Diabetes Workgroup Meeting Summary

MACRA Episode-Based Cost Measures: Measure-Specific Workgroups
In-Person Workgroup Meeting, August 15, 2019

September 2019

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 (MACRA) of 2015. Acumen's measure development approach involves convening clinician expert panels to provide input in cycles of development ("waves").[1] The four Clinical Subcommittees (CS) that convened in May-June 2019 for Wave 3 were focused on the following clinical areas: Chronic Condition and Disease Management; Dermatologic Disease Management; General and Colorectal Surgery; and Hospital Medicine.[2] These CS provided input on selecting episode groups for development in Wave 3 and the composition of smaller, targeted workgroups to build out the measure. Acumen convened the following workgroups[3] (each composed of approximately 15 members) in mid-August 2019 for in-person meetings: Diabetes, Asthma/Chronic Obstructive Pulmonary Disease (COPD), Melanoma Resection, Sepsis, and Colon Resection.

Diabetes Workgroup Meeting, August 15, 2019

This meeting summary document outlines the purpose, discussion, and recommendations from the Diabetes workgroup in-person meeting. Section 1 provides an overview of the meeting goals and process. Section 2 summarizes the discussion and recommendations from the workgroup.

[1] For information on measure development in Waves 1 and 2 (2017 and 2018), refer to the Episode-Based Cost Measure Field Testing Measure Development Process document (https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/2018-measure-development-process.pdf)

[2] Members for these Clinical Subcommittees were recruited through a public nomination period from March 11 to April 12, 2019.

[3] Members for these workgroups were recruited from within the CS as well as a standing pool of nominees between June and July, 2019.

Section 3 is an appendix that describes the materials and information provided to workgroup members prior to and at the beginning of the meeting as preparation for discussion on detailed measure specifications.

1. Overview

The goals of the Diabetes workgroup meeting were to provide detailed recommendations on the following:

(i) Trigger algorithm and the specific trigger codes that would be used to identify the start of a chronic care management relationship between a patient and a clinician;
(ii) Attribution methodology at the individual clinician level;
(iii) Length of the attribution window, which is a time period that begins with the start of patient-clinician relationship and marks the period when a clinician can be reasonably held accountable for the care provided to the patient;
(iv) Sub-groups, variables to include in the risk adjustment model, and measure exclusion criteria;
(v) Services that are associated with the clinician's role in managing the chronic condition and that should be included in the cost measure.

The meeting was held in Washington, DC, and attended by 18 of 19 workgroup members (11 attended in person and 7 via webinar). The meeting was facilitated by an Acumen moderator, Suzann Pershing, and an Acumen Technical Lead, Sam Bounds, as well as a workgroup chair and one of the two CS co-chairs. The Diabetes workgroup chair was Terry Lee Mills, and the Chronic Conditions and Disease Management CS co-chair present was Dheeraj Mahajan. The MACRA Episode-Based Cost Measure Workgroup Composition List contains the full list of members, including names, professional roles, employers, and clinical specialties.[4]

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 meeting, workgroup members were provided with information and materials to inform their meeting discussions (see Section 3). During and after the meeting, workgroup members were polled on their preferences, to ensure the measures are developed based on well-documented stakeholder input. Mirroring National Quality Forum practices, the threshold for recommendations was >60% consensus. 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 an initial step of the measure development process to gather expert clinical input; as such, these are preliminary discussions and materials, which do not represent any final decisions about the measure specifications or MIPS.

[4]For a list of Diabetes workgroup members in Wave 3, please download the MACRA Episode-Based Cost Measures Measure-Specific Workgroup Composition (Membership) List available on the MACRA Feedback Page (https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/2019-workgroup-comp-list.pdf)

2. Summary of Discussion

This section is organized based on meeting sessions and describes workgroup member discussions and recommendations on each topic: defining the episode group and trigger codes, addressing patient cohort sub-populations to ensure meaningful clinical comparison, and assigning clinically-related services to the episode group.

2.1 Defining the Episode Group

In this session, Acumen reviewed the framework for defining an episode group and provided an overview of trigger and attribution algorithms. The goal was to identify what combination of information on administrative claims should indicate the start of a patient-clinician relationship. The same combination of information also identifies the clinician(s) providing the ongoing chronic care management to a patient. A patient would then be attributed to that clinician, and the clinician would be held accountable for the costs of that chronic care.

