Heart Failure Service Assignment and Refinement (SAR) Meeting Summary

MACRA Episode-Based Cost Measures: Clinician Expert Workgroups
SAR Webinar, August 26, 2021
October 2021

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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. Then, Acumen convened the workgroups again for a Service Assignment and Refinement (SAR) Webinar to revisit the specifications recommended during the initial meeting and refine the measures prior to national field testing. For Wave 4, all workgroup meetings will be held virtually. The workgroups will convene for a

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[1] For information on measure development in Waves 3, refer to the 2020 Episode-Based Cost Measures Field Testing Wave 3 Measure Development Process document (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 (https://www.cms.gov/files/document/wave-4-public-comment-summary.pdf).

third meeting to continue measure specification and refinement discussions after a national field test, currently slated for early 2022.

Heart Failure SAR Webinar, August 26, 2021

The Heart Failure workgroup met on August 23, 2021, to continue building out the specifications for the measure. The meeting was held online via webinar and 14 of the 20 workgroup members attended.[3] The webinar was facilitated by an Acumen moderator, Rose Do, and the workgroup chair, Paul Heidenreich. Person and Family Partners (PFPs) Chava White and Rose Bartel presented findings from discussions with a broader group of PFPs. Members of the public also attended with a listen-only line for transparency into the measure development process.

This document summarizes the discussions from the 3-hour virtual meeting. Section 1 discusses the findings from PFPs about lived experience with heart failure. Section 2 describes refinements to the measure, particularly refining trigger specifications and accounting for patient heterogeneity. Section 3 discusses assigning services to the measure. Section 4 summarizes the next steps in the measure development process. 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.

1. Person and Family Partner (PFP) Findings and Discussion

The attending PFPs presented findings from focus groups and interviews with 5 PFPs with heart failure experience. These discussions built on the earlier discussions prior to the June 2021 workgroup webinars.

PFPs reported a wide range of clinicians involved in their heart failure care. They observed that cardiologists primarily coordinated care with other specialties and managed medications. PFPs consulted with outpatient cardiologists for surgery. Since diabetes and chronic obstructive pulmonary disease (COPD) are common comorbid conditions for heart failure, endocrinologists and pulmonologists also influenced care. Annual visits with an electrophysiologist and routine follow-up care with nurses for device monitoring were cited as well. Services that were helpful for heart failure treatment included routine follow-up care for device monitoring, telehealth visits for check-ins and device management, and cardiac rehabilitation for physical activity. PFPs also noted that addressing depression and mental health needs would improve the quality of care.

PFPs were mainly concerned that the lack of coordination and communication, which were exacerbated by the COVID-19 pandemic, negatively impacts the quality of care. Specifically, they reported a lack of communication between inpatient clinicians (i.e. surgeons and case management) and outpatient clinicians (i.e. cardiologist, electrophysiologist, primary care). PFPs noted that cardiology clinics often don't have patient portals and don't connect with hospital Electronic Health Record (EHR) systems. In addition, they felt that clinicians should improve on how they communicate discharge plans to patients and caregivers (e.g., trying to provide plans that are more specific and accurate). A PFP shared that in one instance, an alternative plan made with a surgeon's nurse practitioner prior to surgery wasn't included in the discharge plan. They also shared their experiences with pacemaker complications as a result of

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[3] CMS, "MACRA Episode-Based Cost Measures: Wave 4 Clinician Expert Workgroup Composition (Membership) List" [PDF] (https://www.cms.gov/files/document/wave-4-measure-specific-workgroup-composition-list.pdf).

medication complications and physician error. PFPs also expressed the desire for more thorough explanations of their heart failure condition from their clinicians. PFPs noted that the burden of communication often falls to the patient or caregiver.

In response, one workgroup member agreed that communication between clinicians and throughout the health system is very important to keep in mind when designing cost measures. As a solution to uncoordinated care, another member suggested creating a centralized portal with medical history and patient notes in which clinicians and the patient can refer. The PFP findings about coordinated care informed discussions for service assignment, specifically surrounding the need for greater coordination between clinicians who bill inpatient hospital services.

2. Refinements to Draft Specifications

This session provided a feedback loop from the previous meeting on refining trigger specifications (Section 2.1), and a detailed discussion of how to account for specific patient cohorts (Section 2.2).

2.1 Refining Trigger Specifications

In the last webinar, although workgroup members were in general agreement to exclude inpatient codes from the trigger and confirming claims list, there was a discrepancy within the poll results with some requests for further clarity.

