



ACUMEN

**Summary of Feedback from the
Technical Expert Panel on
Medicare Spending Per Beneficiary –
Post-Acute Care Measures**

January 2016

TABLE OF CONTENTS

- 1 Overview 3**
 - 1.1 MSPB-PAC Measure Development Team 3
 - 1.2 Technical Expert Panel Members 4
- 2 TEP Member Feedback: In-Person Meeting 5**
 - 2.1 Defining Episode Triggers and Windows..... 5
 - 2.1.1 TEP Feedback 6
 - 2.2 Defining Treatment Services 7
 - 2.2.1 TEP Feedback 7
 - 2.3 Defining Associated Services 8
 - 2.3.1 TEP Feedback 8
 - 2.4 Risk Adjustment 10
 - 2.4.1 TEP Feedback 10
 - 2.5 Formulation of Resource Use Measures for Attributed PAC Providers..... 11
 - 2.5.1 TEP Feedback 11
 - 2.6 General Discussion 12
- 3 TEP Member Feedback: Post-Meeting Survey..... 13**
 - 3.1 Defining Episode Triggers and Windows..... 13
 - 3.2 Defining Treatment Services 15
 - 3.3 Defining Associated Services 17
 - 3.4 Risk Adjustment 19
 - 3.5 Formulation of Resource Use Measures for Attributed PAC Providers..... 21
- 4 Next Steps 24**

1 OVERVIEW

The *Improving Medicare Post-Acute Care Transformation Act of 2014* (the IMPACT Act) mandates the development of “total estimated Medicare spending per beneficiary” (MSPB) resource use measures for each of the following post-acute care (PAC) settings: skilled nursing facilities (SNFs), home health agencies (HHAs), long-term care hospitals (LTCHs), and inpatient rehabilitation facilities (IRFs). These measures are being developed by Acumen, LLC (“Acumen”) under contract with Centers for Medicare & Medicaid Services (CMS) through the *Calculating Episode-Based Costs from the Medicare Episode Grouper for Physician Feedback* contract (HHSM-500-2011-00012I/HHSM-500-T0008).

A National Quality Forum (NQF)-endorsed “total estimated Medicare spending per beneficiary” measure is currently in use for inpatient prospective payment system (IPPS) hospitals in the Hospital Value-Based Purchasing Program (Hospital VBP) (NQF #2158). The hospital MSPB measure was originally established by the *Affordable Care Act of 2010* and was developed by Acumen. The measure evaluates hospitals’ efficiency relative to the efficiency of the national median hospital during a hospital MSPB episode. Specifically, it assesses the cost to Medicare for Part A and Part B services performed by hospitals and other healthcare providers during an MSPB episode, which is comprised of the periods immediately prior to, during, and following a patient’s hospital stay.¹

As part of the measure development process, Acumen, in partnership with RTI and Abt, Associates², convened an in-person technical expert panel (TEP) in Baltimore, Maryland on October 29 and 30, 2015. The purpose of the TEP was to gather input on the specifications for the MSPB-PAC measures in preparation for their use in Medicare quality reporting programs. The TEP consisted of clinicians, researchers, and health care administrators with relevant expertise in each setting. Additional feedback on specific issues raised during the TEP meeting was collected from members via an e-mail survey following the meeting.

This report summarizes the feedback shared by the TEP members during the meeting along with accompanying Acumen and/or CMS responses, as well as TEP member responses to the post-meeting survey. The remainder of this section describes the composition of the MSPB-PAC measure development team as well as the TEP panel.

1.1 MSPB-PAC Measure Development Team

The Acumen measure development team is multidisciplinary and includes individuals with knowledge and expertise in the areas of resource use measure development, post-acute care,

¹ QualityNet, "Measure Methodology Reports: Medicare Spending Per Beneficiary (MSPB) Measure," (2015).

² RTI and Abt Associates are the Cross-Setting Measure Development Lead for all IMPACT Act Measures.

economics, statistics, public health, and health policy. The Acumen post-acute care measure development is led by the following eight individuals:

- Tom MaCurdy, PhD
- Sri Nagavarapu, PhD
- Rose Do, MD
- Laurie Feinberg, MD
- Fiona Adams, BA
- Iñaki Arbeloa, BA
- Natalia Panikashvili, PhD
- Vaikath Job, MA

1.2 Technical Expert Panel Members

An open call for TEP panelist nominations was posted on the CMS website and a panel of stakeholders with a diversity of experiences in the four post-acute care settings was selected for participation. A list of TEP members is provided in Table 1, below.

Table 1. MSPB-PAC Technical Expert Panel Members

Name	Organization	Location
Alma Allen	Inova VNA Home Health, Visiting Nurse Associations of America	Alexandria, VA
Brian Bell	Spartanburg Regional Healthcare System	Spartanburg, SC
Dexanne Clohan	Foundation for Physical Medicine and Rehabilitation Evidence-Based Practice Committee of the American Academy of Physical Medicine and Rehabilitation	Birmingham, AL
Jean de Leon	University of Texas Southwestern Medical Center	Dallas, TX
Scott Guevin	Penn State Hershey Rehabilitation Hospital, AMRPA	Lancaster, PA
Kurt Hoppe	Mayo Clinic, Academy of Physical Medicine and Rehabilitation	Rochester, MN
Steven Lichtman	Helen Hayes Hospital	Monroe, NY
Craig Miller	Michigan Health & Rehabilitation Services, American Physical Therapy Association	Macomb, MI
Mary Ousley	American Health Care Association	Richmond, KY
Mary Shaughnessy	Partners Continuing Care, Spaulding Rehabilitation Network and Partners Health Care at Home	Charlestown, MA
Christopher Vaz	American Hospital Association	Washington, D.C.
Joanne Wisely	Genesis Rehab Services, AHCA, NASL	Wayne, PA

2 TEP MEMBER FEEDBACK: IN-PERSON MEETING

This section presents a summary of the feedback shared by the MSPB-PAC members during the in-person meeting on October 29 and 30, 2015. The TEP meeting focused on the specifications for the MSPB-PAC measures, and TEP member feedback was guided by a series of open-ended discussion questions. The subsequent sections are organized according to the specifications pertaining to each step in MSPB-PAC measure development. Within each section, discussion questions pertaining to the step are listed, with TEP members' feedback aggregated below. In instances where Acumen and/or CMS provided a thorough response to TEP members' discussion, these comments are summarized in sub-bullets below the relevant TEP member responses. Feedback related to the construction of MSPB-PAC episodes is summarized first in Sections 2.1 – 2.3. Next, Sections 2.4 – 2.5 summarize discussions related to the steps in calculating the MSPB-PAC measures using the episodes. Finally, Section 2.6 compiles TEP members' comments that do not correspond to the topics of previous sections.

