



NATIONAL QUALITY FORUM

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Memo

July 28, 2020

To: Consensus Standards Approval Committee (CSAC)

From: Cardiovascular Project Team

Re: Cardiovascular Fall 2019, Track 1 Measures

COVID-19 Updates

Considering the recent COVID-19 global pandemic, many organizations needed to focus their attention on the public health crisis. In order to provide greater flexibility for stakeholders and continue the important work in quality measurement, the National Quality Forum (NQF) extended commenting periods and adjusted measure endorsement timelines for the Fall 2019 cycle.

Commenting periods for all measures evaluated in the Fall 2019 cycle were extended from 30 days to 60 days. Based on the comments received during this 60-day extended commenting period, measures entered one of two tracks:

Track 1: Measures Continuing in Fall 2019 Cycle

Measures that did not receive public comments or only received comments in support of the Standing Committees' recommendations will be reviewed by the CSAC.

- **Exceptions**

Exceptions were granted to measures if non-supportive comments received during the extended post-comment period were similar to those received during the pre-evaluation meeting period and have already been adjudicated by the respective Standing Committees during the measure evaluation Fall 2019 meetings.

Track 2: Measures Deferred to Spring 2020 Cycle

Fall 2019 measures requiring further action or discussion from a Standing Committee were deferred to the Spring 2020 cycle. This includes measures where consensus was not reached or those that require a response to public comments received. Measures undergoing maintenance review will retain endorsement during that time. Track 2 measures will be reviewed during the CSAC's meeting in November.

During the CSAC meeting on July 28-29, the CSAC will review Fall 2019 measures assigned to Track 1. Evaluation summaries for measures in track 1 have been described in this memo and related Cardiovascular draft report. A list of measures assigned to Track 2 can be found in the Executive Summary section of the Cardiovascular draft report for tracking purposes and will be described further in a subsequent report. Measures in track 2 will be reviewed by the CSAC on November 17-18, 2020.

CSAC Action Required

The CSAC will review recommendations from the Cardiovascular, Track 1 project at its July 28-29, 2020 meeting and vote on whether to uphold the recommendations from the Committee.

<http://www.qualityforum.org>

This memo includes a summary of the project, measure recommendations, themes identified and responses to the public and member comments and the results from the NQF member expression of support. The following documents accompany this memo:

1. Cardiovascular Fall 2019, Track 1 Draft Report. The draft report includes measure evaluation details on all measures that followed Track 1. Measures that followed Track 2 will be reviewed during the CSAC's meeting in November. The complete draft report and supplemental materials are available on the project webpage.
2. [Comment Table](#). This table lists comments received during the post-meeting comment period. One comment was received for Track 1 measure and the other comment is for a Track 2 measure.

Background

Cardiovascular disease (CVD) is a significant burden in the United States, leading to approximately one in four deaths per year. Considering the effect of CVD, measures that assess clinical care performance and patient outcomes are critical to reducing the negative impacts of CVD.

The measures in the Cardiovascular portfolio have been grouped into various conditions, diseases, or procedures related to cardiovascular health. These topic areas include primary prevention and screening, coronary artery disease (CAD), ischemic vascular disease (IVD), acute myocardial infarction (AMI), cardiac catheterization, percutaneous catheterization intervention (PCI), heart failure (HF), rhythm disorders, implantable cardioverter-defibrillators (ICDs), cardiac imaging, cardiac rehabilitation, and high blood pressure.

Draft Report

The Cardiovascular Fall 2019, Track 1 draft report presents the results of the evaluation of six measures considered under the Consensus Development Process (CDP). Three are recommended for endorsement, and three were not recommended.

The measures were evaluated against the 2019 version of the [measure evaluation criteria](#).

	Maintenance	New	Total
Measures under consideration	5	1	6
Measures recommended for endorsement	2	1	3
Measures not recommended for endorsement or trial use	3	0	3
Reasons for not recommending	Importance – 3 Scientific Acceptability – 0 Use – 0 Overall Suitability – 0 Competing Measure – 0		

CSAC Action Required

Pursuant to the CDP, the CSAC is asked to consider endorsement of six candidate consensus measures.

Measures Recommended for Endorsement

- [NQF 0071 Persistence of Beta-Blocker Treatment After a Heart Attack](#) (National Committee for Quality Assurance)

Overall Suitability for Endorsement: Y-17; N-0

- [NQF 0965 Discharge Medications \(ACE/ARB and beta blockers\) in Eligible ICD/CRT-D Implant Patients](#) (American College of Cardiology)

Overall Suitability for Endorsement: Y-16; N-0

- [NQF 3534 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement \(TAVR\)](#) (American College of Cardiology)

Overall Suitability for Endorsement: Y-16; N-0

Measures Not Recommended for Endorsement

(See [Appendix B](#) for the Committee's votes and rationale)

- [NQF 0670 Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Preoperative Evaluation in Low Risk Surgery Patients](#) (American College of Cardiology)
- [NQF 0671 Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Routine Testing after Percutaneous Coronary Intervention](#) (PCI) (American College of Cardiology)
- [NQF 0672 Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Testing in Asymptomatic, Low Risk Patients](#) (American College of Cardiology)

Comments and Their Disposition

NQF received one comment from one organization (a member organization) pertaining to the draft report and to the measures under consideration.

A table of comments submitted during the comment period, with the NQF responses to each comment, is posted to the Cardiovascular [project webpage](#).

Member Expression of Support

Throughout the 16-week continuous public commenting period, NQF members had the opportunity to express their support ('support' or 'do not support') for each measure submitted for endorsement consideration to inform the Committee's recommendations. No NQF members provided their expression of support.

Removal of NQF Endorsement

One measure previously endorsed by NQF has not been re-submitted, and endorsement has been removed.

Measure	Measure Description	Reason for Removal of Endorsement
NQF 2396 Carotid Artery Stenting: Evaluation of Vital Status and NIH Stroke Scale at Follow Up	Proportion of patients with carotid artery stenting procedures who had follow up performed for evaluation of Vital Status and neurological assessment with an NIH Stroke Scale (by an examiner who is certified by the American Stroke Association) occurring between day 21 and the end of day 75 after the procedure. (Days 21-75 inclusive)	Developer is not seeking re-endorsement.

Appendix A: CSAC Checklist

The table below lists the key considerations to inform the CSAC's review of the measures submitted for endorsement consideration.

Key Consideration	Yes/No	Notes
Were there any process concerns raised during the CDP project? If so, briefly explain.	No	
Did the Standing Committee receive requests for reconsideration? If so, briefly explain.	No	
Did the Standing Committee overturn any of the Scientific Methods Panel's ratings of Scientific Acceptability? If so, state the measure and why the measure was overturned.	No	
If a recommended measure is a related and/or competing measure, was a rationale provided for the Standing Committee's recommendation? If not, briefly explain.	Yes	
Were any measurement gap areas addressed? If so, identify the areas.	No	
Are there additional concerns that require CSAC discussion? If so, briefly explain.	No	

Appendix B: Measures Not Recommended for Endorsement

The table below lists the Committee's vote and rationale for measures not recommended for endorsement.

Legend: H = High; M = Moderate; L = Low; I = Insufficient

Measure	Voting Results	Standing Committee Rationale
0670 Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Preoperative Evaluation in Low Risk Surgery Patients American College of Cardiology	Evidence H-0; M-16; L-1; I-0 Gap H-0; M-2; L-3; I-12 Reliability Not taken Validity Not taken Feasibility Not taken Usability and Use <i>Use</i> Not taken <i>Usability</i> Not taken	- The developer stated that there has been no evidence changes since this measure's last review. - The developer provided evidence from the 2014 ACC/AHA Guideline on Perioperative Cardiovascular Evaluation and Management of Patients Undergoing Noncardiac Surgery. The evidence was assigned "B" grade, indicating "data derived from a single randomized trial, or nonrandomized studies." - The developer noted that "only a few of the studies addressed the surgical population focused on in this measure." The studies are generally focused on higher-risk surgeries than the low-risk surgeries that are a focus of this measure. The developer stated it is reasonable to extrapolate the findings on higher-risk surgeries to low-risk surgeries. The Committee noted that no current information was provided on the performance gap for the measure. They felt unable to evaluate performance gap and the measure did not pass this criterion.

Measure	Voting Results	Standing Committee Rationale
0671 Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Routine Testing after Percutaneous Coronary Intervention (PCI)/ American College of Cardiology	Evidence H-0; M-4; L-3; I-10 Insufficient Evidence with Exception Yes-14; No-3 Gap H-0; M-1; L-3; I-13 Reliability Not taken Validity Not taken Feasibility Not taken Usability and Use <i>Use</i> Not taken <i>Usability</i> Not taken	- The developer provided a recommendation from the 2012 ACCF/AHA/ACP/AATS/PCNA/SCAI/STS Guideline for the Diagnosis and Management of Patients With Stable Ischemic Heart Disease. - The Committee noted that the recommendation was based on expert opinion and not clinical trials, and therefore did not meet the evidence criterion. The Committee discussed the challenge of performing trials for inappropriate use, and determined it was appropriate to accept the expert opinion and grant an exception to the evidence criterion. - The Committee noted that no current information was provided on the performance gap for the measure. They felt unable to evaluate performance gap and the measure did not pass this criterion.

Measure	Voting Results	Standing Committee Rationale
0672 Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Testing in Asymptomatic, Low Risk Patients/ American College of Cardiology	Evidence H-0; M-2; L-1; I-14 Insufficient Evidence with Exception Yes-15; No-2 Gap H-0; M-1; L-6; I-10 Reliability Not taken Validity Not taken Feasibility Not taken Usability and Use <i>Use</i> Not taken <i>Usability</i> Not taken	• The developer provided a recommendation from the 2010 ACCF/AHA Guideline for Assessment of Cardiovascular Risk in Asymptomatic Adults. • The developer also included a USPSTF recommendation against “screening with rest or exercise electrocardiography (ECG) for the prediction of coronary heart disease (CHD) in asymptomatic adults at low risk for CHD events.” • The Committee noted that both recommendations were based on expert opinion and not clinical trials, and therefore did not meet the evidence criterion. The Committee discussed the challenge of performing trials for inappropriate use, and determined it was appropriate to accept the expert opinions and grant an exception to the evidence criterion. • The Committee noted that no current information was provided on the performance gap for the measure. They felt unable to evaluate performance gap and the measure did not pass this criterion.

Appendix C: NQF Member Expression of Support Results

No NQF members provided their expression of support.

Appendix D: Details of Measure Evaluation

0071 Persistence of Beta-Blocker Treatment After a Heart Attack

[Submission](#) | [Specifications](#)

Description: The percentage of patients 18 years of age and older during the measurement year who were hospitalized and discharged from July 1 of the year prior to the measurement year to June 30 of the measurement year with a diagnosis of acute myocardial infarction (AMI) and who received persistent beta-blocker treatment for six months after discharge.

Numerator Statement: Patients who received at least 135 days of treatment with beta-blockers during the 180-day measurement interval.

Denominator Statement: An acute inpatient discharge from July 1 of the year prior to the measurement year through June 30 of the measurement year with any diagnosis of acute myocardial infarction (AMI) on the discharge claim.

Exclusions: Any of the following any time during the patient's history through the end of the continuous enrollment period meet criteria:

- Asthma
- COPD
- Obstructive chronic bronchitis
- Chronic respiratory conditions due to fumes and vapors
- Hypotension, heart block >1 degree or sinus bradycardia
- A medication dispensing event indicative of a history of asthma
- Intolerance or allergy to beta-blocker therapy

Additionally, this measure excludes adults in hospice. It also excludes adults with advanced illness and frailty, as well as Medicare adults 65 years of age and older enrolled in an I-SNP or living long-term in institutional settings.

Adjustment/Stratification: No risk adjustment or risk stratification **Level of Analysis:** Health Plan

Setting of Care: Outpatient Services

Type of Measure: Outcome: Intermediate Clinical Outcome

Data Source: Claims

Measure Steward: National Committee for Quality Assurance

STANDING COMMITTEE MEETING 02/06/2020

1. Importance to Measure and Report: The measure meets the Importance criteria

(1a. Evidence, 1b. Performance Gap)

1a. Evidence: **H-2; M-10; L-4; I-0**; 1b. Performance Gap: **H-2; M-11; L-3; I-0**

Rationale:

- The developer stated that the evidence has not changed since the previous review of this measure and the Committee mostly concurred.
- The developer provided decision logic from secondary prevention to intermediate clinical outcome for the persistent use of beta-blockers in reducing the risk of mortality, risk and severity of re-infarction, and improving the preservation of the left ventricular function with patients with AMI.
- The developer provides two clinical practice guidelines with four statements supporting the persistent use of beta-blockers in patients diagnosed with AMI.
- The Committee noted that there is some new evidence since the last review, and that it is consistent with the evidence presented.
- The Committee mentioned that the definition and treatment of myocardial infarction has changed since the measure was initially developed and endorsed. More sensitive troponin tests for diagnosis and treatment by early reperfusion could affect the patient population included in this measure.
- The developer provided measure results from recent years, sharing the following results for 2017:
 - For commercial plans: mean of 85%, range of 57-100%
 - For Medicare plans: mean of 90%, range of 71-100%

- For Medicaid plans: mean of 78%, range of 39-97%
- The developer stated they do not currently collect performance data stratified by race, ethnicity, or language, and summarized literature on the prevalence of heart disease, medication adherence among MI survivors by disability, status, race/ethnicity, and income for all Medicare FFS beneficiaries and the impact of employment status on rates of CHD/stroke. The summary demonstrates disparities in premature death due to heart disease or stroke and in rates of recurrent MI or fatal CHD.
- The Committee felt that the data presented demonstrated a clear gap in performance.

2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **Accepted Scientific Methods Panel (SMP) Rating (Moderate)**; 2b. Validity: **H-0; M-12; L-3; I-1**

Rationale:

- This measure was deemed complex and was evaluated by the SMP.
- The developer conducted score-level reliability testing using the beta-binomial model described by Adams (2009).
 - Average reliability, commercial: 0.757; 25th percentile=0.521, median=0.672
 - Average reliability, Medicaid: 0.818; 25th percentile=0.389, median=0.621
 - Average reliability, Medicare: 0.730; 25th percentile=0.670, median=0.772
- The NQF SMP's ratings for reliability: H-2; M-5; L-0; I-0
- The Committee had no concerns regarding the reliability of the measure and voted unanimously to accept the SMP rating.
- The developer conducted score-level construct validation by correlating the scores for this measure to those of a measure of statin therapy adherence. The developer hypothesized that a plan that does well on the statin adherence measure for cardiovascular disease would also do well on this measure.
 - Pearson correlation coefficient, commercial: 0.51 (statistically significant)
 - Pearson correlation coefficient, Medicaid: 0.60 (statistically significant)
 - Pearson correlation coefficient, Medicare: 0.42 (statistically significant)
- The Committee discussed face validity and questioned whether the terminology used in the measure could cause confusion about what the measure evaluates.
- The Committee noted that the measure uses a proportion of days-covered (PDC) methodology, which is indicative of a medication adherence measure. The measure is titled as a persistence measure that implies no gaps in medication.
- The Committee also discussed the methodology to calculate the PDC for the measure and whether it aligned with methodologies in use in other measures.
- The Committee opted to vote on validity.

3. Feasibility: H-6; M-10; L-0; I-0

(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c. Susceptibility to inaccuracies/unintended consequences identified; 3d. Data collection strategy can be implemented)

Rationale:

- The Committee had no concerns regarding the feasibility of the measure. The measure uses readily available data elements that are generated during care delivery.

4. Use and Usability

4a. Use; 4a1. Accountability and transparency; 4a2. Feedback on the measure by those being measured and others; 4b. Usability; 4b1. Improvement; 4b2. The benefits to patients outweigh evidence of unintended negative consequences to patients)

4a. Use: **Pass-15; No Pass-2** 4b. Usability: **H-0; M-13; L-4; I-0**

Rationale:

- This measure is publicly reported in NCQA's State of Health Care annual report and Quality Compass. It is also used to calculate health plan rankings reported in Consumer Reports. This measure is also used in scoring for accreditation of Medicare Advantage Health Plans.
- The Committee had no concerns about the use of the measure.
- The developer states over the past three years:
 - Commercial plan performance has increased annually by 1%
 - Medicare plan performance has remained relatively stable
 - Medicaid plan performance decreased by 2%

The Committee had a brief discussion of the potential for harms of overprescribing versus the benefits, and decided the benefits outweigh any potential harms for this measure.
5. Related and Competing Measures - This measure is related to: 0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%) - The Committee did not note any issues between these measures.
6. Standing Committee Recommendation for Endorsement: Y-17; N-0
7. Public and Member Comment No Public and Member Comment received for this measure.
8. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X
9. Appeals

0670 Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Preoperative Evaluation in Low Risk Surgery Patients

[Submission](#)

Description: Percentage of stress SPECT MPI, stress echo, CCTA, or CMR performed in low risk surgery patients for preoperative evaluation

Numerator Statement: Number of stress SPECT MPI, stress echo, CCTA, or CMR performed in patients undergoing low risk surgery as a part of the preoperative evaluation

Denominator Statement: Number of stress SPECT MPI, stress echo, CCTA, and CMR performed

Exclusions: None.

Adjustment/Stratification: No risk adjustment or risk stratification **Level of Analysis:** Facility, Clinician : Group/Practice

Setting of Care: Outpatient Services

Type of Measure: Efficiency

Data Source: Other, Registry Data

Measure Steward: American College of Cardiology

STANDING COMMITTEE MEETING 02/06/2020

1. Importance to Measure and Report: The measure does not meet the Importance criteria

(1a. Evidence: 1b. Performance Gap)

1a. Evidence: **H-0; M-16; L-1; I-0** 1b. Performance Gap: **H-0; M-2; L-3; I-12**

Rationale:

- The developer stated that there has been no evidence changes since this measure's last review.
- The developer provided evidence from the 2014 ACC/AHA Guideline on Perioperative Cardiovascular Evaluation and Management of Patients Undergoing Noncardiac Surgery. The evidence was assigned "B" grade, indicating "data derived from a single randomized trial, or nonrandomized studies."
- The developer noted that "only a few of the studies addressed the surgical population focused on in this measure." The studies are generally focused on higher-risk surgeries than the low-risk surgeries that are a focus of this measure. The developer stated it is reasonable to extrapolate the findings on higher-risk surgeries to low-risk surgeries.
- The Committee noted that no current information was provided on the performance gap for the measure. They felt unable to evaluate performance gap and the measure did not pass this criterion.