As such, Acumen presented analyses on the additional types of clinician groups that would be captured by including inpatient services (in addition to outpatient services) to trigger or confirm a chronic care relationship. Results indicated that only 10.7% of heart failure patients had the same clinician group for both outpatient and inpatient care during the episode. In addition, the vast majority of clinician-patient relationships triggered and/or confirmed by inpatient claims didn't have subsequent outpatient care. Members generally agreed that since Heart Failure is a chronic measure, capturing clinicians and clinician groups who treat chronic patients in outpatient settings would be sensible for this measure. One member pointed out that hospitalized patients, who have higher mortality and readmission rates, should be differentiated from patients who receive outpatient care. To address concerns that inpatient care in heart failure management would be overlooked, Acumen noted that members could consider including inpatient services in the measure's assigned services.

Key Takeaways from Discussion and/or Polls for Defining the Episode Group:
- Members recommended not to include inpatient services in the list of trigger and confirming codes for the Heart Failure measure

2.2 Accounting for Patient Heterogeneity

Members also engaged in a detailed discussion about how to account for patient cohort heterogeneity. 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[4]

(ii)   Defining covariates in the risk adjustment model[5]

(iii)   Identifying measure exclusions[6]

(iv)   Monitoring certain sub-populations for further testing[7]

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.

In June 2021, members discussed whether to differentiate Heart Failure with Reduced Ejection Fraction (HFrEF) and Heart Failure with Preserved Ejection Fraction (HFpEF) patients in the measure, as well as possible methods for identifying and handling these groups. There was consensus to distinguish between the 2; however, members noted the difficulty of identifying HFrEF and HFpEF using claims data.

Acumen tested various approaches and recommended the following:

- Require that a share of the patient's claims with Heart Failure diagnoses meet a threshold for either HFpEF or HFrEF; otherwise, the patient is categorized as unknown
- Apply a "share" rule independently for the following claim populations:
    - 85% share of either HFrEF or HFpEF diagnoses across all claims
    - Two-thirds share of either HFrEF or HFpEF diagnoses across E&M claims
    - Two-thirds share of either HFrEF or HFpEF diagnoses across claims billed by cardiologist
- Compare the agreement of outcomes between different sources

The results showed that there was around a $2,000 (or 8.7%) difference in the mean observed spending between HFrEF and HFpEF patients and only a 1% difference in episode's observed-to-expected ratio after risk adjustment. Workgroup members agreed that the share method lacked face validity and were wary of creating an overarching model to predict ejection fraction status. One member acknowledged the waning importance of differentiating between HFrEF and HFpEF, since there is some overlap in treatment and prognosis for both groups. There was general consensus to not differentiate HFrEF and HFpEF patients in the measure and to

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[4] Sub-grouping is a method that's intended for when we 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.

[5] 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 an expected episode spending (predicted by a risk adjustment model).

[6] 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.

[7] 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.

consider risk adjustment in the future if the multivariate regression model shows ejection fraction status is a strong predictor of cost.

In addition, Acumen presented a list of sub-populations that reached consensus for risk adjustment and another list of sub-populations that didn't reach consensus in the polls. Acumen noted that the remaining sub-populations were reasonable candidates for risk adjustment, as they were characteristics outside of the clinician's control and the risk-adjusted costs for those sub-populations are more stable than the observed costs (i.e., risk adjustment is adjusting the variation in the cost that's outside the clinician's control). Members noticed that the 90th percentile for risk-adjusted costs were significantly higher than in the 50th percentile. One member attributed this right skew to patients who receive transplants or advanced therapies (e.g. ventricular assist device) and noted that risk adjustment may not work well for outliers. This may be explored further throughout development. Workgroup members recommended to exclude the sub-populations that didn't reach consensus, citing that they're small sub-populations (i.e. each less than 2% of total episodes) with high variability in costs. Members especially wanted to exclude amyloidosis, which has a novel and expensive treatment, to avoid placing any cost disincentives on clinicians. The workgroup also discussed recent and/or prior heart transplants and suggested excluding this sub-population because they're different from standard heart failure patients.

Key Takeaways from Discussion and/or Polls for Addressing Sub-Populations for Meaningful Clinical Comparison:
- Members recommended to risk adjust for HFrEF and HFpEF, instead of stratifying by ejection fraction
- Members voted to exclude episodes with recent and/or prior heart transplants
- Members voted to exclude the following sub-populations from the measure:
    o Amyloidosis
    o Congenital heart disease
    o High-output heart failure
    o Hypertrophic cardiomyopathy
    o Left Ventricular Assist Device (LVAD)
    o Other infiltrative disease
    o Peripartum cardiomyopathy

3. Assigning Services to the Episode Group

Acumen described the purpose of service assignment so that members could continue discussing 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. The following paragraphs summarize discussions of the categories of assigned services.