2.1 Defining Episode Triggers and Windows

The MSPB-PAC measures assess patients' total resource use within an episode of care that includes PAC services and a period following discharge from PAC services. We use the term "resource use" to denote Medicare FFS paid claims.³ An episode of care includes the set of health care services typically involved in managing a particular health event or condition. To develop an MSPB-PAC episode, it is first necessary to define an episode trigger (i.e., the service that "opens" the episode) and the length of the episode window (i.e., the time period in which services are counted toward the episode). The attributed provider is the PAC provider that triggers the episode and for whom the measure is calculated and, under the algorithm, is determined to have influence over the resources used by the patient during the episode window. Furthermore, the PAC stay or service period that triggers the episode initiates the "treatment period," which includes those services provided or managed by the attributed provider. Acumen sought input from the TEP on several considerations related to episode trigger and window specifications. The following questions were posed to the TEP:

- (1) *Should each [PAC] admission trigger an episode, with the exception of closely adjacent admissions and/or short service periods (e.g., LUPA and PEP HH claims)?*
- (2) *For adjacent PAC service periods (e.g., stays), what gap length implies a unified treatment period?*
- (3) *Should treatment periods start prior to the trigger event and, if so, how many days before the trigger?*

³ Specifically, paid claims include all payments made by Medicare and beneficiaries. This is defined as allowed amounts, which include both Medicare trust fund payments and beneficiary deductibles and coinsurance.

- (4) *How long should the episode window extend beyond the treatment period?*
- (5) *Should the episode end a fixed time after [PAC] discharge or after [PAC] admission (i.e., the trigger)?*

2.1.1 TEP Feedback

- Panelists were concerned that the proposed episode trigger definition for the home health episodes did not allow low-utilization payment adjustment (LUPA) and partial episode payment (PEP) claims to trigger an episode. By prohibiting LUPA/PEP claims from triggering home health episodes, the MSPB measure would not fully capture all Medicare home health utilization.
- When determining if adjacent PAC stays for the same provider and beneficiary should be collapsed into a single treatment period, panelists agreed with the proposed seven-day gap for SNF stays, but were not certain about other settings. It was suggested that there should be a consistent rule across PAC settings. A panelist suggested performing additional statistical analyses to determine an appropriate gap length across PAC settings.
- Panelists felt that no services prior to PAC admission (i.e., services occurring before the episode trigger) should be counted toward the episode.
- Panelists agreed that the episode window across all PAC settings' episodes should begin at the start of the treatment period and extend for a fixed length from the end of the treatment period. TEP members strongly supported using a 30-day fixed period from the end of treatment, noting that a 30-day window is consistent with readmission rate measures and that a longer period would capture services that may not be influenced by the attributed PAC provider.
- Panelists expressed concern regarding the overlap in MSPB-PAC episodes. For a given PAC provider's episode, another PAC stay may start in the post-treatment period while also independently triggering its own episode. Some panelists felt this might represent "double counting."
 - Acumen explained that payments are never counted more than once within the same episode. Further, the MSPB-PAC measure calculation is not based on the simple sum of spending across episodes, which would result in "double counting." Instead, the construction of the numerator and denominator is such that the ratio of observed and predicted episode spending are averaged across all of a given providers' episodes.
 - To further address panelists' concerns regarding overlap in MSPB-PAC episodes, Acumen indicated that the overlap was motivated in part by public comments related to the existing MSPB measure for acute inpatient hospitals. This measure counts PAC payments occurring following hospital discharge toward the hospitals' MSPB episode. Commenters pointed out that, in this arrangement, PAC providers had no incentive to be efficient, as they did not have an analogous measure promoting efficiency. Allowing for overlap between MSPB episodes for acute inpatient hospitals and MSPB episodes for PAC providers would align incentives for efficiency between both hospitals and PAC providers.

- Panelists were interested in applying a clean period prior to each triggering event. A clean period would require that an episode is only included in a provider’s MSPB-PAC measure if it is not preceded by another PAC episode within a set timeframe.
 - Acumen’s investigations revealed that a 30-day clean period from the end of treatment dropped a large share of PAC episodes in each setting. Acumen established that such a loss would prevent the MSPB-PAC measures from covering a sizable portion of PAC spending.

2.2 Defining Treatment Services

The treatment period is comprised of services furnished by the attributed PAC provider and other providers under the patient’s care plan. Treatment services are either provided directly or reasonably managed by the attributed provider. All of the following services during the treatment period are counted toward the episode: (1) the attributed PAC provider’s claims, (2) Physician/Supplier Part B claims, and (3) durable medical equipment, prosthetics, orthotics, and supplies (DMEPOS) claims during the treatment period. Physician/Supplier Part B and DMEPOS services are subject to certain clinically-determined exclusions where they are deemed to be outside the reasonable control of the attributed PAC provider.