2. Scientific Acceptability of Measure Properties:

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **Vote not taken** 2b. Validity: **Vote not taken**

3. Feasibility: **Vote not taken**

(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)
4. Use and Usability (4a. Use; 4a1. Accountability and transparency; 4a2. Feedback on the measure by those being measured and others; 4b. Usability; 4b1. Improvement; 4b2. The benefits to patients outweigh evidence of unintended negative consequences to patients) 4a. Use: Vote not taken 4b. Usability: Vote not taken
5. Related and Competing Measures N/A
6. Standing Committee Recommendation for Endorsement: Vote not taken
7. Public and Member Comment No Public and Member Comment received for this measure.
8. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X
9. Appeals

0671 Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Routine Testing after Percutaneous Coronary Intervention (PCI)
Submission
Description: Percentage of all stress SPECT MPI, stress echo, CCTA and CMR performed routinely after PCI, with reference to timing of test after PCI and symptom status. Numerator Statement: Number of stress SPECT MPI, stress echo, CCTA and CMR performed in asymptomatic patients within two years of the most recent PCI Denominator Statement: Number of stress SPECT MPI, stress echo, CCTA and CMR performed Exclusions: None Adjustment/Stratification No risk adjustment or risk stratification Level of Analysis: Facility, Clinician : Group/Practice Setting of Care: Outpatient Services Type of Measure: Efficiency Data Source: Other, Registry Data Measure Steward: American College of Cardiology
STANDING COMMITTEE MEETING 02/06/2020 1. Importance to Measure and Report: <u>The measure does not meet the Importance criteria</u> (1a. Evidence; 1b. Performance Gap) 1a. Evidence: H-0; M-4; L-3; I-10; Insufficient Evidence with Exception: Yes-14; No-3 1b. Performance Gap: H-0; M-1; L-3; I-13 Rationale: - The developer provided a recommendation from the 2012 ACCF/AHA/ACP/AATS/PCNA/SCAI/STS Guideline for the Diagnosis and Management of Patients With Stable Ischemic Heart Disease. - The Committee noted that the recommendation was based on expert opinion and not clinical trials, and therefore did not meet the evidence criterion. The Committee discussed the challenge of performing trials for inappropriate use, and determined it was appropriate to accept the expert opinion and grant an exception to the evidence criterion. - The Committee noted that no current information was provided on the performance gap for the measure. They felt unable to evaluate performance gap and the measure did not pass this criterion.
2. Scientific Acceptability of Measure Properties: (2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity) 2a. Reliability: Vote not taken 2b. Validity: Vote not taken
3. Feasibility: Vote not taken

<i>(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)</i>
4. Use and Usability <i>(4a. Use; 4a1. Accountability and transparency; 4a2. Feedback on the measure by those being measured and others; 4b. Usability; 4b1. Improvement; 4b2. The benefits to patients outweigh evidence of unintended negative consequences to patients)</i> 4a. Use: Vote not taken 4b. Usability: Vote not taken
5. Related and Competing Measures N/A
6. Standing Committee Recommendation for Endorsement: Vote not taken
7. Public and Member Comment No Public and Member Comment received for this measure.
8. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X
9. Appeals

0672 Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Testing in Asymptomatic, Low Risk Patients
Submission
Description: Percentage of all stress SPECT MPI, stress echo, CCTA, and CMR performed in asymptomatic, low CHD risk patients for initial detection and risk assessment Numerator Statement: Number of stress SPECT MPI, stress echo, CCTA, and CMR performed for asymptomatic, low CHD risk patients for initial detection and risk assessment Denominator Statement: Number of stress SPECT MPI, stress echo, CCTA, and CMR performed Exclusions: None Adjustment/Stratification No risk adjustment or risk stratification Level of Analysis: Facility, Clinician : Group/Practice Setting of Care: Outpatient Services Type of Measure: Efficiency Data Source: Other, Registry Data Measure Steward: American College of Cardiology
STANDING COMMITTEE MEETING 02/06/2020 1. Importance to Measure and Report: <u>The measure does not meet the Importance criteria</u> (1a. Evidence: 1b. Performance Gap) 1a. Evidence: H-0; M-2; L-1; I-14; Insufficient Evidence with Exception: Yes-15; No-2 1b. Performance Gap: H-0; M-1; L-6; I-10 Rationale: - The developer provided a recommendation from the 2010 ACCF/AHA Guideline for Assessment of Cardiovascular Risk in Asymptomatic Adults. - The developer also included a USPSTF recommendation against “screening with rest or exercise electrocardiography (ECG) for the prediction of coronary heart disease (CHD) in asymptomatic adults at low risk for CHD events.” - The Committee noted that both recommendations were based on expert opinion and not clinical trials, and therefore did not meet the evidence criterion. The Committee discussed the challenge of performing trials for inappropriate use, and determined it was appropriate to accept the expert opinions and grant an exception to the evidence criterion. - The Committee noted that no current information was provided on the performance gap for the measure. They felt unable to evaluate performance gap and the measure did not pass this criterion.
2. Scientific Acceptability of Measure Properties:

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity 2a. Reliability: Vote not taken 2b. Validity: Vote not taken
3. Feasibility: Vote not taken (3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)
4. Use and Usability (4a. Use; 4a1. Accountability and transparency; 4a2. Feedback on the measure by those being measured and others; 4b. Usability; 4b1. Improvement; 4b2. The benefits to patients outweigh evidence of unintended negative consequences to patients) 4a. Use: Vote not taken 4b. Usability: Vote not taken
5. Related and Competing Measures N/A
6. Standing Committee Recommendation for Endorsement: Vote not taken
7. Public and Member Comment No Public and Member Comment received for this measure.
8. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X
9. Appeals

0965 Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients
Submission Specifications
Description: Proportion of patients undergoing ICD/CRT-D implant who received prescriptions for all medications (ACE/ARB and beta blockers) for which they are eligible at discharge. Numerator Statement: Generator patients who receive all medications for which they are eligible: - ACE/ARB prescribed at discharge (if eligible for ACE/ARB as described in denominator) AND - Beta blockers prescribed at discharge (if eligible for beta blockers as described in denominator) Denominator Statement: All generator patients surviving hospitalization who are eligible to receive either an ACE/ARB or beta blocker at discharge. Exclusions: None Adjustment/Stratification: No risk adjustment or risk stratification Level of Analysis: Facility Setting of Care: Inpatient/Hospital Type of Measure: Composite Data Source: Registry Data Measure Steward: American College of Cardiology
STANDING COMMITTEE MEETING 02/06/2020 1. Importance to Measure and Report: <u>The measure meets the Importance criteria</u> (1a. Evidence, 1b. Performance Gap, 1c. Composite - Quality Construct and Rationale) 1a. Evidence: H-0; M-14; L-2; I-1; 1b. Performance Gap: H-3; M-13; L-0; I-0; 1c. Composite: H-5; M-12; L-0; I-0 Rationale: - The developer stated that the evidence has not changed since this measure's previous review. - This composite measure has two component measures that assess if all patients with an ICD implant surviving hospitalization receive all medications (ACE/ARB and beta blockers) for which they are eligible at discharge. Because the beta-blocker component may be applied to two separate patient populations (patients with previous MI and patients with LVSD), the developer provided evidence supporting the use of beta-blockers in each of these populations separately. - The developer provided four guidelines with six guideline statements that recommend beta-blocker therapy for patients with heart failure (HF) or prior MI.

- The developer provided two guidelines with four guideline statements that recommend beta-blocker therapy for patients with left ventricular systolic dysfunction (LVSD), with or without prior MI.
- The developer provided two guidelines with four guideline statements that recommend ACE/ARBs for patients with LVSD, with or without prior MI.
- The Committee explored the relationship between the patient populations in the evidence presented and the patient population included in the measure. Although there was not a direct match, the measured population represents a subset of the larger patient population covered by the evidence.
- The developer provided measure results for 2018 from the National Cardiovascular Data Registry's ICD Registry: mean of 83%, range: 0-100%.
- There is some variation at the median, with Hispanic, Black, and Other groups showing higher results than White and Non-White groups. Dual eligible group scores are very similar to overall scores. Mean scores are similar across groups and similar to the overall mean.
- The composite is an all-or-none construction. The developer states the all-or-none composite reflects the strong recommendations for each process of care included in the composite. They state that combining the measures into one composite provides a perspective of the overall quality of medical therapy while reducing information burden.

2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity; 2c. Composite Construction)

2a. Reliability: **H-1; M-15; L-0; I-0**; 2b. Validity: **H-5; M-11; L-0; I-0**

2c. Composite Construction: **H-13; M-3; L-0; I-0**

Rationale:

- This measure is deemed complex and would generally be reviewed by the SMP; however, due to a timing issue related to NQF staff feedback and the developer updating the measure specifications, NQF staff granted an exception, and the scientific acceptability was evaluated by the Standing Committee.
- The developer conducted both data element and score-level reliability testing. The data element testing was unchanged from the previous submission.
- A sample of 627 patients from 25 hospitals was selected for interrater reliability (IRR) of the extracted data elements. This was performed by an independent contractor. IRR was performed for six data elements. Kappa values ranged from 0.33 (LVEF assessed) to 0.96 (Procedure type), with most values >0.60. A kappa >0.70 is considered acceptable IRR. This IRR was performed on data from 2010.
- For score-level testing, the developer used a split-sample methodology. The cohort was split into two random samples and scores calculated using the same time frame. For the performance rates and social risk data, unadjusted rates were calculated, and a Pearson correlation coefficient and ICC were computed. For 2018, Pearson correlation coefficient: 0.52, ICC: 0.79, indicating moderate to strong reliability.
- The validity testing was unchanged from the previous submission. The developers provided construct validity results examining the association of patient and hospital performance on the composite measure with adverse outcomes; specifically, mortality and readmission at six months following hospital discharge, and the association between hospital-level performance on the measure and the combination of mortality or readmission at six months. The developer provides patient-level and hospital level results:
 - A significantly smaller proportion of patients discharged on the appropriate medical therapy died or were readmitted within six months of hospital discharge (without meds = 28.37% vs. with meds = 6.28%).
 - Patients treated at hospitals that performed better on the measure had better unadjusted outcomes than those treated at hospitals that performed worse on the measure (correlation coefficient (-0.0998), $p < 0.001$).
- The Committee raised questions about which medications are included in the measure.
- The Committee asked if ARNIs, a new drug class used to treat HF, are included. The developer clarified that ARNIs are included in the measure specifications, but not in the measure title.
- The Committee also inquired about hydralazine, which is a preferred medication for African American patients with HF. The developer stated they do not receive race/ethnicity data for calculation, but would instead handle this by having sites indicate African American patients have contraindications to the

medications in the measure. This would remove them from the measure denominator. The Committee was satisfied that providers would not be penalized for appropriately prescribing hydralazine. To demonstrate the scientific acceptability of the composite construction, the developer conducted empirical validity analysis of the relationship between the individual component measures and the overall composite measure. The individual components were strongly correlated (0.70 or higher for all analyses) with the overall composite. A logistic regression analysis provided by the developer demonstrates that the ACE/ARB and beta-blocker measures explained 89.0% and 68.0% of the overall variance, respectively.
3. Feasibility: H-6; M-9; L-1; I-0 <i>(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c. Susceptibility to inaccuracies/unintended consequences identified; 3d. Data collection strategy can be implemented)</i> <u>Rationale:</u> - The data elements associated with this measure are routinely generated and acquired during the delivery of standard cardiac care to this patient population. Most of the data elements exist in a structured format within an EHR, and that data can be extracted electronically. - The developer states a full-time employee can enter roughly 1,200 patient records per year on average. - The developer notes that participation in the registry is a requirement for Medicare reimbursement purposes, and that almost all hospitals that implant ICDs already participate for this reason. - The Committee had no concerns about feasibility.
4. Use and Usability <i>(4a. Use; 4a1. Accountability and transparency; 4a2. Feedback on the measure by those being measured and others; 4b. Usability; 4b1. Improvement; 4b2. The benefits to patients outweigh evidence of unintended negative consequences to patients)</i> 4a. Use: Pass-16; No Pass-0 4b. Usability: H-3; M-13; L-0; I-0 <u>Rationale:</u> - The measure is publicly reported through the National Cardiac Disease Registry. - The developer reports that the mean rate of performance has improved over time, from 74% when the measure was first released (2011-12), to 78% in 2013-14, and 83% in the most recent data year (2018). - The Committee had no concerns about these criteria.
5. Related and Competing Measures - This measure is related to: 0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy – Diabetes or Left Ventricular Systolic Dysfunction (LVEF <40%) 0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy – Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%) 0071: Persistence of Beta-Blocker Treatment After a Heart Attack 0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction (LVSD) 0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD) 0117: Beta Blockade at Discharge 0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery - The Committee had no concerns about lack of harmonization or burden from multiple measures.
6. Standing Committee Recommendation for Endorsement: Y-16; N-0
7. Public and Member Comment No Public and Member Comment received for this measure.
8. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X
9. Appeals

3534 30-Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR)

[Submission](#) | [Specifications](#)

Description: This measure estimates hospital risk standardized odds ratio for death from all causes within 30 days following transcatheter aortic valve replacement. The measure uses clinical data available in the STS/ACC TVT Registry for risk adjustment. For the purpose of development and testing, the measure used site-reported 30-day follow-up data contained in the STS/ACC TVT Registry.

Numerator Statement: The outcome of this measure is all-cause death within 30 days following a transcatheter aortic valve replacement (TAVR).

Denominator Statement: The target population for the outcome is for individuals who have undergone transcatheter aortic valve replacement.

For development, reassessment and reporting of this measure, we use site reported data from the STS/ACC TVT Registry.

Exclusions:

- 1) Hospitals need to meet eligibility criteria to be included in the measure.
- 2) Patients are excluded if:
 - a) They did not have a first-time TAVR in the episode of care (admission),
 - b) The TAVR was subsequent to another procedure in the Registry (other TAVR, Mitral Leaflet Clip and/or TMVR) during that admission.
 - c) The patient is readmitted for a repeat TAVR (re-admission) and the initial TAVR was performed during the rolling three-year time frame for the measure.
 - d) 30-day mortality status missing.

Adjustment/Stratification: Statistical risk model; No risk stratification

Level of Analysis: Facility

Setting of Care: Inpatient/Hospital

Type of Measure: Outcome

Data Source: Registry Data

Measure Steward: American College of Cardiology

STANDING COMMITTEE MEETING 02/06/2020

1. Importance to Measure and Report: The measure meets the Importance criteria

(1a. Evidence, 1b. Performance Gap)

1a. Evidence: **Pass-16; No Pass-0**; 1b. Performance Gap: **H-2; M-13; L-1; I-0**

Rationale:

- The developer presented evidence tying two factors within a hospital's control to improved 30-day mortality rates: appropriate patient selection and volume of TAVR.
- The developer presented odds ratio estimates from registry data covering April 2015 to March 2018. The mean odds ratio was 1.01, with a range of 0.81-1.40.
- In order to explore disparities, the developer modified the measure's hierarchical model to include indicator variables for African American race, other non-white race, Hispanic ethnicity, and participation in Medicaid. They performed this analysis using data from June 2013 to May 2016 (21,661 patients from 188 hospitals), and using data from April 2015 to March 2018 (49,182 patients from 264 hospitals). For each variable in each time period, the 95% confidence interval around the odds ratio overlapped with the null value of 1.0. The developer concluded that there was no statistically significant association between these variables and 30-day mortality after adjusting for other factors in the hierarchical model ($p > 0.05$ for each variable).
- The Committee had no questions regarding the evidence supporting the measure and no concerns about performance gap.

2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **Accepted Scientific Methods Panel (SMP) Rating (Moderate)**; 2b. Validity: **H-0; M-14; L-2; I-0**

Rationale:

- This measure was deemed complex and was evaluated by the SMP.
- To demonstrate reliability of the data elements used in the measure, the developer assessed IRR using data from 40 records selected randomly from four randomly selected facilities.
- The SMP Subgroup initially rated the measure low for reliability due to concerns related to the lack of detail around the testing and sampling methodology, and that not all data elements were evaluated for reliability (or validity).
- In response to the concerns raised, the developer provided additional information regarding the sampling, demonstrating no systematic patient differences between those selected for sampling and the general cohort, and provided IRR results for additional data elements. After discussing the additional information, the SMP then passed the measure on reliability with a moderate rating.
- The NQF SMP's ratings for reliability: H-0; M-6; L-0; I-0.
- The Committee was satisfied with the SMP's review and rationale, and voted unanimously to accept the SMP's rating.
- To demonstrate validity of the data elements, the developers conducted two analyses:
 - Record eligibility assessment: Six hospitals participating in the registry reported all TAVR and mitral-valve replacement cases performed at their facility during a specified time frame. These records were compared to the registry records to verify that cases were not missed (N=366 records).
 - 40 hospitals with at least 10 cases were randomly selected for an audit. From each hospital, 10 baseline and 10 follow-up cases (for 30-day and one-year) were randomly selected for abstraction. Sample included 400 "baseline" records, 400 "30-day" records, and 289 "one-year" records. Developers calculated the prevalence-adjusted and bias-adjusted kappa (PABAK) statistic.
- On initial review, the SMP Subgroup did not reach consensus on validity due to concerns regarding the measure excluding >50% of hospital/patients due to missing data, relatively low values of PABAK for two tested values, lack of data element testing for most variables, and a relatively small testing sample that may or may not be representative of hospitals/patients included in the measure.
- In response to the concerns raised, the developer provided additional information regarding key data elements and thresholds for excluding hospitals/patients. The developer also performed validity testing on additional data elements. The developer defended keeping baseline KCCQ-12 and baseline gait speed in the data model, indicating they anticipate more sites will complete these elements because they are required for the measure. They felt both elements are clinically important for patient evaluation. The SMP then passed the measure on validity with a moderate rating.
- The Committee echoed concerns raised by the SMP around missing data and its potential impact on the measure.
- The Committee revisited the SMP's concerns with whether the missing data affected the measure's validity and if the missing data were due to a feasibility issue. The data elements of concern were the KCCQ and the six-minute walk test, both of which are used to assess patient functional status, and both of which are included in the risk adjustment model.
- Facilities that participate in the registry are excluded from risk-adjusted measure results if these elements are less than 90% complete.
- The developer noted that they are seeing an increase in data capture for these elements, which are important measures of functional status, and that continuing to include the elements in the measure will encourage continued improvement in the use and recording of the data elements. The developer stated that care for patients who are candidates for a TAVR procedure should include functional status assessment.
- The Committee discussed the strength of the evidence for including these elements in the risk adjustment model, and urged the developer to continue to closely monitor the completeness of data submissions and the usefulness of the data for measure calculation and risk adjustment.
- The Committee elected to vote on validity and the measure passed this criterion.

3. Feasibility: H-2; M-12; L-2; I-0

(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c. Susceptibility to inaccuracies/unintended consequences identified; 3d. Data collection strategy can be implemented)

Rationale:

- All data elements associated with this measure are routinely generated and acquired during the delivery of standard cardiac care to this patient population, with the exception of the KCCQ and six-minute walk test.
- The developer stated a full-time employee can enter roughly 1,200 patient records per year on average.

- The developer stated that all hospitals performing TAVR participate in the registry as a condition of CMS coverage with evidence decision. - The Committee was concerned that the missing data elements discussed in the validity section could indicate a feasibility issue, but ultimately decided that the measure meets this criterion.
4. Use and Usability <i>4a. Use; 4a1. Accountability and transparency; 4a2. Feedback on the measure by those being measured and others; 4b. Usability; 4b1. Improvement; 4b2. The benefits to patients outweigh evidence of unintended negative consequences to patients)</i> 4a. Use: Pass-16; No Pass-0 4b. Usability: H-3; M-12; L-1; I-0 Rationale: - This is a new measure not currently in use outside of quality improvement programs. In the future, the developer plans to coordinate with the Society of Thoracic Surgeons to publicly report results. - Between 2014 and 2017, the aggregate 30-day TAVR mortality rate in the analysis population decreased from 5.9% to 2.7%, representing a relative decrease of 54%. The developer stated that some of this decline is due to changes in case mix; however, in the hierarchical logistic regression model for the time period June 2013 to May 2016 accounting for differences in case mix, the estimated odds of mortality decreased 15% per year, representing improvements in care. - The Committee had no concerns about these criteria.
5. Related and Competing Measures - This measure is related to: 2561: STS Aortic Valve Replacement (AVR) Composite Score. - The Committee noted that the measures are harmonized to the extent possible and cover different populations.
6. Standing Committee Recommendation for Endorsement: Y-16; N-0
7. Public and Member Comment - One comment was received. The commenter was supportive of this measure and had suggestions for future improvements and areas to consider for additional measure development around aortic stenosis (AS). In particular: - Disease-specific quality measures for AS, regardless of treatment modality - Patient-centered quality measures that reflect demonstrated patient priorities for outcomes - Quality measures supporting timely diagnosis and treatment for all patients requiring future treatment of AS
8. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X
9. Appeals



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Cardiovascular Fall 2019 Review Cycle

CSAC Review and Endorsement

July 28-29, 2020



Standing Committee Recommendations

- Seven measures reviewed for Fall 2019
 - ▣ Three measures reviewed by the Scientific Methods Panel
- Three measures recommended for endorsement
 - ▣ 0071 Persistence of Beta-Blocker Treatment After a Heart Attack
 - ▣ 0965 Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients
 - ▣ 3534 30-Day All-Cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR)



Standing Committee Recommendations

- Three measures not recommended for endorsement
 - ▣ 0670 Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Preoperative Evaluation in Low Risk Surgery Patients
 - ▣ 0671 Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Routine Testing after Percutaneous Coronary Intervention (PCI)
 - ▣ 0672 Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Testing in Asymptomatic, Low Risk Patients
- One measure deferred to Spring 2020 due to COVID-19 extended commenting periods
 - ▣ 0018 Controlling High Blood Pressure



Overarching Issues

- Review of Appropriate Use Measures
 - ▣ The Committee noted a disconnect between the focus of the NQF [measure evaluation criteria](#) and appropriate use measures.
 - ▣ For these measures, the underlying literature cited as support contained multiple expert opinion statements, but extremely limited empirical data.
 - ▣ The Standing Committee followed the Guidance for Evaluating Evidence for Measures of Appropriate Use (page 54 of the measure evaluation criteria) and passed the measures on evidence using an exception.
 - ▣ The measures did not pass the Importance criteria because of insufficient information to evaluate performance gap.



Public and Member Comment and Member Expressions of Support

- One comment was received
 - ▣ The comment was supportive of the measure under review (3534)
- No NQF member expressed support or concern for the measures

Timeline and Next Steps

Process Step	Timeline
CSAC Endorsement Meeting	July 28 - 29, 2020
Appeals Period	August 3 – September 1, 2020



Questions?

- Project team:
 - ▣ Amy Moyer, MS, PMP, NQF Director
 - ▣ Janaki Panchal, MSPH, NQF Manager
 - ▣ Karri Albanese, NQF Analyst
 - ▣ Mike DiVecchia, MBA, PMP, Project Manager
- Project webpage:
 - ▣ <http://www.qualityforum.org/Cardiovascular.aspx>
- Project email address:
 - ▣ cardiovascular@qualityforum.org

THANK YOU.

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Cardiovascular, Fall 2019 Cycle, Track 1: CDP Report

**DRAFT REPORT FOR CSAC REVIEW
JULY 28, 2020**

This report is funded by the Department of Health and Human Services under contract HHSM-500-2017-00060I Task Order HHSM-500-T0001

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Executive Summary

Cardiovascular disease (CVD) is a significant burden in the United States, leading to approximately one in four deaths per year.¹ Considering the effect of CVD, measures that assess clinical care performance and patient outcomes are critical to reducing the negative impacts of CVD.