After Acumen provided a brief presentation regarding helpful claim information and methods for triggering an event, workgroup members discussed and voted on what trigger algorithms, trigger codes, and reaffirming algorithms to recommend for development. Sections 2.1.1 to 2.1.3 provide a summary of the discussion of trigger algorithm, trigger codes, and reaffirming algorithm, respectively. Section 2.1.4 provides a summary of the discussion on attributing the measure to an individual clinician (as identified by a unique Medicare Taxpayer Identification Number and National Provider Identifier pair [TIN-NPI]).

2.1.1 Discussion of Trigger Algorithm

The workgroup favored a trigger algorithm that could capture a broad patient population with a high count of patients per clinician or clinician group. Several members indicated that the clinical heterogeneity introduced by a broader trigger algorithm could be further addressed through sub-groups, risk adjustment, and exclusions. Members also emphasized that being more inclusive in the trigger algorithm was necessary to ensure a more varied case mix, as well as to mitigate the effect that a small number of noncompliant or extremely costly patients could have on a clinician's measure score.

The workgroup caveated that if a more inclusive trigger algorithm is used, it would need to ensure that the attributed clinician is responsible for managing the patient's diabetes care (e.g., to avoid cases where a primary care clinician could potentially be attributed the measure even though the patient's diabetes management was being performed by an endocrinologist). Members discussed the possibility of using healthcare provider taxonomy codes to determine clinician specialties, to ensure that only appropriate specialists were being attributed. Some members noted that primary care clinicians often manage diabetes as well, in addition to specialists. Acumen indicated that taxonomy codes on file for clinicians are often not updated after their initial application for an NPI, and can become dated for those who go onto specialize later in their career. However, other methods can be used to identify clinician specialties, for example, by using billing patterns.

Members discussed the need to apply a high case minimum (the minimum number of attributed patients a clinician or clinician group must have in order to receive the measure) to protect clinicians from the effects of very costly outlier patients. Acumen provided additional information on the application of case minimum, which would be continually tested and determined after

evaluating the trade-off between clinician coverage and the measure reliability for the fully-specified measure.

Members agreed with the types of claims suggested for triggering (a combination of 'Primary Care' Evaluation and Management (E&M) codes with a chronic diagnosis and chronic Current Procedural Terminology / Healthcare Common Procedure Coding System [CPT/HCPCS] codes). They considered a few combinations of these codes presented by Acumen, and favored combinations that captured broad clinician and patient populations. In addition to considering the draft methods, members briefly considered alternative combinations, including using just two CPT/HCPCS on separate claims, provided that one of the two claims was associated with an ICD-10 diagnosis code for diabetes.

Finally, members also discussed the length of the *trigger window*, which is the maximum allowable time between the initial trigger claim and the confirming claim that will identify a chronic patient and the managing clinician(s). There was some concern that a 90-day trigger window would skew the measure toward capturing sicker patients (usually seen every 30-60 days) and miss healthier patients (usually seen every 180 days). Members weighed the tradeoffs of wanting to ensure that the measure captures both sicker and healthier patients, and agreed that a trigger window of 180 days is more appropriate and suitable for chronic care.

Key Takeaways from Discussion and/or Polls for Trigger Algorithms

- The workgroup voted for a broad trigger algorithm with a 180-day trigger window.
- The workgroup chose the following trigger algorithm: An initial 'Primary Care' E&M code with a chronic diagnosis and either another 'Primary Care' E&M code with a chronic diagnosis or a chronic CPT/HCPCS code.
    - Note: Later in the meeting, the workgroup members voted to slightly modify this algorithm by requiring a chronic diagnosis also be present with any chronic CPT/HCPCS code used, see section 2.1.2.

2.1.2 Discussion of Trigger Codes

Workgroup members were in favor of a broader and more inclusive list of trigger codes. The workgroup emphasized the importance of correctly attributing the measure to clinicians who are managing diabetes care, and that selectivity in the choice of trigger codes could help narrow the scope of attributed specialists. The list of preliminary trigger codes presented during the meeting consisted of:

- 'Primary Care' E&M codes, which are a specific subset of E&M codes for physician visits in the outpatient, physician office, nursing facility, or assisted living intended to identify primary care
- ICD-10 diagnoses codes, which indicate the presence of a chronic disease, and
- CPT/HCPCS service codes, which are procedure codes related to the treatment of a chronic condition.

