BPCI Advanced Model Year 8 (MY8) Administrative Quality Measures Set Fact Sheets

Table of Contents

Version History

Version	Update Date	Description of Updates
MY6_V1.0	9/1/2022	• Updated Clinical Episode triggering codes (accurate as of 9/1/2022). • Updated data collection periods. • Updated resource links. • Defined acronyms. • Added HCPCS code to multi-setting Major Joint Replacement of the Upper Extremity Clinical Episodes.
MY6_V2.0	3/1/2023	• Removed Perioperative Care: Selection of Prophylactic Antibiotic – First OR Second Generation Cephalosporin (NQF #0268, CMIT ID #551) Factsheet. Measure has been removed from BPCI Advanced effective 1/1/2023.
MY7_V1.0	7/21/2023	• Updated Clinical Episode triggering codes (accurate as of 05/12/2023). • Updated data collection periods. • Updated resource links. • Added CMIT ID to Quality Measures. • Revised National Quality Forum (NQF) mentions to Consensus-Based Entity (CBE) throughout body of Fact Sheets.
MY8_V1.0	9/13/2024	• Updated Clinical Episode triggering codes (accurate as of 06/06/2024). • Updated data collection periods. • Updated resource links. • Removed references to the National Quality Forum (NQF) from header and throughout body of Fact Sheets to reflect the full transition to a new Consensus-Based Entity using CMIT numbers.
MY8_V2.0	2/7/2025	• Updated data collection period for Hospital-Level Risk-Standardized Complication Rate (RSCR) Following Elective Primary Total Hip Arthroplasty (THA) and/or Total Knee Arthroplasty (TKA) (CMIT #350) and CMS Patient Safety Indicators (PSI) 90: Patient Safety and Adverse Events Composite (CMIT ID #135). • Updated Clinical Episode triggering codes for Inpatient Spinal Fusion.

Quality Measures Fact Sheet

Advance Care Plan (CMIT ID #37)

National Quality Strategy Domain: Communication and Coordination

Quality Measures Sets: Administrative and Alternate ***Data Source: Quality Data Codes (Claims)***

BPCI Advanced and Quality

The Center for Medicare & Medicaid Innovation's (the CMS Innovation Center's) BPCI Advanced Model rewards health care providers for delivering services more efficiently, supports enhanced care coordination, and recognizes high quality care. Hospitals and clinicians should work collaboratively to achieve these goals, which have the potential to improve the BPCI Advanced Beneficiary experience and align to the CMS Quality Strategy goals of promoting effective communication and care coordination, highlighting best practices, and making care safer and more affordable. A goal of the BPCI Advanced Model is to promote seamless, patient-centered care throughout each Clinical Episode, regardless of who is responsible for a specific element of that care.

Background on Advance Care Planning

For the Medicare beneficiary population, consideration of care goals is central to delivering patient-centered care. An Advance Care Plan (ACP) typically documents patient preferences for their care, including use of life-sustaining treatment options. An ACP is based on an individual's personal values, preferences, and discussions with their loved ones. ACPs empower patients to direct the care they want to receive, particularly should they become unable to speak for themselves.

CMS Innovation Center Rationale for Including the ACP Measure in BPCI Advanced

At the heart of a patient-centered episode of care lies a patient's values, meaningful conversation and planning. Inclusion of the ACP measure is especially important in the BPCI Advanced Model because many beneficiaries who trigger an episode are hospitalized for life threatening conditions and/or are undergoing major medical procedures. These triggering events, as challenging as they may be, represent opportunities for hospitals and clinicians to collaborate with each other and the patient to ensure care reflects the patient's will.[1] The CMS Innovation Center has added a revised version of the Consensus-Based Entity (CBE) endorsed ACP measure to the BPCI Advanced Model. This measure will encourage the documentation of these important discussions, and/or the existence of an ACP in an efficient

[1] Advance Care Plan Measure Specifications. CMIT #37. Retrieved from: https://cmit.cms.gov/cmit/#/MeasureView?variantId=12564&sectionNumber=1.

manner through Medicare claims. Although the measure has been revised specifically for the BPCI Advanced Model, it is still based upon the ACP measure that CMS has used or is currently using in the following Federal programs: the Home Health Value Based Purchasing Model (HHVBP), Medicare Physician Quality Reporting System (PQRS), Physician Quality and Resource Use Reports (QRURs), the Merit-based Incentive Payment System (MIPS), and the Physician Value-Based Payment Modifier (PVBPM).

Applicable Clinical Episodes

The ACP measure is in both the Administrative and Alternate Quality Measures Sets and applies to all inpatient and outpatient Clinical Episodes included in the BPCI Advanced Model.

Measure Specifications

The ACP measure selected for BPCI Advanced follows the National Committee for Quality Assurance's (NCQA) provider level measure, "Advance Care Plan," (ACP) specifications endorsed by CBE (#0326, CMIT ID #37) and appears in the Quality Payment Program (QPP) as measure #47. The CMS Innovation Center will calculate the measure at the Episode Initiator level, limited to BPCI Advanced Beneficiaries treated during an attributed Clinical Episode during the calendar year. The term "BPCI Advanced Beneficiary" refers to a Medicare beneficiary eligible for the Model[2] who receives care from a clinician in an acute care hospital (ACH) or physician group practice (PGP) that participates in BPCI Advanced, and who triggers a Clinical Episode as specified in the "Applicable Clinical Episodes" section above. An Episode Initiator must have a minimum of 10 attributed Clinical Episodes that fit the criteria for the denominator to generate a score.

Any Medicare health care provider, including physicians, advanced practice nurses, and physician assistants, can submit the qualifying Current Procedural Terminology (CPT) codes (CPT or CPT II codes) for this measure regardless of the health care provider's participation in the Model. These ACP codes can be used in any health care setting – including hospitals and outpatient clinics – except the emergency department. If an ACP discussion occurs outside of a BPCI Advanced Beneficiary's annual preventive visit, that patient may incur an associated copay if the billing department applies the qualifying CPT codes to the bill. To avoid this situation, the health care provider can utilize the applicable qualifying CPT II tracking codes that do not generate a charge (provided below). Otherwise, the health care provider should inform the BPCI Advanced Beneficiary of the cost sharing prior to having the discussion.