As part of the discussion of treatment services during the TEP meeting, Acumen was interested in the panelists’ feedback on a classification of core services provided in each PAC setting. Determining the scope of each setting’s services was discussed in order to help distinguish services that can be reasonably managed by the attributed PAC provider from services that are outside the credible influence of the PAC provider and should be excluded from the set of treatment services encapsulated by (1) - (3), above. Acumen posed the following questions to the TEP:

- (1) *Are there other important classifications of PAC treatment services not captured in our list [of services]?*
- (2) *What services rendered by PAC providers may not have downstream outcomes measurable in claims data, and how should the measure adjust for their incidence?*
- (3) *Are there any scheduled Physician/Supplier or DME services that should not be excluded as part of treatment?*
- (4) *Besides scheduled services, are there other Part B services that should be excluded from treatment?*
- (5) *Should SNF, IRF, and LTCH have distinct exclusions of Part B claims from treatment?*

2.2.1 TEP Feedback

- Panelists felt that there are important differences in core services offered between settings. For example, one panelist felt that the higher acuity of patients in LTCH would require a more comprehensive list of service categories to fully capture the range of

services available in an LTCH. Several panelists expressed that home health, as the only non-institutional setting, might be responsible for a more limited set of services.

- Panelists indicated that differences in state regulations may affect what services may be provided in a particular PAC setting.
- Nutrition and psychiatric services were noted to be core treatment services that could be added to Acumen’s list of service categories commonly provided by PAC facilities.
- A panelist suggested that ambulance services should not be excluded from the treatment definition, as PAC providers may have discretion over the delivery of those services.
- Panelists suggested that Part B service exclusions could be identified by having clinicians look through an exhaustive list of service codes and determine which services are likely to be associated with a PAC settings’ episodes.
- TEP panelists felt that “positive outcomes” such as improved functional status, return to work, and quality of life would be difficult to measure through claims data.

2.3 Defining Associated Services

Associated services are non-treatment services occurring within the MSPB-PAC episode window. These services are included in the measures to help capture resource use that may be related to the care provided in the PAC setting but are not a part of the attributed PAC provider’s treatment services. Within the associated services period, all Medicare Part A and Part B services that are not included as a part of treatment are counted toward the episode, with exceptions for certain clinically-unrelated services as determined through consultation with clinicians. Acumen sought the TEP panelists’ assistance with identifying these exclusions as well as other considerations for defining associated services. The following questions were posed to the TEP:

- (1) What is the role of the PAC provider in managing and/or reducing the likelihood of other services occurring during the episode window?*
- (2) What categories of services are candidates for exclusion?*
- (3) How can a limited set of service-level exclusions be defined for each PAC setting within the constraints of the measure development timeline?*

2.3.1 TEP Feedback

- Panelists expressed some concern regarding complications that may be the result of poor quality of care from a previous provider that get counted toward the subsequent provider’s episode. Examples provided included urinary tract infections caused by inpatient catheterization and wound complications.
 - Acumen and CMS explained that this issue could be addressed in part through risk adjustment. They also noted that the previous provider would bear some of the responsibility for this complication as it would be captured in their episode spending. Additionally, when clinicians are identifying exclusions from MSPB-PAC episodes,

they will be able to define a timeframe in which a given service should be excluded to help mitigate this concern.

- There was some concern that long-term cost savings and/or positive health outcomes resulting from particular treatment choices might not be captured by the MSPB-PAC measures. For instance, a panelist noted that certain aggressive and high-cost treatments (e.g., negative pressure devices, grafts) may cause an LTCH episode to appear more expensive relative to episodes in which lower cost treatments are used. These treatments may expedite a patient’s recovery and time to discharge, but are more expensive than other potentially less effective treatment choices (e.g., DMEPOS such as moist gauze and hydrogel). In the first treatment choice, there may be more complete wound healing as compared to the second treatment choice in which there is only partial resolution of the wound. However, given that there are no differences in death or hospitalizations seen in the claims, the first treatment will appear more expensive without any obvious benefits.
 - Acumen explained that one way to account for this situation is for experts to consider how long an episode window would have to be such that the appropriate care would be revealed as the more cost effective treatment choice. The 30-day associated services period can be changed based on feedback. If experts agree that this type of condition and treatment is common, and that benefits will not be visible regardless of episode window length, another option is to consider it as a potential service exclusion.
- Panelists expressed that prosthetics and orthotics might need to be excluded from associated services, as they may not yield positive or negative outcomes that are measurable in the claims occurring within the episode window.
- Some TEP members felt that PAC settings with more control over a patient’s environment, such as a SNF or IRF, might be in a better position to prevent falls than home health. Other members agreed that the home health setting may differ in the level of provider responsibility for complications than the other settings.
- Suggestions for service-level exclusions included follow-up radiological tests such as positron emission tomography (PET) scans for oncology diagnoses or cardiac monitoring, as panelists indicated that PAC providers have minimal influence over these services.
- TEP panelists were particularly interested in the identification and removal of planned hospital admissions from the MSPB-PAC episodes. Both Acumen and TEP panelists widely agreed that planned admissions should be excluded because they are out of the scope of influence for the PAC provider and to include them would make the measure less reliable. Additionally, panelists expressed concern that PAC providers may be hesitant to accept patients with planned hospital admissions (or other planned services). Several methods were suggested for identifying planned admissions, many of which, as noted during the TEP, are not possible given the limitations of currently available data (i.e., claims). One potential method was to remove admissions with a “planned on admission” modifier on Medicare claims, though panelists expressed that this modifier was unreliable and used inconsistently. Another method involved reviewing the beneficiary’s medical history for information that might indicate that a hospitalization

was planned, though panelists felt that process would be too labor intensive and highly subjective

2.4 Risk Adjustment

Risk adjustment is performed to compensate for patient health circumstances that affect resource use but are beyond the influence of the attributed provider. The proposed risk adjustment model accomplishes this to a certain extent by adjusting for age, end-stage renal disease (ESRD), long-term care institutionalization, disability, and a number of health care conditions. The TEP provided feedback for refining Acumen's current risk adjustment model. The following questions were posed to the TEP:

- (1) What health circumstances are critical for inclusion in risk adjustment models?*
- (2) What lookback period should be used for constructing HCCs and identifying health conditions?*
- (3) Is there a tractable way to capture patients with many co-morbidities that interact with one another?*
- (4) Should source of entry [into the PAC] be accounted for and how?*
- (5) How should functional status be treated given data limitations across settings?*

