ACUMEN

Measure Specifications: Medicare Spending Per Beneficiary – Post-Acute Care Resource Use Measures

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1 INTRODUCTION

The *Improving Post-Acute Care Transformation Act of 2014* (IMPACT Act) requires the Secretary to specify resource use measures, including total estimated Medicare spending per beneficiary, on which post-acute care (PAC) providers, including skilled nursing facilities (SNFs), home health agencies (HHAs), long-term care hospitals (LTCHs), and inpatient rehabilitation facilities (IRFs) are required to submit necessary data specified by the Secretary. The Medicare Spending Per Beneficiary – Post-Acute Care (MSPB-PAC) measures will have the specified application dates of October 1, 2016 for SNF, LTCH, and IRF Quality Reporting Programs (QRPs), and January 1, 2017 for the HHA QRP. The Centers for Medicare & Medicaid Services (CMS) has contracted with Acumen, LLC ("Acumen") to develop the MSPB-PAC measures under the *Calculating Episode-Based Costs from the Medicare Episode Grouper for Physician Feedback* contract (HHSM-500-2011-000121, Task Order HHSM-500-T0008).

Rising Medicare expenditures and variation in spending for PAC services underline the importance of measuring resource use in the PAC setting. Between 2001 and 2013, Medicare PAC spending grew at an annual rate of 6.1 percent and doubled to $59.4 billion, while payments to inpatient hospitals grew at an annual rate of 1.7 percent over this same period.[1] A study commissioned by the Institute of Medicine finds that variation in PAC spending explains 73 percent of variation in total Medicare spending.[2] Given this large variation, as well as the fact that there are currently no consensus organization-endorsed resource use measures in effect that target Medicare PAC providers, MSPB-PAC measures have the potential to provide valuable information on their relative Medicare spending. The MSPB-PAC measures will affect a large number of Medicare beneficiaries receiving PAC services. In 2013, 1.7 million Medicare beneficiaries received SNF services, 3.5 million beneficiaries received HHA services, 122,000 beneficiaries received LTCH services, and 338,000 beneficiaries received IRF services.[3]

The purpose of the MSPB-PAC measures is to support public reporting of resource use in all four PAC provider settings as well as to provide actionable, transparent information to support PAC providers' efforts to promote care coordination and improve the efficiency of care provided to their patients. Importantly, the measures can facilitate such comparisons while taking into account each providers' patient case mix through the use of risk adjustment. Furthermore, implementation of the MSPB-PAC measures will encourage improved coordination of care in PAC settings by holding providers accountable for the Medicare resource use within an "episode of care" (episode). This episode includes the period a patient is directly

[1] MedPAC, "A Data Book: Health Care Spending and the Medicare Program," (2015). 114
[2] Institute of Medicine, "Variation in Health Care Spending: Target Decision Making, Not Geography," (Washington, DC: National Academies 2013). 2
[3] MedPAC, "Medicare Payment Policy," Report to the Congress (2015). xvii-xviii

under a PAC provider's care, as well as a defined period after the end of that PAC provider's treatment which may be reflective of and influenced by the services rendered by the PAC provider. Evaluating resource use within an episode creates a continuum of accountability between Medicare providers. While the MSPB-PAC resource use measures do not take into account patient outcomes or experience beyond those observable in claims data, providers involved in the delivery of high quality PAC services, as well as appropriate discharge planning and post-discharge care coordination would be expected to perform well on these measures since beneficiaries would likely experience fewer costly adverse post-treatment events.

The MSPB-PAC measures mirror the general construction of the inpatient prospective payment system (IPPS) hospital MSPB measure that was finalized in the FY 2012 IPPS/LTCH PPS Final Rule (76 FR 51618 through 51627). The hospital MSPB measure was originally established under the *Affordable Care Act of 2010* and was endorsed by the NQF on December 6, 2013 (NQF #2158)[4]. It has been used in the Hospital Value-Based Purchasing (VBP) Program since FY 2015, a quality incentive program that evaluates hospital performance based on its Total Performance Score (TPS). The TPS in turn is based on scores in four domains: clinical process of care, patient experience of care, outcome, and efficiency. The hospital MSPB measure is reported under the efficiency domain of the TPS. The hospital MSPB measure evaluates hospitals' Medicare spending relative to the Medicare spending of the national median hospital during a hospital MSPB episode which comprises the periods immediately prior to, during, and following a patient's hospital stay. During these periods, the hospital MSPB measure assesses all Part A and Part B Medicare spending for services performed by hospitals and other healthcare providers. In the MSPB-PAC measures and all supporting documentation, the terms "cost", "spending", and "resource use" are used interchangeably to denote Medicare fee-for-service (FFS) paid claims.[5]

Similar to the hospital MSPB measure, the MSPB-PAC measures evaluate a given PAC provider's Medicare spending relative to that of the national median PAC provider in the same setting during an MSPB-PAC episode. Each MSPB-PAC measure only compares providers within a given PAC setting; different types of PAC providers are not compared to one another. For example, the MSPB-PAC SNF measure evaluates SNFs' Medicare spending relative to the Medicare spending of the national median SNF in a performance period. These setting-specific measures account for distinctions that exist between different PAC settings in terms of beneficiary health characteristics, payment policy, and the types of data that are available for risk

[4] QualityNet, "Measure Methodology Reports: Medicare Spending Per Beneficiary (MSPB) Measure," (2015). http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1228772057350

[5] 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.

adjustment in each setting. Setting-specific measures allow for more meaningful comparisons to be made between providers than if one single measure were calculated across all providers in all PAC settings. To account for differences in payment policy and underlying beneficiary health characteristics within settings, the MSPB-PAC LTCH and HHA measures distinguish between different types of episodes which are then only compared with each other.

Input from a variety of stakeholders has been taken into consideration throughout the MSPB-PAC measure development process. The measure developer worked closely with clinicians from the outset to ensure that the measures are clinically sound and incentivize a patient-focused continuum of care. Feedback was sought and considered from a Technical Expert Panel (TEP), the NQF Measure Applications Partnership (MAP), and a public comment period.[6,7,8,9] In addition to feedback received through the TEP, MAP, and public comment period, input from independently contracted clinicians and CMS clinicians was used to develop the list of clinically unrelated service-level exclusions.

This document presents the MSPB-PAC measure specifications. Section 2 provides an overview of the measures and is a high-level summary of the key features of the measures that are described in detail in the remaining sections of the document. Section 3 provides the measure specifications, organized into two subsections. Section 3.1 discusses the methodology for constructing the MSPB-PAC episodes as they apply to each PAC setting. Section 3.2 outlines how the MSPB-PAC measures are calculated using the episodes, in terms of the episodes that are excluded, the risk adjustment approach that is used, and the measure numerator and denominator that yield the MSPB-PAC measure. Section 4 discusses the reliability calculation used for MSPB-PAC measures. For readability, a glossary of key terms is provided in Appendix G and list of acronyms used in this document is given in Appendix H.

[6] CMS, "Technical Expert Panel Summary: Medicare Spending Per Beneficiary – Post Acute Care Measures" (2016) https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Post-Acute-Care-Quality-Initiatives/IMPACT-Act-of-2014/IMPACT-Act-Downloads-and-Videos.html

[7] National Quality Forum, Measure Applications Partnership, "MAP 2016 Considerations for Implementing Measures in Federal Programs: Post-Acute Care and Long-Term Care" Final Report, (February 2016) http://www.qualityforum.org/Publications/2016/02/MAP_2016_Considerations_for_Implementing_Measures_in_Federal_Programs_-_PAC-LTC.aspx

[8] National Quality Forum, Measure Applications Partnership, "Spreadsheet of MAP 2016 Final Recommendations" (February 1, 2016) http://www.qualityforum.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=81593

[9] CMS, "MSPB-PAC Public Comment Summary Report" (2016) https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/MMS/Downloads/Medicare-Spending-Per-Beneficiary-%E2%80%93-Post-Acute-Care-MSPB-PAC-Resource-Use-Measures-.zip

2 OVERVIEW

This section provides an overview of basic descriptive information on the four MSPB-PAC measures, summarizing the key points contained in the rest of the document. A more detailed explanation of the measure specifications, including definitions of key terms, is available in Section 3, below.

2.1 Measure Names

(1) Medicare Spending Per Beneficiary – Post-Acute Care (PAC) Skilled Nursing Facility Measure

(2) Medicare Spending Per Beneficiary – Post-Acute Care (PAC) Home Health Measure

(3) Medicare Spending Per Beneficiary – Post-Acute Care (PAC) Long-Term Care Hospital Measure

(4) Medicare Spending Per Beneficiary – Post-Acute Care (PAC) Inpatient Rehabilitation Facility Measure

2.2 Measure Type

Cost/Resource Use

2.3 Care Settings

SNF, HHA, LTCH, and IRF

2.4 Data Sources

Medicare FFS claims for Part A and Part B, Medicare eligibility files

2.5 Brief Description of Measures

The MSPB-PAC measures evaluate PAC providers' resource use relative to the resource use of the national median PAC provider of the same type. There is a separate MSPB-PAC measure for SNF, HHA, LTCH, and IRF providers; within each measure, a given PAC provider is only compared to other providers in the same setting (i.e., in the MSPB-PAC SNF measure, a SNF provider is compared to all SNF providers). Specifically, the measures assess the Medicare spending performed by the PAC provider and other healthcare providers during an MSPB-PAC episode.

The measure is calculated as the ratio of the payment-standardized, risk-adjusted MSPB-PAC Amount for each PAC provider divided by the episode-weighted median MSPB-PAC Amount across all PAC providers of the same type. Mathematically, the MSPB-PAC measure for an individual PAC provider *j* is:

$$\frac{MSPB\text{-}PAC\ Amount_j}{National\ Median\ MSPB\text{-}PAC\ Amount}$$

An MSPB-PAC measure of less than 1 indicates that a given PAC provider's resource use is less than that of the national median provider in that setting during a performance period. This is done by comparing the MSPB-PAC Amount of the given provider (numerator) to the national median MSPB-PAC Amount (denominator) as defined below.

2.5.1 Numerator

The numerator for a PAC provider's MSPB-PAC measure is the MSPB-PAC Amount. The MSPB-PAC Amount is the average risk-adjusted episode spending across all episodes for the attributed provider, multiplied by the national average episode spending level for all PAC providers in the same setting.

The MSPB-PAC Amount for each PAC provider depends on two factors:

(1) the average of the ratio of the standardized episode spending level to the expected episode spending for each PAC provider; and

(2) the average standardized episode spending across all PAC providers of the same type.

To calculate the MSPB-PAC Amount for each PAC provider, one calculates the average of the ratio of the standardized episode spending over the expected episode spending, and then multiplies this quantity by the average episode spending level across all PAC providers of the same type.

2.5.2 Denominator

The denominator for a PAC provider's MSPB-PAC measure is the episode-weighted national median of the MSPB-PAC Amounts across all PAC providers in the same setting.

2.5.3 Episode Definition

An MSPB-PAC episode includes all Medicare Part A and Part B services with a start date in the episode window, except for a limited set of services that are excluded for being clinically unrelated to PAC treatment. The episode window is opened by a trigger event. For SNF, LTCH, and IRF episodes, this is the day of admission to the respective facility (excepting readmissions occurring within 7 days to the same provider), and for HHA episodes this is the first day of a home health claim. To account for differences in payment policy and underlying beneficiary health characteristics within settings, LTCH and HHA episodes are divided into sub-categories within which episodes are only compared with each other.

This trigger event marks the first day of the PAC treatment period. The treatment period is the time during which the patient receives care services from the provider for whom the measure is being calculated (the "attributed PAC provider"), and includes claims for the PAC

provider as well as all Physician/Supplier (Part B) and durable medical equipment, prosthetics, orthotics, and supplies (DMEPOS) claims, excepting a limited set of services that are determined to be clinically unrelated to PAC treatment (see Section 3.1.5, below, for a description of clinically unrelated services). The treatment period ends at discharge for SNF, LTCH, IRF, and HHA Partial Episode Payment (PEP) episodes, and after 60 days for standard and HHA Low Utilization Payment Adjustment (LUPA) episodes. The associated services period is the time during which any Medicare Part A and Part B services other than those in the treatment period are counted towards the episode spending, again excepting a limited set of services that are clinically unrelated to PAC treatment (see Section 3.1, below, for a detailed explanation on the distinction between treatment and associated services periods). For each type of MSPB-PAC episode, the associated services period starts at the episode trigger and ends 30 days after the last day of the episode's treatment period.

3 MSPB-PAC MEASURE SPECIFICATIONS

The MSPB-PAC measures assess a PAC provider's Medicare spending within an episode relative to that of other providers in the same PAC setting during a performance period. This section presents the measure specifications for the MSPB-PAC measures. Section 3.1 details the steps involved in constructing MSPB-PAC episodes. Section 3.2 discusses the steps involved in calculating the MSPB-PAC measures using the episodes as constructed in Section 3.1.

3.1 Episode Construction

MSPB-PAC episodes assess all Medicare Part A and Part B claims for services delivered to a beneficiary during the episode window, subject to exclusions for particular services that are clinically unrelated to PAC treatment. While there are many common features in the specifications for MSPB-PAC episodes across all PAC settings, there are separate episode types within each setting to accommodate differences between payment systems. Within the LTCH and HHA settings, the episode definitions are refined to reflect differences in payment policy and underlying beneficiary health characteristics. Specifically, the MSPB-PAC LTCH measure differentiates between standard payment rate and site neutral payment rate claims, and the MSPB-PAC HHA measure differentiates between home health claims that are subject to a PEP or LUPA adjustment.[10] This is described in detail below in Section 3.1.1.

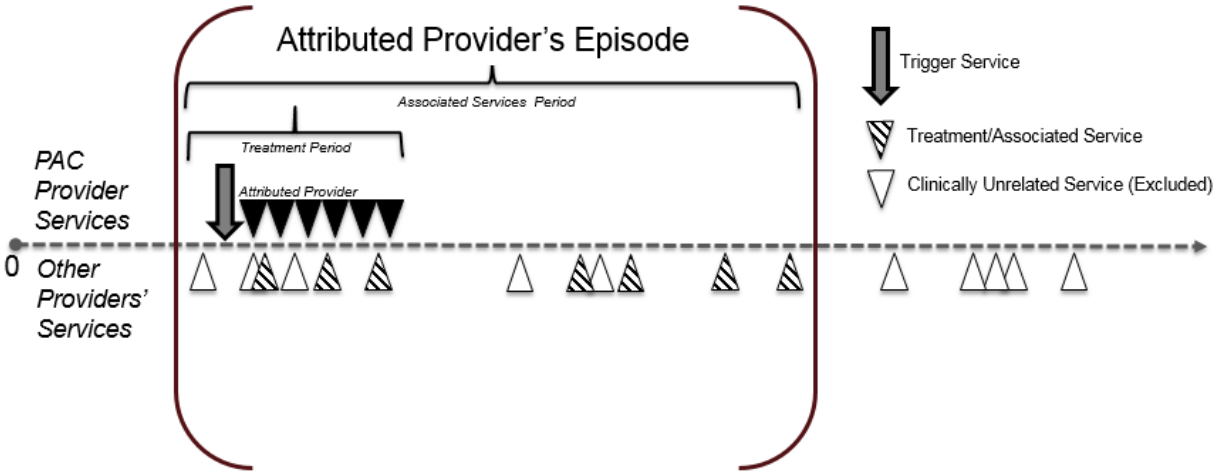
Constructing an MSPB-PAC episode involves the following steps: defining the episode trigger, episode window, treatment period, and associated services period; and excluding certain services from the episode that are clinically unrelated to PAC treatment and closing the episode. Each episode is opened by an episode trigger. The trigger for SNF, LTCH, and IRF episodes is admission to the respective provider, excepting readmissions occurring within 7 days to the same provider (see Section 3.1.1, below, for an explanation of how these readmissions are handled). The trigger for HHA episodes is the first day of the home health claim. The PAC provider that triggers the episode is the provider to whom the episode is attributed for the purpose of calculating the MSPB-PAC measures (attributed provider).

The episode window consists of a treatment period and an associated services period. The treatment period of an MSPB-PAC episode begins on the day of the trigger, and includes those services that are provided directly or reasonably managed by the attributed PAC provider (treatment services) as part of a beneficiary's care plan. The treatment period ends at discharge for MSPB-PAC SNF, LTCH, IRF, and HHA PEP episodes, and after 60 days for MSPB-PAC HHA Standard and LUPA episodes. The associated services period starts at the trigger event for each of the MSPB-PAC episodes, and ends 30 days after the end of the treatment period. The

[10] Home health claims that are subject to both a PEP and LUPA adjustment are treated as MSPB-PAC HHA PEP episodes to reflect their shorter duration.

associated services period is the time during which all non-treatment services are counted towards the episode (associated services). Each component of an MSPB-PAC episode is depicted in the context of a timeline for a given patient's health care services in Figure 1, below.

Figure 1. MSPB-PAC Episode Window



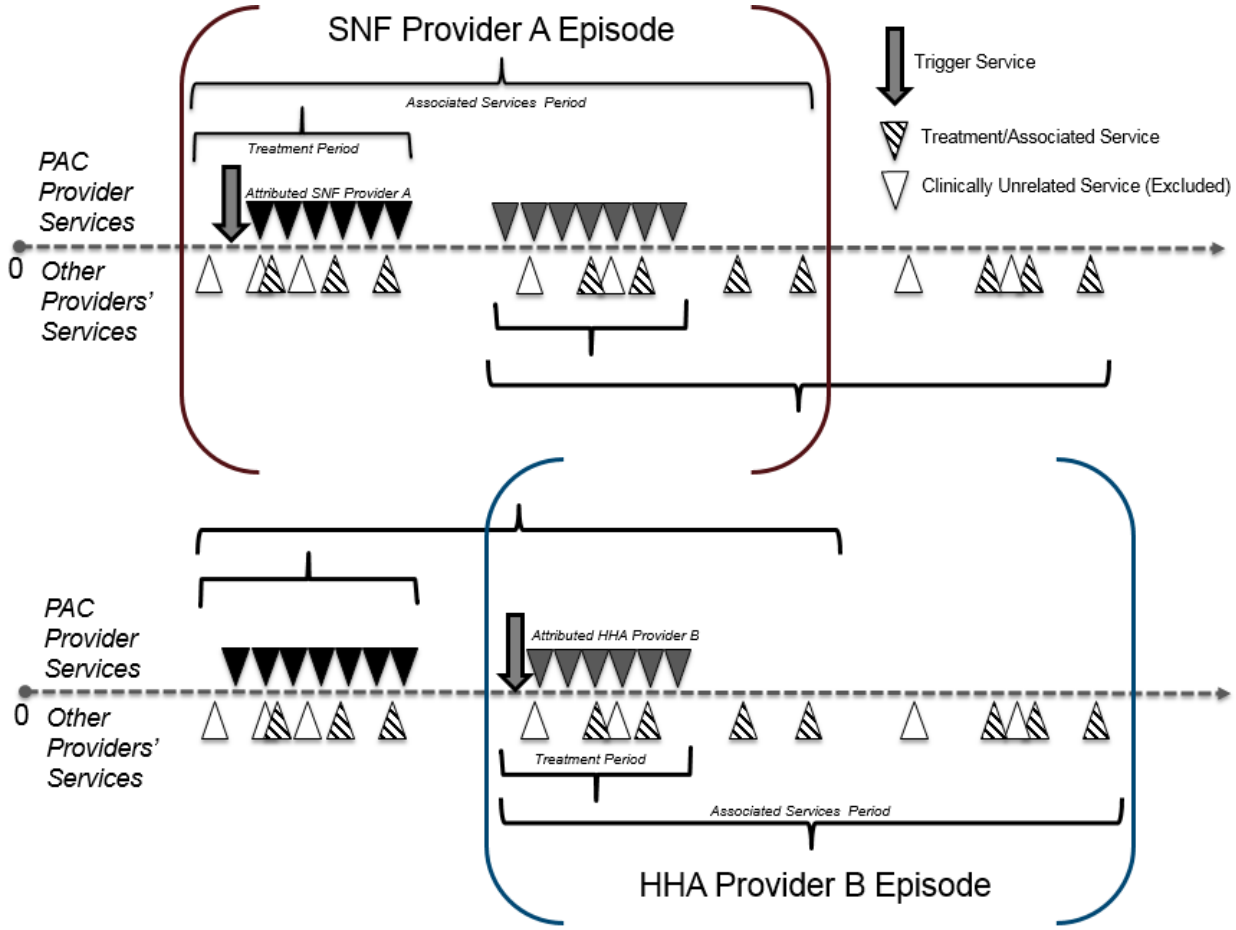
Services occurring in both the treatment period and associated service periods are subject to a defined set of exclusions for services that are clinically unrelated to PAC treatment. A complete list of these service-level exclusions as they apply to each PAC setting is given in the MSPB-PAC Clinically Unrelated Services Workbooks provided with this measure specifications document. Defining the treatment period and the associated services period separately is important because clinical exclusions of services in the treatment period may in principle differ from clinical exclusions of services in the associated services period. Moreover, the distinction may be useful for provider reporting, as it is possible to show performance by the attributed provider in the treatment period, performance by other providers throughout the associated service period, and performance by other providers in specific parts of the associated service period (e.g., post-treatment period).

The definition of MSPB-PAC episodes allows episodes to overlap with hospital and other MSPB-PAC episodes. MSPB-PAC episodes may begin within 30 days of discharge from an inpatient hospital discharge as part of a patient's trajectory from an acute to a PAC setting. An MSPB-PAC stay beginning within 30 days of discharge from an inpatient hospital will therefore be included once in the hospital's MSPB measure and once in the PAC provider's MSPB-PAC measure. Aligning the hospital MSPB and MSPB-PAC measures in this way creates continuous accountability and aligns incentives to improve care planning and coordination across inpatient and PAC settings.

Additionally, an MSPB-PAC episode may also begin during the associated services period of another MSPB-PAC episode in the 30 days post-treatment. One possible scenario

occurs where, for example, a SNF provider discharges a beneficiary who is then admitted to a HHA within 30 days. This scenario is illustrated below in Figure 2. The HHA claim would be included once as an associated service for the attributed provider of the first MSPB-PAC SNF episode and once as a treatment service for the attributed provider of the second MSPB-PAC HHA episode.

Figure 2. Diagram of Overlapping MSPB-PAC Episodes[11]



As in the case of overlap between hospital and PAC episodes discussed earlier, this overlap is necessary to ensure continuous accountability between providers throughout a beneficiary's trajectory of care, as both providers share incentives to deliver high quality care at a lower cost to Medicare. Even within the same PAC setting episode overlap may occur. Using SNF as an example, one MSPB-PAC SNF episode may begin in the associated services period of another MSPB-PAC SNF episode in the 30 days post-treatment. Again, this ensures that SNF providers have the same incentives throughout both MSPB-PAC SNF episodes to deliver quality care and engage in patient-focused care planning and coordination. If the second MSPB-PAC

[11] Note that this is an illustration of one example of episode overlap, however, the same principles apply to all other episode overlap scenarios.