For this project, the Cardiovascular Standing Committee evaluated one newly submitted measure and six measures undergoing maintenance review against NQF's standard evaluation criteria.

Due to circumstances around the COVID-19 global pandemic, commenting periods for all measures evaluated in the Fall 2019 cycle were extended from 30 days to 60 days. Based on the comments received during this 60-day extended commenting period, measures entered into one of two tracks:

Track 1: measures continuing its review in Fall 2019 Cycle:

Recommended for Endorsement

- **NQF 0071** Persistence of Beta-Blocker Treatment After a Heart Attack
- **NQF 0965** Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients
- **NQF 3534** 30-Day All-Cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR)

Not Recommended for Endorsement:

- **NQF 0670** Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Preoperative Evaluation in Low Risk Surgery Patients
- **NQF 0671** Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Routine Testing after Percutaneous Coronary Intervention (PCI)
- **NQF 0672** Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Testing in Asymptomatic, Low Risk Patients

Track 2: measures deferred to Spring 2020 Cycle:

- **NQF 0018** Controlling High Blood Pressure

This report contains details of the evaluation of measures assigned to *Track 1* and are continuing in the Fall 2019 cycle. The detailed evaluation summary of measures assigned to *Track 2* and deferred to the Spring 2020 cycle will be included in a subsequent report. Brief summaries of the Fall 2019 *Track 1* measures currently under review are included in the body of the report; detailed summaries of the Committee's discussion and ratings of the criteria for each measure are in [Appendix A](#).

Introduction

The measures in the Cardiovascular portfolio have been grouped into various conditions, diseases, or procedures related to cardiovascular health. These topic areas include primary prevention and screening, coronary artery disease (CAD), ischemic vascular disease (IVD), acute myocardial infarction (AMI), cardiac catheterization, percutaneous catheterization intervention (PCI), heart failure (HF), rhythm disorders, implantable cardioverter-defibrillators (ICDs), cardiac imaging, cardiac rehabilitation, and high blood pressure.

NQF Portfolio of Performance Measures for Cardiovascular Conditions

The Cardiovascular Standing Committee ([Appendix C](#)) oversees NQF's portfolio of cardiovascular measures ([Appendix B](#)) that includes measures for acute myocardial infarction (AMI), cardiac catheterization/percutaneous coronary intervention (PCI), coronary artery disease (CAD)/ischemic vascular disease (IVD), cardiac imaging, heart failure, hyperlipidemia, hypertension, implantable cardiovascular devices (ICDs), rhythm disorders, and survival after cardiac arrest. This portfolio contains 43 endorsed measures: 19 process, 19 outcome and resource use measures, and five composite measures (see Table 1).

Table 1. NQF Cardiovascular Portfolio of Measures

	Process	Outcome/Resource Use	Composite
Acute myocardial infarction (AMI)	5	3	1
Cardiac catheterization/percutaneous coronary intervention (PCI)	0	7	1
Coronary artery disease (CAD)/ischemic vascular disease (IVD)	6	1	1
Cardiac imaging	0	3	0
Heart failure	5	2	0
Hyperlipidemia	1	0	0
Hypertension	0	1	0
Implantable cardiovascular devices (ICDs)	1	0	2
Rhythm disorders	1	1	0
Survival after cardiac arrest	0	1	0
Total	19	19	5

The remaining measures have been assigned to other portfolios. These include readmission measures for AMI and HF (All-Cause Admissions/Readmissions Committee), measures for coronary artery bypass

graft (CABG) (Surgery Committee), and primary prevention measures (Prevention and Population Health Committee).

Cardiovascular Measure Evaluation

On February 6, 2020, the Cardiovascular Standing Committee evaluated one new measure and six measures undergoing maintenance review against NQF's [standard measure evaluation criteria](#). Six measures were assigned to *Track 1* and are continuing in the Fall 2019 cycle. The detailed evaluation summary of the one measure assigned to *Track 2* and deferred to the Spring 2020 cycle will be included in a subsequent report.

Table 2. Cardiovascular Measure Evaluation Summary

	Maintenance	New	Total
Measures under consideration	6	1	7
Measures recommended for endorsement	3	1	4
Measures not recommended for endorsement	3	0	3
Reasons for not recommending	Importance – 3 Scientific Acceptability – 0 Use – 0 Overall Suitability – 0 Competing Measure – 0	Importance – 0 Scientific Acceptability – 0 Overall Suitability – 0 Competing Measure – 0	

Comments Received Prior to Committee Evaluation

Comments Received After Committee Evaluation

Considering the recent COVID-19 global pandemic, many organizations needed to focus their attention on the public health crisis. In order to provide greater flexibility for stakeholders and continue the important work in quality measurement, the National Quality Forum (NQF) extended commenting periods and adjusted measure endorsement timelines for the Fall 2019 cycle.

Commenting periods for all measures evaluated in the Fall 2019 cycle were extended from 30 days to 60 days. Based on the comments received during this 60-day extended commenting period, measures entered one of two tracks:

Track 1: Measures Continuing in Fall 2019 Cycle

Measures that did not receive public comments or only received comments in support of the Standing Committees' recommendations will move forward to the CSAC for review and discussion during its meeting on July 28-29.

o Exceptions

Exceptions were granted to measures if non-supportive comments received during the extended post-comment period were similar to those received during the pre-evaluation meeting period and have already been adjudicated by the respective Standing Committees during the measure evaluation Fall 2019 meetings.

Track 2: Measures Deferred to Spring 2020 Cycle

Fall 2019 measures requiring further action or discussion from a Standing Committee were deferred to the Spring 2020 cycle. This includes measures where consensus was not reached or those that require a response to public comments received. Measures undergoing maintenance review will retain endorsement during that time.

During the Fall 2019 CSAC meeting on July 28-29, the Consensus Standards Approval Committee (CSAC) will review all measures assigned to Track 1. A list of measures assigned to Track 2 can be found in the [Executive Summary section](#) of this report for tracking purposes, but these measures will be reviewed by CSAC on November 17 and 18, 2020.

The extended public commenting period with NQF member support closed on May 24, 2020. Following the Committee's evaluation of the measures under consideration, NQF received two comments from two organizations (including two member organizations) and individuals pertaining to the draft report and to the measures under consideration. All comments for each measure under consideration have been summarized in [Appendix A](#).

Throughout the extended public commenting period, NQF members had the opportunity to express their support ('support' or 'do not support') for each measure submitted for endorsement consideration to inform the Committee's recommendations. No NQF members provided their expression of support.

Overarching Issues

During the Standing Committee's discussion of the measures, an overarching issue emerged that factored into the Committee's ratings and recommendations for multiple measures and is not repeated in detail with each individual measure.

Review of Appropriate Use Measures

The Committee reviewed three appropriate use measures in this cycle. The Committee noted a disconnect between the focus of the NQF [measure evaluation criteria](#) and appropriate use measures. For these measures, the underlying literature cited as support contained multiple expert opinion statements, but extremely limited empirical data. Under NQF's current measure evaluation criteria, expert opinion is not considered evidence. When faced with a measure supported solely by expert opinion, committees can pass the measure on evidence by using the "Insufficient Evidence with Exception" rating. The Committee urged NQF to consider an alternative evidence algorithm for appropriate use measures, as it is extremely rare to have empirical data for appropriate use measures. The Committee was concerned that measures with good intent and very strong face validity will not be able to meet the criteria, and as a result, may not be widely implemented. There was general agreement that an examination of the endorsement criteria and process is needed with a goal of identifying and addressing any unintended barriers for endorsement of appropriate use measures.

Summary of Measure Evaluation: Fall 2019 Measures, Track 1

The following brief summaries of the measure evaluation highlight the major issues that the Committee considered. Details of the Committee's discussion and ratings of the criteria for each measure are included in [Appendix A](#).

0071 Persistence of Beta-Blocker Treatment After a Heart Attack (National Committee for Quality Assurance): Recommended

Description: The percentage of patients 18 years of age and older during the measurement year who were hospitalized and discharged from July 1 of the year prior to the measurement year to June 30 of the measurement year with a diagnosis of acute myocardial infarction (AMI) and who received persistent beta-blocker treatment for six months after discharge; **Measure Type:** Outcome: Intermediate Clinical Outcome; **Level of Analysis:** Health Plan; **Setting of Care:** Outpatient Services; **Data Source:** Claims

The Standing Committee recommended the measure for endorsement. The Standing Committee noted that the definition and treatment of myocardial infarction has changed since the measure was initially developed and endorsed. More sensitive troponin tests for diagnosis and treatment by early reperfusion could affect the patient population included in this measure. The Committee discussed the performance and disparities data provided by the developer. The Committee agreed that the performance data provided shows a clear gap in performance, and concluded there is an opportunity for improvement that warrants a national performance measure. The Committee discussed the reliability and validity of the measure. The Committee noted that the testing data included Healthcare Effectiveness Data and Information Set (HEDIS) 2018 plan data, including commercial, Medicaid, and Medicare plans. Noting that the score-level reliability was conducted using a beta-binomial model, the Committee unanimously accepted the NQF Scientific Methods Panel's moderate rating for reliability. Committee members mentioned that the construct validity data made sense; however, concerns were raised regarding face validity since the measure's title indicates that it is a medication persistence measure, while the specifications are consistent with a medication adherence measure. The Committee chose to vote on the validity criterion and concluded that the measure met the validity criterion. The Committee did not express any concerns about the feasibility of the measure. They agreed that the benefits outweighed the harms and the measure passed on use and usability measure criterion.

0670 Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Preoperative Evaluation in Low Risk Surgery Patients (American College of Cardiology Foundation): Not Recommended

Description: Percentage of stress SPECT MPI, stress echo, CCTA, or CMR performed in low risk surgery patients for preoperative evaluation; **Measure Type:** Efficiency; **Level of Analysis:** Facility, Clinician: Group/Practice; **Setting of Care:** Outpatient Services; **Data Source:** Other, Registry Data

The Standing Committee did not vote on the recommendation for endorsement because the measure did not pass the performance gap criterion—a must-pass criterion.

The Committee agreed the evidence was moderate, as a strong clinical rationale was provided, but the random control trial data reported was not directly related to the low-risk population included in the measure. When discussing performance gap, the Committee noted that the developer did not provide updated performance gap data, and that the previous data may not correspond to the measure as specified. The Committee determined the information provided was insufficient to evaluate the current performance gap.

0671 Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Routine Testing after Percutaneous Coronary Intervention (PCI) (American College of Cardiology Foundation): Not Recommended

Description: Percentage of all stress SPECT MPI, stress echo, CCTA, and CMR performed routinely after PCI, with reference to timing of test after PCI and symptom status; **Measure Type:** Efficiency; **Level of Analysis:** Facility, Clinician: Group/Practice; **Setting of Care:** Outpatient Services; **Data Source:** Other, Registry Data

The Standing Committee did not vote on the recommendation for endorsement because the measure did not pass the performance gap criterion—a must-pass criterion.

The Committee noted that the evidence provided for this measure was based on expert consensus instead of empirical data. They further discussed how it is difficult to know who is accountable for the performance of this measure, as the individual ordering a stress test may not be the person performing the PCI. Given the consensus of expert opinion suggesting the importance of this measure, the Committee voted this measure as having insufficient evidence, with exception.

Following the vote, the Committee discussed the performance gap of this measure. The Committee noted that the developer did not provide updated performance gap data, and that the previous data may not correspond to the measure as specified. The Committee determined the information provided was insufficient to evaluate the current performance gap.

0672 Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Testing in Asymptomatic, Low Risk Patients (American College of Cardiology Foundation): Not Recommended

Description: Percentage of all stress SPECT MPI, stress echo, CCTA, and CMR performed in asymptomatic, low coronary heart disease (CHD) risk patients for initial detection and risk assessment; **Measure Type:** Efficiency; **Level of Analysis:** Facility, Clinician: Group/Practice; **Setting of Care:** Outpatient Services; **Data Source:** Other, Registry Data

The Standing Committee did not vote on the recommendation for endorsement because the measure did not pass the performance gap criterion—a must-pass criterion.

The Committee discussed that no empirical evidence is provided for this measure since this patient population is rarely the focus of trials, and testing is rare in this population. The Committee further noted that the submitted evidence is based on a consensus document. The developer stated they will likely have more data now that the educational and operations testing period of the appropriate use

criteria program created under the Protecting Access to Medicare Act (PAMA) of 2014, Section 218(b) has gone into effect. The Committee agreed that the evidence for this measure is insufficient; however, given existing systematic assessments, multiple international guidelines, and expert opinions suggesting the benefits of this measure outweigh the harms, the Committee voted that an exception should be made.

Following the vote on evidence, the Committee evaluated this measure against the performance gap criterion. The Committee noted that the developer did not provide updated performance gap data, and that the previous data may not correspond to the measure as specified. The Committee determined the information provided was insufficient to evaluate the current performance gap. While the Committee agreed with the intent of this measure to ensure patients are not inappropriately tested, this measure did not pass the performance gap criterion.

0965 Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients (American College of Cardiology): Recommended

Description: Proportion of patients undergoing ICD/CRT-D implant who received prescriptions for all medications (ACE/ARB and beta blockers) for which they are eligible at discharge; **Measure Type:** Composite; **Level of Analysis:** Facility; **Setting of Care:** Inpatient/Hospital; **Data Source:** Registry Data

The Standing Committee recommended the measure for endorsement. The Committee explored the relationship between the patient populations in the evidence presented and the patient population included in the measure. Although there was not a direct match, the measured population represents a subset of the larger patient population covered by the evidence. The Committee also raised questions about specific medications. Angiotensin receptor-neprilysin inhibitors (ARNIs) are a new drug class used to treat heart failure, and the Committee inquired if ARNIs are included in this measure. The developer clarified that ARNIs are included in the measure specifications, but not in the measure title. The Committee also inquired about hydralazine, which is a preferred medication for African American patients with heart failure. The developer stated they do not receive race/ethnicity data for calculation, but would instead handle this by having sites indicate African American patients have contraindications to the medications in the measure. This would remove them from the measure denominator. The Committee was satisfied that providers would not be penalized for appropriately prescribing hydralazine. The Committee was satisfied that testing results demonstrated adequate reliability and validity. The Committee did not express any concerns about the feasibility, use, and usability of the measure. They noted that the measure is not used in an accountability program, but is publicly reported in the National Cardiovascular Data Registry (NCDR).

3534 30-Day All-Cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR). (American College of Cardiology): Recommended

Description: This measure estimates hospital risk standardized odds ratio for death from all causes within 30 days following transcatheter aortic valve replacement. The measure uses clinical data available in the STS/ACC TVT Registry for risk adjustment. For the purpose of development and testing, the measure used site-reported 30-day follow-up data contained in the STS/ACC TVT Registry; **Measure**

Type: Outcome; **Level of Analysis:** Facility; **Setting of Care:** Inpatient/Hospital; **Data Source:** Registry Data

The Standing Committee recommended the measure for endorsement. Across the criteria, the Standing Committee discussion focused mainly on missing data and its potential impact on the measure. Facilities that participate in the registry are excluded from risk-adjusted measure results if certain elements are less than 90% complete. The Committee was particularly concerned with whether the missing data affected the measure's validity and if the missing data were due to a feasibility issue. The data elements of concern were the Kansas City Cardiomyopathy Questionnaire (KCCQ) and the six-minute walk test, both of which are used to assess patient functional status, and both of which are included in the risk adjustment model. The developer noted that they are seeing an increase in data capture for these elements, which are important measures of functional status, and that continuing to include the elements in the measure will encourage continued improvement in the use and recording of the data elements. The developer stated that care for patients who are candidates for a TAVR procedure should include functional status assessment. The Committee ultimately agreed that the measure was suitable for endorsement, but encouraged the developer to continue to monitor the completeness of data submissions and the usefulness of the data for measure calculation and risk adjustment. The Committee accepted the NQF Scientific Methods Panel's moderate rating on reliability unanimously; however, they determined their discussion warranted a Committee vote on validity, and ultimately, the Committee was satisfied that the measure met the criteria. The Committee did not express any concerns about the feasibility of the measure. They noted that this measure is not currently in use, but that the developer provided a credible plan for implementation and use.

Measures Withdrawn from Consideration

One measure previously endorsed by NQF has not been resubmitted for maintenance of endorsement. Endorsement for these measures will be removed.

Table 3. Measures Withdrawn from Consideration

Measure	Reason for withdrawal
NQF 2396 Carotid Artery Stenting: Evaluation of Vital Status and NIH Stroke Scale at Follow Up	Developer is not seeking re-endorsement.

References

- 1 Heron M. Deaths: Leading Causes for 2014. *Natl Vital Stat Rep.* 2016;65(5):1-96.

Appendix A: Details of Measure Evaluation

Rating Scale: H=High; M=Moderate; L=Low; I=Insufficient; NA=Not Applicable

Track 1 – Measures Recommended

0071 Persistence of Beta-Blocker Treatment After a Heart Attack

[Submission](#) | [Specifications](#)

Description: The percentage of patients 18 years of age and older during the measurement year who were hospitalized and discharged from July 1 of the year prior to the measurement year to June 30 of the measurement year with a diagnosis of acute myocardial infarction (AMI) and who received persistent beta-blocker treatment for six months after discharge.

Numerator Statement: Patients who received at least 135 days of treatment with beta-blockers during the 180-day measurement interval.

Denominator Statement: An acute inpatient discharge from July 1 of the year prior to the measurement year through June 30 of the measurement year with any diagnosis of acute myocardial infarction (AMI) on the discharge claim.

Exclusions: Any of the following any time during the patient's history through the end of the continuous enrollment period meet criteria:

- Asthma
- COPD
- Obstructive chronic bronchitis
- Chronic respiratory conditions due to fumes and vapors
- Hypotension, heart block >1 degree or sinus bradycardia
- A medication dispensing event indicative of a history of asthma
- Intolerance or allergy to beta-blocker therapy

Additionally, this measure excludes adults in hospice. It also excludes adults with advanced illness and frailty, as well as Medicare adults 65 years of age and older enrolled in an I-SNP or living long-term in institutional settings.

Adjustment/Stratification: No risk adjustment or risk stratification **Level of Analysis:** Health Plan

Setting of Care: Outpatient Services

Type of Measure: Outcome: Intermediate Clinical Outcome

Data Source: Claims

Measure Steward: National Committee for Quality Assurance

STANDING COMMITTEE MEETING 02/06/2020

1. Importance to Measure and Report: The measure meets the Importance criteria

(1a. Evidence, 1b. Performance Gap)

1a. Evidence: **H-2; M-10; L-4; I-0**; 1b. Performance Gap: **H-2; M-11; L-3; I-0**

Rationale:

- The developer stated that the evidence has not changed since the previous review of this measure and the Committee mostly concurred.
- The developer provided decision logic from secondary prevention to intermediate clinical outcome for the persistent use of beta-blockers in reducing the risk of mortality, risk and severity of re-infarction, and improving the preservation of the left ventricular function with patients with AMI.
- The developer provides two clinical practice guidelines with four statements supporting the persistent use of beta-blockers in patients diagnosed with AMI.

- The Committee noted that there is some new evidence since the last review, and that it is consistent with the evidence presented.
- The Committee mentioned that the definition and treatment of myocardial infarction has changed since the measure was initially developed and endorsed. More sensitive troponin tests for diagnosis and treatment by early reperfusion could affect the patient population included in this measure.
- The developer provided measure results from recent years, sharing the following results for 2017:
 - For commercial plans: mean of 85%, range of 57-100%
 - For Medicare plans: mean of 90%, range of 71-100%
 - For Medicaid plans: mean of 78%, range of 39-97%
- The developer stated they do not currently collect performance data stratified by race, ethnicity, or language, and summarized literature on the prevalence of heart disease, medication adherence among MI survivors by disability, status, race/ethnicity, and income for all Medicare FFS beneficiaries and the impact of employment status on rates of CHD/stroke. The summary demonstrates disparities in premature death due to heart disease or stroke and in rates of recurrent MI or fatal CHD.
- The Committee felt that the data presented demonstrated a clear gap in performance.

2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **Accepted Scientific Methods Panel (SMP) Rating (Moderate)**; 2b. Validity: **H-0; M-12; L-3; I-1**

Rationale:

- This measure was deemed complex and was evaluated by the SMP.
- The developer conducted score-level reliability testing using the beta-binomial model described by Adams (2009).
 - Average reliability, commercial: 0.757; 25th percentile=0.521, median=0.672
 - Average reliability, Medicaid: 0.818; 25th percentile=0.389, median=0.621
 - Average reliability, Medicare: 0.730; 25th percentile=0.670, median=0.772
- The NQF SMP's ratings for reliability: H-2; M-5; L-0; I-0
- The Committee had no concerns regarding the reliability of the measure and voted unanimously to accept the SMP rating.
- The developer conducted score-level construct validation by correlating the scores for this measure to those of a measure of statin therapy adherence. The developer hypothesized that a plan that does well on the statin adherence measure for cardiovascular disease would also do well on this measure.
 - Pearson correlation coefficient, commercial: 0.51 (statistically significant)
 - Pearson correlation coefficient, Medicaid: 0.60 (statistically significant)
 - Pearson correlation coefficient, Medicare: 0.42 (statistically significant)
- The Committee discussed face validity and questioned whether the terminology used in the measure could cause confusion about what the measure evaluates.
- The Committee noted that the measure uses a proportion of days-covered (PDC) methodology, which is indicative of a medication adherence measure. The measure is titled as a persistence measure that implies no gaps in medication.
- The Committee also discussed the methodology to calculate the PDC for the measure and whether it aligned with methodologies in use in other measures.
- The Committee opted to vote on validity.