Acumen compiled and presented a list of services provided for patients during Heart Failure episodes. Members deliberated on whether to assign items such as admissions for COPD, pneumonia, sepsis, heart transplant, LVAD, post-stroke rehabilitation, dialysis, and insulin.

The main topic of discussion was whether to assign inpatient admissions for heart failure. One member noted that if inpatient services were included in service assignment, the Medicare Hospital Readmissions Reduction Program (HHRP), which penalizes hospitals for unplanned hospital readmissions for conditions including heart failure, could potentially negatively affect

care. Members were concerned that this may cause clinicians to inappropriately avoid admitting their patients into an inpatient facility, since hospitalizations are large cost drivers of heart failure care. They discussed the possibility of creating a cost measure at a health system or clinician group level to relieve cost containment pressure on individual clinicians and to allow for more care coordination.

To address the concern that one inpatient admission could skew a clinician's entire score, Acumen presented data on the distribution of scores for clinicians as differentiated by inpatient admission rates. The findings indicated that clinicians would need to admit a relatively large percentage of their patients (i.e. greater than 41% or more of episodes) compared to other clinicians with similar patient complexities to be "penalized" by the measure. In addition, Acumen explained that in this chronic measure, if a provider were to inappropriately defer hospitalization, their patients would likely experience expensive complications and require an inpatient stay later. One member was against excluding inpatient admissions because it would leave out a large proportion of costs from the measure. Acumen suggested the creation of a risk adjustment variable for recent hospitalization to address the higher severity and risk of readmission in patients with recent prior admissions.

There was also discussion about incentivizing appropriate, evidence-based therapies by excluding those costs and/or not allowing them to adversely affect clinician scoring. One method is to carve out or exclude these costs to remove barriers or disincentives. However, if applied, true costs of usual or appropriate care may not be captured and assessed for cost-effectiveness. Another method is to include those costs into the measure but label them as indicators of evidence-based therapies, calculate their overall contribution to the episode costs, assess costs to short-term benefits, and compare to clinicians with similar patient case-mixes.

Key Takeaways from Discussion and/or Polls for Assigning Services to the Episode Group:
- Members recommended to assign the following services:
    - Durable medical equipment
        - Oxygen supplies, ventilators
        - Wheelchairs
    - Home health: Physical therapy/occupational therapy
    - Inpatient admissions:
        - Heart failure admissions
        - Mitra-clip
    - Inpatient admissions (potential complications of heart failure treatment):
        - Renal failure
        - Electrolyte abnormality admission
    - Inpatient admissions (ischemic events and emergent/elective catheterization, coronary artery bypass graft [CABG]):
        - Acute myocardial infarction
        - CABG
        - Percutaneous coronary intervention
    - Inpatient admissions (electrophysiology admissions/procedures):
        - Cardiac defibrillator implant
        - Cardiac resynchronization therapy (CRT) implant
        - Atrial fibrillation/flutter ablation
    - Inpatient admissions (complications of cardiovascular interventions):
        - Other circulatory system diagnoses with a major complication or comorbidity (MCC)
    - Inpatient admissions (respiratory failure admissions):

- Extracorporeal membrane oxygenation (ECMO) or tracheostomy with mechanical ventilation greater than 96 hours or principal diagnosis except face, mouth and neck with major operating room procedures
- Pulmonary edema and respiratory failure
  - Part D costs: Cardiovascular drugs
  - Other: Transportation costs (ambulance, etc.)

4. Next Steps

In the last session, Acumen provided a wrap-up of the discussion and an overview of the next steps. After the meeting, Acumen distributed the SAR Webinar Poll with a recording of the webinar to formally gather input from the meeting. The poll was open for one week and was structured to summarize discussion to reflect where there appeared to be verbal consensus; it included empirical testing results (where relevant) so that members could refer to this information when responding to the survey. The survey included comment boxes to provide additional thoughts. Based on National Quality Forum practices, the threshold for support was greater than 60% consensus among poll responses.

Acumen will operationalize input for the measure specifications based on SAR Webinar Poll results and will prepare specifications and related materials for the upcoming national field testing. The workgroup is slated to convene for a Post-Field Test Refinement (PFTR) Webinar in March 2022.

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.