SNF episode were excluded from the second SNF provider's MSPB-PAC SNF measure, that second SNF provider would not share the same incentives as the first MSPB-PAC SNF episode. The MSPB-PAC measures are designed to benchmark the resource use of each attributed provider against what their spending is expected to be as predicted through risk adjustment. The measures take the ratio of observed spending to expected spending for each episode and then take the average of those ratios across all of the attributed provider's episodes. The measures are not a simple sum of all costs across a provider's episodes, thus mitigating concerns about double counting.

Each of the steps involved in constructing MSPB-PAC episodes is described in turn, below. A list of the specifications for each PAC setting's MSPB-PAC episodes is provided in Appendix A.

3.1.1 Step 1: Opening (Triggering) Episodes

Opening, or triggering, an MSPB-PAC episode involves the initiation of an episode based on the triggering rule being satisfied in the claims data. For institutional PAC settings (SNF, LTCH, and IRF) the episode trigger is the beneficiary's admission to the provider, and for HHA episodes it is the first day of a home health claim. The MSPB-PAC episode is attributed to the PAC provider at which the beneficiary triggers the episode, meaning that the episode is counted toward that provider's MSPB-PAC measure.

Table 1. MSPB-PAC Episode Triggers

Setting	Episode Trigger	Specific Conditions
SNF	• Admission to SNF	• Readmissions of the same patient to the same provider within 7 or fewer days after discharge do not trigger a new episode; readmissions after 8 or more days trigger a new episode.
HHA	• First day of home health claim	N/A
LTCH	• Admission to LTCH	• Readmissions of the same patient to the same provider within 7 or fewer days after discharge do not trigger a new episode; readmissions after 8 or more days trigger a new episode.
IRF	• Admission to IRF	• Readmissions of the same patient to the same provider within 7 or fewer days after discharge do not trigger a new episode; readmissions after 8 or more days trigger a new episode.

The SNF, LTCH, and IRF settings treat adjacent readmissions for the same patient and provider as part of the same treatment period to reflect the likelihood that these closely adjacent stays are related. For gaps of 7 or fewer days, stays in the same setting with the same patient and

provider are collapsed into one treatment period.[12] Stays with a gap of 8 or more days trigger separate episodes. See the MSPB-PAC Public Comment Summary Report: Supplementary Materials for further details on the rationale for collapsing adjacent stays.

In the HHA setting, each claim triggers its own episode. Adjacent home health claims are not collapsed into one episode given the existence of many long sequences of consecutive home health claims lasting over 180 days. Patient characteristics and treatment regimens can change significantly during this time. Allowing each home health claim to trigger a new episode promotes the accuracy of predicted episode payments by using the most recent patient information for each claim in the risk adjustment model.

The MSPB-PAC LTCH and HHA measures allow different types of claims to trigger different episodes, reflecting differences in payment policy and beneficiaries' underlying health characteristics. In the LTCH setting, the dual-payment policy as detailed in the FY 2016 IPPS/LTCH PPS Final Rule (80 FR 49601 through 49623) distinguishes between standard payment rate cases and site neutral payment rate cases.[13] A standard payment rate case triggers an MSPB-PAC LTCH Standard episode while a site neutral payment rate case triggers an MSPB-PAC LTCH Site Neutral episode. LTCH Standard and Site Neutral episodes are compared only with LTCH Standard and Site Neutral episodes, respectively, to ensure that the measure is making fair comparisons between clinically similar beneficiaries. In the HHA setting, the measure reflects payment policy by creating three types of MSPB-PAC HHA episodes: Standard, LUPA, and PEP. A HHA Standard episode is triggered by a home health claim to which neither a LUPA nor PEP adjustment applies. A HHA LUPA episode is triggered by a home health claim to which a LUPA adjustment applies, that is, when there are four or fewer visits in a home health claim. A HHA PEP episode is triggered by a home health claim to which a PEP adjustment applies. A PEP is a pro-rated adjustment for shortened episodes as a result of patient discharge and readmission to the same provider within the same 60-day home health claim, or patient transfer to another HHA provider with no common ownership within the same 60-day claim. If a patient is discharged to a hospital, SNF, or IRF, and readmitted to the same HHA within the 60-day claim, a PEP adjustment does not apply. A home health claim to which both a PEP and LUPA adjustment apply triggers a HHA PEP episode. In calculating

[12] By collapsing closely adjacent stays in this way, the length of the treatment period is extended (i.e., it begins on the day of the beneficiary's first admission and ends at the beneficiary's latest discharge). Given the way that the associated services period is constructed, it too is extended when adjacent stays are construction (i.e., it begins on the day of the beneficiary's first admission and ends 30 days after the end of the treatment period). Services delivered during a gap of 7 or fewer days are counted towards the episode as associated services as they do not meet the definition of treatment services.

[13] A standard payment rate case is one that is not a psychiatric or rehabilitation MS-LTC-DRG, and is immediately preceded by an acute care hospital stay, and either the acute care hospital stay included at least 3 days in intensive care unit (ICU) or coronary care unit (CCU), or the beneficiary received 96+ hours of ventilator services. A site neutral payment rate case is one that does not meet the definition of a standard payment rate case.

expected spending as part of the total MSPB-PAC measure calculation, MSPB-PAC HHA episodes are only compared to HHA episodes of the same type (i.e., HHA LUPA episodes will only be compared to HHA LUPA episodes, and PEP episodes to PEP episodes).

3.1.2 Step 2: Defining the Episode Window

The episode window is the time period during which the MSPB-PAC measures assess the Medicare spending for Part A and Part B services delivered to a beneficiary. The episode window is comprised of a treatment period and an associated services period. The treatment period of an MSPB-PAC episode begins on the day of the trigger, and includes those services that are provided directly or reasonably managed by the attributed PAC provider as part of a beneficiary's care plan. The associated services period is the time during which all non-treatment services are counted towards the episode. The definition of the treatment and associated services periods are detailed below for MSPB-PAC episodes in Table 2.

Table 2. MSPB-PAC Episode Windows

MSPB-PAC Episode Type	Treatment Period	Associated Services Period
SNF	• Begins at trigger • Ends at discharge	• Begins at trigger • Ends 30 days after the end of the treatment period
HHA Standard HHA LUPA	• Begins at trigger • Ends 60 days after trigger	• Begins at trigger • Ends 30 days after the end of the treatment period
HHA PEP	• Begins at trigger • Ends at discharge	• Begins at trigger • Ends 30 days after the end of the treatment period
LTCH Standard LTCH Site Neutral	• Begins at trigger • Ends at discharge	• Begins at trigger • Ends 30 days after the end of the treatment period
IRF	• Begins at trigger • Ends at discharge	• Begins at trigger • Ends 30 days after the end of the treatment period

The construction of the episode window differs for MSPB-PAC HHA Standard, LUPA, and PEP episodes. The treatment period for MSPB-PAC HHA Standard and HHA LUPA claims is a 60-day period from the episode trigger. This is to account for the way in which the home health PPS treats the claims that trigger these episodes. For standard home health claims, the HHA PPS is based on a 60-day unit of payment. A given HHA provider may decide to discharge the patient from their care before the end of the 60-day period, but will still receive the full 60-day payment as long as there is not another home health claim for the patient initiated

within the same period (in which case the claim would be prorated as a PEP). LUPA claims are paid on a per-visit basis, when there are four or fewer visits during a 60-day period. The allocation of these visits over the course of the 60-day period is determined by the HHA provider. As such, the MSPB-PAC HHA episode window is a fixed 60-day period for these Standard and LUPA episodes. The treatment period for episodes triggered by PEP claims is the length of the home health claim, given that these claims reflect transfers. This ensures that transfers within the HHA setting are treated in an analogous way to transfers for MSPB-PAC SNF, LTCH, and IRF episodes.

3.1.3 Step 3: Defining Treatment Services

Treatment services are Medicare Part A and Part B services delivered to a beneficiary with a start date during the defined treatment period, and are directly related to the beneficiary's care plan that are provided directly or reasonably managed by the attributed provider. Treatment services occurring on the first day of MSPB-PAC episodes are subject to exclusions related to prior institutional care, including ambulance transport to the attributed PAC provider facility and DMEPOS orders preceding the patient's admission to the PAC provider. For a detailed description of these rules pertaining to first day services, see Appendix B. Treatment services are also subject to exclusions for particular services that are clinically unrelated to PAC treatment, as described in Section 3.1.5, below.

3.1.4 Step 4: Defining Associated Services

Associated services are non-treatment services that are provided within the associated services period for a given MSPB-PAC episode. For instance, this includes an acute inpatient hospital admission for a complication arising during or after PAC treatment. The Medicare spending for all Part A and Part B services during the associated services period are counted toward the episode, with exceptions for clinically unrelated services, as described below in Section 3.1.5.

3.1.5 Step 5: Excluding Clinically Unrelated Services

Certain services are excluded from the MSPB-PAC episodes because they are clinically unrelated to PAC treatment and/or they are Medicare services delivered by other providers during the episode window over which PAC providers may have limited to no influence. These limited service-level exclusions are not counted towards a given PAC provider's Medicare spending to ensure that facilities do not have disincentives to treat patients with certain conditions or complex care needs.

Please see the MSPB-PAC Clinically Unrelated Services Workbooks for the list of exclusions that apply to each of the MSPB-PAC episode types. This list was developed by obtaining consensus on the exclusion of each service with CMS clinicians, 8 independently

contracted clinicians (including two TEP members) with expertise in each of the PAC settings, and the measure developer's clinicians. Feedback from the TEP provided through the in-person meeting and follow-up email survey was also taken into consideration. Additional information on the process for developing the list of clinically unrelated services is available in Appendix D. The specialties of the non-CMS clinicians with whom we consulted during the measure development process are provided in Appendix F. Services that were determined by clinical consensus to be outside of the control of PAC providers include:

- Planned hospital admissions[14]
- Routine management of certain preexisting chronic conditions (e.g., dialysis for end-stage renal disease (ESRD), enzyme treatments for genetic conditions, treatment for preexisting cancers, and treatment for organ transplants)
- Some routine screening and health care maintenance (e.g., colonoscopy and mammograms)
- Immune modulating medications (e.g., immunosuppressants for organ transplant or rheumatoid arthritis)

3.1.6 Step 6: Closing Episodes

The final step in episode construction is determining when the MSPB-PAC episode closes. MSPB-PAC episodes end according to the rules described in Section 3.1.2, above: across all settings, the episode ends 30 days after the end of the treatment period. The full payment for all claims that begin within the episode window is counted toward the episode, to maintain consistency with the hospital MSPB measure and to fairly assign payment to the episode for Medicare claims paid on a prospective payment system, regardless of their length.

3.2 Measure Calculation

This section describes the steps involved in calculating the MSPB-PAC measures. Section 3.2.1 describes the episode-level exclusions that apply to the episodes constructed according to the steps in Section 3.1, above. Section 3.2.2 outlines the risk adjustment approach for predicting expected episode spending. Finally, Section 3.2.3 details the steps involved in

[14] The lists of clinically unrelated services build off the planned readmissions algorithm developed by the Yale New Haven Health Services Corporation/Center for Outcomes Research & Evaluation, as well as the expansions to the Yale algorithm by RTI. Clinicians reviewed the list of exclusions from that algorithm in the context of PAC treatment. During the review process, clinicians reviewed admissions observed in MSPB-PAC episodes and created exclusions that overlap with the Yale algorithm. Details on the Yale and RTI algorithms are available here: "Hospital-Wide All-Cause Unplanned Readmission Measure - Version 4.0," in *2015 Measure Updates and Specifications Report*, ed. Yale New Haven Health Services Corporation/Center for Outcomes Research & Evaluation (2015). 10-11. Laura Smith, West, S., Coots, L., Ingber, M., "Skilled Nursing Facility Readmission Measure (SNFRM) NQF #2510: All-Cause Risk-Standardized Readmission Measure," (Centers for Medicare & Medicaid Services, 2015). 5-6

calculating the MSPB-PAC measures after episode-level exclusions have been implemented. Within this section, Step 7 provides the measure numerator and denominator.

3.2.1 Implementing Episode-Level Exclusions

Certain episodes are excluded from the MSPB-PAC measure calculation to ensure that the measures facilitate meaningful comparisons between PAC providers. These exclusions are distinct from the exclusions for clinically unrelated services previously discussed in Section 3.1.5, above, which except a limited set of services from MSPB-PAC episodes. In contrast, episode-level exclusions, discussed below, remove entire episodes from the measure calculation when certain criteria are met. Each episode-level exclusion is listed below along with accompanying rationale.

Exclusions from All MSPB-PAC Measures

(1) Any episode that is triggered by a PAC claim outside the 50 states, D.C., Puerto Rico, and U.S. territories.

This exclusion ensures that complete claims data are available for each provider.

(2) Any episode where the claim(s) constituting the attributed PAC provider's treatment have a standard allowed amount of zero or where the standard allowed amount cannot be calculated.

Episodes where the claim(s) constituting the attributed PAC provider's treatment are zero or have unknown allowed payment do not reflect the cost to Medicare. Including these episodes in the calculation of MSPB-PAC measures could potentially misrepresent a providers' resource use.[15]

(3) Any episode in which a patient is not enrolled in Medicare FFS for the entirety of a 90-day lookback period (i.e., a 90-day period prior to the episode trigger) plus episode window (including where a beneficiary dies), or is enrolled in Part C for any part of the lookback period plus episode window.

Episodes meeting this criteria do not have complete claims information that is needed for risk adjustment and the measure calculation, as there may be other claims (e.g., for services provided under Medicare Advantage (Part C)) that we do not observe in the Medicare Part A and B claims data. Including these episodes in the MSPB-PAC measures could potentially misrepresent a provider's resource use. This exclusion also allows us to faithfully construct Hierarchical Condition Categories (HCCs) for each episode by scanning the lookback period prior to its start without missing claims.

[15] Claims that may not have a standard allowed amount include claims where the actual allowed amount is zero, claims that are not covered by Medicare, or claims for an inpatient (including LTCH and IRF) stay where the beneficiary has not yet been discharged. Furthermore, after a given service year of Medicare claims data has attained one year of run-out for claims processing, claims in that service year are no longer standardized.

(4) Any episode in which a patient has a primary payer other than Medicare for any part of the 90-day lookback period plus episode window.

Where a patient has a primary payer other than Medicare, complete claims data may not be observable. These episodes are removed to ensure that the measures are accurately calculated using complete data.

(5) Any episode where the claim(s) constituting the attributed PAC provider's treatment include at least one related condition code indicating that it is not a prospective payment system bill.

Claims that are not a prospective payment system bill may not report sufficient information to allow for payment standardization. For example, this excludes Critical Access Hospital (CAH) swing beds from the MSPB-PAC SNF measure.[16]

Exclusions from MSPB-HHA Measure

In addition to the episode-level exclusions listed above, the MSPB-PAC HHA measure has an additional exclusion to reflect differences in its payment system.

(6) Any episode that is triggered by a Request for Anticipated Payment (RAP) claim.

Home health RAP claims are interim claims that do not reflect the final payment made by Medicare for the services.

3.2.2 Risk Adjustment Approach

The purpose of risk adjustment is to compensate for patient health circumstances and demographic factors that affect resource use but are beyond the influence of the attributed provider. The MSPB-PAC risk adjustment models are adapted from the model used in the NQF-endorsed hospital MSPB measure which is itself an adaptation of the standard CMS-HCC risk adjustment model.[17,18] The MSPB-PAC models use a linear regression framework and a 90-day HCC lookback period. Risk adjustment is performed separately for the MSPB-PAC episode types listed below:

- HHA Standard
- HHA LUPA

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[16] CMS, "Basics of Payment Standardization". (2015) 13 http://www.qualitynet.org/dcs/BlobServer?blobkey=id&blobwhere=1228890462165&blobheader=multipart%2Foctet-stream&blobheadername1=Content-Disposition&blobheadervalue1=attachment%3Bfilename%3D42%2F42%2FCMS_BasicsPaymntStd_June2015.pdf&blobcol=urldata&blobtable=MungoBlobs

[17] QualityNet, "Measure Methodology Reports: Medicare Spending Per Beneficiary (MSPB) Measure," (2015). http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1228772057350

[18] CMS, "Medicare Risk Adjustment Information" (2016) https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Risk-Adjustors.html

- HHA PEP[19]
- IRF
- LTCH Site Neutral
- LTCH Standard
- SNF

This ensures that comparisons are fair, meaningful, and reflective of payment policy differences within particular PAC settings.

The following beneficiary health status indicators are included as covariates in each MSPB-PAC risk adjustment model and to the greatest extent possible are consistent across PAC settings (see Appendix C for a comprehensive list of independent variables used in the risk adjustment models):

- 70 HCCs
- 11 HCC interactions
- 11 brackets for age at the start of the episode
- Original entitlement to Medicare through disability
- ESRD
- Long-term care institutionalization at start of episode[20]
- 6 clinical case mix categories reflecting recent prior care (described further below)[21]
- Hospice utilization during the episode
- Prior acute ICU utilization day categories
- Prior acute length of stay categories

The following additional setting-specific indicators are included to further control for clinical characteristics using information from the PAC treatment:

- MS-LTC-DRGs for MSPB-PAC LTCH
    - The MSPB-PAC LTCH risk adjustment models include the MS-LTC-DRGs (as reported on LTCH claims during a performance period) where there are at least a threshold number of episodes for that MS-LTC-DRG. Where there are at least 1 but fewer than the threshold number of episodes per MS-LTC-DRG, the risk adjustment

[19] Home health claims subject to both a PEP and LUPA adjustment are treated as MSPB-PAC HHA PEP episodes.
[20] Identifies beneficiaries who have been institutionalized for at least 90 days in a given year. The indicator is based on 90-day assessments from the Minimum Data Set (MDS) and is calculated based on CMS' definition of institutionalized individuals.
[21] There are 7 case mix categories as described above, but one category is removed to prevent collinearity.

models use the Major Diagnostic Category (MDC) instead of the MS-LTC-DRG.[22] Where there are no episodes for an MS-LTC-DRG, it is not included in the risk adjustment models.

  - This methodology for selecting MS-LTC-DRGs and MDCs is the same for the MSPB-PAC LTCH Standard and Site Neutral risk adjustment models, although the actual MS-LTC-DRGs and MDCs included in each model may differ, depending on the claims data for a given performance period. To account for this, the list of MSPB-PAC LTCH risk adjustment variables in Appendix C, Table C-3 includes all possible MS-LTC-DRGs and MDCs for our years of analysis (FY 2013 and FY 2014), including those that were not reported on any claims.

- Rehabilitation Impairment Categories (RICs) for MSPB-PAC IRF

The clinical case mix category variables used in the MSPB-PAC risk adjustment models are included to account for differences in intensity and type of care received by beneficiaries prior to the start of an MSPB-PAC episode. A beneficiary is assigned to a clinical case mix category using the following methodology. Taking the most recent institutional claim (by end date) in the 60 days prior to the start of an MSPB-PAC episode, the episode is assigned to one of the following mutually exclusive and exhaustive clinical case mix categories:

(1) **Prior Acute Surgical IP – Orthopedic** – beneficiaries who have most recently undergone orthopedic surgery in an acute inpatient hospital

(2) **Prior Acute Surgical IP – Non-Orthopedic** – beneficiaries who have most recently undergone a non-orthopedic surgery in an acute inpatient hospital

(3) **Prior Acute Medical IP with ICU** – beneficiaries who have most recently stayed in an acute inpatient hospital for non-surgical reasons and had a stay in the ICU

(4) **Prior Acute Medical IP without ICU** – beneficiaries who have most recently stayed in an acute inpatient hospital for non-surgical reasons but did not have a stay in the ICU

(5) **Prior PAC - Institutional** – beneficiaries who are continuing PAC from an institutional PAC setting (i.e., coming from an LTCH, IRF, or SNF)

(6) **Prior PAC - HHA** – beneficiaries who are continuing PAC from a HHA

(7) **Community** – all other beneficiaries

In the event that there are multiple prior claims with the same end date in the 60 days prior to the start of a PAC episode, additional logic is employed to determine the episodes' clinical case mix category. The same logic is used to handle multiple prior claims with the same end date across all types of MSPB-PAC episodes except for LTCH Standard. For conflicts occurring between two IP claims, the clinical case mix category corresponding to the claim with the longest length of stay (LOS) is assigned. For all other types of conflicts including those

[22] After testing using the FY 2013 and FY 2014 claims data, the threshold number of episodes used was 30. Occasionally, even certain MDCs are very rare. In instances where an MDC's episodes not captured by a separate MS-LTC-DRG dummy are less than the threshold number, that MDC dummy is not included.

where the LOS is the same between two IP claims, the clinical case mix category is assigned using a hierarchy in the order of the categories listed above. Different logic is used to handle LTCH Standard episodes with multiple prior claims sharing the same end date. Given that LTCH Standard episodes are defined by the presence of a prior acute IP stay between 0 to 1 days prior to the start of the LTCH Standard episode, only information about this required prior hospitalization is used to assign the episode's clinical case mix category. Given the role of ICU days in determining eligibility for LTCH Standard payment rates, the clinical case mix category is assigned based on the inpatient stay with the most ICU days. In the event of a tie in the number of ICU days, the clinical case mix category is assigned based on the IP claim with the longer length of stay. Should a tie still persist, the most recent IP claim by discharge date is used. Finally, if the prior criteria do not result in a category assignment, the original hierarchy above is used. Please see the MSPB-PAC Public Comment Summary Report: Supplementary Materials for further details on the hierarchy for determining an episode's clinical case mix category.

3.2.3 MSPB-PAC Measure Calculation

The next step is to calculate the MSPB-PAC measure for each provider after applying the episode-level exclusions discussed in Section 3.2.1, and using the risk adjustment approach described in Section 3.2.2. The steps to calculate the MSPB-PAC measures are described in sequence below.

Step 1: Standardize Claim Payments

The first step in calculating the standardized payment for a claim is to eliminate variation in payments due to Medicare geographic adjustment factors and add-on payments for Medicare programs, such as indirect medical education (IME) and disproportionate share hospitals (DSH). The goal of this step is to remove sources of variation not directly related to decisions to provide clinical services. Payment standardization controls for geographic variation in healthcare payments, such as the hospital wage index and geographic practice cost index (GPCI).[23] All payment data shown in the MSPB-PAC measures and supporting documentation reflect allowed amounts, which include both Medicare trust fund payments and beneficiary deductible and coinsurance. Bonus or penalty amounts due to Medicare quality reporting or other special programs are not included.

[23] QualityNet, "CMS Price (Payment) Standardization – Detailed Methods" (Revised May 2015) https://qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1228772057350

Step 2: Calculate Standardized Episode Payments

Next, to prepare claims data for calculating risk-adjusted payments, standardized episode payments are calculated. For each episode, standardized payments sum all standardized Medicare claims payments for services in the episode window as detailed in previous sections.

Step 3: Calculate Predicted Episode Payments

The third step calculates predicted payments for each episode. This step estimates the relationship between the independent variables and standardized episode payments using an ordinary least squares (OLS) regression. See Appendix C for a full list of the independent variables used in the risk adjustment models.