[2] Medicare beneficiaries entitled to benefits under Part A and enrolled under Part B on whose behalf an Episode Initiator submits a claim to Medicare FFS for an Anchor Stay or Anchor Procedure. The term "BPCI Advanced Beneficiary" specifically excludes: (1) Medicare beneficiaries covered under United Mine Workers or managed care plans (e.g., Medicare Advantage, Health Care Prepayment Plans, or cost-based health maintenance organizations); (2) beneficiaries eligible for Medicare on the basis of an end-stage renal disease (ESRD) diagnosis; (3) Medicare beneficiaries for whom Medicare is not the primary payer; and (4) Medicare beneficiaries who die during the Anchor Stay or Anchor Procedure. A BPCI Advanced Beneficiary must meet this definition for the full duration of the Clinical Episode. (2024 Participation Agreement).

Denominator

The denominator of the ACP measure includes all Model Year Clinical Episodes from the "Applicable Clinical Episodes" section above that end during the calendar year, involving BPCI Advanced Beneficiaries aged 65 years or over that CMS attributes to a BPCI Advanced Episode Initiator at reconciliation. CMS attributes Clinical Episodes to Episode Initiators based upon their CMS Certification Number if they are an ACH, or by their Taxpayer Identification Number if they are a PGP. The anchor end date of the Clinical Episode (the last date of the Anchor Stay or the date of the Anchor Procedure) will determine the calendar year to which the Clinical Episode belongs. The revised BPCI Advanced ACP measure specifications apply to all relevant BPCI Advanced Beneficiaries in the BPCI Advanced Clinical Episode cohort, whereas the CBE-endorsed ACP measure specifications apply to all relevant patients.

Numerator

The numerator includes individuals in the previously defined denominator who have a Medicare claim with a qualifying CPT or CPT II code for ACP during the 12 months prior to the BPCI Advanced episode end date. The qualifying codes for this measure are CPT codes 99497 and 99498 and/or CPT II codes 1123F and 1124F. The ACP CPT codes are billing codes that may result in additional Medicare Beneficiary charges outside of annual preventive visits, as opposed to the ACP CPT II codes, which are tracking codes that do not result in charges.

CPT Billing Code	Description
99497	Advance care planning including the explanation and discussion of advance directives such as standard forms (with completion of such forms, when performed), by the physician or other qualified health care professional; first 30 minutes, face-to-face with the patient, family member(s), and/or surrogate.
99498	Advance care planning including the explanation and discussion of advance directives such as standard forms (with completion of such forms, when performed), by the physician or other qualified health care professional; each additional 30 minutes (list separately in addition to code for primary procedure).

CPT II Tracking Code	Description
1123F	Advance care planning discussed and documented – advance care plan or surrogate decision-maker was documented in the medical record.
1124F	Advance care planning discussed and documented in the medical record – Beneficiary/patient did not wish to or was unable to provide an advance care plan or name a surrogate decision-maker. If patient's cultural and/or spiritual beliefs preclude a discussion of advance care planning, submit this CPT II code.

Measure Submission

The CMS Innovation Center will calculate this measure using Medicare Part B claims data for the calendar year period that aligns to the BPCI Advanced Model Year. Model Participants need to make sure that they are reporting the relevant codes listed above on their claims.

Revisions to the Published Specifications

The measure calculations occur at the Episode Initiator level for only BPCI Advanced Beneficiaries –as opposed to all Medicare beneficiaries–at the National Provider Identifier (NPI) level. This revised version also removes the data completion requirement in NCQA's provider-level ACP measure endorsed by CBE (#0326, CMIT ID #37) and distinguishes between a failure to adhere to the guidelines and failure to bill the CPT or CPT II codes, regardless of whether a qualifying health care provider discussed an advance care plan. As a result, the BPCI Advanced version does not exclude BPCI Advanced Beneficiaries with missing CPT or CPT II codes from the denominator.

With Medicare claims for BPCI Advanced Beneficiaries where the health care team did not report the appropriate codes (99497, 99498, 1123F, or 1124F), the CMS Innovation Center will continue to count beneficiaries in the denominator but not in the numerator. In other words, unlike the NCQA's provider level ACP measure, endorsed by CBE (#0326, CMIT ID #37), the CMS Innovation Center will treat failure to code equivalent to failing to provide appropriate advance care planning services, without regard to the 8P modifier code: advance care planning not documented, reason not otherwise specified.

Composite Quality Score

The ACP measure is one component of the BPCI Advanced Composite Quality Score (CQS) calculation. The CMS Innovation Center uses the CQS to adjust a portion of any Positive Total Reconciliation Amount and any Negative Total Reconciliation Amount. The CQS adjustment will not adjust the Positive Total Reconciliation Amount downward by more than 10 percent, nor will it adjust the Negative Total Reconciliation Amount upward by more than 10 percent. More information is available at the BPCI Advanced website provided below.

Other Resources

Organization/Resource	Website Address
CBE #0326	https://p4qm.org/measures/0326
CMIT ID #37	https://cmit.cms.gov/cmit/#/MeasureView?variantId=12564&sectionNumber=1
BPCI Advanced	https://www.cms.gov/priorities/innovation/innovation-models/bpci-advanced
CMS/Medicare Learning Network ACP Fact Sheet	https://www.cms.gov/files/document/mln909289-advance-care-planning.pdf
National Hospice and Palliative Care Organization	https://www.nhpco.org/

Quality Measures Fact Sheet

CMS Patient Safety Indicators (PSI) 90: Patient Safety and Adverse Events Composite (CMIT ID #135)

National Quality Strategy Domain: Patient Safety

Quality Measures Set: Administrative ***Data Source: Hospital Inpatient Quality Reporting Program***

BPCI Advanced and Quality

The Center for Medicare & Medicaid Innovation's (the CMS Innovation Center's) BPCI Advanced Model rewards health care providers for delivering services more efficiently, supports enhanced care coordination, and recognizes high quality care. Hospitals and clinicians should work collaboratively to achieve these goals, which have the potential to improve the BPCI Advanced Beneficiary experience and align to the CMS Quality Strategy goals of promoting effective communication and care coordination, highlighting best practices, and making care safer and more affordable. A goal of the BPCI Advanced Model is to promote seamless, patient-centered care throughout each Clinical Episode, regardless of who is responsible for a specific element of that care.