2.4.1 TEP Feedback

- Panelists suggested the following additions to variables included in the risk adjustment model: patients who have had a transplant, patients that are admitted to a SNF from the community, frailty, functional status, pre-existing cognitive status, availability of social support, prolonged cognitive impairment diagnoses (e.g., dementia), and spinal cord injury/paralysis diagnoses.
- TEP members stated that functional and cognitive status were two factors that greatly impacted length of stay and treatment spending. They expressed a strong desire for these factors to be included in the risk adjustment model.
- Some TEP members expressed concern that the current assessment tools could not accurately measure functional and cognitive status. One panelist was concerned about the use of non-standardized assessment measures in risk adjustment.
- Panelists expressed interest in the inclusion of socioeconomic status in the risk adjustment model. They noted that the NQF is currently in a two-year trial period to explore options to account for socioeconomic factors in measures. Panelists felt that these factors are important variables to be included in a risk adjustment model.
- A lookback period for constructing HCCs and identifying health conditions of 180-365 days was suggested by panelists.
- TEP members suggested using Charlson or Elixhauser indices to capture comorbidity interactions.

2.5 Formulation of Resource Use Measures for Attributed PAC Providers

Acumen asked the TEP to assist with several considerations for developing the MSPB-PAC measure including refinements to the measure numerator and denominator and episode-level exclusions. The following questions were posed to the TEP:

- (1) *Should the episode-level exclusion criteria be altered and, if so, how?*
- (2) *Should very short stays be excluded when they are followed by a “standard” episode (e.g., LUPA claim followed by 60 day stay in one or more HHA providers)?*
- (3) *Should predicted values be statistically Winsorized⁴ and, if so, how?*
- (4) *What are the challenges involved in adapting this measure to allow for comparisons of providers across PAC settings?*

2.5.1 TEP Feedback

- TEP members suggested the following episode-level exclusions: patients initiating hospice services at any point in the episode window and patients who exhausted their Medicare Part A benefit.
- TEP members were concerned that episodes ending in death were excluded from the measure and stated that this might not capture cases in which the patient received poor quality of care during the episode.
- One panelist suggested that episodes where patients electively transfer to another PAC provider might be excluded.
- Panelists were concerned about how outliers would be accounted for in the MSPB-PAC measures.
 - Acumen explained that the MSPB-PAC measure will use the same outlier adjustment that is currently applied in the MSPB measure for acute inpatient hospitals, where values above a certain percentile are removed from the provider’s score.⁵
- TEP members discussed the proposed exclusion of Medicare Advantage beneficiaries. While most members agreed that a significant number of beneficiaries change between traditional Medicare and Medicare Advantage plans, changing this exclusion might result in some beneficiaries’ episodes appearing artificially less expensive during the period of Medicare Advantage coverage, since the MSPB-PAC measures only rely on Medicare fee-for-service claims data.
- TEP members strongly felt that when a claim started within the episode window but ended after its close, the payment for that claim should be prorated when calculating the episode spending. For example, if the patient is admitted to an IRF 25 days after the end of a SNF treatment period, panelists advised that the total IRF payment should be counted toward the episode on a per diem, prorated basis (i.e., thereby only including the share of the IRF payment that is attributable to the 5 days occurring within the episode

⁴ Winsorization is a method used to minimize the effects of extreme values in a data set. To Winsorize the data, tail values are set equal to a specified percentile value.

⁵ QualityNet, "Measure Methodology Reports: Medicare Spending Per Beneficiary (MSPB) Measure," (2015).

window). Panelists felt that this would be more equitable and fair when attributing payments to the PAC providers.

2.6 General Discussion

This section includes a summary of general points of discussion that were raised during the TEP that do not correspond to any of the topics in Sections 2.1 - 2.5, above.

- Panelists expressed concerns about the limitations of the MSPB-PAC resource use measures to assess quality of care. TEP members postulated that claims-based resource use measures could not adequately capture patient outcomes or reflect the quality of care provided, so must be used in conjunction with quality measures.
 - CMS and Acumen clarified their interpretation of the scope of work, as mandated by the IMPACT Act, to be the construction of the MSPB-PAC measures as an adaptation of the MSPB measure for acute inpatient hospitals.
- The TEP expressed interest in incorporating functional status information into risk adjustment. However, there was discussion amongst panelists about whether the IMPACT Act language allowed the use of non-standardized patient assessment data in the measures.
 - CMS clarified the relevant IMPACT Act language, particularly regarding the use of standardized patient assessment data, to mean that the current lack of developed standardized assessment data limited the use of such data in measure development.
- One panelist inquired about the absence of other PAC providers from this measure (e.g., cardiac, pulmonary, neurological, and orthopedic rehabilitation).
 - Acumen acknowledged that the measure is not comprehensive and currently only covers the four major PAC settings.
- Panelists were interested in how low-volume providers would be handled.
 - Acumen explained that CMS uses reliability analyses of the measures to help address this concern and, based on the results of these analyses, may establish a minimum case threshold for reporting.
- One panelist raised concerns that the term “Medicare spending per beneficiary” meant that the measure was intended to compare spending between beneficiaries, rather than comparing resource use between providers.
 - Acumen noted that the MSPB-PAC measures are modeled after the currently NQF-endorsed MSPB measure for acute inpatient hospitals, which calculates spending on Medicare beneficiaries at the provider level.
- The patients’ perspective was included throughout the TEP proceedings. For example, panelists noted that outcomes of therapy may include better quality of life for the patient, expedited return to work, and increased independence. These outcomes may be difficult to assess in a resource use measure but they are highly important to the patient and indirectly related to both improved health outcomes and long-term cost savings.