Step 4: Winsorize (Bottom Code) Predicted Values

Next, the distribution of predicted values is examined. If the distribution of predicted values includes extremely low values, winsorization is performed at the low end of the distribution (i.e., "bottom coding"). The resultant values are renormalized to maintain a consistent average episode payment.[24] If the distribution of predicted values does not have extremely low values, winsorization is not required to ensure meaningful ratios of observed to predicted spending (see below). In accordance with the hospital MSPB measure calculation, renormalization multiplies the winsorized predicted values by the ratio of the average original predicted payment and the average winsorized predicted payment. For example, suppose an episode's predicted value (PREDICTED_VALUE) is $1,000, but the 0.5th percentile of predicted values is $1,500. Then that episode's "winsorized" predicted value (WINS_PREDICTED_VALUE) would be $1,500. The "renormalized" winsorized predicted value would be:

$$\frac{\$1500 \times mean\,(PREDICTED\_VALUE)}{mean(WINS\_PREDICTED\_VALUE)}$$

where the mean is taken over the entire national sample of the same MSPB-PAC episode type. This re-normalization ensures that the average of the resulting winsorized predicted values is equal to the average of the original predicted values.

Step 5: Calculate Residuals

The residuals for each episode are calculated as the difference between standardized episode spending and standardized predicted spending for episode *i* and hospital *j*[25]:

[24] When the MSPB-PAC measures were tested using FY 2013 and FY 2014 claims data (for IRF and LTCH) and FY 2014 data (for SNF and HHA), predicted values were bottom-coded at the 0.5th percentile only for MSPB-PAC HHA Standard, HHA PEP, and HHA LUPA episodes to eliminate especially low predicted values arising in a subset of HHA episodes.

[25] Where Step 4 is applied, this is winsorized predicted renormalized spending for Steps 5-7.

$$Residual_{ij} = Y_{ij} - \widehat{Y}_{ij}$$

where:

Y_{ij} is the attributed standardized spending for episode *i* and provider *j*

$\widehat{Y}_{ij}$ is the standardized predicted spending for episode *i* and provider *j*, as predicted from risk adjustment

Step 6: Exclude Episodes with Outlier Residuals

The next step excludes outliers from the calculation and renormalizes the resultant predicted values to maintain a consistent average episode payment level. Episodes with residuals below the 1st percentile or above the 99th percentile of the residual distribution are excluded, reducing the impact of high- and low-payment outliers on a PAC provider's measure. Predicted values after outlier exclusion are renormalized by multiplying each value by the ratio of the average standardized un-risk adjusted payments to the average of the standardized predicted payments remaining after exclusion of episodes with outlier residuals.

Step 7: Calculate MSPB-PAC Measure

The MSPB-PAC measure is calculated for individual providers, allowing them to be compared relative to other providers in the same PAC setting.

Mathematically, the MSPB-PAC Measure for individual provider *j* is:

$$\frac{MSPB\text{-}PAC\ Amount_j}{National\ Median\ MSPB\text{-}PAC\ Amount}$$

The numerator is the MSPB-PAC Amount, or the average risk-adjusted episode spending across all episodes for the attributed provider. This is then multiplied by the national average episode spending level for all PAC providers in the same setting. Mathematically, the MSPB-PAC Amount numerator is calculated as:

$$MSPB\text{-}PAC\ Amount_j = \left(\frac{1}{n_j}\sum_{i\in\{I_j\}}\frac{Y_{ij}}{\overline{\widehat{Y}_{ij}}}\right)\left(\frac{1}{n}\sum_{j}\sum_{i\in\{I_j\}}Y_{ij}\right)$$

where:

Y_{ij} is the attributed standardized spending for episode *i* and provider *j*

$\widehat{Y}_{ij}$ is the expected standardized spending for episode *i* and provider *j,* as predicted from risk adjustment, and resulting from Step 6, above

n_j is the number of episodes for provider *j*

n is the total number of episodes nationally

$i \in \{I_j\}$ is all episodes *i* in the set of episodes attributed to provider *j*

The denominator is the episode-weighted national median of the MSPB-PAC Amounts for the same PAC setting as that of the attributed provider.[26] A simplified measure calculation example is also provided in Appendix E.

MSPB-PAC LTCH and HHA measure calculation is performed separately for LTCH Standard and Site Neutral, and HHA Standard, PEP, and LUPA episodes to ensure that they are compared only to other episodes of the same type. The final MSPB-PAC LTCH and HHA measures, respectively, combine the ratios of the episode types to construct one provider score. For example, the MSPB-PAC LTCH measure is calculated as the ratio of the MSPB-PAC Amount for each LTCH provider divided by the episode-weighted median MSPB-PAC Amount across all LTCH providers. To calculate the MSPB-PAC Amount for each LTCH provider, one calculates the ratio of the standardized spending for LTCH Standard episodes over the expected spending (as predicted in risk adjustment) for LTCH Standard episodes, and the ratio of the standardized spending for LTCH Site Neutral episodes over the expected spending (as predicted in risk adjustment) for LTCH Site Neutral episodes, and then averages these ratios across all episodes for the attributed provider. This quantity is then multiplied by the average episode spending level across all LTCH providers nationally for Standard and Site Neutral episodes. The denominator for an LTCH provider's MSPB-PAC LTCH measure is the episode-weighted national median of the MSPB-PAC Amounts across all LTCH providers. The same principle applies to the MSPB-PAC HHA measure to combine the ratios of Standard, PEP, and LUPA episodes into one provider score.

The MSPB-PAC measures are calculated for each PAC provider. An MSPB-PAC measure with a value less than 1 indicates that a given PAC provider's resource use is less, after risk adjustment, than the resource use of the national median MSPB-PAC Amount across all providers in the same PAC setting during a given performance period.

[26] An episode-weighted median can be illustrated with the following example: If there are 2 PAC providers and one provider had a measure score of 1.5 and another had one of 0.5, but the first had 4 episodes and the second only 1, then the episode-weighted median would be 1.5 (i.e., 0.5, 1.5, **1.5**, 1.5, 1.5).

4 RELIABILITY

Reliability refers to the extent to which an MSPB-PAC measure reflects true variation in a provider's episode spending. The reliability score captures how much of the variance in measure scores is due to differences in episode payments between providers rather than differences in episode payments within a provider's set of episodes. Mathematically, reliability for individual PAC provider *j* is calculated as:

$$Reliability_j = \frac{\sigma_b^2}{\sigma_b^2 + \sigma_{w_j}^2}$$

where:

σ_b^2 is the variance among PAC providers in the same setting nationally

$\sigma_{w_j}^2$ is the variance within individual PAC provider *j* divided by the number of episodes in individual PAC provider *j*

The majority of PAC providers in each setting were at or above a moderate level of reliability[27] using a 20-episode case minimum:

- MSPB-PAC HHA Measure: 94.27 percent of providers
- MSPB-PAC LTCH Measure: 98.83 percent of providers
- MSPB-PAC IRF Measure: 99.74 percent of providers
- MSPB-PAC SNF Measure: 100.00 percent of providers

[27] Previous work by Yale University proposed that a reliability threshold of 0.4 is the lower limit of "moderate" reliability. See Mathematica, Inc. memorandum: http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/hospital-value-based-purchasing/Downloads/HVBP_Measure_Reliability-.pdf

Appendix A: Episode Specifications

Table A-1. MSPB-PAC HHA Episode Specifications

Episode Characteristic	Definition
Trigger Event	First day of a home health claim
Episode Window	The episode window comprises two periods, the definition of which depends on whether it is a Standard, LUPA, or PEP episode. ***HHA Standard Episodes*** • Treatment period: begins at trigger, ends after 60 days • Associated services period: begins at trigger, ends 30 days after the end of the treatment period ***HHA LUPA Episodes*** • Treatment period: begins at trigger, ends after 60 days • Associated services period: begins at trigger, ends 30 days after the end of the treatment period ***HHA PEP Episodes*** • A home health claim that is subject to both a LUPA and PEP adjustment is treated as an MSPB-PAC HHA PEP episode. • Treatment period: begins at trigger, ends at discharge • Associated services period: begins at trigger, ends 30 days after the end of the treatment period
Treatment Services	• Part A and Part B services delivered to a beneficiary with a start date during the treatment period, and are directly related to the beneficiary's care plan that are provided directly or reasonably managed by the attributed provider • Certain services occurring on the first day of the episode are excluded (see Appendix B)
Associated Services	Claims in the following settings that occur during the associated services period are included in the episode: • Inpatient • Outpatient • SNF • HHA • IRF • LTCH • Part B • DMEPOS • Hospice
Service Exclusions	The following services are excluded from the episode from both the treatment and associated services period: • Planned hospital admissions • Routine management of certain preexisting chronic conditions (e.g., dialysis for ESRD, enzyme treatments for genetic conditions, treatment for preexisting cancers, and treatment for organ transplants) • Some routine screening and health care maintenance (e.g., colonoscopy and mammograms) • Immune modulating medications (e.g., immunosuppressants for organ transplant or rheumatoid arthritis)

Episode Characteristic	Definition
Episode Exclusions	• Any episode that results from a RAP • Any episode that is triggered by a home health claim outside the 50 states, D.C., Puerto Rico, and U.S. territories • Any episode where the claim(s) constituting the attributed HHA provider's treatment have a standard allowed amount of zero or where the standard allowed amount cannot be calculated • Any episode in which a beneficiary is not enrolled in Medicare FFS for the entirety of the 90-day lookback period (i.e., a 90-day period prior to the episode trigger) plus episode window (including where a beneficiary dies), or is enrolled in Part C for any part of the lookback period plus episode window • Any episode in which a beneficiary has a primary payer other than Medicare for any part of the 90-day lookback period plus episode window • Any episode where the claim(s) constituting the attributed HHA provider's treatment include at least one related condition code indicating that it is not a prospective payment system bill

Table A-2. MSPB-PAC SNF Episode Specifications

Episode Characteristic	Definition
Trigger Event	Admission to a SNF
Episode Window	The episode window comprises two periods. • Treatment period: begins at trigger, ends at discharge • Associated services period: begins at trigger, ends 30 days after the end of the treatment period
Treatment Services	• Part A and Part B services delivered to a beneficiary with a start date during the treatment period, and are directly related to the beneficiary's care plan that are provided directly or reasonably managed by the attributed provider • Certain services occurring on the first day of the episode are excluded (see Appendix B)
Associated Services	Claims in the following settings that occur during the associated services period are included in the episode: • Inpatient • Outpatient • SNF • HHA • IRF • LTCH • Part B • DMEPOS • Hospice

Episode Characteristic	Definition
Service Exclusions	The following services are excluded from the episode from both the treatment and associated services period: • Planned hospital admissions • Routine management of certain preexisting chronic conditions (e.g., dialysis for ESRD, enzyme treatments for genetic conditions, treatment for preexisting cancers, and treatment for organ transplants) • Some routine screening and health care maintenance (e.g., colonoscopy and mammograms) • Immune modulating medications (e.g., immunosuppressants for organ transplant or rheumatoid arthritis)
Episode Exclusions	• Any episode that is triggered by a SNF claim outside the 50 states, D.C., Puerto Rico, and U.S. territories • Any episode where the claim(s) constituting the attributed SNF provider's treatment have a standard allowed amount of zero or where the standard allowed amount cannot be calculated • Any episode in which a beneficiary is not enrolled in Medicare FFS for the entirety of the 90-day lookback period (i.e., a 90-day period prior to the episode trigger) plus episode window (including where a beneficiary dies), or is enrolled in Part C for any part of the lookback period plus episode window • Any episode in which a beneficiary has a primary payer other than Medicare for any part of the 90-day lookback period plus episode window • Any episode where the claim(s) constituting the attributed SNF provider's treatment include at least one related condition code indicating that it is not a prospective payment system bill

Table A-3. MSPB-PAC LTCH Episode Specifications

Episode Characteristic	Definition
Trigger Event	Admission to an LTCH
Episode Window	The episode window comprises two periods, as defined below for LTCH Standard and Site Neutral episodes. ***LTCH Standard Episodes*** • Treatment period: begins at trigger, ends at discharge • Associated services period: begins at trigger, ends 30 days after the end of the treatment period ***LTCH Site Neutral Episodes*** • Treatment period: begins at trigger, ends at discharge • Associated services period: begins at trigger, ends 30 days after the end of the treatment period
Treatment Services	• Part A and Part B services delivered to a beneficiary with a start date during the treatment period, and are directly related to the beneficiary's care plan that are provided directly or reasonably managed by the attributed provider • Certain services occurring on the first day of the episode are excluded (see Appendix B)

Episode Characteristic	Definition
Associated Services	Claims in the following settings that occur during the associated services period are included in the episode: • Inpatient • Outpatient • SNF • HHA • IRF • LTCH • Part B • DMEPOS • Hospice
Service Exclusions	The following services are excluded from the episode from both the treatment and associated services period: • Planned hospital admissions • Routine management of certain preexisting chronic conditions (e.g., dialysis for ESRD, enzyme treatments for genetic conditions, treatment for preexisting cancers, and treatment for organ transplants) • Some routine screening and health care maintenance (e.g., colonoscopy and mammograms) • Immune modulating medications (e.g., immunosuppressants for organ transplant or rheumatoid arthritis)
Episode Exclusions	• Any episode that is triggered by an LTCH claim outside the 50 states, D.C., Puerto Rico, and U.S. territories • Any episode where the claim(s) constituting the attributed LTCH provider's treatment have a standard allowed amount of zero or where the standard allowed amount cannot be calculated • Any episode in which a beneficiary is not enrolled in Medicare FFS for the entirety of the 90-day lookback period (i.e., a 90-day period prior to the episode trigger) plus episode window (including where a beneficiary dies), or is enrolled in Part C for any part of the lookback period plus episode window • Any episode in which a beneficiary has a primary payer other than Medicare for any part of the 90-day lookback period plus episode window • Any episode where the claim(s) constituting the attributed LTCH provider's treatment include at least one related condition code indicating that it is not a prospective payment system bill

Table A-4. MSPB-PAC IRF Episode Specifications

Episode Characteristic	Definition
Trigger Event	Admission to an IRF
Episode Window	The episode window comprises two periods. • Treatment period: begins at trigger, ends at discharge • Associated services period: begins at trigger, ends 30 days after the end of the treatment period

Episode Characteristic	Definition
Treatment Services	• Part A and Part B services delivered to a beneficiary with a start date during the treatment period, and are directly related to the beneficiary's care plan that are provided directly or reasonably managed by the attributed provider • Certain services occurring on the first day of the episode are excluded (see Appendix B)
Associated Services	Claims in the following settings that occur during the associated services period are included in the episode: • Inpatient • Outpatient • SNF • HHA • IRF • LTCH • Part B • DMEPOS • Hospice
Service Exclusions	The following services are excluded from the episode from both the treatment and associated services period: • Planned hospital admissions • Routine management of certain preexisting chronic conditions (e.g., dialysis for ESRD, enzyme treatments for genetic conditions, treatment for preexisting cancers, and treatment for organ transplants) • Some routine screening and health care maintenance (e.g., colonoscopy and mammograms) • Immune modulating medications (e.g., immunosuppressants for organ transplant or rheumatoid arthritis)
Episode Exclusions	• Any episode that is triggered by an IRF claim outside the 50 states, D.C., Puerto Rico, and U.S. territories • Any episode where the claim(s) constituting the attributed IRF provider's treatment have a standard allowed amount of zero or where the standard allowed amount cannot be calculated • Any episode in which a beneficiary is not enrolled in Medicare FFS for the entirety of the 90-day lookback period (i.e., a 90-day period prior to the episode trigger) plus episode window (including where a beneficiary dies), or is enrolled in Part C for any part of the lookback period plus episode window • Any episode in which a beneficiary has a primary payer other than Medicare for any part of the 90-day lookback period plus episode window • Any episode where the claim(s) constituting the attributed IRF provider's treatment include at least one related condition code indicating that it is not a prospective payment system bill

Appendix B: First Day Service Exclusions

This Appendix outlines the methodology for excluding services occurring on the first day of an MSPB-PAC episode. Where a beneficiary has transferred directly to a PAC provider from another provider, Part B or DMEPOS services occurring on the first day of the episode may have been delivered by other providers before the start of PAC treatment. For instance, a beneficiary who is discharged from an inpatient hospital on the same day as admission to SNF will likely receive discharge-related Part B services in the hospital before entering the SNF. Given that this care is outside the control or influence of the attributed PAC provider, the measure development contractor has developed a set of rules to systematically exclude these services from MSPB-PAC episodes. The methodology for excluding services on the first day of an MSPB-PAC episode includes separate rules for claims related to the discharging provider as well as Part B and DMEPOS claims. Each approach is described in turn below.

Firstly, the claim representing the transfer source is removed if it has a discharge date occurring on the first day of the episode. The transfer source may be an IP, SNF, IRF, LTCH, or home health claim. For example, for a patient transferring from IP to a SNF on the first day, the IP claim is not counted toward the SNF episode. This exclusion of claims associated with the transfer facility occurring on the first day of a PAC episode applies to all settings.

For Part B services, the first step is to identify cases in which a beneficiary has been discharged from another type of PAC provider or inpatient hospital on the first day of a PAC episode. Contingent upon identification of a discharge from another type of PAC setting or inpatient hospital, the following claims are excluded:

- Part B claims associated with the transferring provider's care, identified using either Place of Service values or HCPCS codes (see Table B-1, below) listed on claims.
- HCPCS codes are used in instances where the Place of Service does not differentiate between the transferring provider and the attributed PAC provider.[28]

[28] For example, LTCHs and inpatient hospitals both use a Place of Service of 21 ("Inpatient Hospital") on Part B claims associated with stays at their facilities. Also, while IRFs have a specific Place of Service code (61 – "Comprehensive IRF"), analysis of Medicare claims indicates that Part B claims occurring during IRF stays frequently use a Place of Service of 21.

Table B-1. Exclusion Rules for Part B Services by Type of Episode and Transfer Source

First Day Transfer Source	Part B Service Exclusion Rules, by Type of Episode			
	SNF	**HHA**	**LTCH**	**IRF**
IP	Place of Service 06 – Indian Health Service Provider-based Facility 08 – Tribal 638 Free-standing Facility 09 – Prison/Correctional Facility 21 – Inpatient Hospital 26 – Military Treatment Facility 51 – Inpatient Psychiatric Facility (IPF)	Place of Service 06 – Indian Health Service Provider-based Facility 08 – Tribal 638 Free-standing Facility 09 – Prison/Correctional Facility 21 – Inpatient Hospital 26 – Military Treatment Facility 51 – Inpatient Psychiatric Facility (IPF)	Place of Service 06 – Indian Health Service Provider-based Facility 08 – Tribal 638 Free-standing Facility 09 – Prison/Correctional Facility 26 – Military Treatment Facility 51 – Inpatient Psychiatric Facility (IPF) AND HCPCS codes in Table B-2	Place of Service 06 – Indian Health Service Provider-based Facility 08 – Tribal 638 Free-standing Facility 09 – Prison/Correctional Facility 26 – Military Treatment Facility 51 – Inpatient Psychiatric Facility (IPF) AND HCPCS codes in Table B-2
SNF	N/A	Place of Service 31 – SNF	Place of Service 31 – SNF	Place of Service 31 – SNF
HHA	Place of Service 12 – Home 13 – Assisted Living Facility	N/A	Place of Service 12 – Home 13 – Assisted Living Facility	Place of Service 12 – Home 13 – Assisted Living Facility
LTCH	Place of Service 21 – Inpatient Hospital	Place of Service 21 – Inpatient Hospital	N/A	HCPCS codes in Table B-2
IRF	Place of Service 21 – Inpatient Hospital 61 – Comprehensive IRF	Place of Service 21 – Inpatient Hospital 61 – Comprehensive IRF	HCPCS codes in Table B-2	N/A
None	N/A	N/A	N/A	N/A

To develop the list of HCPCS for the service-based exclusions above, the measure development contractor's in-house clinicians reviewed a complete list of Part B claims occurring on the first day of IP to LTCH, IP to IRF, IRF to LTCH, and LTCH to IRF episodes to determine what services are part of the prior inpatient stay and outside of the credible influence of the attributed PAC provider. These services can be broadly classified as discharge care services and are listed in Table B-2, below.

Table B-2. HCPCS Codes Applying to Certain First Day Scenarios

HCPCS Code	Description
99217	Hospital Observation Care Discharge
99234	Hospital Observation Or Inpatient Care Low Severity, 40 Minutes Per Day
99235	Hospital Observation Or Inpatient Care Moderate Severity, 50 Minutes Per Day
99236	Hospital Observation Or Inpatient Care High Severity, 55 Minutes Per Day
99238	Hospital Discharge Day Management, 30 Minutes Or Less
99239	Hospital Discharge Day Management, More Than 30 Minutes
99315	Nursing Facility Discharge Day Management, 30 Minutes Or Less
99316	Nursing Facility Discharge Management, More Than 30 Minutes

The second step related to Part B services is to remove ambulance claims for MSPB-PAC SNF, LTCH, and IRF episodes, regardless of whether a transfer source was identified on the first day. Ambulance claims are only excluded from HHA episodes for days on which a transfer source is identified from an institutional setting (IP, SNF, LTCH, or IRF) due to the different nature of HHA as compared to institutional PAC providers, Table B-3, below, summarizes the exclusion rules for ambulance-related services for each type of MSPB-PAC episode.

Table B-3. Exclusion Rules for Ambulance-Related Part B Services by Type of Episode

SNF	HHA	LTCH	IRF
Place of Service 41 – Ambulance – Land 42 – Ambulance – Air or Water	Place of Service[29] 41 – Ambulance – Land 42 – Ambulance – Air or Water	Place of Service 41 – Ambulance – Land 42 – Ambulance – Air or Water	Place of Service 41 – Ambulance – Land 42 – Ambulance – Air or Water

The exclusion of DMEPOS claims depends on the type of PAC episode and whether the applicable payment system covers these claims. For MSPB-PAC SNF, IRF, and LTCH episodes, DMEPOS claims occurring on the first day are excluded. Given that these services are covered by each institutional PAC provider's respective PPS, it is unlikely that they are the responsibility of the attributed PAC provider. For MSPB-PAC HHA episodes, DMEPOS claims are not removed as these services are not paid for through the HHA PPS. As such, it is not possible to make the same assumption about the provider origin of the DMEPOS claims occurring on the first day of a HHA episode as made for the MSPB-PAC SNF, IRF, and LTCH episodes.

[29] For HHA episodes, ambulance-related Part B services are only excluded if an institutional transfer source is identified on the first day of the episode.