Members did briefly discuss additional code types that could be used as a trigger event. For example, the members discussed whether an initial E&M claim followed by a referral to a specialist who commonly provides diabetic care, such as an ophthalmologist or a nephrologist, could be used as a confirming claim for a trigger event. However, the group ultimately wanted to keep trigger codes within the three types listed above.

'*Primary Care' E&M* trigger codes
Workgroup members reviewed 'Primary Care' E&M trigger codes across five care settings (office visit, nursing facility, assisted living, home visit, and transitional care). On the whole, the members did not suggest making substantive changes to the draft list of codes. They did, however, discuss adding telehealth E&M codes as triggers, emphasizing the importance of telehealth services in rural communities. In addition, the members suggested excluding transitional care management codes since many members felt that diabetes may not be the healthcare priority at the time of care transition.

ICD-10 diagnoses codes
Workgroup members reviewed the initial list of ICD-10 diagnoses codes and discussed removing codes for drug/chemical-induced diabetes due to the clinical heterogeneity it introduces, the small population it covers, and because some cases of drug/chemical-induced diabetes are reversible with the cessation of the medication.

CPT/HCPCS trigger codes
The workgroup discussed several topics related to CPT/HCPCS trigger codes. The workgroup noted that CPT/HCPCS codes should also be paired with a diagnosis code for diabetes, in the same manner as 'Primary Care' E&M trigger codes are paired with a diabetes diagnosis codes in the original trigger algorithm.

When reviewing the preliminary list of CPT/HCPCS codes, members discussed and agreed to remove the service code for cerebrospinal fluid (CSF) albumin testing as it is unrelated to diabetes management. They also discussed whether to remove codes for diabetic foot exams, as they agreed that while these codes are important services to be assigned to the measure, they may not be reasonable to use as trigger events. The members did, however, recommend adding specific codes for medical nutrition therapy, because these are the only codes Medicare reimburses for nutrition therapy for diabetics.

Lastly, there was discussion on adding Medicare Part D codes to the list of trigger codes, and to potentially identify a clinician's specialty using the types of medications they prescribe. Acumen noted that only 75 percent of the Medicare patients who are enrolled in Part A and Part B (but not Part C) also have Part D coverage. As such, Part D data could be used in a trigger algorithm supplementally, but a comprehensive method using exclusively Part B data would still be needed to account for patients who are not enrolled in Part D.

<u>Key Takeaways from Discussion and/or Polls for Initial Diabetes Trigger Codes</u>

- Overall, the workgroup favored a broad list of trigger codes.
- They agreed to add a diagnosis check for all CPT/HCPCS codes used in the trigger algorithm.
- They agreed to add telehealth E&M codes[5] and medical nutritional therapy CPT/HCPCS codes (97802-97804).
- Members also agreed to remove transitional care E&M codes (99495, 99496) and the CSF albumin CPT/HCPCS code (82042).

[5] Telehealth codes include the following CPT/HCPCS codes: 98966 – 98968, 99441 – 99443, 98969, 99444, 99446–99449, 99451, 99452.

- Other than these revisions, the workgroup approved of all other preliminary trigger codes.

2.1.3 Discussion of Reaffirming Algorithm

When discussing the optimal reaffirming algorithm, the algorithm to define the services that reaffirm or extend an attributed clinician's management of the patient's care, members favored using a less strict algorithm as compared to the initial trigger algorithm. They felt that once a care relationship was established, either one 'Primary Care' E&M or CPT/HCPCS code would be sufficient to extend the attribution window.

As they discussed further, the members considered patient care transitions for patients who are either noncompliant or move frequently between clinicians. For example, two members highlighted that patients who frequently relocate (i.e., the "snowbird" effect) and therefore receive treatment in different geographical areas, would present challenges in identifying which clinicians should be reasonably held responsible for managing the diabetes over time and as the attribution window extends. The workgroup discussed events that would indicate the end of a patient-clinician relationship or a significant change in the disease that would terminate the attribution window (e.g., trigger events billed by a different clinician, or a procedure such as bariatric surgery). Acumen noted that the team would consider these suggestions as measure development continues.