Background on CMS Patient Safety Indicators 90

Following the seminal 'To Err is Human' report from the Institute of Medicine, the Agency for Healthcare Research and Quality (AHRQ) developed measures that health providers can use to identify potential in-hospital patient safety problems for targeted institution-level quality improvement efforts. These Patient Safety Indicators (PSIs) are comprised of 26 measures (including 18 provider-level indicators) that highlight safety-related adverse events occurring in hospitals following operations, procedures, and childbirth. CMS developed the PSIs after a comprehensive literature review, analysis of available International Statistical Classification of Diseases (ICD) codes, review by clinical panels, implementation of risk adjustment, and empirical analyses.

CMS Innovation Center Rationale for Including the CMS PSI 90 Measure in BPCI Advanced

The CMS Patient Safety and Adverse Events Composite (CMS PSI 90) is used to support CMS public reporting and pay-for-performance programs. The PSIs are calibrated using the Medicare fee-for-service population and based on the AHRQ Patient Safety Indicators. The CMS PSI 90 v.13.0 measure summarizes patient safety across multiple indicators, monitors performance over time, and facilitates comparative reporting and quality improvement at the hospital level. The CMS PSI 90 composite measure intends to reflect the safety climate of a hospital by providing a marker of patient safety during the delivery of care. The CMS Innovation Center is promoting this measure for BPCI Advanced because it

may inform how patients select care options, providers allocate resources, and payers evaluate performance. CMS uses the CMS PSI 90 v.13.0 software to produce the CMS PSI 90 results. CMS has used or is currently using the CMS PSI 90 measure in the following Federal programs: the Hospital Inpatient Quality Reporting (IQR) Program, Value-Based Purchasing (VBP) Program, and Hospital-Acquired Condition (HAC) Reduction Program.

Applicable Clinical Episodes

The CMS PSI 90 measure is included in the Administrative Quality Measures Set and applies to the following inpatient Clinical Episodes:

- Acute Myocardial Infarction: Medicare Severity–Diagnosis-Related Groups (MS-DRGs) 280, 281 and 282
- Back and Neck Except Spinal Fusion: MS-DRGs 518, 519 and 520
- Bariatric Surgery: MS-DRGs 619, 620 and 621
- Cardiac Arrhythmia: MS-DRGs 308, 309 and 310
- Cardiac Defibrillator: MS-DRGs 275, 276 and 277
- Cardiac Valve: MS-DRGs 212, 216, 217, 218, 219, 220 and 221
- Cellulitis: MS-DRGs 602 and 603
- Congestive Heart Failure: MS-DRGs 291, 292 and 293
- COPD, Bronchitis, Asthma: MS-DRGs 190, 191, 192, 202 and 203
- Coronary Artery Bypass Graft: MS-DRGs 231, 232, 233, 234, 235 and 236
- Disorders of the Liver Excluding Malignancy, Cirrhosis, Alcoholic Hepatitis: MS-DRGs 441, 442 and 443
- Double Joint Replacement of the Lower Extremity: MS-DRGs 461 and 462
- Fractures of the Femur and Hip or Pelvis: MS-DRGs 533, 534, 535 and 536
- Gastrointestinal Hemorrhage: MS-DRGs 377, 378 and 379
- Gastrointestinal Obstruction: MS-DRGs 388, 389 and 390
- Hip and Femur Procedures Except Major Joint: MS-DRGs 480, 481 and 482
- Inflammatory Bowel Disease: MS-DRGs 385, 386 and 387
- Lower Extremity and Humerus Procedure Except Hip, Foot, Femur: MS-DRGs 492, 493 and 494
- Major Bowel Procedure: MS-DRGs 329, 330 and 331
- Major Joint Replacement of the Lower Extremity (Inpatient and Outpatient): MS-DRGs 469, 470, 521 and 522
- Major Joint Replacement of the Upper Extremity (Inpatient and Outpatient): MS-DRG 483
- Pacemaker: MS-DRGs 242, 243 and 244
- Percutaneous Coronary Intervention (PCI): MS-DRGs 250, 251, 321 and 322
- Renal failure: MS-DRGs 682, 683 and 684
- Seizures: MS-DRGs 100 and 101
- Sepsis: MS-DRGs 870, 871 and 872
- Simple Pneumonia and Respiratory Infections: MS-DRGs 177, 178, 179, 193, 194 and 195
- Spinal Fusion: MS-DRGs, 402, 426, 427, 428, 429, 430, 447, 448, 450, 451, 471, 472 and 473
- Stroke: MS-DRGs 061, 062, 063, 064, 065 and 066
- Transcatheter Aortic Valve Replacement (TAVR): MS-DRGs 266 and 267
- Urinary Tract Infection: MS-DRGs 689 and 690

Measure Specifications

The CMS PSI 90 measure selected for BPCI Advanced follows Consensus-Based Entity (CBE) #0531, CMIT ID #135, measure specifications. CMS calculates the measure at the hospital level and calculates a weighted average based on each of the following indicators:

- PSI 03 Pressure Ulcer Rate
- PSI 06 Iatrogenic Pneumothorax Rate
- PSI 08 In-Hospital Fall with Hip Fracture Rate
- PSI 09 Perioperative Hemorrhage or Hematoma Rate
- PSI 10 Post-Operative Acute Kidney Injury Requiring Dialysis Rate
- PSI 11 Postoperative Respiratory Failure Rate
- PSI 12 Perioperative Pulmonary Embolism or Deep Vein Thrombosis Rate
- PSI 13 Postoperative Sepsis Rate
- PSI 14 Postoperative Wound Dehiscence Rate
- PSI 15 Unrecognized Accidental Puncture or Laceration Rate

The CMS Innovation Center will calculate Acute Care Hospital (ACH) performance at the hospital level for all Medicare beneficiaries included in the denominator. For Physician Group Practices (PGPs), the CMS Innovation Center will calculate the measure as specified at the hospital level, then weight the measure based on PGP Clinical Episode volume for each ACH where a PGP triggers an episode.

Denominator and Numerator

The table below provides high level descriptions of the numerator and denominator for each component of the CMS PSI 90. The CMS PSI 90 measure is not limited to BPCI Advanced Beneficiaries. More detailed measure specifications, as well as inclusion and/or exclusion criteria, are in the links provided in the "Other Resources" table, including the "CMS Measures Inventory Tool: PSI 90" and the ten PSI measure ICD-10-CM/PCS specification overviews.

