

Quality Measures Fact Sheet

**Discharge Medications (Angiotensin-Converting Enzyme /
Angiotensin Receptor Blocker and Beta Blockers) in Eligible
Implantable Cardiac Defibrillator/Cardiac Resynchronization
Therapy Defibrillators Implant Patients (NQF #0965)
National Quality Strategy Domain: Prevention and Treatment**

Quality Measures Set: Alternate

Data Source: Registry

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 Discharge Medications for Patients with Implantable Cardiac Defibrillators and Cardiac Resynchronization Therapy Defibrillators

Implantable Cardiac Defibrillators (ICDs) and Cardiac Resynchronization Therapy Defibrillators (CRT-D) prevent sudden cardiac death in patients at heightened risk for ventricular arrhythmia.¹⁵ After ICD implantation in a patient with systolic heart failure, evidence-based professional guidelines support use of several different medications, including an angiotensin-converting enzyme inhibitor (ACEI) or angiotensin receptor blocker (ARB) and a beta blocker. These medications are shown to reduce morbidity and mortality in patients with heart failure.¹⁶

¹⁵ Russo, A. M., Stainback, R. F., Bailey, S. R., Epstein, A. E., Heidenreich, P. A., Jessup, M., Kapa, S., Kremers, M. S., Lindsay, B. D., & Stevenson, L. W. (2013). ACCF/HRS/AHA/ASE/HFSA/SCAI/SCCT/SCMR 2013 appropriate use criteria for implantable cardioverter-defibrillators and cardiac resynchronization therapy. *Journal of the American College of Cardiology*, 61(12), 1318–68. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/23453819>.

¹⁶ Hernandez, A., Hammill, B. G., O'Connor, C. M., Schulman, K. A., Curtis, L. H., & Fonarow, G. C. (2009). Clinical effectiveness of beta-blockers in heart failure. *Journal of the American College of Cardiology*, 53(2), 184-192. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3513266>.

CMS Innovation Center Rationale for Including Discharge Medications (ACE/ARB and Beta Blockers) in Eligible ICD/CRT-D Implant Patients Measure in BPCI Advanced

The CMS Innovation Center selected the Discharge Medications (ACE/ARB and Beta Blockers) in Eligible ICD/CRT-D Implant Patients measure for BPCI Advanced because it tracks whether providers are following medication prescribing guidelines. Specifically, the measure calculates the percentage of eligible ICD/CRT-D implant patients who receive medication therapy with an ACEI/ARB and beta blocker. Along with implantation of an ICD/CRT-D, these medications are improving outcomes in patients with severe systolic heart failure.¹⁷ Care teams should work together to confirm that patients are prescribed appropriate medications before discharge.

Applicable Clinical Episodes

The Discharge Medications (ACE/ARB and Beta Blockers) in Eligible ICD/CRT-D Implant Patients measure is included in the Alternate Quality Measures Set and applies to the following inpatient and outpatient Clinical Episodes¹⁸:

- Cardiac Defibrillator Clinical Episode (Inpatient): Medicare Severity–Diagnosis-Related Groups (MS-DRGs) 222, 223, 224, 225, 226, and 227;
- Cardiac Defibrillator Clinical Episode (Outpatient): Healthcare Common Procedure Coding System (HCPCS) 33249, 33262, 33263, 33264, and 33270

Measure Specifications

The Discharge Medications (ACE/ARB and Beta Blockers) in Eligible ICD/CRT-D Implant Patients measure selected for BPCI Advanced follows National Quality Forum (NQF) #0965 measure specifications. The measure calculates the proportion of patients undergoing ICD/CRT-D implantation who received prescriptions for all medications (ACEI/ARB and beta blockers) for which they were eligible at discharge. The registry will calculate Acute Care Hospital (ACH) level performance for all patients included in the denominator. The term “patients” refers to people 18 years and older who undergo a procedure at the hospital associated with the Clinical Episodes from the “Applicable Clinical Episodes” section, not limited to Medicare beneficiaries or BPCI Advanced Beneficiaries. For Physician Group Practices (PGPs), the registry will calculate the measure as specified at individual hospitals, then the CMS Innovation Center will weight measure performance based on PGP Clinical Episode volume for each ACH where a PGP triggers an episode.

Denominator

The denominator for the Discharge Medications (ACE/ARB and Beta Blockers) in Eligible ICD/CRT-D Implant Patients measure includes all patients aged 18 years and older, with an ICD/CRT-D implant surviving hospitalization who are eligible to receive either of the two medication classes:

¹⁷ Hernandez, A., Hammill, B. G., O’Connor, C. M., Schulman, K. A, Curtis, L. H., & Fonarow, G. C. (2009). Clinical effectiveness of beta-blockers in heart failure. *Journal of the American College of Cardiology*, 53(2), 184-192. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3513266>.

¹⁸ MS-DRGs are up to date as of Model Year 3 (2020) and will be updated for Model Year 4 as needed.

1. eligibility for ACEI/ARB: patients who have an ejection fraction (EF) of less than 40 percent
2. eligibility for beta blockers: patients who have either:
 - EF of less than 40 percent and/or
 - a previous myocardial infarction (MI)

All MS-DRG triggers apply, but this measure only applies to patients with an ICD or CRT-D procedure. This measure is not limited to Medicare beneficiaries or BPCI Advanced Beneficiaries.

Numerator

The numerator includes individuals in the previously defined denominator who receive ACEI/ARB and beta blockers for which they are eligible. The registry will exempt patients with medical contraindications to ACEI/ARBs or beta blockers, as well as those patients participating in a clinical trial that blinds medication. For these scenarios, the registry will count them as performance-met.

Measure Submission

BPCI Advanced Participants may submit this measure through the American College of Cardiology (ACC) National Cardiovascular Data Registry (NCDR®) ICD Registry™.

Revisions to the Published Specifications

There are no revisions to the current, published specifications.

Composite Quality Score

The Discharge Medications (ACE/ARB and Beta Blockers) in Eligible ICD/CRT-D Implant Patients 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
NQF #0965 specifications	http://www.qualityforum.org/QPS/965
BPCI Advanced	https://innovation.cms.gov/initiatives/bpci-advanced
ACC NCDR® specifications	https://www.ncdr.com/WebNCDR/docs/default-source/icd-registry-v2-user-guide-documents/icdv2_2-_outcomereport_companionguide_march_8_2017.pdf?sfvrsn=3
ACC NCDR® ICD Registry™ Coder's Data Dictionary	https://cvquality.acc.org/docs/default-source/ncdr/Data-Collection/icd_v2_codersdatadictionary_2-2.pdf?sfvrsn=42748dbf_0
ACC Data Quality Checklist	https://cvquality.acc.org/docs/default-source/public-reporting-toolkit/b15229_public_reporting_toolikit_checklist_v5a.pdf?sfvrsn=ae418fbf_2
ACC ICD/CRT Appropriate Use Criteria App	https://www.acc.org/apps
ACC NCDR® BPCI Advanced	https://cvquality.acc.org/BPCIAdvanced
For a current list of participating hospitals; Find Your Heart a Home	https://www.cardiosmart.org/Resources/For-Hospitals