3 TEP MEMBER FEEDBACK: POST-MEETING SURVEY

A survey was sent to the TEP participants via e-mail to attain detailed written responses to the meeting's discussion questions as well as several additional questions that arose as a result of the meeting proceedings. Seven members of the TEP provided responses to some or all of the survey questions. Sections 3.1 – 3.5 below summarize the key points from panelists' surveys, organized by question, with panelists' feedback condensed as appropriate. Comments included are limited to those that directly address each question. As feedback was provided in the form of a survey, there are no Acumen or CMS responses in this section.

3.1 Defining Episode Triggers and Windows

The post-meeting survey questions related to defining episode triggers and windows and panelists' responses to those questions are summarized below.

(1) *In a case where within one PAC provider's episode, there is another PAC provider stay occurring during the episode window, are there reasons why the episode should always include the other PAC stay? Alternatively, in what cases should the other PAC stay be excluded from the first provider's episode?*

- One panelist suggested that PAC to PAC transfer within the same setting (e.g., SNF transfers to another SNF etc.) should always be included in the first provider's episode.
- Another panelist felt that the other PAC stay should always be included in order to foster better care coordination between the two providers.
- Two respondents wrote that the entire cost of the other PAC episode starting within the first provider's episode window should not be counted toward the first provider's episode.
- A few respondents believed there should not be overlap between MSPB-PAC episodes. They suggested that this may distort the Medicare spending per beneficiary measure, based upon their interpretation of the measure construct. They suggested that the measure developer consider rules for attribution so as to minimize overlap between episodes.
- Panelists suggested several more specific refinements to the episode triggers, to take into account the following scenarios:
 - Patients who transfer from a PAC provider to a PAC provider with a higher level of care in a closely adjacent time period after a hospital stay (e.g., a transition from the hospital to home health to SNF within a 5 day period): the panelist felt this could indicate that the index hospital made an inappropriate choice for initial transfer setting, and that the HHA should not be held accountable by counting the subsequent SNF stay toward the HHA episode.
 - Patients that are admitted to a second PAC provider within the first provider's episode window for a diagnosis that is clinically unrelated to the reason for the first

PAC admission: one panelist suggested that the second, unrelated PAC stay be excluded from the first PAC provider's episode costs.

(2) *Should each admission trigger an episode with the exception of closely adjacent admission?*

- Most respondents felt that each admission should trigger an episode, though they acknowledged that this would depend upon the specific definition of a “closely adjacent admission.”
- It was suggested that SNF episodes should only be triggered when preceded by an inpatient stay in the prior 30 days (as opposed to a stay with another PAC provider).

(3) *Should LUPA and PEP home health claims trigger a new episode? Why or why not?*

- Several panelists responded that the LUPA and PEP claims should not trigger a new episode. They believed that the home health agency's impact on the patient would be limited given the shortened service period for LUPA and PEP claims. Further, they indicated that since LUPA and PEP claims are atypical and unique to home health care, prohibiting them from triggering an HHA episode could maintain consistency with the MSPB-PAC measures for other settings. Finally, panelists noted that LUPA and PEP claims have lower payment rates that may skew results of the MSPB measure for an HHA provider unless their measure was adjusted appropriately.
- A few panelists supported LUPA and PEP claims as episode triggers because these claims help define placement and admission, and to exclude them would be an inaccurate reflection of HHA care decisions.
- One panelist suggested that even though LUPA and PEP claims should not trigger an episode, the information should be made available to providers as it may indicate high efficiency or an inappropriate referral of patients to HHA.

(4) *For adjacent post-acute care service periods (e.g., stays), what gap length implies a unified treatment period?*

- Panelists suggested 7-14 days, though it was strongly suggested that the gap length be informed by further analysis of Medicare claims data.
 - One respondent cited evidence that supports triggering a new episode of care for readmission following a gap of 10 or more days in care. A readmission occurring less than 10 days after discharge is a good predictor of the original episode needing the readmission and is therefore part of the same episode.

(5) *Should the gap length vary by type of post-acute care setting?*

- Most respondents felt that the gap should be consistent across all PAC settings, though a few panelists were interested in additional data analysis to determine if gap lengths should be setting-specific.

(6) *How long should the episode window extend beyond the treatment period? Why should this period be used?*

- Most respondents supported using 30 days to maintain consistency with other quality measures and because they thought a period longer than 30 days would include costs outside of the influence of the attributed PAC provider.
 - One panelist felt that the episode window should depend in part upon the beneficiary's care transitions during the post-treatment period of the episode to reflect providers' decreasing levels of control as a patient achieves greater independence. For transitions between more intensive PAC settings to less intensive PAC settings (e.g., SNF to HHA), the panelist suggested that the period should be shorter (e.g., fewer than 14 days). For transitions between institutional PAC settings (e.g., IRF to SNF), the panelist suggested that a period of 14 to 30 days could be clinically appropriate.
- (7) *Should this period vary by post-acute care setting, or should it be consistent across all PAC settings? If you think it should vary across settings, why?*
- Most respondents felt that the post-treatment period should be consistent across settings.

3.2 Defining Treatment Services

The post-meeting survey questions related to defining treatment services and panelists' responses to those questions are summarized, below.

- (8) *Are there important classifications of PAC treatment services that are not captured on our list [of services]? This classification of "typical PAC treatment services" is important to help organize our thinking about what PAC providers can reasonably manage. Do the classifications accurately illustrate PAC provider care?*
- Some panelists felt the list was sufficient while others offered the following suggestions:
 - For all settings: medical management of subacute and chronic conditions, nutritionist, dementia care/cognitive function, hospital-level care
 - Specific to SNF: high cost expensive drugs, lab services, portable x-ray, non-Resource Utilization Group (RUG) respiratory treatments, IV treatments (non-nutritional), DME, social services, nutritional services, behavior health services (those not considered psychiatric/mental health), pharmacist medication reconciliation, restorative nursing,.
 - Specific to IRF: cognitive therapy
- (9) *When a beneficiary is being treated in a given PAC setting, what types of non-PAC services occur that the attributed PAC provider has a minimal role in managing, ordering, or referring? These services may be important to exclude from the episode so that they are not counted toward the attributed PAC provider's resource use. Please provide a rationale for each type of service you list.*
- A few respondents noted that SNF consolidated billing is "all inclusive." One panelist explained that the SNF is required to absorb all costs for all items and services identified as necessary for the patient's care, with the exception of physician and a few services not covered under consolidated billing. In the SNF setting, anything ordered by the attending physician is at that physician's discretion and the SNF must provide the service or item. Under Medicare Conditions of Participation for Part A in the SNF setting, the current

system does not allow for the SNF to challenge the need for the physician-ordered services unless they are considered as dangerous or compromising to the patient. Panelists further elaborated that all services not covered by consolidated billing should be excluded from the treatment period.