Measure	Numerator	Denominator
PSI 03: Pressure Ulcer Rate	Qualifying discharges with any secondary ICD-10-CM diagnosis codes for pressure ulcer stage III or IV (or unstageable).	Surgical or medical discharges for Medicare FFS beneficiaries ages 18 years and older.
PSI 06: Iatrogenic Pneumothorax Rate	Qualifying discharges with any secondary ICD-10-CM diagnosis codes for iatrogenic pneumothorax.	Surgical or medical discharges for Medicare FFS beneficiaries ages 18 years and older.
PSI 08: In-Hospital Fall with Hip Fracture Rate	Qualifying discharges with any secondary ICD-10-CM diagnosis codes for hip fracture.	Surgical or medical discharges for Medicare FFS beneficiaries ages 18 years and older.
PSI 09: Perioperative Hemorrhage and Hematoma Rate	Qualifying discharges with any secondary ICD-10-CM diagnosis codes for perioperative hemorrhage or hematoma AND any-listed ICD-10-PCS procedure codes for treatment of hemorrhage or hematoma.	Surgical or medical discharges for Medicare FFS beneficiaries ages 18 years and older.

Measure	Numerator	Denominator
PSI 10: Postoperative Acute Kidney Injury Rate	Qualifying discharges with any secondary ICD-10-CM diagnosis codes for acute kidney failure AND any listed ICD-10-PCS procedure codes for dialysis.	Elective surgical discharges for Medicare FFS beneficiaries ages 18 years and older.
PSI 11: Postoperative Respiratory Failure Rate	Qualifying discharges with either: • Any secondary ICD-10-CM diagnosis code for acute respiratory failure; • Any secondary ICD-10 Procedure Coding System (ICD-10-PCS) procedure codes for a mechanical ventilation for 96 consecutive hours or more that occurs zero or more days after the first major operating room procedure code; • Any secondary ICD-10-PCS procedure codes for a mechanical ventilation for less than 96 consecutive hours (or undetermined) that occurs two or more days after the first major operating room procedure code; or • Any secondary ICD-10-PCS procedure codes for a reintubation that occurs one or more days after the first major operating room procedure code.	Elective surgical discharges for Medicare FFS beneficiaries ages 18 years and older.
PSI 12: Perioperative Pulmonary Embolism and Deep Vein Thrombosis Rate	Qualifying discharges with a secondary ICD-10-CM diagnosis code for proximal deep vein thrombosis OR a secondary ICD10-CM diagnosis code for pulmonary embolism.	Surgical discharges for Medicare FFS beneficiaries ages 18 years and older.
PSI 13: Postoperative Sepsis Rate	Qualifying discharges with any secondary ICD-10-CM diagnosis codes for sepsis.	Elective surgical discharges for Medicare FFS beneficiaries ages 18 years and older.
PSI 14: Postoperative Wound Dehiscence Rate	Qualifying discharges with any listed ICD-10-PCS procedure code for repair of abdominal wall AND with any listed ICD-10-CM diagnosis code for disruption of internal surgical wound.	Discharges for Medicare FFS beneficiaries ages 18 years and older with any-listed ICD-10-PCS procedure codes for abdominopelvic surgery, open approach OR any-listed ICD-10- PCS procedure codes for abdominopelvic surgery, other than open approach.

Measure	Numerator	Denominator
PSI 15: Unrecognized Abdominopelvic Accidental Puncture/Laceration Rate	Qualifying discharges with any secondary ICD-10-CM diagnosis code for accidental puncture or laceration during a procedure AND a second abdominopelvic procedure =>1 day after an index abdominopelvic procedure.	Surgical or medical discharges for Medicare FFS beneficiaries/patients ages 18 years and older with any ICD-10-PCS procedure code for an abdominopelvic procedure.

Measure Submission

The CMS Innovation Center will calculate this measure using Medicare claims data and does not require action or reporting by Model Participants beyond what is currently involved in the Hospital IQR Program. To better align with the performance years of the BPCI Advanced Model, the Model uses January 1 through December 31 for measure calculation. The date of discharge on the index admission will determine the calendar year in which the claim belongs.

Revisions to the Published Specifications

The BPCI Advanced version of this measure is calculated using an 18-month period of data collection instead of a three-year period. In Model Year 8, the claims data will be collected from April 1, 2024 to September 30, 2025.

Composite Quality Score

The CMS PSI 90 measure is one component of the BPCI Advanced Composite Quality Score (CQS) calculation. The CMS Innovation Center uses the CQS to adjust a portion of any Positive Total Reconciliation Amount and any Negative Total Reconciliation Amount. The CQS adjustment will not adjust the Positive Total Reconciliation Amount downward by more than 10 percent, nor will it adjust the Negative Total Reconciliation Amount upward by more than 10 percent. More information is available at the BPCI Advanced website provided below.

Other Resources

Organization/Resource	Website Address
CBE #0531	https://p4qm.org/measures/0531
CMIT ID #135	https://cmit.cms.gov/cmit/#/MeasureView?variantId=12581&sectionNumber=1
BPCI Advanced	https://www.cms.gov/priorities/innovation/innovation-models/bpci-advanced
Agency for Healthcare Research and Quality (AHRQ) Patient Safety Indicators Overview	https://www.qualityindicators.ahrq.gov/Modules/psi_resources.aspx