3. Feasibility: H-6; M-10; L-0; I-0

(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c. Susceptibility to inaccuracies/unintended consequences identified; 3d. Data collection strategy can be implemented)

Rationale:

- The Committee had no concerns regarding the feasibility of the measure. The measure uses readily available data elements that are generated during care delivery.

4. Use and Usability

4a. Use; 4a1. Accountability and transparency; 4a2. Feedback on the measure by those being measured and others; 4b. Usability; 4b1. Improvement; 4b2. The benefits to patients outweigh evidence of unintended negative consequences to patients)

4a. Use: **Pass-15; No Pass-2** 4b. Usability: **H-0; M-13; L-4; I-0**

Rationale:

- This measure is publicly reported in NCQA's State of Health Care annual report and Quality Compass. It is also used to calculate health plan rankings reported in Consumer Reports. This measure is also used in scoring for accreditation of Medicare Advantage Health Plans.
- The Committee had no concerns about the use of the measure.
- The developer states over the past three years:
 - Commercial plan performance has increased annually by 1%
 - Medicare plan performance has remained relatively stable
 - Medicaid plan performance decreased by 2%
- The Committee had a brief discussion of the potential for harms of overprescribing versus the benefits, and decided the benefits outweigh any potential harms for this measure.

5. Related and Competing Measures

- This measure is related to:
 - 0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)
- The Committee did not note any issues between these measures.

6. Standing Committee Recommendation for Endorsement: Y-17; N-0

7. Public and Member Comment

- **No Public and Member Comment received for this measure.**

8. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X (July 28-29, 2020)

9. Appeals

0965 Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

[Submission](#) | [Specifications](#)

Description: Proportion of patients undergoing ICD/CRT-D implant who received prescriptions for all medications (ACE/ARB and beta blockers) for which they are eligible at discharge.

Numerator Statement: Generator patients who receive all medications for which they are eligible:

1. ACE/ARB prescribed at discharge (if eligible for ACE/ARB as described in denominator) AND
2. Beta blockers prescribed at discharge (if eligible for beta blockers as described in denominator)

Denominator Statement: All generator patients surviving hospitalization who are eligible to receive either an ACE/ARB or beta blocker at discharge.

Exclusions: None

Adjustment/Stratification: No risk adjustment or risk stratification **Level of Analysis:** Facility

Setting of Care: Inpatient/Hospital

Type of Measure: Composite

Data Source: Registry Data

Measure Steward: American College of Cardiology

STANDING COMMITTEE MEETING 02/06/2020

1. Importance to Measure and Report: The measure meets the Importance criteria

(1a. Evidence, 1b. Performance Gap, 1c. Composite - Quality Construct and Rationale)

1a. Evidence: **H-0; M-14; L-2; I-1**; 1b. Performance Gap: **H-3; M-13; L-0; I-0**; 1c. Composite: **H-5; M-12; L-0; I-0**

Rationale:

- The developer stated that the evidence has not changed since this measure's previous review.
- This composite measure has two component measures that assess if all patients with an ICD implant surviving hospitalization receive all medications (ACE/ARB and beta blockers) for which they are eligible at discharge. Because the beta-blocker component may be applied to two separate patient populations (patients with previous MI and patients with LVSD), the developer provided evidence supporting the use of beta-blockers in each of these populations separately.
- The developer provided four guidelines with six guideline statements that recommend beta-blocker therapy for patients with heart failure (HF) or prior MI.
- The developer provided two guidelines with four guideline statements that recommend beta-blocker therapy for patients with left ventricular systolic dysfunction (LVSD), with or without prior MI.
- The developer provided two guidelines with four guideline statements that recommend ACE/ARBs for patients with LVSD, with or without prior MI.
- The Committee explored the relationship between the patient populations in the evidence presented and the patient population included in the measure. Although there was not a direct match, the measured population represents a subset of the larger patient population covered by the evidence.
- The developer provided measure results for 2018 from the National Cardiovascular Data Registry's ICD Registry: mean of 83%, range: 0-100%.
- There is some variation at the median, with Hispanic, Black, and Other groups showing higher results than White and Non-White groups. Dual eligible group scores are very similar to overall scores. Mean scores are similar across groups and similar to the overall mean.
- The composite is an all-or-none construction. The developer states the all-or-none composite reflects the strong recommendations for each process of care included in the composite. They state that combining the measures into one composite provides a perspective of the overall quality of medical therapy while reducing information burden.

2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity; 2c. Composite Construction)

2a. Reliability: **H-1; M-15; L-0; I-0**; 2b. Validity: **H-5; M-11; L-0; I-0**

2c. Composite Construction: **H-13; M-3; L-0; I-0**

Rationale:

- This measure is deemed complex and would generally be reviewed by the SMP; however, due to a timing issue related to NQF staff feedback and the developer updating the measure specifications, NQF staff granted an exception, and the scientific acceptability was evaluated by the Standing Committee.
- The developer conducted both data element and score-level reliability testing. The data element testing was unchanged from the previous submission.
- A sample of 627 patients from 25 hospitals was selected for interrater reliability (IRR) of the extracted data elements. This was performed by an independent contractor. IRR was performed for six data elements. Kappa values ranged from 0.33 (LVEF assessed) to 0.96 (Procedure type), with most values >0.60. A kappa >0.70 is considered acceptable IRR. This IRR was performed on data from 2010.
- For score-level testing, the developer used a split-sample methodology. The cohort was split into two random samples and scores calculated using the same time frame. For the performance rates and social risk data, unadjusted rates were calculated, and a Pearson correlation coefficient and ICC were computed. For 2018, Pearson correlation coefficient: 0.52, ICC: 0.79, indicating moderate to strong reliability.
- The validity testing was unchanged from the previous submission. The developers provided construct validity results examining the association of patient and hospital performance on the composite measure with adverse outcomes; specifically, mortality and readmission at six months following hospital discharge, and the association between hospital-level performance on the measure and the

combination of mortality or readmission at six months. The developer provides patient-level and hospital level results:

- A significantly smaller proportion of patients discharged on the appropriate medical therapy died or were readmitted within six months of hospital discharge (without meds = 28.37% vs. with meds = 6.28%).
- Patients treated at hospitals that performed better on the measure had better unadjusted outcomes than those treated at hospitals that performed worse on the measure (correlation coefficient (-0.0998), $p < 0.001$).
- The Committee raised questions about which medications are included in the measure.
- The Committee asked if ARNIs, a new drug class used to treat HF, are included. The developer clarified that ARNIs are included in the measure specifications, but not in the measure title.
- The Committee also inquired about hydralazine, which is a preferred medication for African American patients with HF. The developer stated they do not receive race/ethnicity data for calculation, but would instead handle this by having sites indicate African American patients have contraindications to the medications in the measure. This would remove them from the measure denominator. The Committee was satisfied that providers would not be penalized for appropriately prescribing hydralazine.
- To demonstrate the scientific acceptability of the composite construction, the developer conducted empirical validity analysis of the relationship between the individual component measures and the overall composite measure. The individual components were strongly correlated (0.70 or higher for all analyses) with the overall composite. A logistic regression analysis provided by the developer demonstrates that the ACE/ARB and beta-blocker measures explained 89.0% and 68.0% of the overall variance, respectively.

3. Feasibility: H-6; M-9; L-1; I-0

(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c. Susceptibility to inaccuracies/unintended consequences identified; 3d. Data collection strategy can be implemented)

Rationale:

- The data elements associated with this measure are routinely generated and acquired during the delivery of standard cardiac care to this patient population. Most of the data elements exist in a structured format within an EHR, and that data can be extracted electronically.
- The developer states a full-time employee can enter roughly 1,200 patient records per year on average.
- The developer notes that participation in the registry is a requirement for Medicare reimbursement purposes, and that almost all hospitals that implant ICDs already participate for this reason.
- The Committee had no concerns about feasibility.

4. Use and Usability

(4a. Use; 4a1. Accountability and transparency; 4a2. Feedback on the measure by those being measured and others; 4b. Usability; 4b1. Improvement; 4b2. The benefits to patients outweigh evidence of unintended negative consequences to patients)

4a. Use: **Pass-16; No Pass-0** 4b. Usability: **H-3; M-13; L-0; I-0**

Rationale:

- The measure is publicly reported through the National Cardiac Disease Registry.
- The developer reports that the mean rate of performance has improved over time, from 74% when the measure was first released (2011-12), to 78% in 2013-14, and 83% in the most recent data year (2018).
- The Committee had no concerns about these criteria.

5. Related and Competing Measures

- This measure is related to:
 - 0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy – Diabetes or Left Ventricular Systolic Dysfunction (LVEF <40%)

- o 0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy – Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%) - o 0071: Persistence of Beta-Blocker Treatment After a Heart Attack - o 0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction (LVSD) - o 0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD) - o 0117: Beta Blockade at Discharge - o 0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery • The Committee had no concerns about lack of harmonization or burden from multiple measures.
6. Standing Committee Recommendation for Endorsement: Y-16; N-0
7. Public and Member Comment
• No Public and Member Comment received for this measure.
8. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X (July 28-29, 2020)
9. Appeals

3534 30-Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR)

[Submission](#) | [Specifications](#)

Description: This measure estimates hospital risk standardized odds ratio for death from all causes within 30 days following transcatheter aortic valve replacement. The measure uses clinical data available in the STS/ACC TVT Registry for risk adjustment. For the purpose of development and testing, the measure used site-reported 30-day follow-up data contained in the STS/ACC TVT Registry.

Numerator Statement: The outcome of this measure is all-cause death within 30 days following a transcatheter aortic valve replacement (TAVR).

Denominator Statement: The target population for the outcome is for individuals who have undergone transcatheter aortic valve replacement.

For development, reassessment and reporting of this measure, we use site reported data from the STS/ACC TVT Registry.

Exclusions:

- 1) Hospitals need to meet eligibility criteria to be included in the measure.
- 2) Patients are excluded if:
 - a) They did not have a first-time TAVR in the episode of care (admission),
 - b) The TAVR was subsequent to another procedure in the Registry (other TAVR, Mitral Leaflet Clip and/or TMVR) during that admission.
 - c) The patient is readmitted for a repeat TAVR (re-admission) and the initial TAVR was performed during the rolling three-year time frame for the measure.
 - d) 30-day mortality status missing.

Adjustment/Stratification: Statistical risk model; No risk stratification

Level of Analysis: Facility

Setting of Care: Inpatient/Hospital

Type of Measure: Outcome

Data Source: Registry Data

Measure Steward: American College of Cardiology

STANDING COMMITTEE MEETING 02/06/2020

1. Importance to Measure and Report: The measure meets the Importance criteria

(1a. Evidence, 1b. Performance Gap)

1a. Evidence: **Pass-16; No Pass-0**; 1b. Performance Gap: **H-2; M-13; L-1; I-0****Rationale:**

- The developer presented evidence tying two factors within a hospital's control to improved 30-day mortality rates: appropriate patient selection and volume of TAVR.
- The developer presented odds ratio estimates from registry data covering April 2015 to March 2018. The mean odds ratio was 1.01, with a range of 0.81-1.40.
- In order to explore disparities, the developer modified the measure's hierarchical model to include indicator variables for African American race, other non-white race, Hispanic ethnicity, and participation in Medicaid. They performed this analysis using data from June 2013 to May 2016 (21,661 patients from 188 hospitals), and using data from April 2015 to March 2018 (49,182 patients from 264 hospitals). For each variable in each time period, the 95% confidence interval around the odds ratio overlapped with the null value of 1.0. The developer concluded that there was no statistically significant association between these variables and 30-day mortality after adjusting for other factors in the hierarchical model ($p > 0.05$ for each variable).
- The Committee had no questions regarding the evidence supporting the measure and no concerns about performance gap.

2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **Accepted Scientific Methods Panel (SMP) Rating (Moderate)**; 2b. Validity: **H-0; M-14; L-2; I-0****Rationale:**

- This measure was deemed complex and was evaluated by the SMP.
- To demonstrate reliability of the data elements used in the measure, the developer assessed IRR using data from 40 records selected randomly from four randomly selected facilities.
- The SMP Subgroup initially rated the measure low for reliability due to concerns related to the lack of detail around the testing and sampling methodology, and that not all data elements were evaluated for reliability (or validity).
- In response to the concerns raised, the developer provided additional information regarding the sampling, demonstrating no systematic patient differences between those selected for sampling and the general cohort, and provided IRR results for additional data elements. After discussing the addition information, the SMP then passed the measure on reliability with a moderate rating.
- The NQF SMP's ratings for reliability: H-0; M-6; L-0; I-0.
- The Committee was satisfied with the SMP's review and rationale, and voted unanimously to accept the SMP's rating.
- To demonstrate validity of the data elements, the developers conducted two analyses:
 - Record eligibility assessment: Six hospitals participating in the registry reported all TAVR and mitral-valve replacement cases performed at their facility during a specified time frame. These records were compared to the registry records to verify that cases were not missed (N=366 records).
 - 40 hospitals with at least 10 cases were randomly selected for an audit. From each hospital, 10 baseline and 10 follow-up cases (for 30-day and one-year) were randomly selected for abstraction. Sample included 400 "baseline" records, 400 "30-day" records, and 289 "one-year" records. Developers calculated the prevalence-adjusted and bias-adjusted kappa (PABAK) statistic.
- On initial review, the SMP Subgroup did not reach consensus on validity due to concerns regarding the measure excluding >50% of hospital/patients due to missing data, relatively low values of PABAK for two tested values, lack of data element testing for most variables, and a relatively small testing sample that may or may not be representative of hospitals/patients included in the measure.

- In response to the concerns raised, the developer provided additional information regarding key data elements and thresholds for excluding hospitals/patients. The developer also performed validity testing on additional data elements. The developer defended keeping baseline KCCQ-12 and baseline gait speed in the data model, indicating they anticipate more sites will complete these elements because they are required for the measure. They felt both elements are clinically important for patient evaluation. The SMP then passed the measure on validity with a moderate rating.
- The Committee echoed concerns raised by the SMP around missing data and its potential impact on the measure.
- The Committee revisited the SMP's concerns with whether the missing data affected the measure's validity and if the missing data were due to a feasibility issue. The data elements of concern were the KCCQ and the six-minute walk test, both of which are used to assess patient functional status, and both of which are included in the risk adjustment model.
- Facilities that participate in the registry are excluded from risk-adjusted measure results if these elements are less than 90% complete.
- The developer noted that they are seeing an increase in data capture for these elements, which are important measures of functional status, and that continuing to include the elements in the measure will encourage continued improvement in the use and recording of the data elements. The developer stated that care for patients who are candidates for a TAVR procedure should include functional status assessment.
- The Committee discussed the strength of the evidence for including these elements in the risk adjustment model, and urged the developer to continue to closely monitor the completeness of data submissions and the usefulness of the data for measure calculation and risk adjustment.
- The Committee elected to vote on validity and the measure passed this criterion.

3. Feasibility: H-2; M-12; L-2; I-0

(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c. Susceptibility to inaccuracies/unintended consequences identified; 3d. Data collection strategy can be implemented)

Rationale:

- All data elements associated with this measure are routinely generated and acquired during the delivery of standard cardiac care to this patient population, with the exception of the KCCQ and six-minute walk test.
- The developer stated a full-time employee can enter roughly 1,200 patient records per year on average.
- The developer stated that all hospitals performing TAVR participate in the registry as a condition of CMS coverage with evidence decision.
- The Committee was concerned that the missing data elements discussed in the validity section could indicate a feasibility issue, but ultimately decided that the measure meets this criterion.

4. Use and Usability

4a. Use; 4a1. Accountability and transparency; 4a2. Feedback on the measure by those being measured and others; 4b. Usability; 4b1. Improvement; 4b2. The benefits to patients outweigh evidence of unintended negative consequences to patients)

4a. Use: **Pass-16; No Pass-0** 4b. Usability: **H-3; M-12; L-1; I-0**

Rationale:

- This is a new measure not currently in use outside of quality improvement programs. In the future, the developer plans to coordinate with the Society of Thoracic Surgeons to publicly report results.
- Between 2014 and 2017, the aggregate 30-day TAVR mortality rate in the analysis population decreased from 5.9% to 2.7%, representing a relative decrease of 54%. The developer stated that some of this decline is due to changes in case mix; however, in the hierarchical logistic regression model for the time period June 2013 to May 2016 accounting for differences in case mix, the estimated odds of mortality decreased 15% per year, representing improvements in care.
- The Committee had no concerns about these criteria.

5. Related and Competing Measures - This measure is related to: 2561: STS Aortic Valve Replacement (AVR) Composite Score. - The Committee noted that the measures are harmonized to the extent possible and cover different populations.
6. Standing Committee Recommendation for Endorsement: Y-16; N-0
7. Public and Member Comment One comment was received. The commenter was supportive of this measure and had suggestions for future improvements and areas to consider for additional measure development around aortic stenosis (AS). In particular: - Disease-specific quality measures for AS, regardless of treatment modality - Patient-centered quality measures that reflect demonstrated patient priorities for outcomes - Quality measures supporting timely diagnosis and treatment for all patients requiring future treatment of AS
8. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X (July 28-29, 2020)
9. Appeals

Track 1 – Measures Not Recommended

0670 Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Preoperative Evaluation in Low Risk Surgery Patients
Submission Specifications
Description: Percentage of stress SPECT MPI, stress echo, CCTA, or CMR performed in low risk surgery patients for preoperative evaluation Numerator Statement: Number of stress SPECT MPI, stress echo, CCTA, or CMR performed in patients undergoing low risk surgery as a part of the preoperative evaluation Denominator Statement: Number of stress SPECT MPI, stress echo, CCTA, and CMR performed Exclusions: None. Adjustment/Stratification: No risk adjustment or risk stratification Level of Analysis: Facility, Clinician : Group/Practice Setting of Care: Outpatient Services Type of Measure: Efficiency Data Source: Other, Registry Data Measure Steward: American College of Cardiology
STANDING COMMITTEE MEETING 02/06/2020 1. Importance to Measure and Report: <u>The measure does not meet the Importance criteria</u> (1a. Evidence: 1b. Performance Gap) 1a. Evidence: H-0; M-16; L-1; I-0 1b. Performance Gap: H-0; M-2; L-3; I-12 Rationale: - The developer stated that there has been no evidence changes since this measure's last review. - The developer provided evidence from the 2014 ACC/AHA Guideline on Perioperative Cardiovascular Evaluation and Management of Patients Undergoing Noncardiac Surgery. The evidence was assigned "B" grade, indicating "data derived from a single randomized trial, or nonrandomized studies." - The developer noted that "only a few of the studies addressed the surgical population focused on in this measure." The studies are generally focused on higher-risk surgeries than the low-risk surgeries

that are a focus of this measure. The developer stated it is reasonable to extrapolate the findings on higher-risk surgeries to low-risk surgeries. The Committee noted that no current information was provided on the performance gap for the measure. They felt unable to evaluate performance gap and the measure did not pass this criterion.
2. Scientific Acceptability of Measure Properties: (2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity 2a. Reliability: Vote not taken 2b. Validity: Vote not taken
3. Feasibility: Vote not taken (3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)
4. Use and Usability (4a. Use; 4a1. Accountability and transparency; 4a2. Feedback on the measure by those being measured and others; 4b. Usability; 4b1. Improvement; 4b2. The benefits to patients outweigh evidence of unintended negative consequences to patients) 4a. Use: Vote not taken 4b. Usability: Vote not taken
5. Related and Competing Measures N/A
6. Standing Committee Recommendation for Endorsement: Vote not taken
7. Public and Member Comment No Public and Member Comment received for this measure.
8. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X (July 28-29, 2020)
9. Appeals

0671 Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Routine Testing after Percutaneous Coronary Intervention (PCI)
Submission Specifications
Description: Percentage of all stress SPECT MPI, stress echo, CCTA and CMR performed routinely after PCI, with reference to timing of test after PCI and symptom status. Numerator Statement: Number of stress SPECT MPI, stress echo, CCTA and CMR performed in asymptomatic patients within two years of the most recent PCI Denominator Statement: Number of stress SPECT MPI, stress echo, CCTA and CMR performed Exclusions: None Adjustment/Stratification No risk adjustment or risk stratification Level of Analysis: Facility, Clinician : Group/Practice Setting of Care: Outpatient Services Type of Measure: Efficiency Data Source: Other, Registry Data Measure Steward: American College of Cardiology
STANDING COMMITTEE MEETING 02/06/2020 1. Importance to Measure and Report: <u>The measure does not meet the Importance criteria</u> (1a. Evidence; 1b. Performance Gap) 1a. Evidence: H-0; M-4; L-3; I-10; Insufficient Evidence with Exception: Yes-14; No-3 1b. Performance Gap: H-0; M-1; L-3; I-13