Appendix C: Risk Adjustment Models

Table C-1. MSPB-PAC HHA Risk Adjustment Models[30]

MSPB-PAC HHA Risk Adjustment Variables
HCC1: HIV/AIDS
HCC2: Septicemia/Shock
HCC5: Opportunistic Infections
HCC7: Metastatic Cancer and Acute Leukemia
HCC8: Lung, Upper Digestive Tract, and Other Severe Cancers
HCC9: Lymphatic, Head and Neck, Brain, and Other Major Cancers
HCC10: Breast, Prostate, Colorectal and Other Cancers and Tumors
HCC15: Diabetes with Renal or Peripheral Circulatory Manifestation
HCC16: Diabetes with Neurologic or Other Specified Manifestation
HCC17: Diabetes with Acute Complications
HCC18: Diabetes with Ophthalmologic or Unspecified Manifestation
HCC19: Diabetes without Complication
HCC21: Protein-Calorie Malnutrition
HCC25: End-Stage Liver Disease
HCC26: Cirrhosis of Liver
HCC27: Chronic Hepatitis
HCC31: Intestinal Obstruction/Perforation
HCC32: Pancreatic Disease
HCC33: Inflammatory Bowel Disease
HCC37: Bone/Joint/Muscle Infections/Necrosis
HCC38: Rheumatoid Arthritis and Inflammatory Connective Tissue Disease
HCC44: Severe Hematological Disorders
HCC45: Disorders of Immunity
HCC51: Drug/Alcohol Psychosis
HCC52: Drug/Alcohol Dependence
HCC54: Schizophrenia
HCC55: Major Depressive, Bipolar, and Paranoid Disorders
HCC67: Quadriplegia, Other Extensive Paralysis
HCC68: Paraplegia
HCC69: Spinal Cord Disorders/Injuries
HCC70: Muscular Dystrophy
HCC71: Polyneuropathy
HCC72: Multiple Sclerosis
HCC73: Parkinsons and Huntingtons Diseases
HCC74: Seizure Disorders and Convulsions
HCC75: Coma, Brain Compression/Anoxic Damage
HCC77: Respirator Dependence/Tracheostomy Status
HCC78: Respiratory Arrest
HCC79: Cardio-Respiratory Failure and Shock
HCC80: Congestive Heart Failure
HCC81: Acute Myocardial Infarction

[30] The MSPB-PAC HHA Standard, LUPA and PEP risk adjustment models include the same variables.

MSPB-PAC HHA Risk Adjustment Variables
HCC82: Unstable Angina and Other Acute Ischemic Heart Disease
HCC83: Angina Pectoris/Old Myocardial Infarction
HCC92: Specified Heart Arrhythmias
HCC95: Cerebral Hemorrhage
HCC96: Ischemic or Unspecified Stroke
HCC100: Hemiplegia/Hemiparesis
HCC101: Cerebral Palsy and Other Paralytic Syndromes
HCC104: Vascular Disease with Complications
HCC105: Vascular Disease
HCC107: Cystic Fibrosis
HCC108: Chronic Obstructive Pulmonary Disease
HCC111: Aspiration and Specified Bacterial Pneumonias
HCC112: Pneumococcal Pneumonia, Empyema, Lung Abscess
HCC119: Proliferative Diabetic Retinopathy and Vitreous Hemorrhage
HCC130: Dialysis Status
HCC131: Renal Failure
HCC132: Nephritis
HCC148: Decubitus Ulcer of Skin
HCC149: Chronic Ulcer of Skin, Except Decubitus
HCC150: Extensive Third-Degree Burns
HCC154: Severe Head Injury
HCC155: Major Head Injury
HCC157: Vertebral Fractures without Spinal Cord Injury
HCC158: Hip Fracture/Dislocation
HCC161: Traumatic Amputation
HCC164: Major Complications of Medical Care and Trauma
HCC174: Major Organ Transplant Status
HCC176: Artificial Openings for Feeding or Elimination
HCC177: Amputation Status, Lower Limb/Amputation Complications
Interaction: Disabled * Opportunistic Infections
Interaction: Disabled * Severe Hematological Disorders
Interaction: Disabled * Drug/Alcohol Psychosis
Interaction: Disabled * Drug/Alcohol Dependence
Interaction: Disabled * Cystic Fibrosis
Interaction: Diabetes * Congestive Heart Failure
Interaction: Diabetes * Cardiovascular Disease
Interaction: Renal Failure * Congestive Heart Failure
Interaction: Congestive Heart Failure * Chronic Obstructive Pulmonary Disease
Interaction: Renal Failure * Congestive Heart Failure * Diabetes
Interaction: Chronic Obstructive Pulmonary Disease * Cardiovascular Disease * Coronary Artery Disease
Indicator: Originally Disabled
Indicator: ESRD
Indicator: Long-Term Care Institution
Indicator: Hospice Care
Age: 0-34 Years
Age: 35-44 Years

MSPB-PAC HHA Risk Adjustment Variables
Age: 45-54 Years
Age: 55-59 Years
Age: 60-64 Years
Age: 70-74 Years
Age: 75-79 Years
Age: 80-84 Years
Age: 85-89 Years
Age: 90-94 Years
Age: 95+ Years
Clinical Case Mix Category: Prior Acute IP - Surgical - Orthopedic
Clinical Case Mix Category: Prior Acute IP - Medical w/ ICU
Clinical Case Mix Category: Prior Acute IP - Medical w/o ICU
Clinical Case Mix Category: Prior PAC - Institutional
Clinical Case Mix Category: Prior PAC - HHA
Clinical Case Mix Category: Community
Prior ICU Stay Length: 1-2 Days
Prior ICU Stay Length: 3 Days
Prior ICU Stay Length: 4-6 Days
Prior ICU Stay Length: 7-9 Days
Prior ICU Stay Length: 10-13 Days
Prior ICU Stay Length: 14-18 Days
Prior ICU Stay Length: 19-24 Days
Prior ICU Stay Length: 25+ Days
Prior IP Stay Length: 8-11 Days
Prior IP Stay Length: 12-30 Days
Prior IP Stay Length: 31+ Days

Table C-2. MSPB-PAC IRF Risk Adjustment Model

MSPB-PAC IRF Risk Adjustment Variables
HCC1: HIV/AIDS
HCC2: Septicemia/Shock
HCC5: Opportunistic Infections
HCC7: Metastatic Cancer and Acute Leukemia
HCC8: Lung, Upper Digestive Tract, and Other Severe Cancers
HCC9: Lymphatic, Head and Neck, Brain, and Other Major Cancers
HCC10: Breast, Prostate, Colorectal and Other Cancers and Tumors
HCC15: Diabetes with Renal or Peripheral Circulatory Manifestation
HCC16: Diabetes with Neurologic or Other Specified Manifestation
HCC17: Diabetes with Acute Complications
HCC18: Diabetes with Ophthalmologic or Unspecified Manifestation
HCC19: Diabetes without Complication
HCC21: Protein-Calorie Malnutrition
HCC25: End-Stage Liver Disease

MSPB-PAC IRF Risk Adjustment Variables
HCC26: Cirrhosis of Liver
HCC27: Chronic Hepatitis
HCC31: Intestinal Obstruction/Perforation
HCC32: Pancreatic Disease
HCC33: Inflammatory Bowel Disease
HCC37: Bone/Joint/Muscle Infections/Necrosis
HCC38: Rheumatoid Arthritis and Inflammatory Connective Tissue Disease
HCC44: Severe Hematological Disorders
HCC45: Disorders of Immunity
HCC51: Drug/Alcohol Psychosis
HCC52: Drug/Alcohol Dependence
HCC54: Schizophrenia
HCC55: Major Depressive, Bipolar, and Paranoid Disorders
HCC67: Quadriplegia, Other Extensive Paralysis
HCC68: Paraplegia
HCC69: Spinal Cord Disorders/Injuries
HCC70: Muscular Dystrophy
HCC71: Polyneuropathy
HCC72: Multiple Sclerosis
HCC73: Parkinsons and Huntingtons Diseases
HCC74: Seizure Disorders and Convulsions
HCC75: Coma, Brain Compression/Anoxic Damage
HCC77: Respirator Dependence/Tracheostomy Status
HCC78: Respiratory Arrest
HCC79: Cardio-Respiratory Failure and Shock
HCC80: Congestive Heart Failure
HCC81: Acute Myocardial Infarction
HCC82: Unstable Angina and Other Acute Ischemic Heart Disease
HCC83: Angina Pectoris/Old Myocardial Infarction
HCC92: Specified Heart Arrhythmias
HCC95: Cerebral Hemorrhage
HCC96: Ischemic or Unspecified Stroke
HCC100: Hemiplegia/Hemiparesis
HCC101: Cerebral Palsy and Other Paralytic Syndromes
HCC104: Vascular Disease with Complications
HCC105: Vascular Disease
HCC107: Cystic Fibrosis
HCC108: Chronic Obstructive Pulmonary Disease
HCC111: Aspiration and Specified Bacterial Pneumonias
HCC112: Pneumococcal Pneumonia, Empyema, Lung Abscess
HCC119: Proliferative Diabetic Retinopathy and Vitreous Hemorrhage
HCC130: Dialysis Status
HCC131: Renal Failure
HCC132: Nephritis
HCC148: Decubitus Ulcer of Skin
HCC149: Chronic Ulcer of Skin, Except Decubitus
HCC150: Extensive Third-Degree Burns

MSPB-PAC IRF Risk Adjustment Variables
HCC154: Severe Head Injury
HCC155: Major Head Injury
HCC157: Vertebral Fractures without Spinal Cord Injury
HCC158: Hip Fracture/Dislocation
HCC161: Traumatic Amputation
HCC164: Major Complications of Medical Care and Trauma
HCC174: Major Organ Transplant Status
HCC176: Artificial Openings for Feeding or Elimination
HCC177: Amputation Status, Lower Limb/Amputation Complications
Interaction: Disabled * Opportunistic Infections
Interaction: Disabled * Severe Hematological Disorders
Interaction: Disabled * Drug/Alcohol Psychosis
Interaction: Disabled * Drug/Alcohol Dependence
Interaction: Disabled * Cystic Fibrosis
Interaction: Diabetes * Congestive Heart Failure
Interaction: Diabetes * Cardiovascular Disease
Interaction: Renal Failure * Congestive Heart Failure
Interaction: Congestive Heart Failure * Chronic Obstructive Pulmonary Disease
Interaction: Renal Failure * Congestive Heart Failure * Diabetes
Interaction: Chronic Obstructive Pulmonary Disease * Cardiovascular Disease * Coronary Artery Disease
Indicator: Originally Disabled
Indicator: ESRD
Indicator: Long-Term Care Institution
Indicator: Hospice Care
Age: 0-34 Years
Age: 35-44 Years
Age: 45-54 Years
Age: 55-59 Years
Age: 60-64 Years
Age: 70-74 Years
Age: 75-79 Years
Age: 80-84 Years
Age: 85-89 Years
Age: 90-94 Years
Age: 95+ Years
Clinical Case Mix Category: Prior Acute IP - Surgical - Orthopedic
Clinical Case Mix Category: Prior Acute IP - Medical w/ ICU
Clinical Case Mix Category: Prior Acute IP - Medical w/o ICU
Clinical Case Mix Category: Prior PAC - Institutional
Clinical Case Mix Category: Prior PAC - HHA
Clinical Case Mix Category: Community
Prior ICU Stay Length: 1-2 Days
Prior ICU Stay Length: 3 Days
Prior ICU Stay Length: 4-6 Days
Prior ICU Stay Length: 7-9 Days
Prior ICU Stay Length: 10-13 Days

MSPB-PAC IRF Risk Adjustment Variables
Prior ICU Stay Length: 14-18 Days
Prior ICU Stay Length: 19-24 Days
Prior ICU Stay Length: 25+ Days
Prior IP Stay Length: 8-11 Days
Prior IP Stay Length: 12-30 Days
Prior IP Stay Length: 31+ Days
RIC 02: Traumatic brain injury
RIC 03: Nontraumatic brain injury
RIC 04: Traumatic spinal cord injury
RIC 05: Nontraumatic spinal cord injury
RIC 06: Neurological
RIC 07: Fracture of lower extremity
RIC 08: Replacement of lower extremity
RIC 09: Other orthopedic
RIC 10: Amputation, lower extremity
RIC 11: Amputation, other
RIC 12: Osteoarthritis
RIC 13: Rheumatoid, other arthritis
RIC 14: Cardiac
RIC 15: Pulmonary
RIC 16: Pain syndrome
RIC 17: Major multiple trauma, no brain
RIC 18: Major multiple trauma, with brain
RIC 19: Guillian Barre
RIC 20: Miscellaneous
RIC 21: Burns
RIC 50: Short Stay

Table C-3. MSPB-PAC LTCH Risk Adjustment Models[31, 32]

MSPB-PAC LTCH Risk Adjustment Variables
HCC1: HIV/AIDS
HCC2: Septicemia/Shock
HCC5: Opportunistic Infections
HCC7: Metastatic Cancer and Acute Leukemia
HCC8: Lung, Upper Digestive Tract, and Other Severe Cancers
HCC9: Lymphatic, Head and Neck, Brain, and Other Major Cancers
HCC10: Breast, Prostate, Colorectal and Other Cancers and Tumors

[31] The MSPB-PAC LTCH Standard risk adjustment model does not include clinical case mix categories representing non-IP sources of entry due to the definition of LTCH Standard episodes which requires them to have a prior IP stay and are marked below with a footnote. Note that this table includes all possible MS-LTC-DRGs and MDCs from the FY 2013 and FY 2014 years of analysis, including those that were not reported on any claims.
[32] Note that this table includes all possible MS-LTC-DRGs and MDCs from the FY 2013 and FY 2014 years of analysis, including those that were not reported on any claims.

MSPB-PAC LTCH Risk Adjustment Variables
HCC15: Diabetes with Renal or Peripheral Circulatory Manifestation
HCC16: Diabetes with Neurologic or Other Specified Manifestation
HCC17: Diabetes with Acute Complications
HCC18: Diabetes with Ophthalmologic or Unspecified Manifestation
HCC19: Diabetes without Complication
HCC21: Protein-Calorie Malnutrition
HCC25: End-Stage Liver Disease
HCC26: Cirrhosis of Liver
HCC27: Chronic Hepatitis
HCC31: Intestinal Obstruction/Perforation
HCC32: Pancreatic Disease
HCC33: Inflammatory Bowel Disease
HCC37: Bone/Joint/Muscle Infections/Necrosis
HCC38: Rheumatoid Arthritis and Inflammatory Connective Tissue Disease
HCC44: Severe Hematological Disorders
HCC45: Disorders of Immunity
HCC51: Drug/Alcohol Psychosis
HCC52: Drug/Alcohol Dependence
HCC54: Schizophrenia
HCC55: Major Depressive, Bipolar, and Paranoid Disorders
HCC67: Quadriplegia, Other Extensive Paralysis
HCC68: Paraplegia
HCC69: Spinal Cord Disorders/Injuries
HCC70: Muscular Dystrophy
HCC71: Polyneuropathy
HCC72: Multiple Sclerosis
HCC73: Parkinsons and Huntingtons Diseases
HCC74: Seizure Disorders and Convulsions
HCC75: Coma, Brain Compression/Anoxic Damage
HCC77: Respirator Dependence/Tracheostomy Status
HCC78: Respiratory Arrest
HCC79: Cardio-Respiratory Failure and Shock
HCC80: Congestive Heart Failure
HCC81: Acute Myocardial Infarction
HCC82: Unstable Angina and Other Acute Ischemic Heart Disease
HCC83: Angina Pectoris/Old Myocardial Infarction
HCC92: Specified Heart Arrhythmias
HCC95: Cerebral Hemorrhage
HCC96: Ischemic or Unspecified Stroke
HCC100: Hemiplegia/Hemiparesis
HCC101: Cerebral Palsy and Other Paralytic Syndromes
HCC104: Vascular Disease with Complications
HCC105: Vascular Disease
HCC107: Cystic Fibrosis
HCC108: Chronic Obstructive Pulmonary Disease
HCC111: Aspiration and Specified Bacterial Pneumonias
HCC112: Pneumococcal Pneumonia, Empyema, Lung Abscess

MSPB-PAC LTCH Risk Adjustment Variables
HCC119: Proliferative Diabetic Retinopathy and Vitreous Hemorrhage
HCC130: Dialysis Status
HCC131: Renal Failure
HCC132: Nephritis
HCC148: Decubitus Ulcer of Skin
HCC149: Chronic Ulcer of Skin, Except Decubitus
HCC150: Extensive Third-Degree Burns
HCC154: Severe Head Injury
HCC155: Major Head Injury
HCC157: Vertebral Fractures without Spinal Cord Injury
HCC158: Hip Fracture/Dislocation
HCC161: Traumatic Amputation
HCC164: Major Complications of Medical Care and Trauma
HCC174: Major Organ Transplant Status
HCC176: Artificial Openings for Feeding or Elimination
HCC177: Amputation Status, Lower Limb/Amputation Complications
Interaction: Disabled * Opportunistic Infections
Interaction: Disabled * Severe Hematological Disorders
Interaction: Disabled * Drug/Alcohol Psychosis
Interaction: Disabled * Drug/Alcohol Dependence
Interaction: Disabled * Cystic Fibrosis
Interaction: Diabetes * Congestive Heart Failure
Interaction: Diabetes * Cardiovascular Disease
Interaction: Renal Failure * Congestive Heart Failure
Interaction: Congestive Heart Failure * Chronic Obstructive Pulmonary Disease
Interaction: Renal Failure * Congestive Heart Failure * Diabetes
Interaction: Chronic Obstructive Pulmonary Disease * Cardiovascular Disease * Coronary Artery Disease
Indicator: Originally Disabled
Indicator: ESRD
Indicator: Long-Term Care Institution
Indicator: Hospice Care
Age: 0-34 Years
Age: 35-44 Years
Age: 45-54 Years
Age: 55-59 Years
Age: 60-64 Years
Age: 70-74 Years
Age: 75-79 Years
Age: 80-84 Years
Age: 85-89 Years
Age: 90-94 Years
Age: 95+ Years
Clinical Case Mix Category: Prior Acute IP - Surgical - Orthopedic
Clinical Case Mix Category: Prior Acute IP - Medical w/ ICU
Clinical Case Mix Category: Prior Acute IP - Medical w/o ICU

MSPB-PAC LTCH Risk Adjustment Variables
Clinical Case Mix Category: Prior PAC - Institutional[33]
Clinical Case Mix Category: Prior PAC - HHA[34]
Clinical Case Mix Category: Community[35]
Prior ICU Stay Length: 1-2 Days
Prior ICU Stay Length: 3 Days
Prior ICU Stay Length: 4-6 Days
Prior ICU Stay Length: 7-9 Days
Prior ICU Stay Length: 10-13 Days
Prior ICU Stay Length: 14-18 Days
Prior ICU Stay Length: 19-24 Days
Prior ICU Stay Length: 25+ Days
Prior IP Stay Length: 8-11 Days
Prior IP Stay Length: 12-30 Days
Prior IP Stay Length: 31+ Days
MS-LTC-DRG 001: Heart Transplant Or Implant Of Heart Assist System W Mcc
MS-LTC-DRG 002: Heart Transplant Or Implant Of Heart Assist System W/O Mcc
MS-LTC-DRG 003: Ecmo Or Trach W Mv 96+ Hrs Or Pdx Exc Face, Mouth & Neck W Maj O.R.
MS-LTC-DRG 004: Trach W Mv 96+ Hrs Or Pdx Exc Face, Mouth & Neck W/O Maj O.R.
MS-LTC-DRG 005: Liver Transplant W Mcc Or Intestinal Transplant
MS-LTC-DRG 006: Liver Transplant W/O Mcc
MS-LTC-DRG 007: Lung Transplant
MS-LTC-DRG 008: Simultaneous Pancreas/Kidney Transplant
MS-LTC-DRG 010: Pancreas Transplant
MS-LTC-DRG 011: Tracheostomy For Face,mouth & Neck Diagnoses W Mcc
MS-LTC-DRG 012: Tracheostomy For Face,mouth & Neck Diagnoses W Cc
MS-LTC-DRG 013: Tracheostomy For Face,mouth & Neck Diagnoses W/O Cc/Mcc
MS-LTC-DRG 014: Allogeneic Bone Marrow Transplant
MS-LTC-DRG 016: Autologous Bone Marrow Transplant W Cc/Mcc
MS-LTC-DRG 017: Autologous Bone Marrow Transplant W/O Cc/Mcc
MS-LTC-DRG 020: Intracranial Vascular Procedures W Pdx Hemorrhage W Mcc
MS-LTC-DRG 021: Intracranial Vascular Procedures W Pdx Hemorrhage W Cc
MS-LTC-DRG 022: Intracranial Vascular Procedures W Pdx Hemorrhage W/O Cc/Mcc
MS-LTC-DRG 023: Cranio W Major Dev Impl/Acute Complex Cns Pdx W Mcc Or Chemo Implant
MS-LTC-DRG 024: Cranio W Major Dev Impl/Acute Complex Cns Pdx W/O Mcc
MS-LTC-DRG 025: Craniotomy & Endovascular Intracranial Procedures W Mcc
MS-LTC-DRG 026: Craniotomy & Endovascular Intracranial Procedures W Cc
MS-LTC-DRG 027: Craniotomy & Endovascular Intracranial Procedures W/O Cc/Mcc
MS-LTC-DRG 028: Spinal Procedures W Mcc

[33] This variable is only used in the MSPB-PAC LTCH Site Neutral risk adjustment model. As LTCH Standard episodes are defined to have a prior IP stay, the MSPB-PAC LTCH Standard risk adjustment model omits variables representing non-IP sources of entry in the clinical case mix categories.
[34] This variable is only used in the MSPB-PAC LTCH Site Neutral risk adjustment model. As LTCH Standard episodes are defined to have a prior IP stay, the MSPB-PAC LTCH Standard risk adjustment model omits variables representing non-IP sources of entry in the clinical case mix categories.
[35] This variable is only used in the MSPB-PAC LTCH Site Neutral risk adjustment model. As LTCH Standard episodes are defined to have a prior IP stay, the MSPB-PAC LTCH Standard risk adjustment model omits variables representing non-IP sources of entry in the clinical case mix categories.