Organization/Resource	Website Address
Institute of Medicine: to Err is Human	https://www.ncbi.nlm.nih.gov/pubmed/25077248
PSI 03: Pressure Ulcer Rate	https://qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2023/TechSpecs/PSI_03_Pressure_Ulcer_Rate.pdf
PSI 06: Iatrogenic Pneumothorax Rate	https://qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2023/TechSpecs/PSI_06_Iatrogenic_Pneumothorax_Rate.pdf
PSI 08: In-Hospital Fall with Hip Fracture Rate	https://qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2021/TechSpecs/PSI_08_In_Hospital_Fall_with_Hip_Fracture_Rate.pdf
PSI 09: Perioperative Hemorrhage and Hematoma Rate	https://qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2023/TechSpecs/PSI_09_Postoperative_Hemorrhage_or_Hematoma_Rate.pdf
PSI 10: Postoperative Acute Kidney Injury Rate	https://qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2021/TechSpecs/PSI_10_Postoperative_Acute_Kidney_Injury_Requiring_Dialysis_Rate.pdf
PSI 11: Postoperative Respiratory Failure Rate	https://qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2023/TechSpecs/PSI_11_Postoperative_Respiratory_Failure_Rate.pdf
PSI 12: Perioperative Pulmonary Embolism and Deep Vein Thrombosis Rate	https://qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2023/TechSpecs/PSI_12_Perioperative_Pulmonary_Embolism_or_Deep_Vein_Thrombosis_Rate.pdf
PSI 13: Postoperative Sepsis Rate	https://qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2023/TechSpecs/PSI_13_Postoperative_Sepsis_Rate.pdf
PSI 14: Postoperative Wound Dehiscence Rate	https://qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2023/TechSpecs/PSI_14_Postoperative_Wound_Dehiscence_Rate.pdf
PSI 15: Unrecognized Abdominopelvic Accidental Puncture/Laceration Rate	https://qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2023/TechSpecs/PSI_15_Abdominopelvic_Accidental_Puncture_or_Laceration_Rate.pdf

Quality Measures Fact Sheet

Excess Days in Acute Care after Hospitalization for Acute Myocardial Infarction (AMI) (CMIT ID #247)

National Quality Strategy Domain: Communication and Care Coordination

Quality Measures Set: Administrative ***Data Source: Hospital Inpatient Quality Reporting Program***

BPCI Advanced and Quality

The Center for Medicare & Medicaid Innovation's (the CMS Innovation Center's) BPCI Advanced Model rewards health care providers for delivering services more efficiently, supports enhanced care coordination, and recognizes high quality care. Hospitals and clinicians should work collaboratively to achieve these goals, which have the potential to improve the BPCI Advanced Beneficiary experience and align to the CMS Quality Strategy goals of promoting effective communication and care coordination, highlighting best practices, and making care safer and more affordable. A goal of the BPCI Advanced Model is to promote seamless, patient-centered care throughout each Clinical Episode, regardless of who is responsible for a specific element of that care.

Background on Acute Care after Acute Myocardial Infarction

The recovery process and transition from hospital to home after an acute myocardial infarction (AMI) carries the risk of readmission and other post-discharge complications, including emergency department (ED) evaluation and need for observation. The CMS Innovation Center aims to provide AMI patients with the tools for an independent recovery, to lower the risk of additional AMI incidence, and to improve overall health and lifestyle.

CMS Innovation Center Rationale for Including the Excess Days in Acute Care after Hospitalization for AMI Measure in BPCI Advanced

Hospitals and their associated care teams should coordinate to ensure that discharge procedures for AMI patients are robust and continuously monitored. Patients whose health care teams discharge them after AMI should have a safe transition with appropriate patient education about post-discharge care, self-management, timely communication, and follow-up. Measures of unplanned readmission already exist, but there are no current measures for ED and observation stay utilization. The CMS Innovation Center selected the Excess Days in Acute Care after Hospitalization for AMI measure to provide a broad view for post-discharge outcomes that will enable BPCI Advanced Participants to improve patient care.

Applicable Clinical Episodes

The Excess Days in Acute Care after Hospitalization for AMI measure is in the Administrative Quality Measures Set and applies to the following inpatient Clinical Episode:

- Acute Myocardial Infarction: Medicare Severity–Diagnosis-Related Groups (MS-DRGs) 280, 281, and 282

Measure Specifications

The Excess Days in Acute Care after AMI measure selected for BPCI Advanced follows Consensus-Based Entity (CBE) #2881, CMIT ID #247 measure specifications. To provide a patient-centered evaluation of the post-discharge period, the AMI measure assesses days spent in acute care within 30 days of discharge from an inpatient hospitalization for AMI. This measure captures the quality of care transitions provided to patients hospitalized with AMI by collectively measuring a set of avoidable post-discharge events: ED visits, observation stays, and unplanned readmissions during the 30-day post-discharge period. To aggregate all three outcomes, the measure assesses each item in terms of days. In 2016, CMS began annual reporting of the measure for Medicare fee-for service (FFS) beneficiaries aged 65 years and older who are hospitalized in non-federal hospitals.

The CMS Innovation Center will calculate Acute Care Hospital (ACH) performance at the hospital level for all Medicare beneficiaries included in the denominator. For Physician Group Practices (PGPs), the CMS Innovation Center will calculate the measure as specified at the hospital level, then weight the measure based on PGP Clinical Episode volume for each ACH where a PGP triggers an episode. CMS also includes the Excess Days in Acute Care after Hospitalization for AMI measure in the Hospital Inpatient Quality Reporting (IQR) Program, which posts measure data on Hospital Compare. However, the reporting period under this Model differs from that used under the Hospital IQR Program in that the reporting period for the BPCI Advanced Model spans from January 1 through December 31.

Denominator

The denominator for the Excess Days in Acute Care after AMI measure includes all Medicare FFS beneficiaries aged 65 years and older who are hospitalized with a principal discharge diagnosis of AMI. These Medicare FFS beneficiaries must have 12 months of continuous Medicare Part A and B enrollment prior to the AMI index admission.

The exclusions for this measure include patients:

- without at least 30 days post-discharge enrollment in Medicare FFS
- discharged against medical advice
- admitted within 30 days of a prior index discharge
- admitted and then discharged on the same day

Numerator

The numerator includes the total number of days that individuals in the previously defined denominator spent in acute care within 30 days of discharge. The measure defines days in acute care as days spent in an ED setting, days spent in an observation unit, or days spent hospitalized during an unplanned readmission for any cause within 30 days from the date of discharge. The measure counts each ED treat-

and-release visit as one half-day. The measure records observation stays in terms of hours and rounds up to the nearest half-day. The measure counts each readmission day as one full day. The measure counts all eligible outcomes occurring in the 30-day period, even if they are repeat occurrences.

Measure Submission

The CMS Innovation Center will calculate this measure using Medicare claims data and does not require action or reporting by Model Participants beyond what is currently involved in the Hospital IQR Program. To better align with the performance years of the BPCI Advanced Model, the Model uses January 1 through December 31 for measure calculation. The date of discharge on the index admission will determine the calendar year in which the claim belongs.