Rationale: - The developer provided a recommendation from the 2012 ACCF/AHA/ACP/AATS/PCNA/SCAI/STS Guideline for the Diagnosis and Management of Patients With Stable Ischemic Heart Disease. - The Committee noted that the recommendation was based on expert opinion and not clinical trials, and therefore did not meet the evidence criterion. The Committee discussed the challenge of performing trials for inappropriate use, and determined it was appropriate to accept the expert opinion and grant an exception to the evidence criterion. - The Committee noted that no current information was provided on the performance gap for the measure. They felt unable to evaluate performance gap and the measure did not pass this criterion.
2. Scientific Acceptability of Measure Properties: (2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity 2a. Reliability: Vote not taken 2b. Validity: Vote not taken
3. Feasibility: Vote not taken <i>(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)</i>
4. Use and Usability <i>(4a. Use; 4a1. Accountability and transparency; 4a2. Feedback on the measure by those being measured and others; 4b. Usability; 4b1. Improvement; 4b2. The benefits to patients outweigh evidence of unintended negative consequences to patients)</i> 4a. Use: Vote not taken 4b. Usability: Vote not taken
5. Related and Competing Measures N/A
6. Standing Committee Recommendation for Endorsement: Vote not taken
7. Public and Member Comment No Public and Member Comment received for this measure.
8. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X (July 28-29, 2020)
9. Appeals

0672 Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Testing in Asymptomatic, Low Risk Patients
Submission Specifications
Description: Percentage of all stress SPECT MPI, stress echo, CCTA, and CMR performed in asymptomatic, low CHD risk patients for initial detection and risk assessment Numerator Statement: Number of stress SPECT MPI, stress echo, CCTA, and CMR performed for asymptomatic, low CHD risk patients for initial detection and risk assessment Denominator Statement: Number of stress SPECT MPI, stress echo, CCTA, and CMR performed Exclusions: None Adjustment/Stratification No risk adjustment or risk stratification Level of Analysis: Facility, Clinician : Group/Practice Setting of Care: Outpatient Services Type of Measure: Efficiency Data Source: Other, Registry Data Measure Steward: American College of Cardiology
STANDING COMMITTEE MEETING 02/06/2020

1. Importance to Measure and Report: <u>The measure does not meet the Importance criteria</u> (1a. Evidence: 1b. Performance Gap) 1a. Evidence: H-0; M-2; L-1; I-14; Insufficient Evidence with Exception: Yes-15; No-2 1b. Performance Gap: H-0; M-1; L-6; I-10 <u>Rationale:</u> • The developer provided a recommendation from the 2010 ACCF/AHA Guideline for Assessment of Cardiovascular Risk in Asymptomatic Adults. • The developer also included a USPSTF recommendation against “screening with rest or exercise electrocardiography (ECG) for the prediction of coronary heart disease (CHD) in asymptomatic adults at low risk for CHD events.” • The Committee noted that both recommendations were based on expert opinion and not clinical trials, and therefore did not meet the evidence criterion. The Committee discussed the challenge of performing trials for inappropriate use, and determined it was appropriate to accept the expert opinions and grant an exception to the evidence criterion. • The Committee noted that no current information was provided on the performance gap for the measure. They felt unable to evaluate performance gap and the measure did not pass this criterion.
2. Scientific Acceptability of Measure Properties: (2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity) 2a. Reliability: Vote not taken 2b. Validity: Vote not taken
3. Feasibility: Vote not taken <i>(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)</i>
4. Use and Usability <i>(4a. Use; 4a1. Accountability and transparency; 4a2. Feedback on the measure by those being measured and others; 4b. Usability; 4b1. Improvement; 4b2. The benefits to patients outweigh evidence of unintended negative consequences to patients)</i> 4a. Use: Vote not taken 4b. Usability: Vote not taken
5. Related and Competing Measures N/A
6. Standing Committee Recommendation for Endorsement: Vote not taken
7. Public and Member Comment • No Public and Member Comment received for this measure.
8. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X (July 28-29, 2020)
9. Appeals

Appendix B: Cardiovascular Portfolio—Use in Federal Programs¹

NQF #	Title	Federal Programs: Finalized or Implemented as of February 20, 2020
0018	Controlling High Blood Pressure	Medicare and Medicaid Electronic Health Record Incentive Program for Eligible Professionals Medicare Shared Savings Program, Merit-Based Incentive Payment System (MIPS) Program, Medicaid Marketplace Quality Rating System (QRS), Medicaid
0028	Preventive Care & Screening: Tobacco Use: Screening & Cessation Intervention	Million Hearts, MIPS, Medicaid Promoting Interoperability Program for Eligible Professionals, Medicare Shared Savings Program
0066	Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy – Diabetes or Left Ventricular Systolic Dysfunction (LVEF <40%)	Physician Compare; MIPS
0067	Chronic Stable Coronary Artery Disease: Antiplatelet Therapy	MIPS
0068	Ischemic Vascular Disease (IVD): Use of Aspirin or Another Antithrombotic	MIPS
0070/ 0070e	Coronary Artery Disease (CAD): Beta-Blocker Therapy – Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	MIPS, Medicaid Promoting Interoperability Program for Eligible Professionals
0071	Persistence of Beta-Blocker Treatment After a Heart Attack	MIPS
0081/ 0081e	Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction (LVSD)	MIPS, Medicaid Promoting Interoperability Program for Eligible Professionals
0083/ 0083e	Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)	MIPS, Medicaid Promoting Interoperability Program for Eligible Professionals
0114	Risk-Adjusted Post-Operative Renal Failure	MIPS
0115	Risk-Adjusted Surgical Re-exploration	MIPS
0119	Risk-Adjusted Operative Mortality for CABG	MIPS

¹ Per CMS Measures Inventory Tool as of 03/05/2020

NQF #	Title	Federal Programs: Finalized or Implemented as of February 20, 2020
0129	Risk-Adjusted Prolonged Intubation (Ventilation)	MIPS
0130	Risk-Adjusted Deep Sternal Wound Infection Rate	Hospital Compare, Hospital Outpatient Quality Reporting
0131	Risk-Adjusted Stroke/Cerebrovascular Accident	MIPS
0229	Hospital 30-day, all-cause, risk-standardized mortality rate (RSMR) following heart failure (HF) hospitalization for patients 18 and older	Hospital Compare, Hospital Inpatient Quality Reporting, Hospital Value-Based Purchasing
0230	Hospital 30-day, all-cause, risk-standardized mortality rate (RSMR) following acute myocardial infarction (AMI) hospitalization for patients 18 and older	Hospital Compare, Hospital Inpatient Quality Reporting, Hospital Value-Based Purchasing
0290	Median Time to Transfer to Another Facility for Acute Coronary Intervention	Hospital Compare, Hospital Outpatient Quality Reporting
0330	Hospital 30-Day, All-Cause, Risk-Standardized Readmission Rate (RSSR) Following Heart Failure Hospitalization	Hospital Readmission Reduction Program (HRRP)
0505	Hospital 30-Day All-Cause, Risk-Standardized Readmission Rate (RSSR) Following Acute Myocardial Infarction (AMI) Hospitalization	Hospital Readmission Reduction Program, Hospital Compare
0643	Cardiac Rehabilitation Patient Referral from an Outpatient Setting	Hospital Readmission Reduction Program, Hospital Compare
0669	Cardiac Imaging for Preoperative Risk Assessment for Non-Cardiac, Low Risk Surgery	Hospital Compare, Hospital Outpatient Quality Reporting
0670	Cardiac stress imaging not meeting appropriate use criteria: Preoperative evaluation in low risk surgery patients	Merit-Based Incentive Payment System (MIPS) Program (Implemented)
0671	Cardiac stress imaging not meeting appropriate use criteria: Routine testing after percutaneous coronary intervention (PCI)	MIPS
0672	Cardiac stress imaging not meeting appropriate use criteria: Testing in asymptomatic, low risk patients	MIPS
1525	Atrial Fibrillation and Atrial Flutter: Chronic Anticoagulation Therapy	MIPS
2474	Cardiac Tamponade and/or Pericardiocentesis Following Atrial Fibrillation Ablation	MIPS

Appendix C: Cardiovascular Standing Committee and NQF Staff

STANDING COMMITTEE

Mary George, MD, MSPH, FACS, FAHA (Co-Chair)

Senior Medical Officer, Centers for Disease Control and Prevention (CDC), Division for Heart Disease and Stroke Prevention
Decatur, Georgia

Thomas Kottke, MD, MSPH (Co-Chair)

Medical Director for Population Health, Consulting Cardiologist, HealthPartners
Minneapolis, Minnesota

Linda Briggs, DNP

Assistant Professor, George Washington University, School of Nursing Washington
District of Columbia

Leslie Cho, MD

Section Head, Preventive Cardiology and Rehabilitation, Cleveland Clinic
Cleveland, Ohio

Helene Clayton-Jeter, OD

Healthcare Consultant, Clinical Optometrist, CrossOver Healthcare Ministry
Arlington, Virginia

Joseph Cleveland, MD

Professor of Cardiothoracic Surgery & Surgical Director for Adult Cardiac Transplantation/Mechanical Cardiac Assist Devices, University of Colorado Denver
Aurora, Colorado

Michael Crouch, MD, MSPH, FAFAP

Research Director and Quality Improvement Program Director, Memorial Family Medicine Residency Program and Associate Clinical Professor of Family Medicine, Texas A & M University School of Medicine
Bryan, Texas

Tim Dewhurst, MD, FACC

Interventional Cardiologist, Medical Director for Clinical Value Improvement, Kaiser Permanente,
Washington State
Seattle, Washington

Kumar Dharmarajan, MD, MBA

Chief Scientific Officer, Clover Health

Jersey City, New Jersey

William Downey, MD

Medical Director, Interventional Cardiology Sanger Heart and Vascular Institute,
Carolinas HealthCare System
Charlotte, North Carolina

Howard Eisen, MD

Medical Director of the Cardiac Transplant, Mechanical Circulatory Support and Advanced Heart Failure
Programs
Hershey, Pennsylvania

Naftali Zvi Frankel, MS

Principal, Déclore Consulting
New York, New York

Ellen Hillegass, PT, EdD, CCS, FAACVPR, FAPTA

American Physical Therapy Association
Sandy Springs, Georgia

Charles Mahan, PharmD, PhC, RPh

Presbyterian Healthcare Services, Clinical Assistant Professor of Pharmacy, University of New Mexico
Albuquerque, New Mexico

Soeren Mattke, MD, DSc

Director, Center for Improving Chronic Illness Care and Research Professor of Economics,
University of Southern California
Los Angeles, California

Gwen Mayes, JD, MMSc

Patient Story Coach/Writer
Annapolis, Maryland

Kristi Mitchell, MPH

Senior Vice President, Avalere Health, LLC
Washington, District of Columbia

Jason Spangler, MD, MPH, FACPM

Executive Director, Medical Policy, Amgen, Inc.
Washington, District of Columbia

Susan Strong

President, Board of Directors, Heart Value Voice
Colorado Springs, Colorado

Mladen Vidovich, MD

Professor of Medicine, University of Illinois at Chicago, Chief of Cardiology,
Jesse Brown VA Medical Center
Chicago, Illinois

David Walsworth, MD, FAFP

Department of Family Medicine, Michigan State University
East Lansing MI

Daniel Waxman, MD, PhD, FACC

Health Policy Researcher at RAND, Associate Professor, Emergency Medicine at University of California,
Los Angeles (UCLA)
Los Angeles, California

NQF STAFF

Kathleen Giblin, RN

Acting Senior Vice President, Quality Measurement

Apryl Clark, MHSA

Acting Vice President, Quality Measurement

Amy Moyer, MS, PMP

Director

Janaki Panchal, MSPH

Project Manager

Ameera Chaudhry, MS

Project Analyst

Karri Albanese, BA

Project Analyst

Appendix D: Measure Specifications

	0071 Persistence of Beta-Blocker Treatment After a Heart Attack
Steward	National Committee for Quality Assurance
Description	The percentage of patient's 18 years of age and older during the measurement year who were hospitalized and discharged from July 1 of the year prior to the measurement year to June 30 of the measurement year with a diagnosis of acute myocardial infarction (AMI) and who received persistent beta-blocker treatment for six months after discharge.
Type	Outcome: Intermediate Clinical Outcome
Data Source	Claims This measure is based on administrative claims collected in the course of providing care to health plan members. NCQA collects the Healthcare Effectiveness Data and Information Set (HEDIS) data for this measure directly from health plans via NCQA's online data submission system.
Level	Health Plan
Setting	Outpatient Services
Numerator Statement	Patients who received at least 135 days of treatment with beta-blockers during the 180-day measurement interval.
Numerator Details	At least 135 days of treatment with beta-blockers during the 180-day measurement interval.

	180-day measurement interval – The 180-day period that includes the discharge date and the 179 days after discharge. To determine continuity of treatment during the 180-day period, identify all prescriptions filled within the 180-day measurement interval, and add the number of allowed gap days (up to a total of 45 days) to the number of treatment days for a maximum of 180 days (i.e., 135 treatment days + 45 gap days = 180 days). Treatment days (days covered) – The actual number of calendar days covered with prescriptions within the specified 180-day measurement interval (i.e., a prescription of a 90-day supply dispensed on the 100th day will have 80 days counted in the 180-day interval). Assess for active prescriptions and include days supply that fall within the 180-day measurement interval. For patients who were on beta-blockers prior to admission and those who were dispensed an ambulatory prescription during their inpatient stay, factor those prescriptions into adherence rates if the actual treatment days fall within the 180-day measurement interval. PBH-B BETA-BLOCKER MEDICATIONS DESCRIPTION / PRESCRIPTION Noncardioselective beta-blockers / Carvedilol; Labetalol; Nadolo; Penbutolol; Pindolol; Propranolol; Timolol; Sotalol Cardioselective beta-blockers / Acebutolol; Atenolol; Betaxolol; Bisoprolol; Metoprolol; Nebivolol Antihypertensive combinations / Atenolol-chlorthalidone; Bendroflumethiazide-nadolol; Bisoprolol-hydrochlorothiazide; Hydrochlorothiazide-metoprolol; Hydrochlorothiazide-propranolol See attached code value sets.
Denominator Statement	An acute inpatient discharge from July 1 of the year prior to the measurement year through June 30 of the measurement year with any diagnosis of acute myocardial infarction (AMI) on the discharge claim.
Denominator Details	Patients who had continuous enrollment from discharge date through 179 days after discharge. No more than one gap in continuous enrollment of up to 45 days within the 180 days of the event. If the patient has Medicaid, then no more than a 1-month gap in coverage. An acute inpatient discharge from July 1 of the year prior to the measurement year through June 30 of the measurement year with any diagnosis of acute myocardial infarction (AMI) on the discharge claim. To identify an acute inpatient discharge: 1. Identify all acute and nonacute inpatient stays. 2. Exclude nonacute inpatient stays. 3. Identify the discharge date for the stay. If a patient has more than one episode of AMI that meets the event/diagnosis criteria, from July 1 of the year prior to the measurement year through June 30 of the measurement year, include only the first discharge. Direct transfers to an acute inpatient care setting: If a patient had a direct transfer to an acute inpatient setting (for any diagnosis), use the discharge date from the transfer setting, not the initial discharge. Exclude both the initial discharge and the direct transfer discharge if the

	transfer discharge occurs after June 30 of the measurement year. Use the instructions below to identify direct transfers and exclude nonacute inpatient stays. Direct transfers to a nonacute inpatient care setting: Exclude from the denominator, hospitalizations in which the patient had a direct transfer to a nonacute inpatient care setting for any diagnosis. Use the instructions below to identify direct transfers and confirm the stay was for nonacute inpatient care based on the presence of a nonacute code on the claim. A direct transfer is when the discharge date from the first inpatient setting precedes the admission date to a second inpatient setting by one calendar day or less. For example: - An inpatient discharge on June 1, followed by an admission to another inpatient setting on June 1, is a direct transfer. - An inpatient discharge on June 1, followed by an admission to an inpatient setting on June 2, is a direct transfer. - An inpatient discharge on June 1, followed by an admission to another inpatient setting on June 3, is not a direct transfer; these are two distinct inpatient stays. Use the following method to identify admissions to and discharges from inpatient settings. 1. Identify all acute and nonacute inpatient stays. 2. If needed, identify nonacute inpatient stays. 3. Identify the admission and discharge dates for the stay.
Exclusions	Any of the following any time during the patient's history through the end of the continuous enrollment period meet criteria: - Asthma - COPD - Obstructive chronic bronchitis - Chronic respiratory conditions due to fumes and vapors - Hypotension, heart block >1 degree or sinus bradycardia - A medication dispensing event indicative of a history of asthma - Intolerance or allergy to beta-blocker therapy Additionally, this measure excludes adults in hospice. It also excludes adults with advanced illness and frailty, as well as Medicare adults 65 years of age and older enrolled in an I-SNP or living long-term in institutional settings.
Exclusion details	Patients identified as having an intolerance or allergy to beta-blocker therapy. Any of the following any time during the patient's history through the end of the continuous enrollment period meet criteria: - Asthma - COPD - Obstructive chronic bronchitis - Chronic respiratory conditions due to fumes and vapors - Hypotension, heart block >1 degree or sinus bradycardia - A medication dispensing event indicative of a history of asthma MEDICATIONS TO IDENTIFY HISTORY OF ASTHMA DESCRIPTION / PRESCRIPTION Bronchodilator combinations / Budesonide-formoterol; Fluticasone-vilantero; Fluticasone-salmeterol; Formoterol-mometasone

	Inhaled corticosteroids / Beclomethasone; Budesonide; Ciclesonide; Flunisolide; Fluticasone; Mometasone Exclude patients who use hospice services or elect to use a hospice benefit any time during the measurement year, regardless of when the services began. These patients may be identified using various methods, which may include but are not limited to enrollment data, medical record or claims/encounter data. Exclude adults who meet any of the following criteria: - Medicare members 66 years of age and older as of December 31 of the measurement year who meet either of the following: -- Enrolled in an Institutional SNP (I-SNP) any time on or between July 1 of the year prior to the measurement year and the end of the measurement year. -- Living long-term in an institution any time on or between July 1 of the year prior to the measurement year and the end of the measurement year as identified by the LTI flag in the Monthly Membership Detail Data File. Use the run date of the file to determine if an adult had an LTI flag any time on or between July 1 of the year prior to the measurement year and the end of the measurement year. - Members 66-80 years of age as of December 31 of the measurement year (all product lines) with frailty and advanced illness. Adults must meet BOTH of the following frailty and advanced illness criteria to be excluded: 1. At least one claim/encounter for frailty any time on or between July 1 of the year prior to the measurement year and the end of the measurement year. 2. Any of the following during the measurement year or the year prior to the measurement year (count services that occur over both years): -- At least two outpatient visits, observation visits, ED visits, nonacute inpatient encounters or nonacute inpatient discharges (instructions below) on different dates of service, with an advanced illness diagnosis. Visit type need not be the same for the two visits. To identify a nonacute inpatient discharge: 1. Identify all acute and nonacute inpatient stays. 2. Confirm the stay was for nonacute care based on the presence of a nonacute code on the claim. 3. Identify the discharge date for the stay. -- At least one acute inpatient encounter with an advanced illness diagnosis. -- At least one acute inpatient discharge with an advanced illness diagnosis. To identify an acute inpatient discharge: 1. Identify all acute and nonacute inpatient stays. 2. Exclude nonacute inpatient stays. 3. Identify the discharge date for the stay. -- A dispensed dementia medication. DEMENTIA MEDICATIONS DESCRIPTION / PRESCRIPTION Cholinesterase inhibitors / Donepezil; Galantamine; Rivastigmine Miscellaneous central nervous system agents / Memantine - Members 81 years of age and older as of December 31 of the measurement year (all product lines) with frailty any time on or between July 1 of the year prior to the measurement year and the end of the measurement year. See attached code value sets.
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Risk Adjustment	No risk adjustment or risk stratification
Stratification	No stratification
Type Score	Rate/proportion better quality = higher score
Algorithm	STEP 1: Determine the eligible population. To do so, identify patients who meet all specified criteria. - AGES: 18 years and older as of December 31 of the measurement year. - EVENT/DIAGNOSIS: Identify patients who were discharged from an acute setting with an AMI from July 1 of the year prior to the measurement year through June 30 of the measurement year. SEE S.6 and S.7 for eligible population and denominator criteria and details. STEP 2: Exclude patients who meet the exclusions criteria. SEE S.8 and S.9 for denominator exclusion criteria and details. STEP 3: Determine the number of patients in the eligible population who were given a 180-day course of treatment with beta blockers post discharge. STEP 4: Identify patients whose dispensed days' supply is ≥ 135 days in the 180-day measurement interval. SEE S.4 and S.5 for numerator criteria and details. STEP 5: Calculate the rate by dividing the numerator (STEP 4) by the denominator (after exclusions) (STEP 2). 116000 123834 140881
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	0965 Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients
Steward	American College of Cardiology
Description	Proportion of patients undergoing ICD/CRT-D implant who received prescriptions for all medications (ACE/ARB and beta blockers) for which they are eligible at discharge.
Type	Composite
Data Source	Registry Data National Cardiovascular Data Registry (NCDR) ICD Registry
Level	Facility
Setting	Inpatient/Hospital
Numerator Statement	Generator patients who receive all medications for which they are eligible: 1. ACE/ARB prescribed at discharge (if eligible for ACE/ARB as described in denominator) AND 2. Beta blockers prescribed at discharge (if eligible for beta blockers as described in denominator)
Numerator Details	If eligible for ACE/ARB and given, then code "Yes" If eligible for ACE/ARB but contraindicated, then code "No – medical reason" or "No – patient reason" If eligible for ACE/ARB and not given, then code "No, no reason" If eligible for beta blocker and given, then code "Yes"

	If eligible for beta blocker but contraindicated, then code “No – medical reason” or “No – patient reason” If eligible for beta blocker and not given, then code “No, no reason” If any “No, no reason” present, then performance not met. Else, performance met. Note: Contraindicated and those participating in blinded studies are considered performance met. There are technically no exclusions or exceptions that would remove patients from the denominator.
Denominator Statement	All generator patients surviving hospitalization who are eligible to receive either an ACE/ARB or beta blocker at discharge.
Denominator Details	All generator patients surviving hospitalization who are eligible to receive any one of the two medication classes: 1) ACE/ARB: Patients who have an ejection fraction (EF) of <40% OR 2) Beta blockers: Patients have either: a. EF of <40% AND/OR b. Previous myocardial infarction (MI)
Exclusions	None
Exclusion details	N/A
Risk Adjustment	No risk adjustment or risk stratification
Stratification	N/A
Type Score	Rate/proportion better quality = higher score
Algorithm	1) Check if given patient survived hospitalization and is eligible for 1 of the 2 medication therapies. 2) If eligible for at least 1 medication, then keep this patient. 3) If not eligible for any of the 2 medications, then patient is removed from eligibility. If eligible for ACE/ARB and given, then code “Yes” If eligible for ACE/ARB and not given, then code “No, no reason” If eligible for ACE/ARB but contraindicated, then code “No – medical reason” or “No – patient reason” If eligible for Beta Blocker and given, then code then “Yes” If eligible for Beta Blocker and not given, then code “No, no reason” If eligible for Beta Blocker but contraindicated, then code “No – medical reason” or “No – patient reason” 4) If any “No, no reason” present, then performance not met. Else, performance met. Although ineligible cases are removed from the denominator population for the performance calculation, the number of patients with valid exceptions should be calculated and reported along with performance rates to track variations in care and highlight possible areas of focus for QI. If the patient does not meet the numerator and a valid exception is not present, this case represents a quality failure. Missing data defaults to “performance not met” This measure assumes that missing documentation on the process results in a failure of meeting an evidence based therapy.

