

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

BPCI Advanced and Quality

The Center for Medicare and Medicaid Innovation's (Innovation Center) BPCI Advanced Model rewards healthcare providers for delivering services more efficiently, supports enhanced care coordination, and recognizes high quality care. Hospitals and physicians should work collaboratively to achieve these goals, which have 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 1st or 2nd Generation Cephalosporin Use

The Perioperative Care: Selection of Prophylactic Antibiotic: 1st or 2nd Generation Cephalosporin (Perioperative Cephalosporin) measure selected for BPCI Advanced is adapted from the National Quality Forum (NQF) measure #0268 and Quality Payment Program (QPP) measure #21. 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.

Innovation Center Rationale for Including the Perioperative Cephalosporin Measure in BPCI Advanced

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 submit codes each time a procedure is performed so as 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 appropriate care has been provided and that effective communication has taken place. This Perioperative Cephalosporin measure has been used in multiple Federal programs in addition to the Quality Payment Program, including the Medicare Physician Quality Reporting System (PQRS), the

Physician Feedback/Quality and Resource Use Reports (QRUR), and the Physician Value-Based Payment Modifier (VBM).

Clinical Episode Categories

The Perioperative Cephalosporin measure applies to the following surgical Clinical Episode categories:

- Back and Neck Except Spinal Fusion (Inpatient and Outpatient):¹ MS-DRGs: 518, 519, 520; HCPCS: 62287, 63005, 63011, 63012, 63017, 63030, 63040, 63042, 63045, 63046, 63047, 63056, 63075
- Cervical Spinal Fusion: MS-DRGs: 471, 472, 473
- Combined Anterior Posterior Spinal Fusion: MS-DRGs: 453, 454, 455
- CABG: MS-DRGs: 231, 232, 233, 234, 235, 236
- Double Joint Replacement of the Lower Extremity: MS-DRGs: 461, 462
- Hip and Femur Procedures Except Major Joint: MS-DRGs: 480, 481, 482
- Lower Extremity and Humerus Procedure Except Hip, Foot, Femur: MS-DRGs: 492, 493, 494
- Major Bowel Procedure: MS-DRGs: 329, 330, 331
- Major Joint Replacement of the Lower Extremity: MS-DRGs: 469, 470
- Major Joint Replacement of the Upper Extremity: MS-DRG: 483
- Cardiac Valve: MS-DRGs: 216, 217, 218, 219, 220, 221, 266, 267

Measure Specifications

The Perioperative Cephalosporin measure selected for BPCI Advanced is adapted from the NQF #0268 and QPP measure 21. It will be calculated at the Episode Initiator level, limited to BPCI Advanced Beneficiaries treated during an attributed Clinical Episode during the calendar year. An Episode Initiator must have a minimum of 10 attributed Clinical Episodes during the calendar year to generate a score for Perioperative Cephalosporin.

Denominator

The denominator of the measure includes all Medicare beneficiaries, aged 18 years and older, who trigger a Clinical Episode that ends during the calendar year and is attributed to a BPCI Advanced Episode Initiator at reconciliation. Clinical Episodes are attributed to Episode Initiators based upon their CMS Certification Number (CCN), if they are an acute care hospital, or Taxpayer Identification Number (TIN), if they are a physician group practice. Clinical Episodes are assigned to a calendar year based upon the episode end date (90 days from the Anchor Stay or Anchor Procedures). 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. Eligible surgical procedures are identified by the CPT

¹ Not all Back and Neck Except Spinal Fusion procedures require perioperative cephalosporin antibiotics; only the following HCPCS codes will be used in the measure calculation: 63030, 63042, 63045, 63046, 63047, 63056, and 63075.

codes listed in Table 1. Beneficiaries who had a medical reason for not ordering a 1st or 2nd generation cephalosporin are excluded from the denominator. The presence of a medical reason for not ordering a prophylactic cephalosporin is indicated with the level II HCPCS code G9196. These reasons for exclusion may include the following:

- Enrolled in clinical trials
- Documented infection prior to surgical procedure of interest
- Received antibiotics *more than 24 hours prior to surgery or within 24 hours prior to arrival* (except colon surgery patients taking oral prophylactic antibiotics)
- Documented or presumed IgE mediated penicillin allergy (e.g., anaphylaxis, urticaria, bronchospasm) or exfoliative dermatitis
- Other medical reason(s)

Numerator

The numerator of the Perioperative Cephalosporin measure is comprised of all BPCI Advanced Beneficiaries in the denominator who had an order for a 1st or 2nd generation cephalosporin for antimicrobial prophylaxis. The physician may report this through claims using the level II HCPCS code 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 and Calculation

The level II HCPCS codes should be submitted by physicians through Medicare claims on the physician’s CMS-1500 claim form. Physicians do not need to submit the code G9198, order for 1st or 2nd generation cephalosporin for antimicrobial prophylaxis was not documented, reason not given, and it will not exclude the beneficiary from the denominator.

Revisions from Published Specifications

The BPCI Advanced version of the measure is calculated at the Episode Initiator level and the patient population is limited to BPCI Advanced Beneficiaries, as opposed to all Medicare beneficiaries grouped to the National Patient Identifier (NPI) level in the current NQF-endorsed specifications. In addition, the list of measure-eligible procedures were broadened to include the level I CPT codes for transcatheter mitral valve replacement (33418, 33419) and transcatheter pulmonary valve replacement (33477). This revised version also removes the data completion requirement in the NQF specifications that 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. Medicare claims that do not report any of the appropriate HCPCS codes, G9196 or G9197, will continue to be counted in the denominator but not in the numerator. In other words, under BPCI Advanced, unlike the NQF specifications, failure to bill will be treated equivalently 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 Cephalosporin measure is one component of the BPCI Advanced Composite Quality Score (CQS) calculation. The CQS is used to adjust a portion of any Positive Total Reconciliation Amount and any Negative Total Reconciliation Amount for Model Participants. The CQS adjustment will not adjust the Positive Total Reconciliation Amount down, nor will it adjust the Negative Total Reconciliation Amount up by more than 10 percent. More information is available below.

Other Resources

Organization/Resource	Website Address
CMS QPP #21 (NQF #0268) Claims Based Submission Specifications	https://qpp.cms.gov/docs/QPP_quality_measure_specifications/Claims-Registry-Measures/2018_Measure_021_Claims.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
BPCI Advanced website	https://innovation.cms.gov/initiatives/bpci-advanced