Revisions to the Published Specifications

The BPCI Advanced version of this measure is calculated using a two-year period. In Model Year 8, the data will be collected from January 1, 2024 to December 31, 2025.

Composite Quality Score

The Excess Days in Acute Care after AMI measure is one component of the BPCI Advanced Composite Quality Score (CQS) calculation. The CMS Innovation Center uses the CQS to adjust a portion of any Positive Total Reconciliation Amount and any Negative Total Reconciliation Amount. The CQS adjustment will not adjust the Positive Total Reconciliation Amount downward by more than 10 percent, nor will it adjust the Negative Total Reconciliation Amount upward by more than 10 percent. More information is available at the BPCI Advanced website provided below.

Other Resources

Organization/Resource	Website Address
CBE #2881	https://p4qm.org/measures/2881
CMIT ID #247	https://cmit.cms.gov/cmit/#/MeasureView?variantId=12572&sectionNumber=1
BPCI Advanced	https://www.cms.gov/priorities/innovation/innovation-models/bpci-advanced
Hospital IQR Program Excess Days in Acute Care after AMI measure methodology	https://qualitynet.cms.gov/files/6272c62bb1ccb90016b5372d?filename=2022_EDAC_AUS_Report.pdf

Quality Measures Fact Sheet

Hospital-Level Risk-Standardized Complication Rate (RSCR) Following Elective Primary Total Hip Arthroplasty (THA) and/or Total Knee Arthroplasty (TKA) (CMIT ID #350)

National Quality Strategy Domain: Patient Safety

Quality Measures Sets: Administrative and Alternate

Data Source: Hospital Inpatient Quality Reporting Program

BPCI Advanced and Quality

The Center for Medicare & Medicaid Innovation's (the CMS Innovation Center's) BPCI Advanced Model rewards health care providers for delivering services more efficiently, supports enhanced care coordination, and recognizes high quality care. Hospitals and clinicians should work collaboratively to achieve these goals, which have the potential to improve the BPCI Advanced Beneficiary experience and align to the CMS Quality Strategy goals of promoting effective communication and care coordination, highlighting best practices, and making care safer and more affordable. A goal of the BPCI Advanced Model is to promote seamless, patient-centered care throughout each Clinical Episode, regardless of who is responsible for a specific element of that care.

Background on Total Hip Arthroplasty and Total Knee Arthroplasty Complications

Total Hip Arthroplasty (THA) and Total Knee Arthroplasty (TKA) procedures are common among the Medicare population and, over time, have become relatively efficient, with regimented steps to encourage safety and best practices. At the same time, complications from THA and TKA are burdensome to patients, impacting not only their length of recovery but their mobility as well.

CMS Innovation Center Rationale for Including the Hospital-Level RSCR Following Elective Primary THA and/or TKA Measure in BPCI Advanced

The entire process for THA and TKA from inpatient admission through recovery can be lengthy, and hospitals and care teams should collaborate to ensure that patients undergoing THA and TKA have a coordinated care process. The CMS Innovation Center has selected the Hospital-Level RSCR Following Elective Primary THA and/or TKA Measure for BPCI Advanced because reporting the complication rate will inform providers about opportunities to improve care. The measure will also highlight ways to strengthen incentives for quality improvement and ultimately improve the quality of care received by

Medicare beneficiaries. CMS has used or is currently using this in the following Federal programs: CMS' Partnership for Patients and the Hospital Inpatient Quality Reporting (IQR) Program.

Applicable Clinical Episodes

The Hospital-Level RSCR Following Elective Primary THA and/or TKA measure is included in both the Administrative and Alternate Quality Measures Sets and applies to the following inpatient and outpatient Clinical Episodes:

- Double Joint Replacement of the Lower Extremity (Inpatient): Medicare Severity–Diagnosis-Related Groups (MS-DRGs) 461 and 462
- Major Joint Replacement of the Lower Extremity (Inpatient and Outpatient): MS-DRGs 469, 470, 521, and 522; Healthcare Common Procedure Coding System (HCPCS) 27447 and 27130

Measure Specifications

The Hospital-Level RSCR Following Elective Primary THA and/or TKA measure follows Consensus-Based Entity (CBE) #1550, CMIT ID #350 measure specifications. This measure estimates a hospital-level RSCR associated with elective primary THA and TKA procedures for Medicare beneficiaries. Performance on the Hospital-Level RSCR Following Elective Primary THA and/or TKA measure is risk standardized and is the same as the Hospital IQR Program Hospital-Level RSCR Following Elective Primary THA and/or TKA measure reported on Hospital Compare, with the exception that the CMS Innovation Center adjusted the reporting period to the calendar year to align with the BPCI Advanced Model. The CMS Innovation Center will calculate Acute Care Hospital (ACH) performance at the hospital level for all Medicare beneficiaries included in the denominator. For Physician Group Practices (PGPs), the CMS Innovation Center will calculate the measure as specified at the hospital level, then weight the measure based on PGP Clinical Episode volume for each ACH where a PGP triggers an episode.

Denominator

The denominator for the Hospital-Level RSCR Following Elective Primary THA and/or TKA measure includes all Medicare fee-for-service (FFS) beneficiaries aged 65 years and older who are hospitalized for elective primary THA and/or TKA procedures. These Medicare FFS beneficiaries must have 12 months of continuous Medicare Part A and B enrollment prior to the THA and/or TKA procedure.

All MS-DRG triggers apply, but this measure only applies to patients with an elective primary THA and/or TKA procedure. The exclusions for this measure include patients:

- without at least 90 days post-discharge enrollment in Medicare FFS
- discharged against medical advice
- who had more than two THA and/or TKA procedure codes during the index hospitalization

Numerator

The numerator includes individuals in the previously defined denominator who experience a complication with an elective primary THA and/or TKA procedure. If any Medicare beneficiary has a complication occurring during the index admission (not coded present on arrival), or during a

readmission up to 90 days post-date of the index admission, the measure will include them in the numerator.

Measure Submission

The CMS Innovation Center will calculate this measure using Medicare claims data and does not require action or reporting by Model Participants beyond what is currently involved in the Hospital IQR Program. To better align with the performance years of the BPCI Advanced Model, the Model uses January 1 through December 31 for measure calculation. The date of discharge on the index admission will determine the calendar year in which the claim belongs.