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	3534 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR)
Steward	American College of Cardiology
Description	This measure estimates hospital risk standardized odds ratio for death from all causes within 30 days following transcatheter aortic valve replacement. The measure uses clinical data available in the STS/ACC TVT Registry for risk adjustment. For the purpose of development and testing, the measure used site-reported 30-day follow-up data contained in the STS/ACC TVT Registry.
Type	Outcome
Data Source	Registry Data STS/ACC TVT Registry
Level	Facility
Setting	Inpatient/Hospital
Numerator Statement	The outcome of this measure is all-cause death within 30 days following a transcatheter aortic valve replacement (TAVR).
Numerator Details	NUMERATOR: 1. Discharge status of expired or 2. Follow-up status=deceased and date difference between index procedure and death date is <=30 or 3. 30-day follow-up status=deceased, death date is missing, and difference between index procedure and follow-up assessment date is <=75 days. * *Notes: The <=75 day follow-up assessment timeframe was identified to be a clinically reasonable surrogate to capture a 30 day death if 30 day follow-up date of death was missing (this occurred in 0.9% of deceased records from January 2015 to December 2017). Sometimes a status of “deceased” is known and documented but the exact date of death is not available. In addition, we validated the accuracy of 30-day mortality in the TVT Registry by comparing Registry data linked CMS claims data from 2012-2015. Across 3.5 years, 99.6% of the 29,247 patient records had no discrepancy.
Denominator Statement	The target population for the outcome is for individuals who have undergone transcatheter aortic valve replacement. For development, reassessment and reporting of this measure, we use site reported data from the STS/ACC TVT Registry.
Denominator Details	Measure Eligibility and Population Definition 1. Eligibility at the hospital level: a. Acceptable “Data Quality Report” data submissions for each quarter in the reporting period. b. Hospitals must have >=90% completeness of the following items for all patient records in the rolling 3-year reporting period to receive feedback on the measure: i. Computed baseline Kansas City Cardiomyopathy Questionnaire (a key risk model covariate) AND ii. Baseline 5-meter walk test (a key model covariate), AND

	iii. 30-day follow-up status =alive or dead as defined above (the outcome variable) 2. Eligibility at the patient level: Hospitalization for first-time TAVR procedure
Exclusions	1) Hospitals need to meet eligibility criteria to be included in the measure. 2) Patients are excluded if: a) They did not have a first-time TAVR in the episode of care (admission), b) The TAVR was subsequent to another procedure in the Registry (other TAVR, Mitral Leaflet Clip and/or TMVR) during that admission. c) The patient is readmitted for a repeat TAVR (re-admission) and the initial TAVR was performed during the rolling 3-year timeframe for the measure. d) 30-day mortality status missing.
Exclusion details	1) Hospital ineligibility: a. Unacceptable data quality report submissions for all quarters of the reporting time-period. b. Hospitals who have less than 90% of patient records with respect to ANY of the following assessments in the rolling 3-year reporting period: 1. Computed baseline Kansas City Cardiomyopathy Questionnaire (a key risk model covariate) OR 2. Baseline 5 meter walk test (a key model covariate), OR 3. 30 day follow-up status =alive or dead as defined above (the outcome variable) 2) Patient Ineligibility: a. They did not have a first-time TAVR in the episode of care (admission), b. The TAVR was subsequent to another procedure in the Registry (other TAVR, Mitral Leaflet Clip and/or TMVR) during that admission. c. The patient is readmitted for a repeat TAVR (re-admission) and the initial TAVR was performed during the rolling 3-year timeframe for the measure. d. 30-day mortality status is missing.
Risk Adjustment	Statistical risk model
Stratification	This measure will not be stratified.
Type Score	Ratio better quality = lower score
Algorithm	The measure score is calculated based on the following steps: 1) Patient cohort is identified based on inclusion criteria (see questions S.7-S.11) 2) Data elements for risk adjusted are collected using the first collected value, as identified below; 3) Outcome is ascertained (see S.5) 4) Measure score is calculated with aggregated data across all included sites as described below. Risk adjustment variables include: 1. Age 2. Body surface area (BSA) 3. Sex 4. Race/ethnicity 5. Estimated glomerular filtration rate (eGFR), which quantifies kidney function

6.	Hemodialysis for end-stage renal disease
7.	Left ventricular ejection fraction (LVEF)
8.	Hemoglobin
9.	Platelet count
10.	Procedure date
11.	Left main coronary artery stenosis = 50%
12.	Proximal left anterior descending coronary artery stenosis = 70%
13.	Prior myocardial infarction
14.	Endocarditis
15.	Gait speed (via the 5-meter walk test which assesses frailty)
16.	Baseline Kansas City Cardiomyopathy Questionnaire-12 (KCCQ-12, a measure of heart-failure specific health status)
17.	Peripheral artery disease
18.	Current/recent smoker
19.	Diabetes
20.	Atrial fibrillation/flutter
21.	Conduction defect
22.	Chronic lung disease
23.	Home oxygen
24.	"Hostile" chest
25.	Porcelain (severely concentrically calcified) aorta
26.	Access site
27.	Pacemaker
28.	Previous implantable cardioverter defibrillator
29.	Prior percutaneous coronary intervention
30.	Prior coronary artery bypass surgery
31.	# prior cardiac operations
32.	Prior aortic valve surgery/procedure
33.	Prior other valve procedure surgery/procedure (mitral, tricuspid, pulmonic)
34.	Aortic valve disease etiology
35.	Aortic valve morphology
36.	Aortic insufficiency (moderate or severe)
37.	Mitral insufficiency (moderate or severe)
38.	Tricuspid insufficiency (moderate or severe)
39.	Acuity status (defined by a combination of procedure status, prior cardiac arrest w/in 24 hours, need for pre-procedure inotropic medications, and use of mechanical assist device)
40.	Carotid stenosis
41.	Prior transient ischemic attack or stroke
Case mix adjustment is implemented using a hierarchical logistic regression model with the above covariates and a site-specific random intercept. The main summary measure of a hospital's risk-adjusted outcomes performance is the hospital's estimated odds ratio, which compares the predicted odds of death of the patient population at a hospital if TAVR is performed by the hospital of interest to the predicted odds of death if TAVR were performed by an average hospital. An odds ratio greater than 1 implies higher than expected mortality and an odds ratio less than 1 implies lower than expected mortality.	

	Each hospital's estimated odds ratio is reported along with an approximate 95% empirical Bayes interval around the estimated odds ratio. Definition of Measure Score Calculation - Odds ratio: a parameter reflecting the association between risk factors and an outcome. The Risk Standardized Odds Ratio is calculated as the odds that an outcome (e.g. 30-day mortality) will occur for patients treated at your facility compared to the “odds” that outcome will occur for patients with identical risk factors if treated by a hypothetical (average) hospital. It conceptually allows for a comparison of a particular hospital’s performance given its case mix to an average hospital’s performance with the same case mix. Thus, a lower odds ratio implies lower-than-expected mortality (better quality) and a higher ratio implies higher-than-expected mortality (worse quality). To assess hospital performance in any reporting period, we re-estimate the model coefficients using the years of data in that period. References: Normand S-LT, Shahian DM. 2007. Statistical and Clinical Aspects of Hospital Outcomes Profiling. Stat Sci 22 (2): 206-226. Arnold, S.V. et al. Measures in the Risk Adjustment of 30-Day Mortality After Transcatheter Aortic Valve Replacement: A Report From the Society of Thoracic Surgeons/American College of Cardiology TVT Registry JACC: Cardiovascular Interventions Volume 11, Issue 6, 26 March 2018, Pages 581-589 118162
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Appendix E1: Related and Competing Measures (tabular)

Comparison of NQF 0071 and NQF 0070

	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)
Steward	National Committee for Quality Assurance	PCPI Foundation
Description	The percentage of patient's 18 years of age and older during the measurement year who were hospitalized and discharged from July 1 of the year prior to the measurement year to June 30 of the measurement year with a diagnosis of acute myocardial infarction (AMI) and who received persistent beta-blocker treatment for six months after discharge.	Percentage of patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12-month period who also have a prior MI or a current or prior LVEF <40% who were prescribed beta-blocker therapy
Type	Outcome: Intermediate Clinical Outcome	Process
Data Source	Claims This measure is based on administrative claims collected in the course of providing care to health plan members. NCQA collects the Healthcare Effectiveness Data and Information Set (HEDIS) data for this measure directly from health plans via NCQA's online data submission system. No data collection instrument provided Attachment 0071_PBH_Value_Sets_Fall_2019-637091548789757231.xlsx	Registry Data Not applicable. No data collection instrument provided Attachment NQF0070_I9tol10_conversion-636904075196450947.xlsx
Level	Health Plan	Clinician : Group/Practice, Clinician : Individual
Setting	Outpatient Services	Home Care, Other, Outpatient Services, Post-Acute Care Nursing Facility Visit, Care Services in Long-Term Residential Facility
Numerator Statement	Patients who received at least 135 days of treatment with beta-blockers during the 180-day measurement interval.	Patients who were prescribed beta-blocker therapy
Numerator Details	At least 135 days of treatment with beta-blockers during the 180-day measurement interval. 180-day measurement interval – The 180-day period that includes the discharge date and the 179 days after discharge. To determine continuity of treatment during the 180-day period, identify all prescriptions filled within the 180-day measurement interval, and add the number of allowed gap days (up to a total of	Time Period for Data Collection: At least once during the measurement period Definition: Prescribed may include prescription given to the patient for beta-blocker therapy at one or more visits in the measurement period OR patient already taking beta-blocker therapy as documented in current medication list. Beta-blocker therapy:

	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)
	45 days) to the number of treatment days for a maximum of 180 days (i.e., 135 treatment days + 45 gap days = 180 days). Treatment days (days covered) – The actual number of calendar days covered with prescriptions within the specified 180-day measurement interval (i.e., a prescription of a 90-day supply dispensed on the 100th day will have 80 days counted in the 180-day interval). Assess for active prescriptions and include days supply that fall within the 180-day measurement interval. For patients who were on beta-blockers prior to admission and those who were dispensed an ambulatory prescription during their inpatient stay, factor those prescriptions into adherence rates if the actual treatment days fall within the 180-day measurement interval. PBH-B BETA-BLOCKER MEDICATIONS DESCRIPTION / PRESCRIPTION Noncardioselective beta-blockers / Carvedilol; Labetalol; Nadolo; Penbutolol; Pindolol; Propranolol; Timolol; Sotalol Cardioselective beta-blockers / Acebutolol; Atenolol; Betaxolol; Bisoprolol; Metoprolol; Nebivolol Antihypertensive combinations / Atenolol-chlorthalidone; Bendroflumethiazide-nadolol; Bisoprolol-hydrochlorothiazide; Hydrochlorothiazide-metoprolol; Hydrochlorothiazide-propranolol See attached code value sets.	- For patients with prior LVEF <40%, beta-blocker therapy includes the following: bisoprolol, carvedilol, or sustained release metoprolol succinate. - For patients with prior MI, beta-blocker therapy includes any agent within the beta-blocker drug class. As of 2015, no recommendations or evidence are cited in current stable ischemic heart disease guidelines for preferential use of specific agents. Numerator Note: To meet the intent of the measure, the numerator quality action must be performed at the encounter at which the active diagnosis of CAD or history of cardiac surgery proxy is documented. For Submission Criteria 1, report Quality Data Code, G9189: Beta-blocker therapy prescribed or currently being taken For Submission Criteria 2, report CPT Category II Code, 4008F: Beta-blocker therapy prescribed or currently being taken
Denominator Statement	An acute inpatient discharge from July 1 of the year prior to the measurement year through June 30 of the measurement year with any diagnosis of acute myocardial infarction (AMI) on the discharge claim.	All patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12-month period who also have a prior (within the past 3 years) MI or a current or prior LVEF < 40%
Denominator Details	Patients who had continuous enrollment from discharge date through 179 days after discharge. No more than one gap in continuous enrollment of up to 45 days within the 180 days of the event. If the patient has Medicaid, then no more than a 1-month gap in coverage.	Time Period for Data Collection: 12 consecutive months Denominator Note: The history of cardiac surgery serves as a proxy for a diagnosis of CAD; a diagnosis is not needed if the patient has documented history of cardiac surgery. Only one of the two criteria – a diagnosis of CAD or history of cardiac surgery proxy – is required. To meet

	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)
	An acute inpatient discharge from July 1 of the year prior to the measurement year through June 30 of the measurement year with any diagnosis of acute myocardial infarction (AMI) on the discharge claim. To identify an acute inpatient discharge: 1. Identify all acute and nonacute inpatient stays. 2. Exclude nonacute inpatient stays. 3. Identify the discharge date for the stay. If a patient has more than one episode of AMI that meets the event/diagnosis criteria, from July 1 of the year prior to the measurement year through June 30 of the measurement year, include only the first discharge. Direct transfers to an acute inpatient care setting: If a patient had a direct transfer to an acute inpatient setting (for any diagnosis), use the discharge date from the transfer setting, not the initial discharge. Exclude both the initial discharge and the direct transfer discharge if the transfer discharge occurs after June 30 of the measurement year. Use the instructions below to identify direct transfers and exclude nonacute inpatient stays. Direct transfers to a nonacute inpatient care setting: Exclude from the denominator, hospitalizations in which the patient had a direct transfer to a nonacute inpatient care setting for any diagnosis. Use the instructions below to identify direct transfers and confirm the stay was for nonacute inpatient care based on the presence of a nonacute code on the claim. A direct transfer is when the discharge date from the first inpatient setting precedes the admission date to a second inpatient setting by one calendar day or less. For example:	the denominator criteria, a patient must have an active diagnosis of CAD (or proxy documented) at the time of the encounter which is used to qualify for the denominator and evaluate the numerator. The encounter used to evaluate the numerator counts as 1 of the 2 encounters required for denominator inclusion. If the patient meets the CAD diagnosis criterion, the diagnosis needs to be active only at the encounter being evaluated for the numerator action. If the patient meets the proxy of a history of cardiac surgery inclusion criterion, there should be documentation of the proxy at the encounter being evaluated for the numerator action. Prior Myocardial Infarction (MI) – for Submission Criteria 2, prior MI is limited to those occurring within the past 3 years. Submission Criteria 1: Patients with left ventricular systolic dysfunction (LVEF <40%) Patients aged >= 18 years on date of encounter AND Diagnosis for coronary artery disease (ICD-10-CM): I20.0, I20.1, I20.8, I20.9, I24.0, I24.1, I24.8, I24.9, I25.10, I25.110, I25.111, I25.118, I25.119, I25.5, I25.6, I25.700, I25.701, I25.708, I25.709, I25.710, I25.711, I25.718, I25.719, I25.720, I25.721, I25.728, I25.729, I25.730, I25.731, I25.738, I25.739, I25.750, I25.751, I25.758, I25.759, I25.760, I25.761, I25.768, I25.769, I25.790, I25.791, I25.798, I25.799, I25.810, I25.811, I25.812, I25.82, I25.83, I25.89, I25.9, Z95.1, Z95.5, Z98.61 OR History of cardiac surgery (CPT): 33140, 33510, 33511, 33512, 33513, 33514, 33516, 33517, 33518, 33519, 33521, 33522, 33523, 33533, 33534, 33535, 33536, 92920, 92924, 92928, 92933, 92937, 92941, 92943, 92980, 92981, 92982, 92984, 92995, 92996 AND Patient encounter during performance period – to be used for numerator evaluation (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245,

	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)
	- An inpatient discharge on June 1, followed by an admission to another inpatient setting on June 1, is a direct transfer. - An inpatient discharge on June 1, followed by an admission to an inpatient setting on June 2, is a direct transfer. - An inpatient discharge on June 1, followed by an admission to another inpatient setting on June 3, is not a direct transfer; these are two distinct inpatient stays. Use the following method to identify admissions to and discharges from inpatient settings. 1. Identify all acute and nonacute inpatient stays. 2. If needed, identify nonacute inpatient stays. 3. Identify the admission and discharge dates for the stay.	99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350 WITHOUT Telehealth Modifier: GQ, GT, 95, POS 02 AND At least one additional patient encounter during performance period (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350 WITH OR WITHOUT Telehealth Modifier: GQ, GT, 95, POS 02 AND Left ventricular ejection fraction (LVEF) < 40%: G8694 Submission Criteria 2: Patients with a prior (within the past 3 years) myocardial infarction Patients aged >= 18 years on date of encounter AND Diagnosis for coronary artery disease (ICD-10-CM): I20.0, I20.1, I20.8, I20.9, I24.0, I24.1, I24.8, I24.9, I25.10, I25.110, I25.111, I25.118, I25.119, I25.5, I25.6, I25.700, I25.701, I25.708, I25.709, I25.710, I25.711, I25.718, I25.719, I25.720, I25.721, I25.728, I25.729, I25.730, I25.731, I25.738, I25.739, I25.750, I25.751, I25.758, I25.759, I25.760, I25.761, I25.768, I25.769, I25.790, I25.791, I25.798, I25.799, I25.810, I25.811, I25.812, I25.82, I25.83, I25.89, I25.9, Z95.1, Z95.5, Z98.61 OR History of cardiac surgery (CPT): 33140, 33510, 33511, 33512, 33513, 33514, 33516, 33517, 33518, 33519, 33521, 33522, 33523, 33533, 33534, 33535, 33536, 92920, 92924, 92928, 92933, 92937, 92941, 92943, 92980, 92981, 92982, 92984, 92995, 92996

	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)
		AND Diagnosis for myocardial infarction– includes patient that had a prior (within the past 3 years) myocardial infarction (ICD-10-CM): I21.01, I21.02, I21.09, I21.11, I21.19, I21.21, I21.29, I21.3, I21.4, I21.9, I21.A1, I21.A9, I22.0, I22.1, I22.2, I22.8, I22.9, I24.1, I25.2 AND Patient encounter during performance period – to be used for numerator evaluation (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350 WITHOUT Telehealth Modifier: GQ, GT, 95, POS 02 AND At least one additional patient encounter during performance period (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350 WITH OR WITHOUT Telehealth Modifier: GQ, GT, 95, POS 02
Exclusions	Any of the following any time during the patient’s history through the end of the continuous enrollment period meet criteria: - Asthma - COPD - Obstructive chronic bronchitis - Chronic respiratory conditions due to fumes and vapors - Hypotension, heart block >1 degree or sinus bradycardia - A medication dispensing event indicative of a history of asthma - Intolerance or allergy to beta-blocker therapy	Denominator Exceptions: Documentation of medical reason(s) for not prescribing beta-blocker therapy (e.g., allergy, intolerance, other medical reasons). Documentation of patient reason(s) for not prescribing beta-blocker therapy (e.g., patient declined, other patient reasons). Documentation of system reason(s) for not prescribing beta-blocker therapy (e.g., other reasons attributable to the health care system).