MSPB-PAC LTCH Risk Adjustment Variables
MS-LTC-DRG 029: Spinal Procedures W Cc Or Spinal Neurostimulators
MS-LTC-DRG 030: Spinal Procedures W/O Cc/Mcc
MS-LTC-DRG 031: Ventricular Shunt Procedures W Mcc
MS-LTC-DRG 032: Ventricular Shunt Procedures W Cc
MS-LTC-DRG 033: Ventricular Shunt Procedures W/O Cc/Mcc
MS-LTC-DRG 034: Carotid Artery Stent Procedure W Mcc
MS-LTC-DRG 035: Carotid Artery Stent Procedure W Cc
MS-LTC-DRG 036: Carotid Artery Stent Procedure W/O Cc/Mcc
MS-LTC-DRG 037: Extracranial Procedures W Mcc
MS-LTC-DRG 038: Extracranial Procedures W Cc
MS-LTC-DRG 039: Extracranial Procedures W/O Cc/Mcc
MS-LTC-DRG 040: Periph/Cranial Nerve & Other Nerv Syst Proc W Mcc
MS-LTC-DRG 041: Periph/Cranial Nerve & Other Nerv Syst Proc W Cc Or Periph Neurostim
MS-LTC-DRG 042: Periph/Cranial Nerve & Other Nerv Syst Proc W/O Cc/Mcc
MS-LTC-DRG 052: Spinal Disorders & Injuries W Cc/Mcc
MS-LTC-DRG 053: Spinal Disorders & Injuries W/O Cc/Mcc
MS-LTC-DRG 054: Nervous System Neoplasms W Mcc
MS-LTC-DRG 055: Nervous System Neoplasms W/O Mcc
MS-LTC-DRG 056: Degenerative Nervous System Disorders W Mcc
MS-LTC-DRG 057: Degenerative Nervous System Disorders W/O Mcc
MS-LTC-DRG 058: Multiple Sclerosis & Cerebellar Ataxia W Mcc
MS-LTC-DRG 059: Multiple Sclerosis & Cerebellar Ataxia W Cc
MS-LTC-DRG 060: Multiple Sclerosis & Cerebellar Ataxia W/O Cc/Mcc
MS-LTC-DRG 061: Acute Ischemic Stroke W Use Of Thrombolytic Agent W Mcc
MS-LTC-DRG 062: Acute Ischemic Stroke W Use Of Thrombolytic Agent W Cc
MS-LTC-DRG 063: Acute Ischemic Stroke W Use Of Thrombolytic Agent W/O Cc/Mcc
MS-LTC-DRG 064: Intracranial Hemorrhage Or Cerebral Infarction W Mcc
MS-LTC-DRG 065: Intracranial Hemorrhage Or Cerebral Infarction W Cc Or Tpa In 24 Hrs
MS-LTC-DRG 066: Intracranial Hemorrhage Or Cerebral Infarction W/O Cc/Mcc
MS-LTC-DRG 067: Nonspecific Cva & Precerebral Occlusion W/O Infarct W Mcc
MS-LTC-DRG 068: Nonspecific Cva & Precerebral Occlusion W/O Infarct W/O Mcc
MS-LTC-DRG 069: Transient Ischemia
MS-LTC-DRG 070: Nonspecific Cerebrovascular Disorders W Mcc
MS-LTC-DRG 071: Nonspecific Cerebrovascular Disorders W Cc
MS-LTC-DRG 072: Nonspecific Cerebrovascular Disorders W/O Cc/Mcc
MS-LTC-DRG 073: Cranial & Peripheral Nerve Disorders W Mcc
MS-LTC-DRG 074: Cranial & Peripheral Nerve Disorders W/O Mcc
MS-LTC-DRG 075: Viral Meningitis W Cc/Mcc
MS-LTC-DRG 076: Viral Meningitis W/O Cc/Mcc
MS-LTC-DRG 077: Hypertensive Encephalopathy W Mcc
MS-LTC-DRG 078: Hypertensive Encephalopathy W Cc
MS-LTC-DRG 079: Hypertensive Encephalopathy W/O Cc/Mcc
MS-LTC-DRG 080: Nontraumatic Stupor & Coma W Mcc
MS-LTC-DRG 081: Nontraumatic Stupor & Coma W/O Mcc
MS-LTC-DRG 082: Traumatic Stupor & Coma, Coma >1 Hr W Mcc
MS-LTC-DRG 083: Traumatic Stupor & Coma, Coma >1 Hr W Cc
MS-LTC-DRG 084: Traumatic Stupor & Coma, Coma >1 Hr W/O Cc/Mcc

MSPB-PAC LTCH Risk Adjustment Variables
MS-LTC-DRG 085: Traumatic Stupor & Coma, Coma <1 Hr W Mcc
MS-LTC-DRG 086: Traumatic Stupor & Coma, Coma <1 Hr W Cc
MS-LTC-DRG 087: Traumatic Stupor & Coma, Coma <1 Hr W/O Cc/Mcc
MS-LTC-DRG 088: Concussion W Mcc
MS-LTC-DRG 089: Concussion W Cc
MS-LTC-DRG 090: Concussion W/O Cc/Mcc
MS-LTC-DRG 091: Other Disorders Of Nervous System W Mcc
MS-LTC-DRG 092: Other Disorders Of Nervous System W Cc
MS-LTC-DRG 093: Other Disorders Of Nervous System W/O Cc/Mcc
MS-LTC-DRG 094: Bacterial & Tuberculous Infections Of Nervous System W Mcc
MS-LTC-DRG 095: Bacterial & Tuberculous Infections Of Nervous System W Cc
MS-LTC-DRG 096: Bacterial & Tuberculous Infections Of Nervous System W/O Cc/Mcc
MS-LTC-DRG 097: Non-Bacterial Infect Of Nervous Sys Exc Viral Meningitis W Mcc
MS-LTC-DRG 098: Non-Bacterial Infect Of Nervous Sys Exc Viral Meningitis W Cc
MS-LTC-DRG 099: Non-Bacterial Infect Of Nervous Sys Exc Viral Meningitis W/O Cc/Mcc
MS-LTC-DRG 100: Seizures W Mcc
MS-LTC-DRG 101: Seizures W/O Mcc
MS-LTC-DRG 102: Headaches W Mcc
MS-LTC-DRG 103: Headaches W/O Mcc
MS-LTC-DRG 113: Orbital Procedures W Cc/Mcc
MS-LTC-DRG 114: Orbital Procedures W/O Cc/Mcc
MS-LTC-DRG 115: Extraocular Procedures Except Orbit
MS-LTC-DRG 116: Intraocular Procedures W Cc/Mcc
MS-LTC-DRG 117: Intraocular Procedures W/O Cc/Mcc
MS-LTC-DRG 121: Acute Major Eye Infections W Cc/Mcc
MS-LTC-DRG 122: Acute Major Eye Infections W/O Cc/Mcc
MS-LTC-DRG 123: Neurological Eye Disorders
MS-LTC-DRG 124: Other Disorders Of The Eye W Mcc
MS-LTC-DRG 125: Other Disorders Of The Eye W/O Mcc
MS-LTC-DRG 129: Major Head & Neck Procedures W Cc/Mcc Or Major Device
MS-LTC-DRG 130: Major Head & Neck Procedures W/O Cc/Mcc
MS-LTC-DRG 131: Cranial/Facial Procedures W Cc/Mcc
MS-LTC-DRG 132: Cranial/Facial Procedures W/O Cc/Mcc
MS-LTC-DRG 133: Other Ear, Nose, Mouth & Throat O.R. Procedures W Cc/Mcc
MS-LTC-DRG 134: Other Ear, Nose, Mouth & Throat O.R. Procedures W/O Cc/Mcc
MS-LTC-DRG 135: Sinus & Mastoid Procedures W Cc/Mcc
MS-LTC-DRG 136: Sinus & Mastoid Procedures W/O Cc/Mcc
MS-LTC-DRG 137: Mouth Procedures W Cc/Mcc
MS-LTC-DRG 138: Mouth Procedures W/O Cc/Mcc
MS-LTC-DRG 139: Salivary Gland Procedures
MS-LTC-DRG 146: Ear, Nose, Mouth & Throat Malignancy W Mcc
MS-LTC-DRG 147: Ear, Nose, Mouth & Throat Malignancy W Cc
MS-LTC-DRG 148: Ear, Nose, Mouth & Throat Malignancy W/O Cc/Mcc
MS-LTC-DRG 149: Dysequilibrium
MS-LTC-DRG 150: Epistaxis W Mcc
MS-LTC-DRG 151: Epistaxis W/O Mcc
MS-LTC-DRG 152: Otitis Media & Uri W Mcc

MSPB-PAC LTCH Risk Adjustment Variables
MS-LTC-DRG 153: Otitis Media & Uri W/O Mcc
MS-LTC-DRG 154: Other Ear, Nose, Mouth & Throat Diagnoses W Mcc
MS-LTC-DRG 155: Other Ear, Nose, Mouth & Throat Diagnoses W Cc
MS-LTC-DRG 156: Other Ear, Nose, Mouth & Throat Diagnoses W/O Cc/Mcc
MS-LTC-DRG 157: Dental & Oral Diseases W Mcc
MS-LTC-DRG 158: Dental & Oral Diseases W Cc
MS-LTC-DRG 159: Dental & Oral Diseases W/O Cc/Mcc
MS-LTC-DRG 163: Major Chest Procedures W Mcc
MS-LTC-DRG 164: Major Chest Procedures W Cc
MS-LTC-DRG 165: Major Chest Procedures W/O Cc/Mcc
MS-LTC-DRG 166: Other Resp System O.R. Procedures W Mcc
MS-LTC-DRG 167: Other Resp System O.R. Procedures W Cc
MS-LTC-DRG 168: Other Resp System O.R. Procedures W/O Cc/Mcc
MS-LTC-DRG 175: Pulmonary Embolism W Mcc
MS-LTC-DRG 176: Pulmonary Embolism W/O Mcc
MS-LTC-DRG 177: Respiratory Infections & Inflammations W Mcc
MS-LTC-DRG 178: Respiratory Infections & Inflammations W Cc
MS-LTC-DRG 179: Respiratory Infections & Inflammations W/O Cc/Mcc
MS-LTC-DRG 180: Respiratory Neoplasms W Mcc
MS-LTC-DRG 181: Respiratory Neoplasms W Cc
MS-LTC-DRG 182: Respiratory Neoplasms W/O Cc/Mcc
MS-LTC-DRG 183: Major Chest Trauma W Mcc
MS-LTC-DRG 184: Major Chest Trauma W Cc
MS-LTC-DRG 185: Major Chest Trauma W/O Cc/Mcc
MS-LTC-DRG 186: Pleural Effusion W Mcc
MS-LTC-DRG 187: Pleural Effusion W Cc
MS-LTC-DRG 188: Pleural Effusion W/O Cc/Mcc
MS-LTC-DRG 189: Pulmonary Edema & Respiratory Failure
MS-LTC-DRG 190: Chronic Obstructive Pulmonary Disease W Mcc
MS-LTC-DRG 191: Chronic Obstructive Pulmonary Disease W Cc
MS-LTC-DRG 192: Chronic Obstructive Pulmonary Disease W/O Cc/Mcc
MS-LTC-DRG 193: Simple Pneumonia & Pleurisy W Mcc
MS-LTC-DRG 194: Simple Pneumonia & Pleurisy W Cc
MS-LTC-DRG 195: Simple Pneumonia & Pleurisy W/O Cc/Mcc
MS-LTC-DRG 196: Interstitial Lung Disease W Mcc
MS-LTC-DRG 197: Interstitial Lung Disease W Cc
MS-LTC-DRG 198: Interstitial Lung Disease W/O Cc/Mcc
MS-LTC-DRG 199: Pneumothorax W Mcc
MS-LTC-DRG 200: Pneumothorax W Cc
MS-LTC-DRG 201: Pneumothorax W/O Cc/Mcc
MS-LTC-DRG 202: Bronchitis & Asthma W Cc/Mcc
MS-LTC-DRG 203: Bronchitis & Asthma W/O Cc/Mcc
MS-LTC-DRG 204: Respiratory Signs & Symptoms
MS-LTC-DRG 205: Other Respiratory System Diagnoses W Mcc
MS-LTC-DRG 206: Other Respiratory System Diagnoses W/O Mcc
MS-LTC-DRG 207: Respiratory System Diagnosis W Ventilator Support 96+ Hours
MS-LTC-DRG 208: Respiratory System Diagnosis W Ventilator Support <96 Hours

MSPB-PAC LTCH Risk Adjustment Variables
MS-LTC-DRG 215: Other Heart Assist System Implant
MS-LTC-DRG 216: Cardiac Valve & Oth Maj Cardiothoracic Proc W Card Cath W Mcc
MS-LTC-DRG 217: Cardiac Valve & Oth Maj Cardiothoracic Proc W Card Cath W Cc
MS-LTC-DRG 218: Cardiac Valve & Oth Maj Cardiothoracic Proc W Card Cath W/O Cc/Mcc
MS-LTC-DRG 219: Cardiac Valve & Oth Maj Cardiothoracic Proc W/O Card Cath W Mcc
MS-LTC-DRG 220: Cardiac Valve & Oth Maj Cardiothoracic Proc W/O Card Cath W Cc
MS-LTC-DRG 221: Cardiac Valve & Oth Maj Cardiothoracic Proc W/O Card Cath W/O Cc/Mcc
MS-LTC-DRG 222: Cardiac Defib Implant W Cardiac Cath W Ami/Hf/Shock W Mcc
MS-LTC-DRG 223: Cardiac Defib Implant W Cardiac Cath W Ami/Hf/Shock W/O Mcc
MS-LTC-DRG 224: Cardiac Defib Implant W Cardiac Cath W/O Ami/Hf/Shock W Mcc
MS-LTC-DRG 225: Cardiac Defib Implant W Cardiac Cath W/O Ami/Hf/Shock W/O Mcc
MS-LTC-DRG 226: Cardiac Defibrillator Implant W/O Cardiac Cath W Mcc
MS-LTC-DRG 227: Cardiac Defibrillator Implant W/O Cardiac Cath W/O Mcc
MS-LTC-DRG 228: Other Cardiothoracic Procedures W Mcc
MS-LTC-DRG 229: Other Cardiothoracic Procedures W Cc
MS-LTC-DRG 230: Other Cardiothoracic Procedures W/O Cc/Mcc
MS-LTC-DRG 231: Coronary Bypass W Ptca W Mcc
MS-LTC-DRG 232: Coronary Bypass W Ptca W/O Mcc
MS-LTC-DRG 233: Coronary Bypass W Cardiac Cath W Mcc
MS-LTC-DRG 234: Coronary Bypass W Cardiac Cath W/O Mcc
MS-LTC-DRG 235: Coronary Bypass W/O Cardiac Cath W Mcc
MS-LTC-DRG 236: Coronary Bypass W/O Cardiac Cath W/O Mcc
MS-LTC-DRG 237: Major Cardiovasc Procedures W Mcc
MS-LTC-DRG 238: Major Cardiovasc Procedures W/O Mcc
MS-LTC-DRG 239: Amputation For Circ Sys Disorders Exc Upper Limb & Toe W Mcc
MS-LTC-DRG 240: Amputation For Circ Sys Disorders Exc Upper Limb & Toe W Cc
MS-LTC-DRG 241: Amputation For Circ Sys Disorders Exc Upper Limb & Toe W/O Cc/Mcc
MS-LTC-DRG 242: Permanent Cardiac Pacemaker Implant W Mcc
MS-LTC-DRG 243: Permanent Cardiac Pacemaker Implant W Cc
MS-LTC-DRG 244: Permanent Cardiac Pacemaker Implant W/O Cc/Mcc
MS-LTC-DRG 245: Aicd Generator Procedures
MS-LTC-DRG 246: Perc Cardiovasc Proc W Drug-Eluting Stent W Mcc Or 4+ Vessels/Stents
MS-LTC-DRG 247: Perc Cardiovasc Proc W Drug-Eluting Stent W/O Mcc
MS-LTC-DRG 248: Perc Cardiovasc Proc W Non-Drug-Eluting Stent W Mcc Or 4+ Ves/Stents
MS-LTC-DRG 249: Perc Cardiovasc Proc W Non-Drug-Eluting Stent W/O Mcc
MS-LTC-DRG 250: Perc Cardiovasc Proc W/O Coronary Artery Stent W Mcc
MS-LTC-DRG 251: Perc Cardiovasc Proc W/O Coronary Artery Stent W/O Mcc
MS-LTC-DRG 252: Other Vascular Procedures W Mcc
MS-LTC-DRG 253: Other Vascular Procedures W Cc
MS-LTC-DRG 254: Other Vascular Procedures W/O Cc/Mcc
MS-LTC-DRG 255: Upper Limb & Toe Amputation For Circ System Disorders W Mcc
MS-LTC-DRG 256: Upper Limb & Toe Amputation For Circ System Disorders W Cc
MS-LTC-DRG 257: Upper Limb & Toe Amputation For Circ System Disorders W/O Cc/Mcc
MS-LTC-DRG 258: Cardiac Pacemaker Device Replacement W Mcc
MS-LTC-DRG 259: Cardiac Pacemaker Device Replacement W/O Mcc
MS-LTC-DRG 260: Cardiac Pacemaker Revision Except Device Replacement W Mcc
MS-LTC-DRG 261: Cardiac Pacemaker Revision Except Device Replacement W Cc

MSPB-PAC LTCH Risk Adjustment Variables
MS-LTC-DRG 262: Cardiac Pacemaker Revision Except Device Replacement W/O Cc/Mcc
MS-LTC-DRG 263: Vein Ligation & Stripping
MS-LTC-DRG 264: Other Circulatory System O.R. Procedures
MS-LTC-DRG 265: Aicd Lead Procedures
MS-LTC-DRG 280: Acute Myocardial Infarction, Discharged Alive W Mcc
MS-LTC-DRG 281: Acute Myocardial Infarction, Discharged Alive W Cc
MS-LTC-DRG 282: Acute Myocardial Infarction, Discharged Alive W/O Cc/Mcc
MS-LTC-DRG 283: Acute Myocardial Infarction, Expired W Mcc
MS-LTC-DRG 284: Acute Myocardial Infarction, Expired W Cc
MS-LTC-DRG 285: Acute Myocardial Infarction, Expired W/O Cc/Mcc
MS-LTC-DRG 286: Circulatory Disorders Except Ami, W Card Cath W Mcc
MS-LTC-DRG 287: Circulatory Disorders Except Ami, W Card Cath W/O Mcc
MS-LTC-DRG 288: Acute & Subacute Endocarditis W Mcc
MS-LTC-DRG 289: Acute & Subacute Endocarditis W Cc
MS-LTC-DRG 290: Acute & Subacute Endocarditis W/O Cc/Mcc
MS-LTC-DRG 291: Heart Failure & Shock W Mcc
MS-LTC-DRG 292: Heart Failure & Shock W Cc
MS-LTC-DRG 293: Heart Failure & Shock W/O Cc/Mcc
MS-LTC-DRG 294: Deep Vein Thrombophlebitis W Cc/Mcc
MS-LTC-DRG 295: Deep Vein Thrombophlebitis W/O Cc/Mcc
MS-LTC-DRG 296: Cardiac Arrest, Unexplained W Mcc
MS-LTC-DRG 297: Cardiac Arrest, Unexplained W Cc
MS-LTC-DRG 298: Cardiac Arrest, Unexplained W/O Cc/Mcc
MS-LTC-DRG 299: Peripheral Vascular Disorders W Mcc
MS-LTC-DRG 300: Peripheral Vascular Disorders W Cc
MS-LTC-DRG 301: Peripheral Vascular Disorders W/O Cc/Mcc
MS-LTC-DRG 302: Atherosclerosis W Mcc
MS-LTC-DRG 303: Atherosclerosis W/O Mcc
MS-LTC-DRG 304: Hypertension W Mcc
MS-LTC-DRG 305: Hypertension W/O Mcc
MS-LTC-DRG 306: Cardiac Congenital & Valvular Disorders W Mcc
MS-LTC-DRG 307: Cardiac Congenital & Valvular Disorders W/O Mcc
MS-LTC-DRG 308: Cardiac Arrhythmia & Conduction Disorders W Mcc
MS-LTC-DRG 309: Cardiac Arrhythmia & Conduction Disorders W Cc
MS-LTC-DRG 310: Cardiac Arrhythmia & Conduction Disorders W/O Cc/Mcc
MS-LTC-DRG 311: Angina Pectoris
MS-LTC-DRG 312: Syncope & Collapse
MS-LTC-DRG 313: Chest Pain
MS-LTC-DRG 314: Other Circulatory System Diagnoses W Mcc
MS-LTC-DRG 315: Other Circulatory System Diagnoses W Cc
MS-LTC-DRG 316: Other Circulatory System Diagnoses W/O Cc/Mcc
MS-LTC-DRG 326: Stomach, Esophageal & Duodenal Proc W Mcc
MS-LTC-DRG 327: Stomach, Esophageal & Duodenal Proc W Cc
MS-LTC-DRG 328: Stomach, Esophageal & Duodenal Proc W/O Cc/Mcc
MS-LTC-DRG 329: Major Small & Large Bowel Procedures W Mcc
MS-LTC-DRG 330: Major Small & Large Bowel Procedures W Cc
MS-LTC-DRG 331: Major Small & Large Bowel Procedures W/O Cc/Mcc

MSPB-PAC LTCH Risk Adjustment Variables
MS-LTC-DRG 332: Rectal Resection W Mcc
MS-LTC-DRG 333: Rectal Resection W Cc
MS-LTC-DRG 334: Rectal Resection W/O Cc/Mcc
MS-LTC-DRG 335: Peritoneal Adhesiolysis W Mcc
MS-LTC-DRG 336: Peritoneal Adhesiolysis W Cc
MS-LTC-DRG 337: Peritoneal Adhesiolysis W/O Cc/Mcc
MS-LTC-DRG 338: Appendectomy W Complicated Principal Diag W Mcc
MS-LTC-DRG 339: Appendectomy W Complicated Principal Diag W Cc
MS-LTC-DRG 340: Appendectomy W Complicated Principal Diag W/O Cc/Mcc
MS-LTC-DRG 341: Appendectomy W/O Complicated Principal Diag W Mcc
MS-LTC-DRG 342: Appendectomy W/O Complicated Principal Diag W Cc
MS-LTC-DRG 343: Appendectomy W/O Complicated Principal Diag W/O Cc/Mcc
MS-LTC-DRG 344: Minor Small & Large Bowel Procedures W Mcc
MS-LTC-DRG 345: Minor Small & Large Bowel Procedures W Cc
MS-LTC-DRG 346: Minor Small & Large Bowel Procedures W/O Cc/Mcc
MS-LTC-DRG 347: Anal & Stomal Procedures W Mcc
MS-LTC-DRG 348: Anal & Stomal Procedures W Cc
MS-LTC-DRG 349: Anal & Stomal Procedures W/O Cc/Mcc
MS-LTC-DRG 350: Inguinal & Femoral Hernia Procedures W Mcc
MS-LTC-DRG 351: Inguinal & Femoral Hernia Procedures W Cc
MS-LTC-DRG 352: Inguinal & Femoral Hernia Procedures W/O Cc/Mcc
MS-LTC-DRG 353: Hernia Procedures Except Inguinal & Femoral W Mcc
MS-LTC-DRG 354: Hernia Procedures Except Inguinal & Femoral W Cc
MS-LTC-DRG 355: Hernia Procedures Except Inguinal & Femoral W/O Cc/Mcc
MS-LTC-DRG 356: Other Digestive System O.R. Procedures W Mcc
MS-LTC-DRG 357: Other Digestive System O.R. Procedures W Cc
MS-LTC-DRG 358: Other Digestive System O.R. Procedures W/O Cc/Mcc
MS-LTC-DRG 368: Major Esophageal Disorders W Mcc
MS-LTC-DRG 369: Major Esophageal Disorders W Cc
MS-LTC-DRG 370: Major Esophageal Disorders W/O Cc/Mcc
MS-LTC-DRG 371: Major Gastrointestinal Disorders & Peritoneal Infections W Mcc
MS-LTC-DRG 372: Major Gastrointestinal Disorders & Peritoneal Infections W Cc
MS-LTC-DRG 373: Major Gastrointestinal Disorders & Peritoneal Infections W/O Cc/Mcc
MS-LTC-DRG 374: Digestive Malignancy W Mcc
MS-LTC-DRG 375: Digestive Malignancy W Cc
MS-LTC-DRG 376: Digestive Malignancy W/O Cc/Mcc
MS-LTC-DRG 377: G.I. Hemorrhage W Mcc
MS-LTC-DRG 378: G.I. Hemorrhage W Cc
MS-LTC-DRG 379: G.I. Hemorrhage W/O Cc/Mcc
MS-LTC-DRG 380: Complicated Peptic Ulcer W Mcc
MS-LTC-DRG 381: Complicated Peptic Ulcer W Cc
MS-LTC-DRG 382: Complicated Peptic Ulcer W/O Cc/Mcc
MS-LTC-DRG 383: Uncomplicated Peptic Ulcer W Mcc
MS-LTC-DRG 384: Uncomplicated Peptic Ulcer W/O Mcc
MS-LTC-DRG 385: Inflammatory Bowel Disease W Mcc
MS-LTC-DRG 386: Inflammatory Bowel Disease W Cc
MS-LTC-DRG 387: Inflammatory Bowel Disease W/O Cc/Mcc