Key Takeaways from Discussion and/or Polls for the Reaffirming Algorithm

- The workgroup agreed to use a single claim to reaffirm and extend an existing attribution window.
- The workgroup agreed that the reaffirming claim could be either a "Primary Care' E&M code with a diabetes diagnosis or a CPT/HCPCS code with a diabetes diagnosis**.**

2.1.4 Discussion of TIN-NPI Attribution Methodology:

Workgroup members provided input on which TIN-NPI attribution algorithm options Acumen should take into consideration during the measure development process. The workgroup noted the importance of selectivity in the types of clinician specialties attributed, given the recommendation for a broad trigger algorithm. The workgroup briefly discussed the possibility of using a TIN-NPI attribution method based on the plurality of cost of service. However, the members mostly favored a method based on the plurality of the number of services as opposed to cost, because many high-cost procedures are performed by specialists (such as ophthalmologists) who provide services to diabetic patients but are not managing the patient's diabetes. Throughout the discussion, several members also indicated that the attribution algorithm based on the plurality of trigger events ensures that the attributed clinician is most involved in the management of diabetes, even in practices using advanced team-based care.

The workgroup also discussed the pros and cons of attributing any TIN-NPI within the TIN billing greater than or equal to 30 percent of the patient's triggering E&M codes (with the chronic condition diagnosis). Members who supported the method noted that it would attribute multiple clinicians who have a significant role in a patient's care in a team-based setting. Members who did not support the method expressed concerns with the possibility of unintended consequences.

2.2 Addressing Patient Sub-Populations for Meaningful Clinical Comparison

Members also engaged in detailed discussion about how to account for various sub-populations within the Diabetes episode group. Sub-populations refer to patient cohorts as defined by their pre-existing conditions and characteristics. Addressing these patient cohorts ensures meaningful clinical comparisons, including (i) stratifying into mutually exclusive, exhaustive sub-groups to define more homogeneous patient cohorts (Section 2.2.1), (ii) defining covariates in the risk adjustment model (Section 2.2.2), (iii) identifying measure exclusions (Section 2.2.3), and (iv) monitoring for future consideration (Section 2.2.4).

After Acumen provided a description of each method and presented analytic data on suggested patient cohorts, workgroup members discussed their preferences for how to address each patient cohort.

2.2.1 Sub-Groups

The workgroup was strongly in favor of creating sub-groups for Type 1 and Type 2 diabetes, due to differences in clinical route, cost, and clinician specialty types managing the disease. Members indicated that endocrinologists tend to be more involved in the care of patients with Type 1 diabetes, whereas patients with Type 2 diabetes tend to be managed by primary care physicians. While discussing these sub-groups, the workgroup discussed the challenges associated with differentiating Type 1 and Type 2 diabetes from claims data, due to a large number of Type 1 patients who had been dual-coded as Type 2 patients. Ultimately, the workgroup agreed that dual-coded diabetic patients should be separated via a claims-based algorithm as Type 1 or Type 2, if possible. The members suggested excluding patients who could not be classified as Type 1 or Type 2 by the algorithm.

The workgroup discussed the potential of subgrouping patients with multiple complications, End-Stage Renal Disease (ESRD) patients on hemodialysis in particular, but felt it would be a challenge because many adults have a number of moderate complications. In addition, Acumen's clinical team noted that certain services, such as the formation of an arteriovenous (AV) graft or a CABG procedure, can be used to indicate that a patient is moving towards end-stage complications, and these can be used as risk adjustors or be excluded from the measure.

<u>Key Takeaways from Discussion and/or Polls for Sub-Groups</u>

- The workgroup recommended to create sub-groups for:
    - Type 1 diabetic patients
    - Type 2 diabetic patients

2.2.2 Risk Adjustors

The workgroup briefly discussed which variables to include as risk adjustors, as outlined in the bulleted lists below, though the final recommendations were gathered through surveys.