	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)
	Additionally, this measure excludes adults in hospice. It also excludes adults with advanced illness and frailty, as well as Medicare adults 65 years of age and older enrolled in an I-SNP or living long-term in institutional settings.	
Exclusion Details	Patients identified as having an intolerance or allergy to beta-blocker therapy. Any of the following any time during the patient's history through the end of the continuous enrollment period meet criteria: - Asthma - COPD - Obstructive chronic bronchitis - Chronic respiratory conditions due to fumes and vapors - Hypotension, heart block >1 degree or sinus bradycardia - A medication dispensing event indicative of a history of asthma MEDICATIONS TO IDENTIFY HISTORY OF ASTHMA DESCRIPTION / PRESCRIPTION Bronchodilator combinations / Budesonide-formoterol; Fluticasone-vilantero; Fluticasone-salmeterol; Formoterol-mometasone Inhaled corticosteroids / Beclomethasone; Budesonide; Ciclesonide; Flunisolide; Fluticasone; Mometasone Exclude patients who use hospice services or elect to use a hospice benefit any time during the measurement year, regardless of when the services began. These patients may be identified using various methods, which may include but are not limited to enrollment data, medical record or claims/encounter data. Exclude adults who meet any of the following criteria: - Medicare members 66 years of age and older as of December 31 of the measurement year who meet either of the following: -- Enrolled in an Institutional SNP (I-SNP) any time on or between July 1 of the year prior to the measurement year and the end of the measurement year.	Time Period for Data Collection: During the encounter within the 12-month period Exceptions are used to remove a patient from the denominator of a performance measure when the patient does not receive a therapy or service AND that therapy or service would not be appropriate due to patient-specific reasons. The patient would otherwise meet the denominator criteria. Exceptions are not absolute, and are based on clinical judgment, individual patient characteristics, or patient preferences. The PCPI exception methodology uses three categories of reasons for which a patient may be removed from the denominator of an individual measure. These measure exception categories are not uniformly relevant across all measures; for each measure, there must be a clear rationale to permit an exception for a medical, patient, or system reason. Examples are provided in the measure exception language of instances that may constitute an exception and are intended to serve as a guide to clinicians. For measure Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%), exceptions may include medical reason(s) (eg, allergy, intolerance, other medical reasons), patient reason(s) (eg, patient declined, other patient reasons), or system reason(s) (eg, other reasons attributable to the health care system) for not prescribing beta-blocker therapy. Although this methodology does not require the external reporting of more detailed exception data, the PCPI recommends that physicians document the specific reasons for exception in patients' medical records for purposes of optimal patient management and audit-readiness. The PCPI also advocates the systematic review and analysis of each physician's exceptions data to identify practice patterns and opportunities.

	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)
	-- Living long-term in an institution any time on or between July 1 of the year prior to the measurement year and the end of the measurement year as identified by the LTI flag in the Monthly Membership Detail Data File. Use the run date of the file to determine if an adult had an LTI flag any time on or between July 1 of the year prior to the measurement year and the end of the measurement year. - Members 66-80 years of age as of December 31 of the measurement year (all product lines) with frailty and advanced illness. Adults must meet BOTH of the following frailty and advanced illness criteria to be excluded: 1. At least one claim/encounter for frailty any time on or between July 1 of the year prior to the measurement year and the end of the measurement year. 2. Any of the following during the measurement year or the year prior to the measurement year (count services that occur over both years): -- At least two outpatient visits, observation visits, ED visits, nonacute inpatient encounters or nonacute inpatient discharges (instructions below) on different dates of service, with an advanced illness diagnosis. Visit type need not be the same for the two visits. To identify a nonacute inpatient discharge: 1. Identify all acute and nonacute inpatient stays. 2. Confirm the stay was for nonacute care based on the presence of a nonacute code on the claim. 3. Identify the discharge date for the stay. -- At least one acute inpatient encounter with an advanced illness diagnosis. -- At least one acute inpatient discharge with an advanced illness diagnosis. To identify an acute inpatient discharge: 1. Identify all acute and nonacute inpatient stays. 2. Exclude nonacute inpatient stays. 3. Identify the discharge date for the stay.	Additional details are as follows: For Submission Criteria 1 – Report Quality Data Code, G9190: Documentation of medical reason(s) for not prescribing beta-blocker therapy (eg, allergy, intolerance, other medical reasons). Report Quality Data Code, G9191: Documentation of patient reason(s) for not prescribing beta-blocker therapy (eg, patient declined, other patient reasons). Report Quality Data Code, G9192: Documentation of system reason(s) for not prescribing beta-blocker therapy (eg, other reasons attributable to the health care system). For Submission Criteria 2 – Append a modifier to CPT Category II Code: 4008F-1P: Documentation of medical reason(s) for not prescribing beta-blocker therapy (eg, allergy, intolerance, other medical reasons). 4008F-2P: Documentation of patient reason(s) for not prescribing beta-blocker therapy (eg, patient declined, other patient reasons). 4008F-3P: Documentation of system reason(s) for not prescribing beta-blocker therapy (eg, other reasons attributable to the health care system).

	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)
	-- A dispensed dementia medication. DEMENTIA MEDICATIONS DESCRIPTION / PRESCRIPTION Cholinesterase inhibitors / Donepezil; Galantamine; Rivastigmine Miscellaneous central nervous system agents / Memantine - Members 81 years of age and older as of December 31 of the measurement year (all product lines) with frailty any time on or between July 1 of the year prior to the measurement year and the end of the measurement year. See attached code value sets.	
Risk Adjustment	No risk adjustment or risk stratification 116000 123834 140881 116000 123834 140881	No risk adjustment or risk stratification 140560 135810 117446 140560 135810 117446
Stratification	No stratification	Consistent with CMS' Measures Management System Blueprint and national recommendations put forth by the IOM (now NASEM) and NQF to standardize the collection of race and ethnicity data, we encourage the results of this measure to be stratified by race, ethnicity, administrative sex, and payer.
Type Score	Rate/proportion better quality = higher score	Rate/proportion better quality = higher score
Algorithm	STEP 1: Determine the eligible population. To do so, identify patients who meet all specified criteria. - AGES: 18 years and older as of December 31 of the measurement year. - EVENT/DIAGNOSIS: Identify patients who were discharged from an acute setting with an AMI from July 1 of the year prior to the measurement year through June 30 of the measurement year. SEE S.6 and S.7 for eligible population and denominator criteria and details. STEP 2: Exclude patients who meet the exclusions criteria. SEE S.8 and S.9 for denominator exclusion criteria and details.	This measure is comprised of two submission criteria but is intended to result in one reporting rate. The reporting rate is the aggregate of Submission Criteria 1 and Submission Criteria 2, resulting in a single performance rate. For the purposes of this measure, the single performance rate can be calculated as follows: Performance Rate = (Numerator 1 + Numerator 2)/ [(Denominator 1 - Denominator Exceptions 1) + (Denominator 2 - Denominator Exceptions 2)] Calculation algorithm for Submission Criteria 1: Patients with left ventricular systolic dysfunction (LVEF <40%) 1. Find the patients who meet the initial population (i.e., the general group of patients that a set of performance measures is designed to address).

	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)
	STEP 3: Determine the number of patients in the eligible population who were given a 180-day course of treatment with beta blockers post discharge. STEP 4: Identify patients whose dispensed days' supply is ≥ 135 days in the 180-day measurement interval. SEE S.4 and S.5 for numerator criteria and details. STEP 5: Calculate the rate by dividing the numerator (STEP 4) by the denominator (after exclusions) (STEP 2). 116000 123834 140881	2. From the patients within the initial population criteria, find the patients who qualify for the denominator (i.e., the specific group of patients for inclusion in a specific performance measure based on defined criteria). Note: in some cases the initial population and denominator are identical. 3. From the patients within the denominator, find the patients who meet the numerator criteria (i.e., the group of patients in the denominator for whom a process or outcome of care occurs). Validate that the number of patients in the numerator is less than or equal to the number of patients in the denominator 4. From the patients who did not meet the numerator criteria, determine if the provider has documented that the patient meets any criteria for exception when denominator exceptions have been specified [for this measure: medical reason(s) (e.g., allergy, intolerance, other medical reasons), patient reason(s) (e.g., patient declined, other patient reasons), or system reason(s) (e.g., other reasons attributable to the health care system) for not prescribing beta-blocker therapy]. If the patient meets any exception criteria, they should be removed from the denominator for performance calculation. --Although the exception cases are removed from the denominator population for the performance calculation, the exception rate (i.e., percentage with valid exceptions) should be calculated and reported along with performance rates to track variations in care and highlight possible areas of focus for QI. If the patient does not meet the numerator and a valid exception is not present, this case represents a quality failure. Calculation algorithm for Submission Criteria 2: Patients with a prior (within the past 3 years) myocardial infarction 1. Find the patients who meet the initial population (ie, the general group of patients that a set of performance measures is designed to address). 2. From the patients within the initial population criteria, find the patients who qualify for the denominator (i.e., the specific group of patients for inclusion in a specific performance measure based on

	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)
		defined criteria). Note: in some cases the initial population and denominator are identical. 3. From the patients within the denominator, find the patients who meet the numerator criteria (i.e., the group of patients in the denominator for whom a process or outcome of care occurs). Validate that the number of patients in the numerator is less than or equal to the number of patients in the denominator 4. From the patients who did not meet the numerator criteria, determine if the provider has documented that the patient meets any criteria for exception when denominator exceptions have been specified [for this measure: medical reason(s) (e.g., allergy, intolerance, other medical reasons), patient reason(s) (e.g., patient declined, other patient reasons), or system reason(s) (eg, other reasons attributable to the health care system) for not prescribing beta-blocker therapy]. If the patient meets any exception criteria, they should be removed from the denominator for performance calculation. --Although the exception cases are removed from the denominator population for the performance calculation, the exception rate (i.e., percentage with valid exceptions) should be calculated and reported along with performance rates to track variations in care and highlight possible areas of focus for QI. If the patient does not meet the numerator and a valid exception is not present, this case represents a quality failure. 140560 135810 117446
Submission items	5.1 Identified measures: 0070 : Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%) 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: DUE TO THE TEXT LIMIT IN THIS SECTION – WE ARE PROVIDING OUR ANSWER FOR 5a.2 IN SECTION 5b.1	5.1 Identified measures: 0083 : Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD) 0117 : Beta Blockade at Discharge 0127 : Preoperative Beta Blockade 0071 : Persistence of Beta-Blocker Treatment After a Heart Attack 0070e : Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)
	5b.1 If competing, why superior or rationale for additive value: ANSWER FOR SECTION 5a.2 NCQA's current Persistence of Beta Blocker Treatment After a Heart Attack measure (NQF measure 0071) uses health plan-reported data to assess the percentage of patients 18 years of age and older during the measurement year who were discharged with a diagnosis of AMI during the 6 months prior to the beginning of the measurement year through the 6 months after the beginning of the measurement year and who received persistent beta-blocker treatment for six months after discharge. RELATED NQF MEASURE 0070 (Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)): This measure assesses the percentage of patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12-month period who also have a prior MI or a current left ventricular ejection fraction (LVEF) <40% who were prescribed beta-blocker therapy. HARMONIZED MEASURE ELEMENTS: Measure 0071 and 0070 focus on patients 18 years and older who are prescribed beta-blocker treatment post-discharge after having a MI or history of MI. The National Quality Strategy Priorities classification for both measures is Prevention and Treatment of Cardiovascular Disease. Both measures exclude patients who are allergic or have an intolerance to beta blockers. DIFFERENCES: Below are the unharmonized measure elements between measure 0071 and measure 0070: Measure 0071 focuses on beta-blocker treatment post a MI and Measure 0070 focuses on patients who have a prior MI or a current or prior LVEF <40%.	0083e : Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD) 5a.1 Are specs completely harmonized? Yes 5a.2 If not completely harmonized, identify difference, rationale, impact: Measure 0070 addresses a patient population of patients with CAD and either a recent prior MI or LVSD. This patient population is also covered in part by the following NQF-endorsed measures: NQF 0071: Persistence of Beta-Blocker Treatment After a Heart Attack and NQF 0083 and 0083e: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD). The specifications are harmonized to the extent possible. As a result, the denominator specifications for the measures differ where needed based on the differing patient populations. Additionally, NQF 0071 is intended for use at the health plan level. NQF 0117 is an inpatient/hospital level measure and includes only patients who have undergone isolated CABG surgery. NQF 0127 is also an inpatient/hospital level measure that focuses on administration of beta-blockers prior to isolated CABG surgery. Measure 0070e is the EHR version of this measure and is completely harmonized. 5b.1 If competing, why superior or rationale for additive value:

	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)
	- Data Source: Data for measure 0071 is collected through administrative claims, electronic clinical data, and pharmacy data, while data for measure 0070 is collected through medical record, electronic health record data, electronic clinical data, and paper records - Level of Accountability: Measure 0071 is a health plan level measure while measure 0070 is a clinician-level measure. - Population: Measure 0071 focuses on patients who were diagnosed with a MI and discharged and prescribed a beta-blocker therapy treatment. Measure 0070 focuses on patients in a measurement year with a diagnosis of coronary artery diseases who also have a prior MI or current or prior LVEF. - Exclusions: The difference in exclusions is that measure 0071 specifies asthma, COPD, obstructive chronic bronchitis, chronic respiratory conditions due to fumes and vapors, hypotension, heart block >1 degree, sinus bradycardia, and medication dispensing events indicative of a history of asthma as exclusions. Additionally, measure 0071 excludes hospitalizations in which the patient was transferred directly to a nonacute care facility for any diagnosis, patients enrolled in an I-SNP, patients living long-term in an institution, patients 66-80 years of age with frailty and advanced illness, and patients 81 years of age and older with frailty. Measure 0070 exclusions include: documentation of patient reason(s) for not prescribing beta-blocker therapy (e.g., patient declined, other patient reasons) and documentation of system reason(s) for not prescribing beta-blocker therapy (e.g., other reasons attributable to the health care system). IMPACT ON INTERPRETABILITY AND DATA COLLECTION BURDEN: The differences between measures 0071 and 0070 do not have an impact on interpretability of publicly reported rates, or the burden of data collection, because all data for both measures are collected from different data sources by different entities. ANSWER FOR SECTION 5b.1	

	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)
	Our current measure has a long-standing history of use by health plans and has been implemented for nearly 15 years.	

Comparison of NQF 0965, NQF 0066, NQF 0070, NQF 0071, and NQF 0081

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
Steward	American College of Cardiology	American Heart Association/American Stroke Association	PCPI Foundation	National Committee for Quality Assurance	PCPI Foundation
Description	Proportion of patients undergoing ICD/CRT-D implant who received prescriptions for all medications (ACE/ARB and beta blockers) for which they are eligible at discharge.	Percentage of patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12 month period who also have diabetes OR a current or prior Left Ventricular Ejection Fraction (LVEF) < 40% who were prescribed ACE inhibitor or ARB therapy	Percentage of patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12-month period who also have a prior MI or a current or prior LVEF <40% who were prescribed beta-blocker therapy	The percentage of patient's 18 years of age and older during the measurement year who were hospitalized and discharged from July 1 of the year prior to the measurement year to June 30 of the measurement year with a diagnosis of acute myocardial infarction (AMI) and who received persistent beta-blocker treatment for six months after discharge.	Percentage of patients aged 18 years and older with a diagnosis of heart failure (HF) with a current or prior left ventricular ejection fraction (LVEF) < 40% who were prescribed ACE inhibitor or ARB or ARNI therapy either within a 12-month period when seen in the outpatient setting OR at each hospital discharge
Type	Composite	Process	Process	Outcome: Intermediate Clinical Outcome	Process

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
Data Source	Registry Data National Cardiovascular Data Registry (NCDR) ICD Registry Available in attached appendix at A.1 Attachment icd_v2_codersdatadictionary_2-2-637061353934779116-637088191497113357.pdf	Registry Data This measure is currently being used in the ACCF PINNACLE registry for the outpatient office setting No data collection instrument provided Attachment NQF0066__I9tol10_conversion-637065936225258259.xlsx	Registry Data Not applicable. No data collection instrument provided Attachment NQF0070_I9tol10_conversion-636904075196450947.xlsx	Claims This measure is based on administrative claims collected in the course of providing care to health plan members. NCQA collects the Healthcare Effectiveness Data and Information Set (HEDIS) data for this measure directly from health plans via NCQA's online data submission system. No data collection instrument provided Attachment 0071_PBH_Value_Sets_Fall_2019-637091548789757231.xlsx	Registry Data Not applicable No data collection instrument provided Attachment NQF0081_I9tol10_conversion_2019Apr09.xlsx
Level	Facility	Clinician : Group/Practice, Clinician : Individual	Clinician : Group/Practice, Clinician : Individual	Health Plan	Clinician : Group/Practice, Clinician : Individual
Setting	Inpatient/Hospital	Home Care, Outpatient Services, Post-Acute Care	Home Care, Other, Outpatient Services, Post-Acute Care Nursing Facility Visit, Care Services in Long-Term Residential Facility	Outpatient Services	Home Care, Inpatient/Hospital, Other, Outpatient Services Domiciliary, Nursing Facility

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
Numerator Statement	Generator patients who receive all medications for which they are eligible: 1. ACE/ARB prescribed at discharge (if eligible for ACE/ARB as described in denominator) AND 2. Beta blockers prescribed at discharge (if eligible for beta blockers as described in denominator)	Patients who were prescribed ACE inhibitor or ARB therapy	Patients who were prescribed beta-blocker therapy	Patients who received at least 135 days of treatment with beta-blockers during the 180-day measurement interval.	Patients who were prescribed ACE inhibitor or ARB or ARNI therapy either within a 12-month period when seen in the outpatient setting OR at each hospital discharge
Numerator Details	If eligible for ACE/ARB and given, then code "Yes" If eligible for ACE/ARB but contraindicated, then code "No – medical reason" or "No – patient reason" If eligible for ACE/ARB and not given, then code "No, no reason" If eligible for beta blocker and given, then code "Yes" If eligible for beta blocker but contraindicated, then code "No – medical	Numerator Definition: Prescribed – May include prescription given to the patient for ACE inhibitor or ARB therapy at one or more visits in the measurement period OR patient already taking ACE inhibitor or ARB therapy as documented in current medication list. FOR POPULATION 1: Patients who are 18 years and older with a diagnosis of CAD with LVEF < 40%	Time Period for Data Collection: At least once during the measurement period Definition: Prescribed may include prescription given to the patient for beta-blocker therapy at one or more visits in the measurement period OR patient already taking beta-blocker therapy as documented in current medication list.	At least 135 days of treatment with beta-blockers during the 180-day measurement interval. 180-day measurement interval – The 180-day period that includes the discharge date and the 179 days after discharge. To determine continuity of treatment during the 180-day period, identify all prescriptions filled within the 180-day measurement interval, and add the	Time Period for Data Collection: At least once during the measurement period when seen in the outpatient setting OR at each hospital discharge Definition: Prescribed-Outpatient setting: prescription given to the patient for ACE inhibitor or ARB or ARNI therapy at one or more visits in the measurement period OR patient already taking ACE inhibitor or ARB or ARNI therapy as documented in current medication list. Prescribed-Inpatient setting: prescription given to the patient for

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
	reason” or “No – patient reason” If eligible for beta blocker and not given, then code “No, no reason” If any “No, no reason” present, then performance not met. Else, performance met. Note: Contraindicated and those participating in blinded studies are considered performance met. There are technically no exclusions or exceptions that would remove patients from the denominator.	Report Quality Data Code G8935: Clinician prescribed angiotensin converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) therapy FOR POPULATION 2: Patients who are 18 years and older with a diagnosis of CAD who have diabetes Report Quality Data Code G8473: Angiotensin converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) therapy prescribed Note: For reporting, the two populations are combined for a single reported performance score on the combined measure population. If a patient has both diabetes and LVSD, reporting criteria #2 (CAD with diabetes) will count as	Beta-blocker therapy: - For patients with prior LVEF <40%, beta-blocker therapy includes the following: bisoprolol, carvedilol, or sustained release metoprolol succinate. - For patients with prior MI, beta-blocker therapy includes any agent within the beta-blocker drug class. As of 2015, no recommendations or evidence are cited in current stable ischemic heart disease guidelines for preferential use of specific agents. Numerator Note: To meet the intent of the measure, the numerator quality action must be performed at the encounter at which the active diagnosis of CAD or history of cardiac	number of allowed gap days (up to a total of 45 days) to the number of treatment days for a maximum of 180 days (i.e., 135 treatment days + 45 gap days = 180 days). Treatment days (days covered) – The actual number of calendar days covered with prescriptions within the specified 180-day measurement interval (i.e., a prescription of a 90-day supply dispensed on the 100th day will have 80 days counted in the 180-day interval). Assess for active prescriptions and include days supply that fall within the 180-day measurement interval. For patients who were on beta-blockers prior to admission and those who were dispensed an ambulatory prescription during their inpatient stay, factor those prescriptions	ACE inhibitor or ARB or ARNI therapy at discharge OR ACE inhibitor or ARB or ARNI therapy to be continued after discharge as documented in the discharge medication list. Numerator Note: To meet the intent of the measure, the numerator quality action must be performed at the encounter at which the active diagnosis of heart failure is documented. Eligible clinicians who have given a prescription for or whose patient is already taking an Angiotensin-Converting Enzyme Inhibitor (ACEI) or Angiotensin Receptor Blocker (ARB) would meet performance for this measure. Other combination therapies that consist of an ACEI plus diuretic, ARB + neprilysin inhibitor (ARNI), ARB plus diuretic, ACEI plus calcium channel blocker, ARB plus calcium channel blocker, or ARB plus calcium channel blocker plus diuretic would also meet performance for this measure. For Submission Criteria 1 and Submission Criteria 2, report CPT

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
		appropriate reporting for this patient.	surgery proxy is documented. For Submission Criteria 1, report Quality Data Code, G9189: Beta-blocker therapy prescribed or currently being taken For Submission Criteria 2, report CPT Category II Code, 4008F: Beta-blocker therapy prescribed or currently being taken	into adherence rates if the actual treatment days fall within the 180-day measurement interval. PBH-B BETA-BLOCKER MEDICATIONS DESCRIPTION / PRESCRIPTION Noncardioselective beta-blockers / Carvedilol; Labetalol; Nadolo; Penbutolol; Pindolol; Propranolol; Timolol; Sotalol Cardioselective beta-blockers / Acebutolol; Atenolol; Betaxolol; Bisoprolol; Metoprolol; Nebivolol Antihypertensive combinations / Atenolol-chlorthalidone; Bendroflumethiazide-nadolol; Bisoprolol-hydrochlorothiazide; Hydrochlorothiazide-metoprolol; Hydrochlorothiazide-propranolol	Category II Code, 4010F: Angiotensin converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) therapy prescribed or currently being taken (NOTE to NQF: Based on the language revision, PCPI is requesting updated coding and descriptor.)

