

Quality Measures Fact Sheet

**Perioperative Care: Selection of Prophylactic Antibiotic
1st or 2nd Generation Cephalosporin (NQF #0268)**
National Quality Strategy Domain: Patient Safety

Quality Measures Set: Administrative

Data Source: Quality Data Codes

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 Perioperative Care 1st or 2nd Generation Cephalosporin

Prophylaxis refers to the prevention of an infection and can be characterized as primary prophylaxis, secondary prophylaxis, or eradication. Primary prophylaxis refers to the prevention of an initial infection. Secondary prophylaxis refers to the prevention of recurrence or reactivation of a preexisting infection. Administering prophylactic antibiotics prior to an operation helps ensure that the antibiotics are present in the blood and tissue during and after surgery to lower the risk of infection. Cephalosporins are the antibiotics of choice for perioperative antibiotic prophylaxis because they have a broad-spectrum of antimicrobial coverage and a relatively low complication rate.

CMS Innovation Center Rationale for Including the Perioperative Care: Selection of Prophylactic Antibiotic 1st or 2nd Generation Cephalosporin Measure in BPCI Advanced

The CMS Innovation Center selected the Perioperative Care: Selection of Prophylactic Antibiotic 1st or 2nd Generation Cephalosporin measure for BPCI Advanced because hospitals and surgeons should collaborate on protocols ensuring that antibiotic prophylaxis is appropriately selected, administered, and documented to make care safer for patients. Episode Initiators should ensure that appropriate codes are submitted each time they perform a procedure to indicate that the appropriate antibiotic was administered or contraindicated. Submission occurs during any Model Performance Period for all BPCI Advanced Beneficiaries who undergo surgical procedures with an indication for a first or second-

generation cephalosporin prophylactic antibiotic. Submission of such codes indicates that clinicians provided appropriate care and communication. CMS has used or is currently using the Perioperative Care: Selection of Prophylactic Antibiotic: 1st or 2nd Generation Cephalosporin measure in the following Federal programs: the Quality Payment Program, the Medicare Physician Quality Reporting System (PQRS), and the Physician Value-Based Payment Modifier (VBM).

Applicable Clinical Episodes

The Perioperative Care: Selection of Prophylactic Antibiotic 1st or 2nd Generation Cephalosporin measure is included in the Administrative Quality Measures Set and applies to the following inpatient and outpatient surgical Clinical Episodes¹:

- Back and Neck Except Spinal Fusion (Inpatient): Medicare Severity–Diagnosis-Related Groups (MS-DRGs) 518, 519, and 520
- Back and Neck Except Spinal Fusion (Outpatient): Healthcare Common Procedure Coding System (HCPCS) 62287, 63005, 63011, 63012, 63017, 63030, 63040, 63042, 63045, 63046, 63047, 63056, and 63075
- Bariatric Surgery (Inpatient): MS-DRGs 619, 620, and 621
- Cardiac Valve (Inpatient): MS-DRGs 216, 217, 218, 219, 220, and 221
- Coronary Artery Bypass Graft (Inpatient): MS-DRGs 231, 232, 233, 234, 235, and 236
- Double Joint Replacement of the Lower Extremity (Inpatient): MS-DRGs 461 and 462
- Hip and Femur Procedures Except Major Joint (Inpatient): MS-DRGs 480, 481, and 482
- Lower Extremity and Humerus Procedure Except Hip, Foot, Femur (Inpatient): MS-DRGs 492, 493, and 494
- Major Bowel Procedure (Inpatient): MS-DRGs 329, 330, and 331
- Major Joint Replacement of the Lower Extremity (Inpatient and Outpatient): MS-DRGs 469 and 470; HCPCS 27447
- Major Joint Replacement of the Upper Extremity (Inpatient): MS-DRG 483
- Spinal Fusion (Inpatient): MS-DRGs 453, 454, 455, 459, 460, 471, 472, and 473

Measure Specifications

The Perioperative Care: Selection of Prophylactic Antibiotic: 1st or 2nd Generation Cephalosporin measure selected for BPCI Advanced follows American Society of Plastic Surgeons (ASPS) “Perioperative Care: Selection of Prophylactic Antibiotic: 1st or 2nd Generation Cephalosporin” measure specifications endorsed by NQF (#0268). 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

¹ MS-DRGs are up to date as of Model Year 3 (2020) and will be updated for Model Year 4 as needed.

eligible for the Model² 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 and end during the calendar year to generate a score.