Revisions to the Published Specifications

The BPCI Advanced version of this measure is calculated using a one-year period of data instead of a three-year period. In Model Year 8, the claims data will be collected from October 1, 2024 to September 30, 2025.

Composite Quality Score

The Hospital-Level RSCR Following Elective Primary THA and/or TKA measure is one component of the BPCI Advanced Composite Quality Score (CQS) calculation. The CMS Innovation Center uses the CQS to adjust a portion of any Positive Total Reconciliation Amount and any Negative Total Reconciliation Amount. The CQS adjustment will not adjust the Positive Total Reconciliation Amount down by more than 10 percent, nor will it adjust the Negative Total Reconciliation Amount up by more than 10 percent. More information is available at the BPCI Advanced website provided below.

Other Resources

Organization/Resource	Website Address
CBE #1550	https://p4qm.org/measures/1550
CMIT ID #350	https://cmit.cms.gov/cmit/#/MeasureView?variantId=12579&sectionNumber=1
BPCI Advanced	https://www.cms.gov/priorities/innovation/innovation-models/bpci-advanced
Inpatient Quality Reporting	https://www.cms.gov/newsroom/fact-sheets/cms-improve-quality-care-during-hospital-inpatient-stays

Quality Measures Fact Sheet

Hospital-Wide All-Cause Unplanned Readmission Measure (CMIT ID #356)

National Quality Strategy Domain: Communication and Care Coordination

Quality Measures Sets: Administrative and Alternate

Data Source: Hospital Inpatient Quality Reporting Program

BPCI Advanced and Quality

The Center for Medicare & Medicaid Innovation's (the CMS Innovation Center's) BPCI Advanced Model rewards health care providers for delivering services more efficiently, supports enhanced care coordination, and recognizes high quality care. Hospitals and clinicians should work collaboratively to achieve these goals, which have the potential to improve the BPCI Advanced Beneficiary experience and align to the CMS Quality Strategy goals of promoting effective communication and care coordination, highlighting best practices, and making care safer and more affordable. A goal of the BPCI Advanced Model is to promote seamless, patient-centered care throughout each Clinical Episode, regardless of who is responsible for a specific element of that care.

Background on Readmissions

Readmission after being discharged from the hospital is costly, disruptive to the Medicare beneficiary and their family, and often preventable. While some readmissions are unavoidable due to worsening illness, appropriate transitional care and clear, monitored discharge procedures can reduce the risk of readmission.

CMS Innovation Center Rationale for Including the Hospital-Wide All-Cause Unplanned Readmission Measure in BPCI Advanced

The CMS Innovation Center selected the Hospital-Wide All-Cause Unplanned Readmission measure to encourage hospitals and their care teams to collaborate and ensure that they provide appropriate discharge planning, instructions, and follow-up care to patients to help reduce the risk of readmission. The Hospital-Wide All-Cause Unplanned Readmission measure evaluates whether a patient has an unplanned readmission within 30 days. CMS has used or is currently using the measure in the following Federal programs: the Hospital Inpatient Quality Reporting (IQR) Program and the Medicare Shared Savings Program. CMS also reports this measure on the Hospital Compare website.

Applicable Clinical Episodes

The Hospital-Wide All-Cause Unplanned Readmission measure is in both the Administrative and Alternate Quality Measures Sets and applies to all inpatient and outpatient Clinical Episodes included in the BPCI Advanced Model.

Measure Specifications

The Hospital-Wide All-Cause Unplanned Readmission measure selected for BPCI Advanced follows Consensus Based Entity (CBE) #1789, CMIT ID #356 measure specifications. The CMS Innovation Center will calculate Acute Care Hospital (ACH) performance at the hospital level for all Medicare beneficiaries included in the denominator. For Physician Group Practices (PGPs), the CMS Innovation Center will calculate the measure as specified at the hospital level, then weight the measure based on PGP Clinical Episode volume for each ACH where a PGP triggers an episode. Performance on the Hospital-Wide All-Cause Unplanned Readmission measure is risk adjusted.

Denominator

The denominator for the Hospital-Wide All-Cause Unplanned Readmission measure includes all Medicare fee-for-service (FFS) beneficiaries aged 65 years and older who are hospitalized and are discharged alive from a Medicare-participating ACH. These Medicare FFS beneficiaries must have 12 months of continuous Medicare Part A enrollment prior to the index admission. Index admission refers to the first admission.

The exclusions for this measure include patients:

- admitted to Prospective Payment System-exempt cancer hospitals
- without at least 30 days post-discharge enrollment in Medicare FFS
- discharged against medical advice
- admitted for primary psychiatric diagnoses
- admitted for rehabilitation
- admitted for medical treatment of cancer

Numerator

The numerator includes individuals in the previously defined denominator who have a readmission for any cause, except for certain planned readmissions, within 30 days from the date of discharge from an eligible index admission. If a Medicare beneficiary has more than one unplanned admission (for any reason) within 30 days after discharge from the index admission, the measure only counts as one readmission. Note that readmissions do not have to be at the same hospital location as the index admission; a Medicare beneficiary who is readmitted to any hospital will count as a readmission.

This measure looks for a “yes” or “no” outcome of whether each admitted patient has an unplanned readmission within 30 days. However, if health care teams planned the first readmission after discharge, the measure does not count any subsequent unplanned readmission as an outcome for that index admission.

Measure Submission

The CMS Innovation Center will calculate this measure using Medicare claims data and does not require action or reporting by Model Participants beyond what is currently involved in the Hospital IQR Program. To better align with the performance years of the BPCI Advanced Model, the Model uses January 1 through December 31 for measure calculation. The date of discharge on the index admission will determine the calendar year in which the claim belongs.

Revisions to the Published Specifications

The BPCI Advanced version of this measure is calculated using a one-year calendar period of data. In Model Year 8, the claims data will be collected from January 1, 2025 to December 31, 2025.