During the meeting, the workgroup discussed the benefits of risk adjustment for certain patient characteristics. For example, some members considered risk adjusting for patients with severe complications. Members discussed the idea of risk adjusting for the ESRD patient cohort, but ultimately agreed to keep monitoring it for future testing given its current representation in the base risk adjustment model. Acumen noted that ESRD costs can also be accounted for through service assignment (e.g., excluding all costs related to dialysis). Acumen also noted that ESRD and Chronic Kidney Disease (stages 4 and 5) are already included in the base risk adjustment

model. The workgroup also discussed potential risk-adjustment for the Diabetes Complications Severity Index (DCSI) score, which is used to weigh and score a patient's degree of complications.

The workgroup emphasized the importance of examining social determinants of health for potential risk adjustment. Acumen noted that the team conducts ongoing testing on the effects of social risk factors throughout the measure development process as well as after the measure is fully specified, and would continue to evaluate them for chronic episode-based cost measures as well. Acumen further noted that in past testing, little variation in measure performance was found after the inclusion of social risk factors, indicating that the standard risk adjustment model is effective in accounting for those factors.

Key Takeaways from Discussion and/or Polls for Risk Adjustors

- Overall, workgroup members recommended adding the following risk adjustors:
  - A combined indicator for patients using continuous glucose monitoring and/or patients using an insulin pump
  - Dementia
  - Transplant
  - Anti-VEGF eye injection with Avastin
  - Eye injection with Lucentis or Eylea
  - Dialysis
  - Amputation
  - Gastric bypass or bariatric surgery
  - Coronary artery bypass graft (CABG)
  - Peripheral bypass interventions
  - Other vascular surgery
  - Carotid endarterectomy
  - Cardiac catheterization
  - A recent all-cause admission in the prior 30 days
  - A recent all-cause admission in the prior 120 days
  - Liver-related cancer not already covered by the HCC model.
- They also agreed that the existing variables in the base HCC model do not need additional adjustments.

2.2.3 Exclusions

Members agreed to exclude small groups of patients who have very different care needs from the overall patient cohort.

Key Takeaways from Discussion and/or Polls for Exclusions

- Workgroup members recommended excluding:
  - Patients who were still dual-coded as Type 1 and Type 2 diabetics, after claims-based reclassification was applied (See Section 2.2.1)
  - Unspecified diabetes
  - Drug/chemical induced diabetes (This patient cohort was among the most costly groups and was associated with patients who are likely to be complex due to immunosuppression, chronic steroid use, or cancer.)

- Patients with concurrent hospice care due to variations in cost and the potential for unintended consequences.

2.2.4 Monitor for Testing

Despite limited discussion, the workgroup was in general agreement with the list of patient cohorts to monitor during the meeting.

Key Takeaways from Discussion and/or Polls for Monitors

- The workgroup recommended monitoring the following patient cohorts for testing:
  - Diabetes with Multiple Complications
  - Diabetes with Nephropathy
  - Diabetes with Neuropathy
  - Diabetes with Retinopathy.

2.3 Assigning Services to the Episode Group

Acumen described the purpose of service assignment so that members could identify which services associated with the clinician's role in managing the chronic condition should be included in the cost measure. These assigned services should be inclusive enough to identify measurable performance difference between clinicians but also not introduce excessive noise. Acumen also re-introduced the concept of the attribution window to facilitate this session's discussion. Section 2.3.1 presents the discussion of attribution window length, and Section 2.3.2 summarizes the assigned services discussion.

2.3.1 Discussion of Attribution Window Length

Members discussed the attribution window length, which is the period of time in which a clinician is held responsible for a patient's costs, and preferred a longer 1-year window. Acumen noted that costs will be assigned to the performance period in which the attribution window ends. During this discussion members noted that with a long attribution window, there would need to be sufficient education and outreach notifying clinicians of the measure far in advance of the MIPS reporting and performance timelines.

Key Takeaways from Discussion and/or Polls for Attribution Window Length

- The workgroup agreed to use a one-year attribution window as opposed to a six-month attribution window.

2.3.2 Discussion of Assigned Services.

Approximately three weeks prior to the workgroup meeting, workgroup members participated in an optional *Categories of Assigned Services Survey* to provide preliminary input on the types of services to assign for the Diabetes measure. This was intended to serve as the starting point for discussion during this portion of the session.

During the meeting, workgroup members provided their input on these categories of assigned services as well as other categories of assigned services that they did not have time to fully discuss during the meeting in a follow-up survey after the meeting. Acumen clinical and technical teams will take into consideration these results in producing a draft set of measure specifications for future refinement.