- Respondents suggested the following services to be considered for exclusion:
 - Follow-up tests directly related to the prior hospitalization, such as CT scans, MRIs, etc. When the hospital has noted the recommendation/requirement for follow-up testing, the PAC provider has limited ability to decide to not follow the hospital recommendation/orders upon transfer. If these tests are not excluded, then PAC providers may be reluctant to accept patients that have a requirement for specified follow-up testing related their recent hospitalization.
 - Services planned prior to the start of the PAC episode, for example follow-up tests ordered during a recent inpatient hospital stay or planned surgery. These services, while important to the beneficiary, were already established prior to the PAC episode, and the PAC provider likely has little influence on preventing the services from occurring.
 - Specific services including hemodialysis, chemotherapy, radiation therapy, advanced wound care treatment (hyperbaric, ultrasound, etc.) at a wound center, ambulance and some DMEPOS not under the influence of the PAC provider.

(10) What treatment services rendered by PAC providers may not have downstream outcomes measurable in claims data, and should the measure adjust for their incidence? As mentioned during the meeting, PAC providers improve their performance on the MSPB-PAC resource use measures if their treatment services reduce the likelihood of other Medicare spending during the beneficiary's episode window. If there are PAC treatment services that do not generally reduce the likelihood of other Medicare services within the PAC episode window (currently admission through 30 days post-discharge), we may want to consider how to adjust the MSPB-PAC measures to account for those services.

- Several panelists agreed that there may be certain services that do not have downstream effects in claims data and offered that the items in the relevant PAC assessment instruments would be an alternate way to measure outcomes.
- One panelist felt that hemodialysis, chemotherapy, radiation therapy, management of chronic diseases such as chronic obstructive pulmonary disease (COPD), heart failure, diabetes, mental health conditions, and problems recently diagnosed in the inpatient stay may not have downstream outcomes that are measurable in claims data.

(11) What services billed by other non-PAC providers during the PAC treatment period may serve as substitutes for care provided by the PAC provider? These services may be important to count toward the attributed PAC provider's resource use, since they could have provided these services to the beneficiary directly.

- One respondent noted that most services are provided by a SNF under consolidated billing requirements, and that clinical best practices must be considered when making this type of recommendation.

(12) *Are there any scheduled or planned Physician/Supplier or DME services that should not be excluded as part of the treatment? Currently, all scheduled or planned Physician/Supplier or DME services are being considered for exclusion from the PAC episodes. However, we are interested in any services of this type that you think the attributed PAC provider is able to manage, order, or refer to that should be counted toward the attributed PAC provider's resource use.*

- Several panelists agreed with the current exclusions, with a suggestion that high-cost medications be considered. One panelist recommended that the PAC provider should be given the ability to identify a service as scheduled or planned.

(13) *Besides scheduled or planned services, are there other Part B services that should be excluded from treatment?*

- Several panelists advised that there were no other Part B services that needed to be excluded from treatment.
- Suggestions for additions or refinements to the list of excluded Part B treatment services included the following:
 - Services excluded from SNF consolidated billing, such as hospice care and ambulance transfer, etc.
 - Prosthetics, as they are high cost and carved out of SNF consolidated billing. If PAC providers know that prosthetics will be counted toward their episode costs, they may be reluctant to accept patients requiring these types of devices.
 - Adjustment for, rather than exclusion of, DME costs related to patient conditions, such as obesity. For example, a SNF beneficiary who is obese will require a more expensive wheelchair than one who is not obese but both patients will benefit from a wheelchair to return to the community.
 - Services for chronic conditions that are unrelated to the reason for PAC admission, for which the patient sees the Part B provider for continuing care.

(14) *Should SNF, IRF, HHA, and LTCH have distinct exclusions of Part B claims from treatment (i.e., should a different list of Part B claims exclusions be used for different PAC settings). Please provide examples for specific settings.*

- Most respondents felt that there should be identical Part B inclusions and exclusions across all PAC settings, while another respondent mentioned that there should be a core set of Part B exclusions across settings but with some variation depending on the PAC setting.

3.3 Defining Associated Services

The post-meeting survey questions related to defining associated services and panelists' responses to those questions are summarized, below.

(15) *What is the role of the PAC provider in managing and/or reducing the likelihood of other services occurring during a beneficiary's episode? For instance, what role does a PAC provider have in managing and/or reducing the likelihood of services not billed by*

the PAC provider during the episode window (currently admission through 30 days post-discharge)?

- One panelist described that during the two weeks after the end of the treatment period the PAC provider could play a role in:
 - reducing hospital readmissions, assuming good patient/caregiver education
 - reducing emergency room visits, assuming coordination with outpatient providers and patient education on disease management
 - incorporating post-discharge follow-up activities for a beneficiary
 - improving the potential for safe, independent living
 - providing beneficiary and caregiver education
 - decreasing the potential for falls and injury
 - increasing potential compliance with medications, adherence to wellness plan of care and post inpatient (SNF, IRF, LTCH) therapy regimens
- Another panelist suggested that one of the PAC provider's primary roles is to ensure the effectiveness of care transitions to other PAC providers. Providers play a role in coordinating care with cost-effective providers, and have influence over ordering of DME supplies. They however have limited influence in the provision of certain high-cost tests, such as imaging services.
- Panelists mentioned that PAC providers play a role in recommending other services to the beneficiary, especially less intensive services such as SNF recommending home health services or Part B outpatient therapy services after discharge.
- Another panelist described the fact it is difficult for a provider of service from any PAC setting to greatly influence the care provided by another provider or setting, and suggested that any items or service, including "poor care" rendered by a second provider, should not be included in the first provider's episode.