MSPB-PAC LTCH Risk Adjustment Variables
MS-LTC-DRG 388: G.I. Obstruction W Mcc
MS-LTC-DRG 389: G.I. Obstruction W Cc
MS-LTC-DRG 390: G.I. Obstruction W/O Cc/Mcc
MS-LTC-DRG 391: Esophagitis, Gastroent & Misc Digest Disorders W Mcc
MS-LTC-DRG 392: Esophagitis, Gastroent & Misc Digest Disorders W/O Mcc
MS-LTC-DRG 393: Other Digestive System Diagnoses W Mcc
MS-LTC-DRG 394: Other Digestive System Diagnoses W Cc
MS-LTC-DRG 395: Other Digestive System Diagnoses W/O Cc/Mcc
MS-LTC-DRG 405: Pancreas, Liver & Shunt Procedures W Mcc
MS-LTC-DRG 406: Pancreas, Liver & Shunt Procedures W Cc
MS-LTC-DRG 407: Pancreas, Liver & Shunt Procedures W/O Cc/Mcc
MS-LTC-DRG 408: Biliary Tract Proc Except Only Cholecyst W Or W/O C.D.E. W Mcc
MS-LTC-DRG 409: Biliary Tract Proc Except Only Cholecyst W Or W/O C.D.E. W Cc
MS-LTC-DRG 410: Biliary Tract Proc Except Only Cholecyst W Or W/O C.D.E. W/O Cc/Mcc
MS-LTC-DRG 411: Cholecystectomy W C.D.E. W Mcc
MS-LTC-DRG 412: Cholecystectomy W C.D.E. W Cc
MS-LTC-DRG 413: Cholecystectomy W C.D.E. W/O Cc/Mcc
MS-LTC-DRG 414: Cholecystectomy Except By Laparoscope W/O C.D.E. W Mcc
MS-LTC-DRG 415: Cholecystectomy Except By Laparoscope W/O C.D.E. W Cc
MS-LTC-DRG 416: Cholecystectomy Except By Laparoscope W/O C.D.E. W/O Cc/Mcc
MS-LTC-DRG 417: Laparoscopic Cholecystectomy W/O C.D.E. W Mcc
MS-LTC-DRG 418: Laparoscopic Cholecystectomy W/O C.D.E. W Cc
MS-LTC-DRG 419: Laparoscopic Cholecystectomy W/O C.D.E. W/O Cc/Mcc
MS-LTC-DRG 420: Hepatobiliary Diagnostic Procedures W Mcc
MS-LTC-DRG 421: Hepatobiliary Diagnostic Procedures W Cc
MS-LTC-DRG 422: Hepatobiliary Diagnostic Procedures W/O Cc/Mcc
MS-LTC-DRG 423: Other Hepatobiliary Or Pancreas O.R. Procedures W Mcc
MS-LTC-DRG 424: Other Hepatobiliary Or Pancreas O.R. Procedures W Cc
MS-LTC-DRG 425: Other Hepatobiliary Or Pancreas O.R. Procedures W/O Cc/Mcc
MS-LTC-DRG 432: Cirrhosis & Alcoholic Hepatitis W Mcc
MS-LTC-DRG 433: Cirrhosis & Alcoholic Hepatitis W Cc
MS-LTC-DRG 434: Cirrhosis & Alcoholic Hepatitis W/O Cc/Mcc
MS-LTC-DRG 435: Malignancy Of Hepatobiliary System Or Pancreas W Mcc
MS-LTC-DRG 436: Malignancy Of Hepatobiliary System Or Pancreas W Cc
MS-LTC-DRG 437: Malignancy Of Hepatobiliary System Or Pancreas W/O Cc/Mcc
MS-LTC-DRG 438: Disorders Of Pancreas Except Malignancy W Mcc
MS-LTC-DRG 439: Disorders Of Pancreas Except Malignancy W Cc
MS-LTC-DRG 440: Disorders Of Pancreas Except Malignancy W/O Cc/Mcc
MS-LTC-DRG 441: Disorders Of Liver Except Malig,cirr,alc Hepa W Mcc
MS-LTC-DRG 442: Disorders Of Liver Except Malig,cirr,alc Hepa W Cc
MS-LTC-DRG 443: Disorders Of Liver Except Malig,cirr,alc Hepa W/O Cc/Mcc
MS-LTC-DRG 444: Disorders Of The Biliary Tract W Mcc
MS-LTC-DRG 445: Disorders Of The Biliary Tract W Cc
MS-LTC-DRG 446: Disorders Of The Biliary Tract W/O Cc/Mcc
MS-LTC-DRG 453: Combined Anterior/Posterior Spinal Fusion W Mcc
MS-LTC-DRG 454: Combined Anterior/Posterior Spinal Fusion W Cc
MS-LTC-DRG 455: Combined Anterior/Posterior Spinal Fusion W/O Cc/Mcc

MSPB-PAC LTCH Risk Adjustment Variables
MS-LTC-DRG 456: Spinal Fus Exc Cerv W Spinal Curv/Malig/Infec Or 9+ Fus W Mcc
MS-LTC-DRG 457: Spinal Fus Exc Cerv W Spinal Curv/Malig/Infec Or 9+ Fus W Cc
MS-LTC-DRG 458: Spinal Fus Exc Cerv W Spinal Curv/Malig/Infec Or 9+ Fus W/O Cc/Mcc
MS-LTC-DRG 459: Spinal Fusion Except Cervical W Mcc
MS-LTC-DRG 460: Spinal Fusion Except Cervical W/O Mcc
MS-LTC-DRG 461: Bilateral Or Multiple Major Joint Procs Of Lower Extremity W Mcc
MS-LTC-DRG 462: Bilateral Or Multiple Major Joint Procs Of Lower Extremity W/O Mcc
MS-LTC-DRG 463: Wnd Debrid & Skn Grft Exc Hand, For Musculo-Conn Tiss Dis W Mcc
MS-LTC-DRG 464: Wnd Debrid & Skn Grft Exc Hand, For Musculo-Conn Tiss Dis W Cc
MS-LTC-DRG 465: Wnd Debrid & Skn Grft Exc Hand, For Musculo-Conn Tiss Dis W/O Cc/Mcc
MS-LTC-DRG 466: Revision Of Hip Or Knee Replacement W Mcc
MS-LTC-DRG 467: Revision Of Hip Or Knee Replacement W Cc
MS-LTC-DRG 468: Revision Of Hip Or Knee Replacement W/O Cc/Mcc
MS-LTC-DRG 469: Major Joint Replacement Or Reattachment Of Lower Extremity W Mcc
MS-LTC-DRG 470: Major Joint Replacement Or Reattachment Of Lower Extremity W/O Mcc
MS-LTC-DRG 471: Cervical Spinal Fusion W Mcc
MS-LTC-DRG 472: Cervical Spinal Fusion W Cc
MS-LTC-DRG 473: Cervical Spinal Fusion W/O Cc/Mcc
MS-LTC-DRG 474: Amputation For Musculoskeletal Sys & Conn Tissue Dis W Mcc
MS-LTC-DRG 475: Amputation For Musculoskeletal Sys & Conn Tissue Dis W Cc
MS-LTC-DRG 476: Amputation For Musculoskeletal Sys & Conn Tissue Dis W/O Cc/Mcc
MS-LTC-DRG 477: Biopsies Of Musculoskeletal System & Connective Tissue W Mcc
MS-LTC-DRG 478: Biopsies Of Musculoskeletal System & Connective Tissue W Cc
MS-LTC-DRG 479: Biopsies Of Musculoskeletal System & Connective Tissue W/O Cc/Mcc
MS-LTC-DRG 480: Hip & Femur Procedures Except Major Joint W Mcc
MS-LTC-DRG 481: Hip & Femur Procedures Except Major Joint W Cc
MS-LTC-DRG 482: Hip & Femur Procedures Except Major Joint W/O Cc/Mcc
MS-LTC-DRG 483: Major Joint & Limb Reattachment Proc Of Upper Extremity W Cc/Mcc
MS-LTC-DRG 484: Major Joint & Limb Reattachment Proc Of Upper Extremity W/O Cc/Mcc
MS-LTC-DRG 485: Knee Procedures W Pdx Of Infection W Mcc
MS-LTC-DRG 486: Knee Procedures W Pdx Of Infection W Cc
MS-LTC-DRG 487: Knee Procedures W Pdx Of Infection W/O Cc/Mcc
MS-LTC-DRG 488: Knee Procedures W/O Pdx Of Infection W Cc/Mcc
MS-LTC-DRG 489: Knee Procedures W/O Pdx Of Infection W/O Cc/Mcc
MS-LTC-DRG 490: Back & Neck Proc Exc Spinal Fusion W Cc/Mcc Or Disc Device/Neurostim
MS-LTC-DRG 491: Back & Neck Proc Exc Spinal Fusion W/O Cc/Mcc
MS-LTC-DRG 492: Lower Extrem & Humer Proc Except Hip,foot,femur W Mcc
MS-LTC-DRG 493: Lower Extrem & Humer Proc Except Hip,foot,femur W Cc
MS-LTC-DRG 494: Lower Extrem & Humer Proc Except Hip,foot,femur W/O Cc/Mcc
MS-LTC-DRG 495: Local Excision & Removal Int Fix Devices Exc Hip & Femur W Mcc
MS-LTC-DRG 496: Local Excision & Removal Int Fix Devices Exc Hip & Femur W Cc
MS-LTC-DRG 497: Local Excision & Removal Int Fix Devices Exc Hip & Femur W/O Cc/Mcc
MS-LTC-DRG 498: Local Excision & Removal Int Fix Devices Of Hip & Femur W Cc/Mcc
MS-LTC-DRG 499: Local Excision & Removal Int Fix Devices Of Hip & Femur W/O Cc/Mcc
MS-LTC-DRG 500: Soft Tissue Procedures W Mcc
MS-LTC-DRG 501: Soft Tissue Procedures W Cc
MS-LTC-DRG 502: Soft Tissue Procedures W/O Cc/Mcc

MSPB-PAC LTCH Risk Adjustment Variables
MS-LTC-DRG 503: Foot Procedures W Mcc
MS-LTC-DRG 504: Foot Procedures W Cc
MS-LTC-DRG 505: Foot Procedures W/O Cc/Mcc
MS-LTC-DRG 506: Major Thumb Or Joint Procedures
MS-LTC-DRG 507: Major Shoulder Or Elbow Joint Procedures W Cc/Mcc
MS-LTC-DRG 508: Major Shoulder Or Elbow Joint Procedures W/O Cc/Mcc
MS-LTC-DRG 509: Arthroscopy
MS-LTC-DRG 510: Shoulder,elbow Or Forearm Proc,exc Major Joint Proc W Mcc
MS-LTC-DRG 511: Shoulder,elbow Or Forearm Proc,exc Major Joint Proc W Cc
MS-LTC-DRG 512: Shoulder,elbow Or Forearm Proc,exc Major Joint Proc W/O Cc/Mcc
MS-LTC-DRG 513: Hand Or Wrist Proc, Except Major Thumb Or Joint Proc W Cc/Mcc
MS-LTC-DRG 514: Hand Or Wrist Proc, Except Major Thumb Or Joint Proc W/O Cc/Mcc
MS-LTC-DRG 515: Other Musculoskelet Sys & Conn Tiss O.R. Proc W Mcc
MS-LTC-DRG 516: Other Musculoskelet Sys & Conn Tiss O.R. Proc W Cc
MS-LTC-DRG 517: Other Musculoskelet Sys & Conn Tiss O.R. Proc W/O Cc/Mcc
MS-LTC-DRG 533: Fractures Of Femur W Mcc
MS-LTC-DRG 534: Fractures Of Femur W/O Mcc
MS-LTC-DRG 535: Fractures Of Hip & Pelvis W Mcc
MS-LTC-DRG 536: Fractures Of Hip & Pelvis W/O Mcc
MS-LTC-DRG 537: Sprains, Strains, & Dislocations Of Hip, Pelvis & Thigh W Cc/Mcc
MS-LTC-DRG 538: Sprains, Strains, & Dislocations Of Hip, Pelvis & Thigh W/O Cc/Mcc
MS-LTC-DRG 539: Osteomyelitis W Mcc
MS-LTC-DRG 540: Osteomyelitis W Cc
MS-LTC-DRG 541: Osteomyelitis W/O Cc/Mcc
MS-LTC-DRG 542: Pathological Fractures & Musculoskelet & Conn Tiss Malig W Mcc
MS-LTC-DRG 543: Pathological Fractures & Musculoskelet & Conn Tiss Malig W Cc
MS-LTC-DRG 544: Pathological Fractures & Musculoskelet & Conn Tiss Malig W/O Cc/Mcc
MS-LTC-DRG 545: Connective Tissue Disorders W Mcc
MS-LTC-DRG 546: Connective Tissue Disorders W Cc
MS-LTC-DRG 547: Connective Tissue Disorders W/O Cc/Mcc
MS-LTC-DRG 548: Septic Arthritis W Mcc
MS-LTC-DRG 549: Septic Arthritis W Cc
MS-LTC-DRG 550: Septic Arthritis W/O Cc/Mcc
MS-LTC-DRG 551: Medical Back Problems W Mcc
MS-LTC-DRG 552: Medical Back Problems W/O Mcc
MS-LTC-DRG 553: Bone Diseases & Arthropathies W Mcc
MS-LTC-DRG 554: Bone Diseases & Arthropathies W/O Mcc
MS-LTC-DRG 555: Signs & Symptoms Of Musculoskeletal System & Conn Tissue W Mcc
MS-LTC-DRG 556: Signs & Symptoms Of Musculoskeletal System & Conn Tissue W/O Mcc
MS-LTC-DRG 557: Tendonitis, Myositis & Bursitis W Mcc
MS-LTC-DRG 558: Tendonitis, Myositis & Bursitis W/O Mcc
MS-LTC-DRG 559: Aftercare, Musculoskeletal System & Connective Tissue W Mcc
MS-LTC-DRG 560: Aftercare, Musculoskeletal System & Connective Tissue W Cc
MS-LTC-DRG 561: Aftercare, Musculoskeletal System & Connective Tissue W/O Cc/Mcc
MS-LTC-DRG 562: Fx, Sprn, Strn & Disl Except Femur, Hip, Pelvis & Thigh W Mcc
MS-LTC-DRG 563: Fx, Sprn, Strn & Disl Except Femur, Hip, Pelvis & Thigh W/O Mcc
MS-LTC-DRG 564: Other Musculoskeletal Sys & Connective Tissue Diagnoses W Mcc

MSPB-PAC LTCH Risk Adjustment Variables
MS-LTC-DRG 565: Other Musculoskeletal Sys & Connective Tissue Diagnoses W Cc
MS-LTC-DRG 566: Other Musculoskeletal Sys & Connective Tissue Diagnoses W/O Cc/Mcc
MS-LTC-DRG 570: Skin Debridement W Mcc
MS-LTC-DRG 571: Skin Debridement W Cc
MS-LTC-DRG 572: Skin Debridement W/O Cc/Mcc
MS-LTC-DRG 573: Skin Graft For Skin Ulcer Or Cellulitis W Mcc
MS-LTC-DRG 574: Skin Graft For Skin Ulcer Or Cellulitis W Cc
MS-LTC-DRG 575: Skin Graft For Skin Ulcer Or Cellulitis W/O Cc/Mcc
MS-LTC-DRG 576: Skin Graft Exc For Skin Ulcer Or Cellulitis W Mcc
MS-LTC-DRG 577: Skin Graft Exc For Skin Ulcer Or Cellulitis W Cc
MS-LTC-DRG 578: Skin Graft Exc For Skin Ulcer Or Cellulitis W/O Cc/Mcc
MS-LTC-DRG 579: Other Skin, Subcut Tiss & Breast Proc W Mcc
MS-LTC-DRG 580: Other Skin, Subcut Tiss & Breast Proc W Cc
MS-LTC-DRG 581: Other Skin, Subcut Tiss & Breast Proc W/O Cc/Mcc
MS-LTC-DRG 582: Mastectomy For Malignancy W Cc/Mcc
MS-LTC-DRG 583: Mastectomy For Malignancy W/O Cc/Mcc
MS-LTC-DRG 584: Breast Biopsy, Local Excision & Other Breast Procedures W Cc/Mcc
MS-LTC-DRG 585: Breast Biopsy, Local Excision & Other Breast Procedures W/O Cc/Mcc
MS-LTC-DRG 592: Skin Ulcers W Mcc
MS-LTC-DRG 593: Skin Ulcers W Cc
MS-LTC-DRG 594: Skin Ulcers W/O Cc/Mcc
MS-LTC-DRG 595: Major Skin Disorders W Mcc
MS-LTC-DRG 596: Major Skin Disorders W/O Mcc
MS-LTC-DRG 597: Malignant Breast Disorders W Mcc
MS-LTC-DRG 598: Malignant Breast Disorders W Cc
MS-LTC-DRG 599: Malignant Breast Disorders W/O Cc/Mcc
MS-LTC-DRG 600: Non-Malignant Breast Disorders W Cc/Mcc
MS-LTC-DRG 601: Non-Malignant Breast Disorders W/O Cc/Mcc
MS-LTC-DRG 602: Cellulitis W Mcc
MS-LTC-DRG 603: Cellulitis W/O Mcc
MS-LTC-DRG 604: Trauma To The Skin, Subcut Tiss & Breast W Mcc
MS-LTC-DRG 605: Trauma To The Skin, Subcut Tiss & Breast W/O Mcc
MS-LTC-DRG 606: Minor Skin Disorders W Mcc
MS-LTC-DRG 607: Minor Skin Disorders W/O Mcc
MS-LTC-DRG 614: Adrenal & Pituitary Procedures W Cc/Mcc
MS-LTC-DRG 615: Adrenal & Pituitary Procedures W/O Cc/Mcc
MS-LTC-DRG 616: Amputat Of Lower Limb For Endocrine,nutrit,& Metabol Dis W Mcc
MS-LTC-DRG 617: Amputat Of Lower Limb For Endocrine,nutrit,& Metabol Dis W Cc
MS-LTC-DRG 618: Amputat Of Lower Limb For Endocrine,nutrit,& Metabol Dis W/O Cc/Mcc
MS-LTC-DRG 619: O.R. Procedures For Obesity W Mcc
MS-LTC-DRG 620: O.R. Procedures For Obesity W Cc
MS-LTC-DRG 621: O.R. Procedures For Obesity W/O Cc/Mcc
MS-LTC-DRG 622: Skin Grafts & Wound Debrid For Endoc, Nutrit & Metab Dis W Mcc
MS-LTC-DRG 623: Skin Grafts & Wound Debrid For Endoc, Nutrit & Metab Dis W Cc
MS-LTC-DRG 624: Skin Grafts & Wound Debrid For Endoc, Nutrit & Metab Dis W/O Cc/Mcc
MS-LTC-DRG 625: Thyroid, Parathyroid & Thyroglossal Procedures W Mcc
MS-LTC-DRG 626: Thyroid, Parathyroid & Thyroglossal Procedures W Cc

MSPB-PAC LTCH Risk Adjustment Variables
MS-LTC-DRG 627: Thyroid, Parathyroid & Thyroglossal Procedures W/O Cc/Mcc
MS-LTC-DRG 628: Other Endocrine, Nutrit & Metab O.R. Proc W Mcc
MS-LTC-DRG 629: Other Endocrine, Nutrit & Metab O.R. Proc W Cc
MS-LTC-DRG 630: Other Endocrine, Nutrit & Metab O.R. Proc W/O Cc/Mcc
MS-LTC-DRG 637: Diabetes W Mcc
MS-LTC-DRG 638: Diabetes W Cc
MS-LTC-DRG 639: Diabetes W/O Cc/Mcc
MS-LTC-DRG 640: Misc Disorders Of Nutrition,metabolism,fluids/Electrolytes W Mcc
MS-LTC-DRG 641: Misc Disorders Of Nutrition,metabolism,fluids/Electrolytes W/O Mcc
MS-LTC-DRG 642: Inborn And Other Disorders Of Metabolism
MS-LTC-DRG 643: Endocrine Disorders W Mcc
MS-LTC-DRG 644: Endocrine Disorders W Cc
MS-LTC-DRG 645: Endocrine Disorders W/O Cc/Mcc
MS-LTC-DRG 652: Kidney Transplant
MS-LTC-DRG 653: Major Bladder Procedures W Mcc
MS-LTC-DRG 654: Major Bladder Procedures W Cc
MS-LTC-DRG 655: Major Bladder Procedures W/O Cc/Mcc
MS-LTC-DRG 656: Kidney & Ureter Procedures For Neoplasm W Mcc
MS-LTC-DRG 657: Kidney & Ureter Procedures For Neoplasm W Cc
MS-LTC-DRG 658: Kidney & Ureter Procedures For Neoplasm W/O Cc/Mcc
MS-LTC-DRG 659: Kidney & Ureter Procedures For Non-Neoplasm W Mcc
MS-LTC-DRG 660: Kidney & Ureter Procedures For Non-Neoplasm W Cc
MS-LTC-DRG 661: Kidney & Ureter Procedures For Non-Neoplasm W/O Cc/Mcc
MS-LTC-DRG 662: Minor Bladder Procedures W Mcc
MS-LTC-DRG 663: Minor Bladder Procedures W Cc
MS-LTC-DRG 664: Minor Bladder Procedures W/O Cc/Mcc
MS-LTC-DRG 665: Prostatectomy W Mcc
MS-LTC-DRG 666: Prostatectomy W Cc
MS-LTC-DRG 667: Prostatectomy W/O Cc/Mcc
MS-LTC-DRG 668: Transurethral Procedures W Mcc
MS-LTC-DRG 669: Transurethral Procedures W Cc
MS-LTC-DRG 670: Transurethral Procedures W/O Cc/Mcc
MS-LTC-DRG 671: Urethral Procedures W Cc/Mcc
MS-LTC-DRG 672: Urethral Procedures W/O Cc/Mcc
MS-LTC-DRG 673: Other Kidney & Urinary Tract Procedures W Mcc
MS-LTC-DRG 674: Other Kidney & Urinary Tract Procedures W Cc
MS-LTC-DRG 675: Other Kidney & Urinary Tract Procedures W/O Cc/Mcc
MS-LTC-DRG 682: Renal Failure W Mcc
MS-LTC-DRG 683: Renal Failure W Cc
MS-LTC-DRG 684: Renal Failure W/O Cc/Mcc
MS-LTC-DRG 685: Admit For Renal Dialysis
MS-LTC-DRG 686: Kidney & Urinary Tract Neoplasms W Mcc
MS-LTC-DRG 687: Kidney & Urinary Tract Neoplasms W Cc
MS-LTC-DRG 688: Kidney & Urinary Tract Neoplasms W/O Cc/Mcc
MS-LTC-DRG 689: Kidney & Urinary Tract Infections W Mcc
MS-LTC-DRG 690: Kidney & Urinary Tract Infections W/O Mcc
MS-LTC-DRG 691: Urinary Stones W Esw Lithotripsy W Cc/Mcc