Key Takeaways from Discussion and/or Polls for Assigned Services

Workgroup members recommended assigning the following categories of services:

- Laboratory testing
- Ophthalmologic services, except for costs associated with anti-VEGF drugs
- Diagnostic tests/procedures
- Acute and Chronic Kidney Disease, except for costs associated with ESRD, Stage 5 chronic kidney disease, dialysis, and costs associated with acute kidney injury admissions unless it can be determined that the admission is related to diabetes care
- Fluid, electrolyte, nutritional, and glycemic disorders (including diabetes), including associated admissions such as hypoglycemia, hyponatremia, etc.
- Durable medical equipment, except for costs associated with wheelchairs
- Skin cellulitis, inflammation, ulcers, wounds, and surgical site infection
- Medication overdose, side effects, allergic reactions, and poisoning e.g., drug-drug interactions, metformin, angiotensin-converting-enzyme inhibitors
- Hepatic/biliary/pancreatic, including costs associated with diabetes-related fatty liver and fibrosis
- Dermatologic conditions
- Gastrointestinal symptoms, disorders, or infection, including costs associated with Diabetes-related conditions such as gastroparesis
- Anemia, including costs associated with anemia of chronic disease
- Anesthesia, pain, including costs associated with neuropathic pain
- Complication of trauma or burn (including falls), including costs associated with hypoglycemia-related falls
- Gastrointestinal diagnostic and surgical procedures
- Genitourinary condition and symptoms, including costs associated with diabetes, such as bladder dystonia
- Shock/hypotension/syncope, including costs associated with autonomic neuropathy or syncope due to hypoglycemia
- Orthopedic conditions (i.e., fractures, sprains) and including costs associated with collapsed ankle, fractures related to hypoglycemic falls and Charcot foot
- Diabetes education self-management training
- Nutrition counseling/medical nutrition therapy

Workgroup members ultimately recommended not to assign the following categories of services[6]:

- Peripheral vascular disease, vascular procedures, and amputation;
- Valvular disease and congestive heart failure
- Psychiatric and substance abuse (excluding delirium)
- Non-specific symptoms (abdominal pain, fatigue, weakness, etc.)
- Arrhythmia, ACS, and chest pain (including pacemaker, diagnostics, and PCI
- Serious infections (Osteomyelitis, Endocarditis, Sepsis, Pneumonia, UTI, etc.)
- PT, OT, SLP, and rehabilitation/aftercare
- Acute pulmonary condition

[6] The decision to not assign categories was generally based on whether or not the costs were within clinician control or related to diabetes, or if they could be reliably attributed to a clinician.

- CVA/TIA
- Cancer
- Benign Neoplasms
- Transportation
- DVT/PE
- Dementia, Parkinson's Disease, and cognitive disorders; the workgroup opted not to include these services, but asked for further input from Patient & Family Committee
- Head and neck conditions
- Hematologic/lymphatic conditions (excluding anemia)
- Major lung and cardiac procedure
- Male and female reproductive system condition
- Neurologic Conditions (MS, ALS, etc.)
- Organ transplant (including bone marrow)
- Pathology
- Radiologic imaging, including costs associated with cardiovascular disease screening, stress test, etc.
- Rheumatologic conditions
- CNS and spinal disorders and procedures

2.4 Next Steps

In the final session, Acumen provided an overview of the next steps in the measure development process. Acumen will gather and review the input provided during the workgroup meeting's discussions and polls to create draft measure specifications. These can then be used for future testing and potential measure refinement.

After the meeting, Acumen distributed the *Workgroup Meeting Follow-Up Survey* to gather input from members on attribution window length and services assignment questions, which were discussed during one of the last sessions of the meeting, and on several follow-up confirming questions related to earlier survey questions about the reaffirming trigger algorithm and patient cohorts. The survey also consisted of open comment boxes, including a question about the patient, family, and caregiver perspective.

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

Section 3.1 provides an overview of materials shared with the workgroup members prior to the meeting. Section 3.2 provides a recap of the main concepts of the chronic measure development process and the chronic cost measure framework presented by Acumen. Section 3.3 presents various stakeholder input and research from an environmental scan conducted by Acumen that workgroup members could consider.