(16) What services are candidates for exclusion from MSPB-PAC episodes, i.e., what non-PAC treatment services occurring during the episode window should NOT be counted toward the attributed PAC provider's episodes? Please provide a rationale for each type of service you list.

- Respondents suggested the following service exclusions:
 - Hyperbaric oxygen therapy, pacemaker placement, left ventricular assist device (LVAD), dialysis, scheduled surgeries
 - Cancer, including oral, and ESRD therapies
 - PRN Respiratory treatments
 - PRN Pain treatments
 - Cardiac arrhythmia follow-ups

- Services and medications for chronic neurodegenerative diseases and other complex conditions (e.g., amyotrophic lateral sclerosis (ALS), multiple sclerosis (MS), Parkinson’s Disease (PD), and Hepatitis C)
- Ventilator
- Advanced wound care
- Transportation
- Blood transfusions following surgical care
- Routine health maintenance services

(17) How can a limited set of service-level exclusions be defined for each PAC setting within the constraints of the measure development timeline? How should services be prioritized for exclusion?

- Two panelists suggested the use of the CMS Chronic Care Management Program (CCM) criteria to identify the most critical conditions for exclusion. The CCM criteria can be applied in two ways. Firstly, the essential services for a beneficiary with two or more critical level/life-threatening advanced disorders are excluded. Secondly, the services used to treat the most advanced stages of diseases to which clinical staging applies (e.g., dementia) are excluded.

3.4 Risk Adjustment

The post-meeting survey questions related to risk adjustment and panelists’ responses to those questions are summarized, below.

(18) What beneficiary characteristics are critical for inclusion in risk adjustment models?

- The following beneficiary characteristics were suggested by respondents for inclusion in the risk adjustment model:
 - Age, history of hospice and SNF utilization, previous hospitalizations, hierarchical condition categories (HCCs), socioeconomic status (e.g., dual-eligible, living alone), incontinence, cognition, frailty, obesity, psychosocial factors, long-term care indicator, unique number of physicians seen during episode.
 - Two panelists suggested using the International Classification of Function (ICF) criteria to risk adjust for functional status (mobility, feeding, and self-care), cognitive communication status, caregiver support/availability, prior healthcare utilization (hospitalizations, length of stay, ICU stays), neurodegenerative disorders (ALS, PD, etc.), use of continuous oxygen, dialysis, pressure ulcer in hospital, indwelling catheters (e.g., urinary), spinal cord injury.

(19) What lookback period should be used for constructing HCCs and identifying health conditions?

- Responses by panelists varied from 30 days to a year, and “as long as possible,” with 180 days cited most frequently.

(20) *Is there a tractable way to capture beneficiaries with many comorbidities that interact with one another?*

- Respondents felt that certain types of health care utilization might be indicative of multiple, interacting comorbidities (e.g., frequency of diagnostic procedures for same purpose, frequency of hospitalizations, frequency of Medicare Part B therapy use, utilization of non-discretionary services, and dialysis).
- One panelist suggested that the Elixhauser or Charlson comorbidity index be tested for use in the MSPB-PAC measures.

(21) *Should source of entry into the PAC setting be accounted for and how? What are particular types of beneficiaries from a given source that may have different characteristics that should be accounted for when adjusting for case mix (e.g., beneficiaries coming from the community who had a major OP procedure in the prior 60 days)? Acumen shared a proposed classification, given in Tables 2-5 of Supplementary Materials for Session D. Please share your refinements/additions to this classification.*

- Panelists generally agreed that source of entry into the PAC setting should be accounted for through risk adjustment. One respondent suggested that further work needed to be done in defining treatment classifications.
- Panelists suggested that patients admitted to a PAC following surgery or significant medical illness or injury (e.g., moderate or severe stroke, motor vehicle accident) are likely to require intense resources, which should be accounted for through risk adjustment.
- Some differences between beneficiaries admitted from a PAC setting as compared to those coming from an inpatient hospital: LTCH and IRF patients tend to require increased monitoring and physical support, SNF discharges often have a higher level of independence and safety, and all non-hospital transfers tend to have cognitive issues less accurately identified and reported.
- One panelist suggested that the “Prior Acute Surgical IP – Orthopedic” case mix category should include neurological diagnoses.
- The following comments were made regarding the case-mix categories:
 - There is wide variance between patient acceptance and placement practices between facilities (including ICU services), affecting the case-mix category to which a patient belongs.
 - The surgical orthopedic and surgical non-orthopedic case-mix categories are probably the most reliable.

(22) *Given the low volume of episodes for standard and site neutral cases in LTCH, how should risk adjustment be performed?*

- A panelist suggested the use of the All Patient Refined DRG (APR-DRG) severity of illness (SOI) levels as a substitute for HCCs. The number of CC/MCCs for the beneficiary was also suggested, as well as a comorbidity index type approach.

(23) *How should functional status be incorporated into risk adjustment?*

- Several panelists felt that it would be best to incorporate a patient’s prior level of function (PLOF), as the difference between PLOF and current function could influence resource utilization dramatically.
- One panelist recommended accounting for multiple comorbidities and/or severity of the nature of illness.
- A few panelists suggested reviewing related work done by American Health Care Association (AHCA) and National Association for the Support of Long Term Care (NASL), specifically the Mobility (NQF #2612) and Self-Care (NQF # 2613) measures. These measures have been reviewed and endorsed by NQF and items from the measures have been integrated into the MDS 3.0 Section GG, but panelists urged that further work was needed before this information could be directly used from the assessment tools.
- Another panelist recommended adjusting for cognitive status, but cautioned that current assessment information did not provide sufficient information to do so.
- One panelist recommended using the relevant variables available in the relevant PAC assessment instruments, and recommended that the measure development team review studies in which these items have been used for a similar purpose.
- Panelists suggested that the MSPB-PAC measures incorporate the following factors into risk adjustment, where possible: frailty, incontinence (urinary or fecal), and a patient’s inability to walk.