Composite Quality Score

The Hospital-Wide All-Cause Unplanned Readmission measure is one component of the BPCI Advanced Composite Quality Score (CQS) calculation. The CMS Innovation Center uses the CQS to adjust a portion of any Positive Total Reconciliation Amount and any Negative Total Reconciliation Amount. The CQS adjustment will not adjust the Positive Total Reconciliation Amount downward by more than 10 percent, nor will it adjust the Negative Total Reconciliation Amount upward by more than 10 percent. More information is available at the BPCI Advanced website provided below.

Other Resources

Organization/Resource	Website Address
CBE #1789	https://p4qm.org/measures/1789
CMIT ID #356	https://cmit.cms.gov/cmit/#/MeasureView?variantId=12578&sectionNumber=1
BPCI Advanced	https://www.cms.gov/priorities/innovation/innovation-models/bpci-advanced
Hospital IQR Program readmission measure methodology	https://qualitynet.cms.gov/files/645064349920e9001651f24d?filename=2023_HWR_AUS_Report_v1.0.pdf

Quality Measures Fact Sheet

Risk-Standardized Mortality Rate Following Coronary Artery Bypass Graft (CABG) Surgery (CMIT ID #334)

National Quality Strategy Domain: Making Care Safer

Quality Measures Set: Administrative ***Data Source: Hospital Inpatient Quality Reporting Program***

BPCI Advanced and Quality

The Center for Medicare & Medicaid Innovation's (the CMS Innovation Center's) BPCI Advanced Model rewards health care providers for delivering services more efficiently, supports enhanced care coordination, and recognizes high quality care. Hospitals and clinicians should work collaboratively to achieve these goals, which have the potential to improve the BPCI Advanced Beneficiary experience and align to the CMS Quality Strategy goals of promoting effective communication and care coordination, highlighting best practices, and making care safer and more affordable. A goal of the BPCI Advanced Model is to promote seamless, patient-centered care throughout each Clinical Episode, regardless of who is responsible for a specific element of that care.

Background on Coronary Artery Bypass Graft

Coronary artery bypass graft (CABG) surgeries are the most common major cardiac surgery and mortality following this procedure should be very rare. Goals for pursuing CABG surgery include enhancing quality of life, reducing angina and other coronary heart disease (CHD) symptoms, preserving or restoring cardiac function, and improving survival.

CMS Innovation Center Rationale for Including the Risk-Standardized Mortality Rate Following CABG Surgery Measure in BPCI Advanced

Hospitals and their associated care teams should collaborate to ensure that they provide appropriate care coordination to Medicare beneficiaries undergoing CABG procedures to reduce the risk of serious complications, including death. The CMS Innovation Center selected the Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate following CABG Surgery measure because it provides a broad, hospital-level view of quality that encompasses complex aspects of care including communication between providers, prevention of and/or response to complications, patient safety, and coordination of outpatient transitions. CMS has used or is currently using this measure in the following Federal programs: Hospital Compare, Hospital Value-Based Purchasing, and the Hospital Inpatient Quality Reporting (IQR) Program.

Applicable Clinical Episodes

The Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate following CABG Surgery measure is in the Administrative Quality Measures Set and applies to the following inpatient Clinical Episode:

- Coronary Artery Bypass Graft (CABG): Medicare Severity–Diagnosis-Related Groups (MS-DRGs) 231, 232, 233, 234, 235 and 236

Measure Specifications

The Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate following CABG Surgery measure selected for BPCI Advanced follows Consensus-Based Entity (CBE) #2558, CMIT ID #334 measure specifications. The measure estimates a risk-stratified hospital-level mortality rate for Medicare beneficiaries aged 65 and older discharged from the hospital following a qualifying isolated CABG procedure. The measure defines mortality as death from any cause within 30 days of the procedure date of an index CABG admission. An index CABG admission is the hospitalization for a qualifying isolated CABG procedure considered for the mortality outcome. The CMS Innovation Center will calculate Acute Care Hospital (ACH) performance at the hospital level for all Medicare beneficiaries included in the denominator. For Physician Group Practices (PGPs), the CMS Innovation Center will calculate the measure as specified at the hospital level, then weight the measure based on PGP Clinical Episode volume for each ACH where a PGP triggers an episode.

Denominator

The denominator for the Risk-Standardized Mortality Rate following CAGB measure includes all Medicare fee-for-service (FFS) beneficiaries aged 65 and older who receive a qualifying isolated CABG procedure at the hospital and who have 12 months of continuous Medicare Part A and B enrollment prior to the index CABG admission. If a Medicare beneficiary has more than one qualifying isolated CABG admission in a year, the CMS Innovation Center will select the first CABG admission for inclusion in the measure and exclude the subsequent CABG admission(s) from the cohort.

The exclusions for this measure include patients:

- with inconsistent or unknown vital status or other unreliable (age and gender) data
- discharged against medical advice because providers did not have the opportunity to deliver full care and prepare the patient for discharge

Numerator

The numerator includes individuals in the previously defined denominator who are discharged from the hospital and then die for any reason within 30 days of undergoing an isolated CABG Surgery.

Measure Submission

The CMS Innovation Center will calculate this measure using Medicare claims data and does not require action or reporting by Model Participants beyond what is currently involved in the Hospital IQR Program. To better align with the performance years of the BPCI Advanced Model, the Model uses January 1 through December 31 for measure calculation. The date of discharge on the index admission will determine the calendar year in which the claim belongs.

Revisions to the Published Specifications

The BPCI Advanced version of this measure is calculated using data from a one-year calendar period rather than any 12-month period. In Model Year 8, the data will be collected from January 1, 2025 to December 31, 2025.

Composite Quality Score

The Risk-Standardized Mortality Rate following CABG Surgery measure is one component of the BPCI Advanced Composite Quality Score (CQS) calculation. The CMS Innovation Center uses the CQS to adjust a portion of any Positive Total Reconciliation Amount and any Negative Total Reconciliation Amount. The CQS adjustment will not adjust the Positive Total Reconciliation Amount downward by more than 10 percent, nor will it adjust the Negative Total Reconciliation Amount upward by more than 10 percent. More information is available at the BPCI Advanced website provided below.

Other Resources

Organization/Resource	Website Address
CBE #2558	https://p4qm.org/measures/2558
CMIT ID #334	https://cmit.cms.gov/cmit/#/MeasureView?variantId=12576&sectionNumber=1
BPCI Advanced	https://www.cms.gov/priorities/innovation/innovation-models/bpci-advanced