MSPB-PAC LTCH Risk Adjustment Variables
MS-LTC-DRG 692: Urinary Stones W Esw Lithotripsy W/O Cc/Mcc
MS-LTC-DRG 693: Urinary Stones W/O Esw Lithotripsy W Mcc
MS-LTC-DRG 694: Urinary Stones W/O Esw Lithotripsy W/O Mcc
MS-LTC-DRG 695: Kidney & Urinary Tract Signs & Symptoms W Mcc
MS-LTC-DRG 696: Kidney & Urinary Tract Signs & Symptoms W/O Mcc
MS-LTC-DRG 697: Urethral Stricture
MS-LTC-DRG 698: Other Kidney & Urinary Tract Diagnoses W Mcc
MS-LTC-DRG 699: Other Kidney & Urinary Tract Diagnoses W Cc
MS-LTC-DRG 700: Other Kidney & Urinary Tract Diagnoses W/O Cc/Mcc
MS-LTC-DRG 707: Major Male Pelvic Procedures W Cc/Mcc
MS-LTC-DRG 708: Major Male Pelvic Procedures W/O Cc/Mcc
MS-LTC-DRG 709: Penis Procedures W Cc/Mcc
MS-LTC-DRG 710: Penis Procedures W/O Cc/Mcc
MS-LTC-DRG 711: Testes Procedures W Cc/Mcc
MS-LTC-DRG 712: Testes Procedures W/O Cc/Mcc
MS-LTC-DRG 713: Transurethral Prostatectomy W Cc/Mcc
MS-LTC-DRG 714: Transurethral Prostatectomy W/O Cc/Mcc
MS-LTC-DRG 715: Other Male Reproductive System O.R. Proc For Malignancy W Cc/Mcc
MS-LTC-DRG 716: Other Male Reproductive System O.R. Proc For Malignancy W/O Cc/Mcc
MS-LTC-DRG 717: Other Male Reproductive System O.R. Proc Exc Malignancy W Cc/Mcc
MS-LTC-DRG 718: Other Male Reproductive System O.R. Proc Exc Malignancy W/O Cc/Mcc
MS-LTC-DRG 722: Malignancy, Male Reproductive System W Mcc
MS-LTC-DRG 723: Malignancy, Male Reproductive System W Cc
MS-LTC-DRG 724: Malignancy, Male Reproductive System W/O Cc/Mcc
MS-LTC-DRG 725: Benign Prostatic Hypertrophy W Mcc
MS-LTC-DRG 726: Benign Prostatic Hypertrophy W/O Mcc
MS-LTC-DRG 727: Inflammation Of The Male Reproductive System W Mcc
MS-LTC-DRG 728: Inflammation Of The Male Reproductive System W/O Mcc
MS-LTC-DRG 729: Other Male Reproductive System Diagnoses W Cc/Mcc
MS-LTC-DRG 730: Other Male Reproductive System Diagnoses W/O Cc/Mcc
MS-LTC-DRG 734: Pelvic Evisceration, Rad Hysterectomy & Rad Vulvectomy W Cc/Mcc
MS-LTC-DRG 735: Pelvic Evisceration, Rad Hysterectomy & Rad Vulvectomy W/O Cc/Mcc
MS-LTC-DRG 736: Uterine & Adnexa Proc For Ovarian Or Adnexal Malignancy W Mcc
MS-LTC-DRG 737: Uterine & Adnexa Proc For Ovarian Or Adnexal Malignancy W Cc
MS-LTC-DRG 738: Uterine & Adnexa Proc For Ovarian Or Adnexal Malignancy W/O Cc/Mcc
MS-LTC-DRG 739: Uterine,adnexa Proc For Non-Ovarian/Adnexal Malig W Mcc
MS-LTC-DRG 740: Uterine,adnexa Proc For Non-Ovarian/Adnexal Malig W Cc
MS-LTC-DRG 741: Uterine,adnexa Proc For Non-Ovarian/Adnexal Malig W/O Cc/Mcc
MS-LTC-DRG 742: Uterine & Adnexa Proc For Non-Malignancy W Cc/Mcc
MS-LTC-DRG 743: Uterine & Adnexa Proc For Non-Malignancy W/O Cc/Mcc
MS-LTC-DRG 744: D&c, Conization, Laparoscopy & Tubal Interruption W Cc/Mcc
MS-LTC-DRG 745: D&c, Conization, Laparoscopy & Tubal Interruption W/O Cc/Mcc
MS-LTC-DRG 746: Vagina, Cervix & Vulva Procedures W Cc/Mcc
MS-LTC-DRG 747: Vagina, Cervix & Vulva Procedures W/O Cc/Mcc
MS-LTC-DRG 748: Female Reproductive System Reconstructive Procedures
MS-LTC-DRG 749: Other Female Reproductive System O.R. Procedures W Cc/Mcc
MS-LTC-DRG 750: Other Female Reproductive System O.R. Procedures W/O Cc/Mcc

MSPB-PAC LTCH Risk Adjustment Variables
MS-LTC-DRG 754: Malignancy, Female Reproductive System W Mcc
MS-LTC-DRG 755: Malignancy, Female Reproductive System W Cc
MS-LTC-DRG 756: Malignancy, Female Reproductive System W/O Cc/Mcc
MS-LTC-DRG 757: Infections, Female Reproductive System W Mcc
MS-LTC-DRG 758: Infections, Female Reproductive System W Cc
MS-LTC-DRG 759: Infections, Female Reproductive System W/O Cc/Mcc
MS-LTC-DRG 760: Menstrual & Other Female Reproductive System Disorders W Cc/Mcc
MS-LTC-DRG 761: Menstrual & Other Female Reproductive System Disorders W/O Cc/Mcc
MS-LTC-DRG 765: Cesarean Section W Cc/Mcc
MS-LTC-DRG 766: Cesarean Section W/O Cc/Mcc
MS-LTC-DRG 767: Vaginal Delivery W Sterilization &/Or D&c
MS-LTC-DRG 768: Vaginal Delivery W O.R. Proc Except Steril &/Or D&c
MS-LTC-DRG 769: Postpartum & Post Abortion Diagnoses W O.R. Procedure
MS-LTC-DRG 770: Abortion W D&c, Aspiration Curettage Or Hysterotomy
MS-LTC-DRG 774: Vaginal Delivery W Complicating Diagnoses
MS-LTC-DRG 775: Vaginal Delivery W/O Complicating Diagnoses
MS-LTC-DRG 776: Postpartum & Post Abortion Diagnoses W/O O.R. Procedure
MS-LTC-DRG 777: Ectopic Pregnancy
MS-LTC-DRG 778: Threatened Abortion
MS-LTC-DRG 779: Abortion W/O D&c
MS-LTC-DRG 780: False Labor
MS-LTC-DRG 781: Other Antepartum Diagnoses W Medical Complications
MS-LTC-DRG 782: Other Antepartum Diagnoses W/O Medical Complications
MS-LTC-DRG 789: Neonates, Died Or Transferred To Another Acute Care Facility
MS-LTC-DRG 790: Extreme Immaturity Or Respiratory Distress Syndrome, Neonate
MS-LTC-DRG 791: Prematurity W Major Problems
MS-LTC-DRG 792: Prematurity W/O Major Problems
MS-LTC-DRG 793: Full Term Neonate W Major Problems
MS-LTC-DRG 794: Neonate W Other Significant Problems
MS-LTC-DRG 795: Normal Newborn
MS-LTC-DRG 799: Splenectomy W Mcc
MS-LTC-DRG 800: Splenectomy W Cc
MS-LTC-DRG 801: Splenectomy W/O Cc/Mcc
MS-LTC-DRG 802: Other O.R. Proc Of The Blood & Blood Forming Organs W Mcc
MS-LTC-DRG 803: Other O.R. Proc Of The Blood & Blood Forming Organs W Cc
MS-LTC-DRG 804: Other O.R. Proc Of The Blood & Blood Forming Organs W/O Cc/Mcc
MS-LTC-DRG 808: Major Hematol/Immun Diag Exc Sickle Cell Crisis & Coagul W Mcc
MS-LTC-DRG 809: Major Hematol/Immun Diag Exc Sickle Cell Crisis & Coagul W Cc
MS-LTC-DRG 810: Major Hematol/Immun Diag Exc Sickle Cell Crisis & Coagul W/O Cc/Mcc
MS-LTC-DRG 811: Red Blood Cell Disorders W Mcc
MS-LTC-DRG 812: Red Blood Cell Disorders W/O Mcc
MS-LTC-DRG 813: Coagulation Disorders
MS-LTC-DRG 814: Reticuloendothelial & Immunity Disorders W Mcc
MS-LTC-DRG 815: Reticuloendothelial & Immunity Disorders W Cc
MS-LTC-DRG 816: Reticuloendothelial & Immunity Disorders W/O Cc/Mcc
MS-LTC-DRG 820: Lymphoma & Leukemia W Major O.R. Procedure W Mcc
MS-LTC-DRG 821: Lymphoma & Leukemia W Major O.R. Procedure W Cc

MSPB-PAC LTCH Risk Adjustment Variables
MS-LTC-DRG 822: Lymphoma & Leukemia W Major O.R. Procedure W/O Cc/Mcc
MS-LTC-DRG 823: Lymphoma & Non-Acute Leukemia W Other O.R. Proc W Mcc
MS-LTC-DRG 824: Lymphoma & Non-Acute Leukemia W Other O.R. Proc W Cc
MS-LTC-DRG 825: Lymphoma & Non-Acute Leukemia W Other O.R. Proc W/O Cc/Mcc
MS-LTC-DRG 826: Myeloprolif Disord Or Poorly Diff Neopl W Maj O.R. Proc W Mcc
MS-LTC-DRG 827: Myeloprolif Disord Or Poorly Diff Neopl W Maj O.R. Proc W Cc
MS-LTC-DRG 828: Myeloprolif Disord Or Poorly Diff Neopl W Maj O.R. Proc W/O Cc/Mcc
MS-LTC-DRG 829: Myeloprolif Disord Or Poorly Diff Neopl W Other O.R. Proc W Cc/Mcc
MS-LTC-DRG 830: Myeloprolif Disord Or Poorly Diff Neopl W Other O.R. Proc W/O Cc/Mcc
MS-LTC-DRG 834: Acute Leukemia W/O Major O.R. Procedure W Mcc
MS-LTC-DRG 835: Acute Leukemia W/O Major O.R. Procedure W Cc
MS-LTC-DRG 836: Acute Leukemia W/O Major O.R. Procedure W/O Cc/Mcc
MS-LTC-DRG 837: Chemo W Acute Leukemia As Sdx Or W High Dose Chemo Agent W Mcc
MS-LTC-DRG 838: Chemo W Acute Leukemia As Sdx W Cc Or High Dose Chemo Agent
MS-LTC-DRG 839: Chemo W Acute Leukemia As Sdx W/O Cc/Mcc
MS-LTC-DRG 840: Lymphoma & Non-Acute Leukemia W Mcc
MS-LTC-DRG 841: Lymphoma & Non-Acute Leukemia W Cc
MS-LTC-DRG 842: Lymphoma & Non-Acute Leukemia W/O Cc/Mcc
MS-LTC-DRG 843: Other Myeloprolif Dis Or Poorly Diff Neopl Diag W Mcc
MS-LTC-DRG 844: Other Myeloprolif Dis Or Poorly Diff Neopl Diag W Cc
MS-LTC-DRG 845: Other Myeloprolif Dis Or Poorly Diff Neopl Diag W/O Cc/Mcc
MS-LTC-DRG 846: Chemotherapy W/O Acute Leukemia As Secondary Diagnosis W Mcc
MS-LTC-DRG 847: Chemotherapy W/O Acute Leukemia As Secondary Diagnosis W Cc
MS-LTC-DRG 848: Chemotherapy W/O Acute Leukemia As Secondary Diagnosis W/O Cc/Mcc
MS-LTC-DRG 849: Radiotherapy
MS-LTC-DRG 853: Infectious & Parasitic Diseases W O.R. Procedure W Mcc
MS-LTC-DRG 854: Infectious & Parasitic Diseases W O.R. Procedure W Cc
MS-LTC-DRG 855: Infectious & Parasitic Diseases W O.R. Procedure W/O Cc/Mcc
MS-LTC-DRG 856: Postoperative Or Post-Traumatic Infections W O.R. Proc W Mcc
MS-LTC-DRG 857: Postoperative Or Post-Traumatic Infections W O.R. Proc W Cc
MS-LTC-DRG 858: Postoperative Or Post-Traumatic Infections W O.R. Proc W/O Cc/Mcc
MS-LTC-DRG 862: Postoperative & Post-Traumatic Infections W Mcc
MS-LTC-DRG 863: Postoperative & Post-Traumatic Infections W/O Mcc
MS-LTC-DRG 864: Fever
MS-LTC-DRG 865: Viral Illness W Mcc
MS-LTC-DRG 866: Viral Illness W/O Mcc
MS-LTC-DRG 867: Other Infectious & Parasitic Diseases Diagnoses W Mcc
MS-LTC-DRG 868: Other Infectious & Parasitic Diseases Diagnoses W Cc
MS-LTC-DRG 869: Other Infectious & Parasitic Diseases Diagnoses W/O Cc/Mcc
MS-LTC-DRG 870: Septicemia Or Severe Sepsis W Mv 96+ Hours
MS-LTC-DRG 871: Septicemia Or Severe Sepsis W/O Mv 96+ Hours W Mcc
MS-LTC-DRG 872: Septicemia Or Severe Sepsis W/O Mv 96+ Hours W/O Mcc
MS-LTC-DRG 876: O.R. Procedure W Principal Diagnoses Of Mental Illness
MS-LTC-DRG 880: Acute Adjustment Reaction & Psychosocial Dysfunction
MS-LTC-DRG 881: Depressive Neuroses
MS-LTC-DRG 882: Neuroses Except Depressive
MS-LTC-DRG 883: Disorders Of Personality & Impulse Control

MSPB-PAC LTCH Risk Adjustment Variables
MS-LTC-DRG 884: Organic Disturbances & Mental Retardation
MS-LTC-DRG 885: Psychoses
MS-LTC-DRG 886: Behavioral & Developmental Disorders
MS-LTC-DRG 887: Other Mental Disorder Diagnoses
MS-LTC-DRG 894: Alcohol/Drug Abuse Or Dependence, Left Ama
MS-LTC-DRG 895: Alcohol/Drug Abuse Or Dependence W Rehabilitation Therapy
MS-LTC-DRG 896: Alcohol/Drug Abuse Or Dependence W/O Rehabilitation Therapy W Mcc
MS-LTC-DRG 897: Alcohol/Drug Abuse Or Dependence W/O Rehabilitation Therapy W/O Mcc
MS-LTC-DRG 901: Wound Debridements For Injuries W Mcc
MS-LTC-DRG 902: Wound Debridements For Injuries W Cc
MS-LTC-DRG 903: Wound Debridements For Injuries W/O Cc/Mcc
MS-LTC-DRG 904: Skin Grafts For Injuries W Cc/Mcc
MS-LTC-DRG 905: Skin Grafts For Injuries W/O Cc/Mcc
MS-LTC-DRG 906: Hand Procedures For Injuries
MS-LTC-DRG 907: Other O.R. Procedures For Injuries W Mcc
MS-LTC-DRG 908: Other O.R. Procedures For Injuries W Cc
MS-LTC-DRG 909: Other O.R. Procedures For Injuries W/O Cc/Mcc
MS-LTC-DRG 913: Traumatic Injury W Mcc
MS-LTC-DRG 914: Traumatic Injury W/O Mcc
MS-LTC-DRG 915: Allergic Reactions W Mcc
MS-LTC-DRG 916: Allergic Reactions W/O Mcc
MS-LTC-DRG 917: Poisoning & Toxic Effects Of Drugs W Mcc
MS-LTC-DRG 918: Poisoning & Toxic Effects Of Drugs W/O Mcc
MS-LTC-DRG 919: Complications Of Treatment W Mcc
MS-LTC-DRG 920: Complications Of Treatment W Cc
MS-LTC-DRG 921: Complications Of Treatment W/O Cc/Mcc
MS-LTC-DRG 922: Other Injury, Poisoning & Toxic Effect Diag W Mcc
MS-LTC-DRG 923: Other Injury, Poisoning & Toxic Effect Diag W/O Mcc
MS-LTC-DRG 927: Extensive Burns Or Full Thickness Burns W Mv 96+ Hrs W Skin Graft
MS-LTC-DRG 928: Full Thickness Burn W Skin Graft Or Inhal Inj W Cc/Mcc
MS-LTC-DRG 929: Full Thickness Burn W Skin Graft Or Inhal Inj W/O Cc/Mcc
MS-LTC-DRG 933: Extensive Burns Or Full Thickness Burns W Mv 96+ Hrs W/O Skin Graft
MS-LTC-DRG 934: Full Thickness Burn W/O Skin Grft Or Inhal Inj
MS-LTC-DRG 935: Non-Extensive Burns
MS-LTC-DRG 939: O.R. Proc W Diagnoses Of Other Contact W Health Services W Mcc
MS-LTC-DRG 940: O.R. Proc W Diagnoses Of Other Contact W Health Services W Cc
MS-LTC-DRG 941: O.R. Proc W Diagnoses Of Other Contact W Health Services W/O Cc/Mcc
MS-LTC-DRG 945: Rehabilitation W Cc/Mcc
MS-LTC-DRG 946: Rehabilitation W/O Cc/Mcc
MS-LTC-DRG 947: Signs & Symptoms W Mcc
MS-LTC-DRG 948: Signs & Symptoms W/O Mcc
MS-LTC-DRG 949: Aftercare W Cc/Mcc
MS-LTC-DRG 950: Aftercare W/O Cc/Mcc
MS-LTC-DRG 951: Other Factors Influencing Health Status
MS-LTC-DRG 955: Craniotomy For Multiple Significant Trauma
MS-LTC-DRG 956: Limb Reattachment, Hip & Femur Proc For Multiple Significant Trauma
MS-LTC-DRG 957: Other O.R. Procedures For Multiple Significant Trauma W Mcc

MSPB-PAC LTCH Risk Adjustment Variables
MS-LTC-DRG 958: Other O.R. Procedures For Multiple Significant Trauma W Cc
MS-LTC-DRG 959: Other O.R. Procedures For Multiple Significant Trauma W/O Cc/Mcc
MS-LTC-DRG 963: Other Multiple Significant Trauma W Mcc
MS-LTC-DRG 964: Other Multiple Significant Trauma W Cc
MS-LTC-DRG 965: Other Multiple Significant Trauma W/O Cc/Mcc
MS-LTC-DRG 969: Hiv W Extensive O.R. Procedure W Mcc
MS-LTC-DRG 970: Hiv W Extensive O.R. Procedure W/O Mcc
MS-LTC-DRG 974: Hiv W Major Related Condition W Mcc
MS-LTC-DRG 975: Hiv W Major Related Condition W Cc
MS-LTC-DRG 976: Hiv W Major Related Condition W/O Cc/Mcc
MS-LTC-DRG 977: Hiv W Or W/O Other Related Condition
MS-LTC-DRG 981: Extensive O.R. Procedure Unrelated To Principal Diagnosis W Mcc
MS-LTC-DRG 982: Extensive O.R. Procedure Unrelated To Principal Diagnosis W Cc
MS-LTC-DRG 983: Extensive O.R. Procedure Unrelated To Principal Diagnosis W/O Cc/Mcc
MS-LTC-DRG 984: Prostatic O.R. Procedure Unrelated To Principal Diagnosis W Mcc
MS-LTC-DRG 985: Prostatic O.R. Procedure Unrelated To Principal Diagnosis W Cc
MS-LTC-DRG 986: Prostatic O.R. Procedure Unrelated To Principal Diagnosis W/O Cc/Mcc
MS-LTC-DRG 987: Non-Extensive O.R. Proc Unrelated To Principal Diagnosis W Mcc
MS-LTC-DRG 988: Non-Extensive O.R. Proc Unrelated To Principal Diagnosis W Cc
MS-LTC-DRG 989: Non-Extensive O.R. Proc Unrelated To Principal Diagnosis W/O Cc/Mcc
MS-LTC-DRG 998: Principal Diagnosis Invalid As Discharge Diagnosis
MS-LTC-DRG 999: Ungroupable
MDC 01: Diseases & Disorders Of The Nervous System
MDC 02: Diseases & Disorders Of The Eye
MDC 03: Diseases & Disorders Of The Ear, Nose, Mouth & Throat
MDC 04: Diseases & Disorders Of The Respiratory System
MDC 05: Diseases & Disorders Of The Circulatory System
MDC 06: Diseases & Disorders Of The Digestive System
MDC 07: Diseases & Disorders Of The Hepatobiliary System & Pancreas
MDC 08: Diseases & Disorders Of The Musculoskeletal System & Conn Tissue
MDC 09: Diseases & Disorders Of The Skin, Subcutaneous Tissue & Breast
MDC 10: Endocrine, Nutritional & Metabolic Diseases & Disorders
MDC 11: Diseases & Disorders Of The Kidney & Urinary Tract
MDC 12: Diseases & Disorders Of The Male Reproductive System
MDC 13: Diseases & Disorders Of The Female Reproductive System
MDC 14: Pregnancy, Childbirth & The Puerperium
MDC 15: Newborns & Other Neonates With Condtn Orig In Perinatal Period
MDC 16: Diseases & Disorders Of Blood, Blood Forming Organs, Immunolog Disord
MDC 17: Myeloproliferative Diseases & Disorders, Poorly Differentiated Neoplasm
MDC 18: Infectious & Parasitic Diseases, Systemic Or Unspecified Sites
MDC 19: Mental Diseases & Disorders
MDC 20: Alcohol/Drug Use & Alcohol/Drug Induced Organic Mental Disorders
MDC 21: Injuries, Poisonings & Toxic Effects Of Drugs
MDC 22: Burns
MDC 23: Factors Influencing Hlth Stat & Othr Contacts With Hlth Servcs
MDC 24: Multiple Significant Trauma
MDC 25: Human Immunodeficiency Virus Infections

Table C-4. MSPB-PAC SNF Risk Adjustment Model

MSPB-PAC SNF Risk Adjustment Variables
HCC1: HIV/AIDS
HCC2: Septicemia/Shock
HCC5: Opportunistic Infections
HCC7: Metastatic Cancer and Acute Leukemia
HCC8: Lung, Upper Digestive Tract, and Other Severe Cancers
HCC9: Lymphatic, Head and Neck, Brain, and Other Major Cancers
HCC10: Breast, Prostate, Colorectal and Other Cancers and Tumors
HCC15: Diabetes with Renal or Peripheral Circulatory Manifestation
HCC16: Diabetes with Neurologic or Other Specified Manifestation
HCC17: Diabetes with Acute Complications
HCC18: Diabetes with Ophthalmologic or Unspecified Manifestation
HCC19: Diabetes without Complication
HCC21: Protein-Calorie Malnutrition
HCC25: End-Stage Liver Disease
HCC26: Cirrhosis of Liver
HCC27: Chronic Hepatitis
HCC31: Intestinal Obstruction/Perforation
HCC32: Pancreatic Disease
HCC33: Inflammatory Bowel Disease
HCC37: Bone/Joint/Muscle Infections/Necrosis
HCC38: Rheumatoid Arthritis and Inflammatory Connective Tissue Disease
HCC44: Severe Hematological Disorders
HCC45: Disorders of Immunity
HCC51: Drug/Alcohol Psychosis
HCC52: Drug/Alcohol Dependence
HCC54: Schizophrenia
HCC55: Major Depressive, Bipolar, and Paranoid Disorders
HCC67: Quadriplegia, Other Extensive Paralysis
HCC68: Paraplegia
HCC69: Spinal Cord Disorders/Injuries
HCC70: Muscular Dystrophy
HCC71: Polyneuropathy
HCC72: Multiple Sclerosis
HCC73: Parkinsons and Huntingtons Diseases
HCC74: Seizure Disorders and Convulsions
HCC75: Coma, Brain Compression/Anoxic Damage
HCC77: Respirator Dependence/Tracheostomy Status
HCC78: Respiratory Arrest
HCC79: Cardio-Respiratory Failure and Shock
HCC80: Congestive Heart Failure
HCC81: Acute Myocardial Infarction
HCC82: Unstable Angina and Other Acute Ischemic Heart Disease
HCC83: Angina Pectoris/Old Myocardial Infarction
HCC92: Specified Heart Arrhythmias