3.1 Overview of Shared Materials

One week prior to the meeting, workgroup members were provided with the following information to inform their discussions and votes during the meeting:

- *Measure Development Guide*, which provided a general overview of chronic condition episode-based cost measures;
- *Analytic Key Findings*, which summarized a selection of high-level key findings from empirical analyses prepared for the meeting;
- *Chronic Episode Group Measure Summary Investigation Workbook*, which provided background information on the Diabetes episode group to guide members in providing recommendations on the measure specifications, including trigger algorithm , clinician-level attribution, and attribution window;
- *Sub-Population Investigation Workbook*, which provided information on frequency and cost for patient sub-populations, or patient cohorts, to inform discussions on sub-groups, exclusions, and risk adjustors for the cost measure;
- *Candidate Services Investigation Workbook*, which contained information on the utilization, frequency, cost, and timing of the most frequently provided services for patients with diabetes to inform discussion on service assignment;
- *Literature Review/Quality Alignment*, which provided an overview of opportunities for improvement for the cost measure identified through the literature, and quality measures with potential for alignment; and
- *Person and Family Committee (PFC) Findings*, which summarized input from the PFC regarding patient and caregiver perspectives.

The materials shared were based on analyses run on a number of example trigger algorithms with preliminary trigger codes and specifications, which will be revised during measure development.

3.2 Overview of Chronic Cost Measure Development and Framework

In the beginning of the meeting, Acumen presented a short session to cover the following topics:

- Role of episode-based cost measures within the context of the cost performance category of MIPS.
- Recap of measure development to-date with 19 acute inpatient medical condition and procedural episode-based cost measures developed.
    - Eight of these are currently used in the 2019 MIPS performance period alongside two broader cost measures that have been in used since the 2017 performance period: Medicare Spending per Patient and Total Per Capita Cost.
- Details of Acumen's measure development approach, which includes stakeholder input throughout, including a guiding Technical Expert Panel (TEP), detailed clinical

workgroups, and a Person and Family Committee (PFC) providing patient and caregiver perspectives[7].

Acumen also introduced the chronic cost measure framework by defining key components and terms, including:

- *Trigger event* – pair of services that identify patients with a chronic illness and indicate that a clinician (or clinician group) is starting or continuing management of the patient's chronic disease;
- *Attribution window* – period during which a clinician is measured for an attributed patient and can reasonably be held responsible for associated patient costs, beginning on the earliest date of a trigger event;
- *Reaffirming event* – service(s) that show there is a continuation of a clinician's care with the patient after being previously identified (via a trigger event). Given the continued nature of chronic disease management, once a managing relationship is identified, fewer services may be required to reaffirm and extend a clinician or clinician group's responsibility managing a patient's chronic disease;
- *Service assignment* – services and their associated costs that are clinically related and are under the reasonable influence of the attributed clinician and that are included during an attribution window for cost measurement as observed cost;
- *Performance period* – static year-long period (calendar year) in which a clinician will be measured;
- *Risk adjustment* – statistical measurement, or regression, to predict the expected spending for patients while accounting for clinical characteristics of the patient outside of the clinician's reasonable influence that can impact spending; and
- *Measure calculation* – comparison of each attributed patient's normalized observed spending to the expected spending as predicted by risk adjustment, averaged across all attributed patients for a clinician. As a result, a measure score of greater than one indicates that a clinician is more expensive than predicted and a measure score of less than one indicates that a clinician is less expensive than predicted.

3.3 Overview of Stakeholder Input and Environmental Scan

Prior to discussion on measure specifications, Acumen presented additional information for workgroup members to consider, including (i) a summary of TEP recommendations (ii) existing literature that identifies opportunities to improve cost performance and care outcomes, and (iii) a list of quality measures for potential alignment consideration.

Additionally, the Westat team provided a summary of the PFC input on cost measure development. The PFC was a focus group of Medicare patients and caregivers that shared their feedback and perspectives regarding chronic care management and clinician cost performance.

[7] Additional detail on the measure development process and stakeholder roles is available on the MACRA Feedback Page within the Episode-Based Cost Measure Field Testing Measure Development Process document (https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/2018-measure-development-process.pdf)

Please contact **Acumen MACRA Clinical Committee Support** at macra-clinical-committee-support@acumenllc.com if you have any questions. If you are 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.