Denominator

The denominator of the Perioperative Care: Selection of Prophylactic Antibiotic: 1st or 2nd Generation Cephalosporin includes all Model Year Clinical Episodes from the “Applicable Clinical Episodes” section above that end during the calendar year involving BPCI Advanced Beneficiaries aged 18 years and older³ 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 that the Clinical Episode belongs to. The Clinical Episode must have an eligible surgical procedure billed during the anchor period, including a one-day lookback from the anchor inpatient admission date or anchor outpatient procedure date, with an indication for a 1st or 2nd generation cephalosporin prophylactic antibiotic. Episode Initiators indicate eligible surgical procedures by the CPT codes listed in the table below. The measure will exclude Beneficiaries who had a medical reason for not ordering a 1st or 2nd generation cephalosporin from the denominator. Episode Initiators can indicate the presence of a medical reason for not ordering a prophylactic cephalosporin with the level II HCPCS code G9196.

The exclusions for this measure include patients:

- enrolled in clinical trials
- with a documented infection prior to surgical procedure of interest
- who received antibiotics more than 24 hours prior to surgery or within 24 hours prior to arrival (except colon surgery patients taking oral prophylactic antibiotics)
- with a documented or presumed IgE mediated penicillin allergy (e.g., anaphylaxis, urticaria, bronchospasm) or exfoliative dermatitis
- with other medical reason(s)

Numerator

The numerator includes all individuals in the previously defined denominator where the BPCI Advanced Beneficiary had an order for a 1st or 2nd generation cephalosporin for antimicrobial prophylaxis documented on a claim. The physician may report this through claims using the level II HCPCS code

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. (2021 BPCI Advanced Participation Agreement)

³ For Model Years 1-3, the denominator population has been BPCI Advanced Beneficiaries aged 65 years and older. For Model Year 4, the denominator population is BPCI Advanced Beneficiaries aged 18 years and older.

G9197 billed on the day of the procedure or the day prior. Hospitals are unable to submit the G9197 code and will receive credit for this measure through physicians practicing at their hospital who submit the code.

HCPCS Code	Description
G9197	Documentation of order for 1 st or 2 nd generation cephalosporin for antimicrobial prophylaxis.
G9196	Documentation of medical reason(s) for not ordering a 1 st or 2 nd generation cephalosporin for antimicrobial prophylaxis.

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 they are reporting the relevant codes listed above on their claims. The CMS Innovation Center will calculate this measure for the calendar year period that aligns to the Model Year.

Revisions to the Published Specifications

BPCI Advanced calculates this version of the measure at the Episode Initiator level and limits the patient population to BPCI Advanced Beneficiaries. This version also removes the data completion requirement in ASPs’ provider level measure “Perioperative Care: Selection of Prophylactic Antibiotic: 1st or 2nd Generation Cephalosporin” endorsed by NQF (#0268) and distinguishes between a failure to adhere to the guidelines and failure to bill the G-codes, regardless of antibiotic use. As a result, the BPCI Advanced version does not exclude BPCI Advanced Beneficiaries with missing level II HCPCS codes from the denominator. The measure will continue to count Medicare claims that do not report any of the appropriate HCPCS codes, G9196 or G9197, in the denominator, but not in the numerator. In other words, under BPCI Advanced, unlike ASPs’ provider level measure, “Perioperative Care: Selection of Prophylactic Antibiotic: 1st or 2nd Generation Cephalosporin,” endorsed by NQF (#0268), the measure will treat failure to bill equivalent to failing to provide appropriate peri-operative antibiotics, without regard to the level II HCPCS code, G9198: order for 1st or 2nd generation cephalosporin for antimicrobial prophylaxis was not documented, reason not given.

Composite Quality Score

The Perioperative Care: Selection of Prophylactic Antibiotic: 1st or 2nd Generation Cephalosporin 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
NQF #0268 measure specifications	https://www.qualityforum.org/QPS/0268
BPCI Advanced	https://innovation.cms.gov/initiatives/bpci-advanced
CMS QPP #21 claims-based submission specifications	https://qpp.cms.gov/docs/QPP_quality_measure_specifications/Claims-Registry-Measures/2020_Measure_021_MedicarePartBClaims.pdf
ASHP clinical guidelines for surgical antibiotic prophylaxis	https://www.ashp.org/-/media/assets/policy-guidelines/docs/therapeutic-guidelines/therapeutic-guidelines-antimicrobial-prophylaxis-surgery.ashx