MSPB-PAC SNF Risk Adjustment Variables
HCC95: Cerebral Hemorrhage
HCC96: Ischemic or Unspecified Stroke
HCC100: Hemiplegia/Hemiparesis
HCC101: Cerebral Palsy and Other Paralytic Syndromes
HCC104: Vascular Disease with Complications
HCC105: Vascular Disease
HCC107: Cystic Fibrosis
HCC108: Chronic Obstructive Pulmonary Disease
HCC111: Aspiration and Specified Bacterial Pneumonias
HCC112: Pneumococcal Pneumonia, Empyema, Lung Abscess
HCC119: Proliferative Diabetic Retinopathy and Vitreous Hemorrhage
HCC130: Dialysis Status
HCC131: Renal Failure
HCC132: Nephritis
HCC148: Decubitus Ulcer of Skin
HCC149: Chronic Ulcer of Skin, Except Decubitus
HCC150: Extensive Third-Degree Burns
HCC154: Severe Head Injury
HCC155: Major Head Injury
HCC157: Vertebral Fractures without Spinal Cord Injury
HCC158: Hip Fracture/Dislocation
HCC161: Traumatic Amputation
HCC164: Major Complications of Medical Care and Trauma
HCC174: Major Organ Transplant Status
HCC176: Artificial Openings for Feeding or Elimination
HCC177: Amputation Status, Lower Limb/Amputation Complications
Interaction: Disabled * Opportunistic Infections
Interaction: Disabled * Severe Hematological Disorders
Interaction: Disabled * Drug/Alcohol Psychosis
Interaction: Disabled * Drug/Alcohol Dependence
Interaction: Disabled * Cystic Fibrosis
Interaction: Diabetes * Congestive Heart Failure
Interaction: Diabetes * Cardiovascular Disease
Interaction: Renal Failure * Congestive Heart Failure
Interaction: Congestive Heart Failure * Chronic Obstructive Pulmonary Disease
Interaction: Renal Failure * Congestive Heart Failure * Diabetes
Interaction: Chronic Obstructive Pulmonary Disease * Cardiovascular Disease * Coronary Artery Disease
Indicator: Originally Disabled
Indicator: ESRD
Indicator: Long-Term Care Institution
Indicator: Hospice Care
Age: 0-34 Years
Age: 35-44 Years
Age: 45-54 Years
Age: 55-59 Years
Age: 60-64 Years

MSPB-PAC SNF Risk Adjustment Variables
Age: 70-74 Years
Age: 75-79 Years
Age: 80-84 Years
Age: 85-89 Years
Age: 90-94 Years
Age: 95+ Years
Clinical Case Mix Category: Prior Acute IP - Surgical - Orthopedic
Clinical Case Mix Category: Prior Acute IP - Medical w/ ICU
Clinical Case Mix Category: Prior Acute IP - Medical w/o ICU
Clinical Case Mix Category: Prior PAC – Institutional
Clinical Case Mix Category: Prior PAC – HHA
Clinical Case Mix Category: Community
Prior ICU Stay Length: 1-2 Days
Prior ICU Stay Length: 3 Days
Prior ICU Stay Length: 4-6 Days
Prior ICU Stay Length: 7-9 Days
Prior ICU Stay Length: 10-13 Days
Prior ICU Stay Length: 14-18 Days
Prior ICU Stay Length: 19-24 Days
Prior ICU Stay Length: 25+ Days
Prior IP Stay Length: 8-11 Days
Prior IP Stay Length: 12-30 Days
Prior IP Stay Length: 31+ Days

Appendix D: Process for Determining Clinically Unrelated Services

This Appendix describes the process undertaken to developing service-level exclusions for clinically unrelated services.

(1) Organize Claims into Clinically Meaningful Service Categories

Prior to clinical reviews, the measure developer organized Medicare Part A and Part B services that occurred within the MSPB-PAC episode window into service categories that had a coherent clinical meaning and provided context for the delivery of services to beneficiaries. For example, this process segregated outpatient (OP) hospital facility claims into the following clinically meaningful types of service categories:

(i) emergency room (ER) visits not resulting in hospitalization, primarily identified by revenue center code and place of service; and

(ii) OP claims (excluding ER visits) as classified by the Clinical Classification Software for Services and Procedures (CCS-Services and Procedures, or CCS) categorization.[36]

A complete list of the types of service categories assessed for clinical review are outlined in Table D-1, below.

Table D-1. Types of Service Categories Assessed for Exclusion

Claim Type	Description of Service Categorization
Inpatient Medical	Inpatient medical services, aggregated by Base DRGs. Base DRGs combine "w/o MCC/CC", "w/CC", and "w/MCC" MS-DRGs into a single Base DRG.
Inpatient Surgical	Inpatient surgical services, aggregated by Base DRGs.
Outpatient ER	Outpatient ER services classified by evaluation and management CPT-4 procedure/HCPCS codes.
Physician/Supplier Part B and Outpatient non-ER	Part B and outpatient non-ER services aggregated into CCS categories and CPT-4 procedure/HCPCS codes.
Durable Medical Equipment, Prosthetics, Orthotics, and Supplies	DMEPOS as defined by HCPCS codes.

(2) Limit to Services Representing Significant Cost

Once integrated into clinically meaningful service categories, services that did not account for a sufficiently large share of payments within their respective clinical service category were not included in the review to allow clinicians to focus their review on services representing a higher percentage of overall Medicare spending within the episode window. Services

[36] The CCS-Services and Procedures categorization is maintained by the Agency for Healthcare Research and Quality (AHRQ) through its Healthcare Cost and Utilization Project (HCUP). CCS organizes Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology (CPT) codes into 244 mutually exclusive procedure categories with no hierarchical structure.

representing insignificant cost are therefore automatically included in the MSPB-PAC measures and counted toward the attributed PAC provider's episode.

(3) Perform Clinical Review to Determine Service Exclusions

The complete list of services identified through steps (1) and (2) were populated into a web tool, which clinicians used to determine the service exclusions. This tool lists all the candidate services for assignment, with diagnosis and procedure information about each service. There were several options for service exclusion as well as discussion of timeframe for exclusion rules to apply to the MSPB-PAC episodes.

Additionally, the web tool provides the option to exclude services based on the services alone or only when the services appeared on claims with specific procedural or diagnosis information. Services underwent several clinical reviews by measure developer's in-house clinicians, independent clinicians with PAC expertise, and CMS clinicians. From these discussions, exclusion criteria were refined and ultimately all exclusions were made at the service level for the MSPB-PAC episodes.

(4) Harmonize the List of Excluded Services Across PAC Settings

After clinical reviews were performed with external PAC experts, the measure developer's clinicians summarized findings and reviewed rules across PAC settings for consistency. If clarification was needed, measure developer clinicians initiated further discussion with PAC experts. A harmonized list of service exclusions was created and presented to CMS, including clinical staff for final reviews. Once service-level exclusion rules were established from this process, they were then applied to MSPB-PAC episodes.

Appendix E: Measure Calculation Example

This Appendix contains a simplified example of the calculation of an MSPB-PAC measure.

The MSPB-PAC measure evaluates the attributed provider's actual spending on a beneficiary's episode compared to what they are expected to spend for that episode, given that particular beneficiary's health characteristics as predicted through the use of a risk adjustment model. An attributed provider with episode spending that is more than expected will yield a ratio with a value greater than 1. For example, if a provider spends $1,000 in treating a beneficiary who is predicted through risk adjustment to require $900 of services in the episode, it would be calculated as $1,000/$900 = 1.1. Conversely, if a provider spends less in treating a beneficiary than they would be expected, this will result in a ratio with a value less than 1. For example, if a provider spends $1,000 in treating a beneficiary who is predicted through risk adjustment to require $1,200 of services in the episode, it would be calculated as $1,000/$1,200 = 0.8.

Second, the measure calculation takes the average of this across all episodes for the attributed provider during a performance period. Similar to the step above, a value greater than 1 indicates that overall, the provider's actual Medicare spending was more than expected. A value less than 1 indicates that overall, the provider's actual Medicare spending was less than expected in that performance period. For example, if a provider treats four beneficiaries and the ratio of actual over expected spending for each beneficiary was 1.1, 0.8, 1.3, and 1.2, the average for the provider over that performance period would be 1.1 indicating that their overall Medicare spending was higher than expected after accounting for the characteristics of the beneficiaries.

Third, the measure calculation compares each provider's score to other providers nationally in the same PAC setting. This is done by multiplying a provider's average ratio for beneficiaries treated in that performance period with the average episode spending for all PAC providers in the same setting, nationally. This amount is called the MSPB-PAC Amount for that provider. For example, if the average Medicare spending per episode for a provider's PAC setting is $5,000, this is multiplied with the value of 1.1 as determined in the preceding step, giving an MSPB-PAC Amount of $5,500.

Finally, a given provider's MSPB-PAC Amount is then divided by the national median MSPB-PAC Amount for that same PAC setting. For example, if the national median MSPB-PAC Amount is $4,000, this hypothetical provider's measure would be calculated as $5,500/$4,000 = 1.375. This is the provider's MSPB-PAC score. As the value is greater than 1, it indicates that the provider's Medicare spending was higher than the national median Medicare spending for that PAC setting.

Appendix F: Non-CMS Clinician Consultants

Acumen consulted non-CMS clinician experts to conduct clinical decision-making during the MSPB-PAC measure development process, particularly to determine the lists of service-level exclusions. The specialties of these clinicians are listed below in Table F-1, with the number of clinicians with each specialty indicated in parentheses. An asterisk indicates that a clinician was also a member of the TEP.

Table F-1. Clinician Consultants' Specialties

Description/Specialty
Geriatrics (1)
Family Medicine/Palliative Medicine (1*)
Internal Medicine/Cardiology (1)
Internal Medicine/Geriatrics (3)
Physical Medicine & Rehabilitation (4*)
Professor of Medicine at Stanford Center for Primary Care and Outcomes Research (1)

*TEP member

Appendix G: Glossary of Key Terms

Associated services period: The time during which all non-treatment services are counted towards the MSPB-PAC episode. The associated services period starts at the episode trigger and ends 30 days after the end of the treatment period for all MSPB-PAC episode types.

Attributed provider: The provider for whom the measure is calculated, as identified by the episode trigger.

Base DRG: Base DRGs combine "w/o MCC/CC", "w/CC", and "w/MCC" MS-DRGs into a single Base DRG.

CMS-HCC Risk Adjustment Model: CMS-HCC risk adjustment model used to adjust payments for Part C benefits offered by Medicare Advantage and Programs of All-Inclusive Care for the Elderly (PACE) organizations to aged/disabled beneficiaries.

Episode exclusion: Episodes that are excluded from the MSPB-PAC measures generally due to incomplete claims information.

Episode of care: For the MSPB-PAC episodes, an episode of care is defined as the period a patient is directly under a PAC provider's care, as well as a defined period after the end of that PAC provider's treatment.

Episode trigger: Event identifiable in claims data that opens the MSPB-PAC episode window and identifies the attributed provider.

Episode-weighted median: An example of an episode-weighted median is the following: if there are 2 PAC providers and one provider had a measure score of 1.5 and another had one of 0.5, but the first had 4 episodes and the second only 1, then the episode-weighted median would be 1.5 (i.e., 0.5, 1.5, **1.5**, 1.5, 1.5).

Episode window: The period of time during which all Medicare Part A and Part B services delivered to a beneficiary are counted toward a given provider's MSPB-PAC episode, subject to certain service-level exclusions. The episode window comprises a treatment and associated services period.

Healthcare Common Procedure Coding System (HCPCS): A standardized coding system used by Medicare and other health insurance programs to identify medical services, procedures, products, and supplies.

Hospital Medicare Spending Per Beneficiary (MSPB): Resource use measure that was finalized in the FY 2012 IPPS/LTCH PPS Final Rule (76 FR 51618 through 51627) and endorsed by the NQF on December 6, 2013 (NQF #2158). The hospital MSPB measure assesses Medicare Part A and Part B payments for services provided to a beneficiary during an episode

window that spans from three days prior to an inpatient hospital admission through 30 days after discharge. Further detail is available at: http://www.qualitynet.org/dcs/ContentServer?pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228772053996

Hospital Value-Based Purchasing (VBP) Program: A quality incentive program that evaluates hospital performance based on its Total Performance Score (TPS). The TPS in turn is based on scores in four domains: clinical process of care, patient experience of care, outcome, and efficiency. The hospital MSPB measure is reported under the efficiency domain of the TPS. Further information on the hospital VBP program for FY 2016 is available at: http://www.fmqai.com/library/attachment-library/CMS_EDU_Webcast_HVBPFY2016BaselineReport_042914_508.pdf

***Improving Post-Acute Care Transformation Act of 2014* (IMPACT Act):** Bipartisan bill introduced in U.S. House and Senate on March 18, 2014, passed on September 18, 2014, and signed into law by President Obama on October 6, 2014. The goal of the IMPACT Act is "the modernization of Medicare payments to post-acute care (PAC) providers and a more accountable, quality-driven PAC benefit."[37]

Institutional PAC settings: SNF, LTCH, and IRF settings

Long-term care (LTC) indicator: Identifies beneficiaries who have been institutionalized for at least 90 days in a given year. The indicator is based on 90-day assessments from the MDS and is calculated based on CMS' definition of institutionalized individuals.

Lookback period: A period representing a set number of days prior to the episode trigger. The risk adjustment models examine a beneficiary's Medicare Part A and Part B claims during the lookback period to gather information that can be used to predict episode spending (e.g., HCC indicators).

Low Utilization Payment Adjustment (LUPA): A home health episode with four or fewer visits is paid the national per visit amount by discipline (skilled nursing, home health aide, physical therapy, speech-language pathology, occupational therapy, and medical social services), adjusted by the appropriate wage index based on the site of service of the beneficiary.

Measure Applications Partnership (MAP): A multi-stakeholder partnership, convened by the NQF that guides the U.S. Department of Health and Human Services on the selection of performance measures for federal health programs. One of their workgroups is the Post-Acute Care/Long-Term Care Workgroup which provides input to the MAP Coordinating Committee on

[37] Committee on Ways and Means, U.S. House of Representatives, "Bipartisan, Bicameral Effort Underway to Advance Medicare Post-Acute Reform" (March 18, 2014)

matters related to the selection and coordination of measures for PAC providers. Further information is available at: http://www.qualityforum.org/map/

National Quality Forum (NQF): A not-for-profit, nonpartisan, membership-based organization that convenes working groups to foster quality improvement and endorses consensus standards for performance measurement. Further information is available at: http://www.qualityforum.org/Home.aspx

Part A: Medicare's hospital insurance which helps cover inpatient care in hospitals, including CAHs, SNFs, hospice, and some home health care. Most people do not pay a premium for Part A because they or a spouse paid for it through payroll taxes while working.

Part B: Medicare's medical insurance which helps cover doctors' services and outpatient care. It also covers some other medical services that Part A doesn't cover, such as some physical and occupational therapist services and some home health care. Most people pay a monthly premium for Part B.

Part C: Medicare Advantage, a type of Medicare health plan offered by a private company that contracts with Medicare to provide Part A and Part B benefits.

Part D: Medicare's prescription drug coverage. Beneficiaries must join a plan run by an insurance company or other private company approved by Medicare.

Partial episode payment (PEP): An adjustment that applies to home health claims when a patient (i) has been discharged and readmitted to the same HHA provider within the same 60-day episode; or (ii) transfers to another HHA during a 60-day episode.

Payment standardization: Removes sources of payment variation not directly related to clinical decisions and facilitates comparisons of resource use across geographic areas.

Post-acute care (PAC): A variety of healthcare services to support continued recovery from serious illness or injury, often after a hospitalization.

Resource use: For the MSPB-PAC measures, resource use is measured using Medicare FFS paid claims counted toward the MSPB-PAC episodes, including all payments made by Medicare and beneficiaries. This is defined as allowed amounts, including both Medicare trust fund payments and beneficiary deductibles and coinsurance.

Request for anticipated payment (RAP): The HHA submits a RAP to their Medicare contractor to request the initial split percentage payment for a home health claim. It may be submitted after receiving verbal orders and delivering at least one service to the beneficiary.

Risk adjustment: Uses patient claims history during the lookback period to account for patient case mix variation and other factors that affect resource use but are beyond the influence of the attributed PAC provider.

Service-level exclusion: Service which is excluded from a given PAC provider's Medicare spending during an episode window.

Site neutral payment rate case: All LTCH claims that do not meet the definition of a standard payment rate case in FY 2016 IPPS/LTCH PPS Final Rule (80 FR 49601).

Standard payment rate case: An LTCH claim that is not a psychiatric or rehabilitation MS-LTC-DRG, and is immediately preceded by an acute care hospital stay, and either the acute care hospital stay included at least 3 days in ICU or CCU, or the beneficiary received 96+ hours of ventilator services. Details are available in the FY 2016 IPPS/LTCH PPS Final Rule (80 FR 49601).

Swing bed: The *Social Security Act* permits certain small, rural hospitals to enter into a swing bed agreement under which the hospital can use its beds, as needed, to provide either acute or SNF care.

Technical Expert Panel (TEP): Group of stakeholders and experts who contribute direction and thoughtful input to the measure developer during measure development and maintenance.

Treatment period: Begins on the day of the episode trigger and includes services that are provided directly or reasonably managed by the attributed provider as part of a beneficiary's care plan. The treatment period ends at discharge for SNF, LTCH, IRF, and HHA PEP episodes, and 60 days after the episode trigger for HHA standard and HHA LUPA episodes.

Appendix H: List of Acronyms

AHRQ	Agency for Healthcare Research and Quality
CAH	Critical access hospital
CCS	Clinical classification software
CCU	Coronary care unit
CMS	Centers for Medicare & Medicaid Services
CPT	Current Procedural Terminology
CY	Calendar year
DMEPOS	Durable medical equipment, prosthetics, orthotics, and supplies
DRG	Diagnosis Related Group
ER	Emergency room
ESRD	End-stage renal disease
FFS	Fee-for-service
FR	Final Rule
FY	Fiscal year
GPCI	Geographic practice cost index
HCC	Hierarchical Condition Categories
HCPCS	Healthcare Common Procedure Coding System
HCUP	Healthcare Cost and Utilization Project
HHA	Home health agency
IME	Indirect medical education
IP	Inpatient
IPF	Inpatient psychiatric facility
IPPS	Inpatient prospective payment system
IRF	Inpatient rehabilitation facility
ICU	Intensive care unit
LOS	Length of stay
LTC	Long-term care (indicator, workgroup)
LTCH	Long-term care hospital
LUPA	Low utilization payment adjustment
MAP	Measure Applications Partnership
MDC	Major Diagnostic Category

MDS	Minimum Data Set
MSPB	Medicare spending per beneficiary
NPRM	Notice of proposed rulemaking
NQF	National Quality Forum
OLS	Ordinary least squares (regression)
OP	Outpatient
PAC	Post-acute care
PEP	Partial episode payment
PPS	Prospective payment system
QRP	Quality Reporting Program
RAP	Request for anticipated payment
RIC	Rehabilitation Impairment Category
SNF	Skilled nursing facility
TEP	Technical Expert Panel
TPS	Total Performance Score
VBP	Value-Based Purchasing (Program)

Appendix I: Changes from the Draft Measure Specifications

This appendix discusses changes that have been made to the Draft MSPB-PAC Measure Specifications which were posted as part of the public comment period that ran from January 13 to February 5, 2016. These changes reflect further refinement of the MSPB-PAC measures after consideration of additional feedback from stakeholders as well as further development and testing in response to their suggestions. Please see the MSPB-PAC Public Comment Summary Report and Supplementary Materials for further details on the public comment period.

- Hospice services utilization indicator in risk adjustment

The MSPB-PAC risk adjustment models include spending for hospice services in the measures but include a dummy variable for hospice services. The models take this into account when predicting expected Medicare spending for that beneficiary.

- Recent prior IP stay length and recent prior ICU stay length brackets

The MSPB-PAC risk adjustment models use variables for length of prior ICU stay and length of prior IP stay. These variables are also used in the Potentially Preventable Readmissions and Discharge to Community Measures.

- MSPB-PAC measures include episodes triggered by claims in Puerto Rico and the U.S. territories

As payment standardization is performed on claims in Puerto Rico and the U.S. territories, MSPB-PAC measures can be calculated in the same way as for claims in the 50 states and D.C.

- Episodes where a claim constituting treatment is not reimbursed under the relevant PAC setting's PPS are excluded

These non-PPS claims may not report the necessary information to allow for payment standardization. As such, where a treatment services claim is not reimbursed under the HHA, LTCH, IRF, or SNF PPS, the episode that would otherwise be triggered is excluded.

- "Prior PAC" clinical case mix category refined into two categories for institutional and HHA beneficiaries

The division of the "Prior PAC" clinical case mix category accounts for differences in health characteristics between beneficiaries entering an MSPB-PAC episode from an institutional PAC setting (i.e., IRF, SNF, or LTCH) and those entering from the HHA setting.

- Clinical case mix categories used as dummy variables in risk adjustment models

The clinical case mix categories are used as dummy variables in each of the MSPB-PAC risk adjustment models, rather than as a fully interacted model.

- Definition of MSPB-PAC LTCH Site Neutral associated services period

The MSPB-PAC LTCH Site Neutral associated services period begins at the trigger, in line with all other MSPB-PAC episodes to reflect the nature of PAC services and payment policy (e.g., LTCH PPS interrupted stays policy which applies to site neutral payment rate cases).

- Order of priority to determine clinical case mix category between two competing IP claims with the same end date uses LOS

Where a beneficiary has two competing IP claims with the same end date in the 60 days prior to MSPB-PAC episode trigger, the claim with the longer LOS determines the beneficiary's clinical case mix category. If the LOS is the same for both conflicting IP claims, the hierarchy of expected intensity is used to determine the beneficiary's clinical case mix category.

- Lists of clinically unrelated services provided as attachments

The MSPB-PAC Clinically Unrelated Services Workbooks containing lists of clinically unrelated services are available for download with this measure specifications document.

- Winsorization of low predicted values

Where the distribution of predicted values has especially low values, the measures winsorize (i.e., "bottom-code") these low values. Previously, this process was described as truncation, but the terminology was updated for clarity.