3.5 Formulation of Resource Use Measures for Attributed PAC Providers

The post-meeting survey questions related to the formulation of resource use measures and panelists’ responses to those questions are summarized, below

(24) Should the episode-level exclusion criteria be altered, and if so, how? What additional criteria should be added?

- Respondents suggested the following episode-level exclusions:
 - Episodes ending in death
 - Episodes for patients on hospice
 - Episodes with certain types of staged procedures

(25) How should episodes in which a beneficiary’s Part A SNF or hospital benefit is exhausted be handled?

- A few panelists thought that these episodes should be excluded from a given PAC provider’s MSPB-PAC measure calculation.
 - One panelist suggested excluding beneficiaries who had a hospital benefit exhaust based upon the assumption that if the benefit is exhausted, then the patient may have high resource utilization requirements for extremely complex co-morbid conditions or a severely complex acute condition.
 - A respondent suggested excluding patients who exhaust their Medicare Part A SNF benefit. If a patient is admitted to SNF for 90 days, is out of the SNF for 5 days, and

returns to SNF, on day 96, the second SNF stay does not have the full 100 days available. The respondent was concerned that this may artificially reduce the cost of the MSPB-PAC episode for that provider's stay.

- One panelist was skeptical of excluding episodes in which a beneficiary's SNF benefit is exhausted, given concerns that providers may be incentivized to keep a patient until their benefit is exhausted.
- One panelist felt that no decision could be made about this potential exclusion until additional research and measure testing was performed.

(26) Should very short stays be excluded when they are followed by a "standard" episode (e.g., LUPA claim followed by 60 day stay in one or more HHA providers)?

- Two panelists felt that they should be excluded, with one expressing opposition.
- Another panelist suggested that this approach should be piloted to see how it impacts the other PAC settings before the measure calculation is altered.
- One panelist proposed to exclude LUPA claims followed by a "standard" episode, if it can be determined from the claims data that the LUPA claim was the result of discontinuation against medical advice.

(27) Should predicted values be statistically winsorized, and if so, how? Winsorization is a statistical method to remove extreme values; e.g., to remove episodes with outlier values for episode costs.

- Most panelists supported winsorization though one panelist was concerned about how the measure of central tendency would be calculated.
- One panelist suggested that the episode spending should be capped at two standard deviations from a regional spending average, as is being done in the Comprehensive Care for Joint Replacement (CCJR) model. The alternative is to be consistent with the MSPB measure for acute inpatient hospitals, which first winsorizes and then excludes statistical outliers.

(28) For PAC providers with a low volume of Medicare beneficiaries, should their MSPB-PAC measure be adjusted and if so, how?

- Most respondents suggested setting a minimum threshold for episode volume for the MSPB-PAC measure to be calculated for a given provider. They indicated that this was similar to minimum sample size concerns for complications and readmissions measures.
- One respondent stated that the case minimum should not be set to 25, as is standard in several other measures. Rather, the panelist recommended that the minimum be determined by a tested statistical reliability process.

(29) What are the challenges involved in adapting this measure to allow for comparisons of providers across PAC settings?

- Several panelists expressed concern with using the MSPB-PAC measures in their current form to perform comparisons across different types of PAC providers. Given the lack of standardized assessment data, as well as inherent differences in payment systems and patient populations across PAC settings, panelists urged CMS to undertake considerable

research and gather substantial stakeholder input if the measures were to be adapted for this purpose in the future.

- A few panelists commented that it would be important to risk adjust appropriately if attempting to adapt the measure in this manner.
- Panelists indicated that any comparisons of efficiency across different types of PAC providers would only be meaningful if tied to information about quality and patient outcomes.
- Panelists expressed concerns that this survey question went beyond the mandate of the IMPACT Act, pointing out that the measure was not intended for use in comparisons of cost across different types of PAC providers. These panelists were worried that inappropriate use of an efficiency measure without thorough consideration of quality and patient outcomes could have ramifications for patient access and quality of care.

(30) What unintended consequences do you envision occurring as a result of this measure, as currently constructed, and what can be done to limit these consequences?

- A panelist indicated that they envisioned the MSPB-PAC measures would drive narrower networks of PAC providers, as providers will be incentivized to coordinate care during transitions between settings.
- A panelist was concerned that higher cost PAC settings like IRFs and LTCHs may be disadvantaged by the MSPB-PAC measure, positing that the transition of a patient to a given PAC setting may be driven by consideration of cost instead of quality and setting appropriateness.
- A few panelists were concerned that the MSPB-PAC measures could incentivize providers to stint on care and deny admission to certain complex and high-cost patients in order to achieve lower costs. One panelist suggested that use of the measure in conjunction with quality measures could mitigate this issue.
- One panelist encouraged CMS to ensure providers are aware that a resource use measure will not be used in isolation to provide meaningful information about a provider's performance, so as to prevent any undesirable changes in provider behavior that might result in poor quality of care.
- A panelist suggested that it would be important to monitor beneficiary access to services as well as changes in other care patterns when the measure is implemented so that unintended consequences can be identified and rectified.

4 NEXT STEPS

Acumen is conducting additional empirical analyses based on feedback provided by the TEP at the in-person meeting and through the follow-up e-mail survey. These analyses inform the further refinement of the MSPB-PAC measures.

Additional stakeholder input has been and will continue to be sought in the measure development process. On December 14, 2015, the MSPB-PAC measures were presented at the NQF's Measure Applications Partnership (MAP) Post-Acute Care/Long-Term Care Workgroup as four measures on the Measures Under Consideration (MUC) list. This process included a public comment period, and CMS-led presentation to MAP members. In addition, the MSPB-PAC measures will be open for further public comment during a pre-rulemaking public comment period led by the Center for Clinical Standards and Quality (CCSQ).