioids, steroids, NSAIDs), hospitalizations, massage services, and adaptive durable medical equipment (DME). Acumen clarified that workgroup members will be able to expand on this list of preliminary services during the next meeting.

Key Takeaways from Discussion and/or Polls for Assigning Services to the Episode Group:

- Members recommended including the following services:
    - Behavioral health services
    - Medications
    - Related hospitalizations and Emergency Department (ED) visits
    - Massage services
    - Adaptive DME

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. The survey also consisted of open comment boxes to provide additional thoughts on topics for PFP input and a space to share additional comments. Acumen will operationalize input for the measure specifications based on Workgroup Webinar Poll results and follow up with workgroup members with more information about the next steps in the measure development process (i.e., scheduling for the Service Assignment and Refinement Webinars in late August / early September 2021).

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

3.1 Introduction

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

3.2 Overview of Meeting Materials

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

- Agenda and Slide Deck, which was sent prior to the meeting and outlined the topics and process used for the webinar, including embedded empirical analysis results
- A Welcome Packet of materials providing an overview of Wave 4 of cost measure development and information on the measure frameworks
- Investigation workbook sent prior to the meeting, which presented detailed findings from empirical analyses:
    - A Sub-Population Analysis Workbook, which provided data on the frequency and cost associated with a preliminary set of sub-populations informed by public comments received and deliberations among the Acumen clinical team

The materials shared were based on analyses run on draft measure specifications that the Acumen clinical team created based on input from the Wave 4 measure development public comments and discussions with CMS.

3.3 Overview of Cost Measure Development

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

- The activities done to date for the development of episode-based cost measures, including the Wave 4 measure development public comment period
- The goals of the meeting and timeline of activities for Wave 4
- A recap of the Quality Payment Program and episode-based cost measures for MIPS
- A recap on the different sources of information for the workgroup to consider in addition to their clinical expertise, including analyses and data, a literature review, and findings from the PFPs