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
				See attached code value sets.	
Denominator or Statement	All generator patients surviving hospitalization who are eligible to receive either an ACE/ARB or beta blocker at discharge.	All patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12 month period who also have diabetes OR current or prior LVEF <40%	All patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12-month period who also have a prior (within the past 3 years) MI or a current or prior LVEF < 40%	An acute inpatient discharge from July 1 of the year prior to the measurement year through June 30 of the measurement year with any diagnosis of acute myocardial infarction (AMI) on the discharge claim.	All patients aged 18 years and older with a diagnosis of heart failure with a current or prior LVEF < 40%
Denominator or Details	All generator patients surviving hospitalization who are eligible to receive any one of the two medication classes: 1) ACE/ARB: Patients who have an ejection fraction (EF) of <40% OR 2) Beta blockers: Patients have either: a. EF of <40% AND/OR b. Previous myocardial infarction (MI)	FOR POPULATION 1: Patients who are 18 years and older with a diagnosis of CAD with LVEF < 40% Denominator Definition: LVEF < 40% corresponds to qualitative documentation of moderate dysfunction or severe dysfunction. Patients aged >= 18 years AND Diagnosis for coronary artery disease (ICD-9-CM) [reportable through 9/30/2015]: 410.00, 410.01, 410.02, 410.10,	Time Period for Data Collection: 12 consecutive months Denominator Note: The history of cardiac surgery serves as a proxy for a diagnosis of CAD; a diagnosis is not needed if the patient has documented history of cardiac surgery. Only one of the two criteria – a diagnosis of CAD or history of cardiac surgery proxy – is required. To meet the denominator criteria, a patient must	Patients who had continuous enrollment from discharge date through 179 days after discharge. No more than one gap in continuous enrollment of up to 45 days within the 180 days of the event. If the patient has Medicaid, then no more than a 1-month gap in coverage. An acute inpatient discharge from July 1 of the year prior to the measurement year through June 30 of the measurement year with any	Time Period for Data Collection: 12 consecutive months Denominator Note: LVEF < 40% corresponds to qualitative documentation of moderate dysfunction or severe dysfunction. The LVSD may be determined by quantitative or qualitative assessment, which may be current or historical. Examples of a quantitative or qualitative assessment may include an echocardiogram: 1) that provides a numerical value of LVSD or 2) that uses descriptive terms such as moderately or severely depressed left ventricular systolic function. Any current or prior ejection fraction study

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
		410.11, 410.12, 410.20, 410.21, 410.22, 410.30, 410.31, 410.32, 410.40, 410.41, 410.42, 410.50, 410.51, 410.52, 410.60, 410.61, 410.62, 410.70, 410.71, 410.72, 410.80, 410.81, 410.82, 410.90, 410.91, 410.92, 411.0, 411.1, 411.81, 411.89, 412, 413.0, 413.1, 413.9, 414.00, 414.01, 414.02, 414.03, 414.04, 414.05, 414.06, 414.07, 414.2, 414.3, 414.8, 414.9, V45.81, V45.82 Diagnosis for coronary artery disease (ICD-10-CM) [reportable beginning 10/01/2015]: I20.0, I20.1, I20.8, I20.9, I21.01, I21.02, I21.09, I21.11, I21.19, I21.21, I21.29, I21.3, I21.4, I22.0, I22.1, I22.2, I22.8, I22.9, I24.0, I24.1, I24.8, I24.9, I25.10, I25.110, I25.111, I25.118, I25.119, I25.2, I25.5, I25.6, I25.700, I25.701, I25.708, I25.709,	have an active diagnosis of CAD (or proxy documented) at the time of the encounter which is used to qualify for the denominator and evaluate the numerator. The encounter used to evaluate the numerator counts as 1 of the 2 encounters required for denominator inclusion. If the patient meets the CAD diagnosis criterion, the diagnosis needs to be active only at the encounter being evaluated for the numerator action. If the patient meets the proxy of a history of cardiac surgery inclusion criterion, there should be documentation of the proxy at the encounter being evaluated for the numerator action. Prior Myocardial Infarction (MI) – for	diagnosis of acute myocardial infarction (AMI) on the discharge claim. To identify an acute inpatient discharge: 1. Identify all acute and nonacute inpatient stays. 2. Exclude nonacute inpatient stays. 3. Identify the discharge date for the stay. If a patient has more than one episode of AMI that meets the event/diagnosis criteria, from July 1 of the year prior to the measurement year through June 30 of the measurement year, include only the first discharge. Direct transfers to an acute inpatient care setting: If a patient had a direct transfer to an acute inpatient setting (for any diagnosis), use the	documenting LVSD can be used to identify patients. To meet the denominator criteria, a patient must have an active diagnosis of heart failure at the time of the encounter which is used to qualify for the denominator and evaluate the numerator. The encounter used to evaluate the numerator counts as 1 of the 2 encounters required for denominator inclusion. If the patient meets the heart failure diagnosis criterion, the diagnosis needs to be active only at the encounter being evaluated for the numerator action. Submission Criteria 1: Patients who were prescribed ACE inhibitor or ARB therapy within a 12-month period when seen in the outpatient setting Patients aged >= 18 years on date of encounter AND Diagnosis for heart failure (ICD-10-CM): I11.0, I13.0, I13.2, I50.1, I50.20, I50.21, I50.22, I50.23, I50.30, I50.31, I50.32, I50.33, I50.40, I50.41, I50.42,

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
		I25.710, I25.711, I25.718, I25.719, I25.720, I25.721, I25.728, I25.729, I25.730, I25.731, I25.738, I25.739, I25.750, I25.751, I25.758, I25.759, I25.760, I25.761, I25.768, I25.769, I25.790, I25.791, I25.798, I25.799, I25.810, I25.811, I25.812, I25.82, I25.83, I25.89, I25.9, Z95.1, Z95.5, Z98.61 AND Patient encounter during the reporting period (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350 AND	Submission Criteria 2, prior MI is limited to those occurring within the past 3 years. Submission Criteria 1: Patients with left ventricular systolic dysfunction (LVEF <40%) Patients aged >= 18 years on date of encounter AND Diagnosis for coronary artery disease (ICD-10-CM): I20.0, I20.1, I20.8, I20.9, I24.0, I24.1, I24.8, I24.9, I25.10, I25.110, I25.111, I25.118, I25.119, I25.5, I25.6, I25.700, I25.701, I25.708, I25.709, I25.710, I25.711, I25.718, I25.719, I25.720, I25.721, I25.728, I25.729, I25.730, I25.731, I25.738, I25.739, I25.750, I25.751, I25.758, I25.759, I25.760, I25.761, I25.768, I25.769, I25.790, I25.791, I25.798, I25.799, I25.810, I25.811, I25.812,	discharge date from the transfer setting, not the initial discharge. Exclude both the initial discharge and the direct transfer discharge if the transfer discharge occurs after June 30 of the measurement year. Use the instructions below to identify direct transfers and exclude nonacute inpatient stays. Direct transfers to a nonacute inpatient care setting: Exclude from the denominator, hospitalizations in which the patient had a direct transfer to a nonacute inpatient care setting for any diagnosis. Use the instructions below to identify direct transfers and confirm the stay was for nonacute inpatient care based on the presence of a nonacute code on the claim.	I50.43, I50.814, I50.82, I50.83, I50.84, I50.89, I50.9 AND Patient encounter during performance period – to be used for numerator evaluation (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350 WITHOUT Telehealth Modifier: GQ, GT, 95, POS 02 AND At least one additional patient encounter during performance period (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
		Two Denominator Eligible Visits AND Report Quality Data Code: G8934: Left Ventricular Ejection Fraction (LVEF) < 40% or documentation of moderately or severely depressed left ventricular systolic function FOR POPULATION 2: Patients who are 18 years and older with a diagnosis of CAD who have diabetes Patients aged >= 18 years AND Diagnosis for coronary artery disease (ICD-9-CM) [reportable through 9/30/2015]: 410.00, 410.01, 410.02, 410.10, 410.11, 410.12, 410.20, 410.21, 410.22, 410.30, 410.31, 410.32, 410.40, 410.41, 410.42, 410.50, 410.51, 410.52, 410.60, 410.61, 410.62, 410.70, 410.71, 410.72, 410.80,	I25.82, I25.83, I25.89, I25.9, Z95.1, Z95.5, Z98.61 OR History of cardiac surgery (CPT): 33140, 33510, 33511, 33512, 33513, 33514, 33516, 33517, 33518, 33519, 33521, 33522, 33523, 33533, 33534, 33535, 33536, 92920, 92924, 92928, 92933, 92937, 92941, 92943, 92980, 92981, 92982, 92984, 92995, 92996 AND Patient encounter during performance period – to be used for numerator evaluation (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324,	A direct transfer is when the discharge date from the first inpatient setting precedes the admission date to a second inpatient setting by one calendar day or less. For example: - An inpatient discharge on June 1, followed by an admission to another inpatient setting on June 1, is a direct transfer. - An inpatient discharge on June 1, followed by an admission to an inpatient setting on June 2, is a direct transfer. - An inpatient discharge on June 1, followed by an admission to another inpatient setting on June 3, is not a direct transfer; these are two distinct inpatient stays. Use the following method to identify admissions to and	WITH OR WITHOUT Telehealth Modifier: GQ, GT, 95, POS 02 AND Left ventricular ejection fraction (LVEF) less than 40% or documentation of moderately or severely depressed left ventricular systolic function: 3021F Submission Criteria 2: Patients who were prescribed ACE inhibitor or ARB or ARNI therapy at each hospital discharge Patients aged >= 18 years on date of encounter AND Diagnosis for heart failure (ICD-10-CM): I11.0, I13.0, I13.2, I50.1, I50.20, I50.21, I50.22, I50.23, I50.30, I50.31, I50.32, I50.33, I50.40, I50.41, I50.42, I50.43, I50.814, I50.82, I50.83, I50.84, I50.89, I50.9 AND Patient encounter during performance period (CPT): 99238, 99239 AND

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
		410.81, 410.82, 410.90, 410.91, 410.92, 411.0, 411.1, 411.81, 411.89, 412, 413.0, 413.1, 413.9, 414.00, 414.01, 414.02, 414.03, 414.04, 414.05, 414.06, 414.07, 414.2, 414.3, 414.8, 414.9, V45.81, V45.82 Diagnosis for coronary artery disease (ICD-10-CM) [reportable beginning 10/01/2015]: I20.0, I20.1, I20.8, I20.9, I21.01, I21.02, I21.09, I21.11, I21.19, I21.21, I21.29, I21.3, I21.4, I22.0, I22.1, I22.2, I22.8, I22.9, I24.0, I24.1, I24.8, I24.9, I25.10, I25.110, I25.111, I25.118, I25.119, I25.2, I25.5, I25.6, I25.700, I25.701, I25.708, I25.709, I25.710, I25.711, I25.718, I25.719, I25.720, I25.721, I25.728, I25.729, I25.730, I25.731, I25.738, I25.739, I25.750, I25.751, I25.758, I25.759, I25.760, I25.761, I25.768, I25.769, I25.790,	99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350 WITHOUT Telehealth Modifier: GQ, GT, 95, POS 02 AND At least one additional patient encounter during performance period (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350 WITH OR WITHOUT	discharges from inpatient settings. 1. Identify all acute and nonacute inpatient stays. 2. If needed, identify nonacute inpatient stays. 3. Identify the admission and discharge dates for the stay.	Left ventricular ejection fraction (LVEF) less than 40% or documentation of moderately or severely depressed left ventricular systolic function: 3021F

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
		I25.791, I25.798, I25.799, I25.810, I25.811, I25.812, I25.82, I25.83, I25.89, I25.9, Z95.1, Z95.5, Z98.61 AND Diagnosis for diabetes (ICD-9-CM) [reportable through 9/30/2015]: 250.00, 250.01, 250.02, 250.03, 250.10, 250.11, 250.12, 250.13, 250.20, 250.21, 250.22, 250.23, 250.30, 250.31, 250.32, 250.33, 250.40, 250.41, 250.42, 250.43, 250.50, 250.51, 250.52, 250.53, 250.60, 250.61, 250.62, 250.63, 250.70, 250.71, 250.72, 250.73, 250.80, 250.81, 250.82, 250.83, 250.90, 250.91, 250.92, 250.93 Diagnosis for diabetes (ICD-10-CM) [reportable beginning 10/01/2015]: E10.10, E10.11, E10.21, E10.22, E10.29, E10.311, E10.319, E10.321, E10.329, E10.331,	Telehealth Modifier: GQ, GT, 95, POS 02 AND Left ventricular ejection fraction (LVEF) < 40%: G8694 Submission Criteria 2: Patients with a prior (within the past 3 years) myocardial infarction Patients aged >= 18 years on date of encounter AND Diagnosis for coronary artery disease (ICD-10-CM): I20.0, I20.1, I20.8, I20.9, I24.0, I24.1, I24.8, I24.9, I25.10, I25.110, I25.111, I25.118, I25.119, I25.5, I25.6, I25.700, I25.701, I25.708, I25.709, I25.710, I25.711, I25.718, I25.719, I25.720, I25.721, I25.728, I25.729, I25.730, I25.731, I25.738, I25.739, I25.750, I25.751, I25.758, I25.759, I25.760, I25.761, I25.768, I25.769, I25.790,		

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
		E10.339, E10.341, E10.349, E10.351, E10.359, E10.36, E10.39, E10.40, E10.41, E10.42, E10.43, E10.44, E10.49, E10.51, E10.52, E10.59, E10.610, E10.618, E10.620, E10.621, E10.622, E10.628, E10.630, E10.638, E10.641, E10.649, E10.65, E10.69, E10.8, E10.9, E11.00, E11.01, E11.21, E11.22, E11.29, E11.311, E11.319, E11.321, E11.329, E11.331, E11.339, E11.341, E11.349, E11.351, E11.359, E11.36, E11.39, E11.40, E11.41, E11.42, E11.43, E11.44, E11.49, E11.51, E11.52, E11.59, E11.610, E11.618, E11.620, E11.621, E11.622, E11.628, E11.630, E11.638, E11.641, E11.649, E11.65, E11.69, E11.8, E11.9, E13.00, E13.01, E13.10,	I25.791, I25.798, I25.799, I25.810, I25.811, I25.812, I25.82, I25.83, I25.89, I25.9, Z95.1, Z95.5, Z98.61 OR History of cardiac surgery (CPT): 33140, 33510, 33511, 33512, 33513, 33514, 33516, 33517, 33518, 33519, 33521, 33522, 33523, 33533, 33534, 33535, 33536, 92920, 92924, 92928, 92933, 92937, 92941, 92943, 92980, 92981, 92982, 92984, 92995, 92996 AND Diagnosis for myocardial infarction– includes patient that had a prior (within the past 3 years) myocardial infarction (ICD-10-CM): I21.01, I21.02, I21.09, I21.11, I21.19, I21.21, I21.29, I21.3, I21.4, I21.9, I21.A1,		

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
		E13.11, E13.21, E13.22, E13.29, E13.311, E13.319, E13.321, E13.329, E13.331, E13.339, E13.341, E13.349, E13.351, E13.359, E13.36, E13.39, E13.40, E13.41, E13.42, E13.43, E13.44, E13.49, E13.51, E13.52, E13.59, E13.610, E13.618, E13.620, E13.621, E13.622, E13.628, E13.630, E13.638, E13.641, E13.649, E13.65, E13.69, E13.8, E13.9 AND Patient encounter during the reporting period (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342,	I21.A9, I22.0, I22.1, I22.2, I22.8, I22.9, I24.1, I25.2 AND Patient encounter during performance period – to be used for numerator evaluation (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350 WITHOUT Telehealth Modifier: GQ, GT, 95, POS 02 AND At least one additional patient encounter during performance period (CPT): 99201, 99202,		

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
		99343, 99344, 99345, 99347, 99348, 99349, 99350 AND Two Denominator Eligible Visits Note: For reporting, the two populations are combined for a single reported performance score on the combined measure population. If a patient has both diabetes and LVSD, reporting criteria #2 (CAD with diabetes) will count as appropriate reporting for this patient.	99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350 WITH OR WITHOUT Telehealth Modifier: GQ, GT, 95, POS 02		
Exclusions	None	Documentation of medical reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, allergy, intolerance, pregnancy, renal failure due to ACE inhibitor, diseases of the aortic or mitral valve, other medical reasons)	Denominator Exceptions: Documentation of medical reason(s) for not prescribing beta-blocker therapy (e.g., allergy, intolerance, other medical reasons). Documentation of patient reason(s) for not prescribing beta-blocker	Any of the following any time during the patient's history through the end of the continuous enrollment period meet criteria: - Asthma - COPD - Obstructive chronic bronchitis	Denominator Exceptions: Documentation of medical reason(s) for not prescribing ACE inhibitor or ARB or ARNI therapy (e.g., hypotensive patients who are at immediate risk of cardiogenic shock, hospitalized patients who have experienced marked azotemia, allergy, intolerance, other medical reasons).

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
		Documentation of patient reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, patient declined, other patient reasons) Documentation of system reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, lack of drug availability, other reasons attributable to the health care system)	therapy (e.g., patient declined, other patient reasons). Documentation of system reason(s) for not prescribing beta-blocker therapy (e.g., other reasons attributable to the health care system).	- Chronic respiratory conditions due to fumes and vapors - Hypotension, heart block >1 degree or sinus bradycardia - A medication dispensing event indicative of a history of asthma - Intolerance or allergy to beta-blocker therapy Additionally, this measure excludes adults in hospice. It also excludes adults with advanced illness and frailty, as well as Medicare adults 65 years of age and older enrolled in an I-SNP or living long-term in institutional settings.	Documentation of patient reason(s) for not prescribing ACE inhibitor or ARB or ARNI therapy (e.g., patient declined, other patient reasons). Documentation of system reason(s) for not prescribing ACE inhibitor or ARB or ARNI therapy (e.g., other system reasons).
Exclusion Details	N/A	Exceptions are used to remove a patient from the denominator of a performance measure when the patient does not receive a therapy or service AND that therapy or service would not be	Time Period for Data Collection: During the encounter within the 12-month period Exceptions are used to remove a patient from the denominator of a performance	Patients identified as having an intolerance or allergy to beta-blocker therapy. Any of the following any time during the patient's history through the end of the continuous enrollment period meet criteria:	Time Period for Data Collection: During the encounter within the 12-month period Exceptions are used to remove a patient from the denominator of a performance measure when the patient does not receive a therapy or service AND that therapy or service

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
		appropriate due to patient-specific reasons. The patient would otherwise meet the denominator criteria. Exceptions are not absolute, and are based on clinical judgment, individual patient characteristics, or patient preferences. The ACC/AHA/PCPI exception methodology uses three categories of reasons for which a patient may be removed from the denominator of an individual measure. These measure exception categories are not uniformly relevant across all measures; for each measure, there must be a clear rationale to permit an exception for a medical, patient, or system reason. Examples are provided in the measure exception	measure when the patient does not receive a therapy or service AND that therapy or service would not be appropriate due to patient-specific reasons. The patient would otherwise meet the denominator criteria. Exceptions are not absolute, and are based on clinical judgment, individual patient characteristics, or patient preferences. The PCPI exception methodology uses three categories of reasons for which a patient may be removed from the denominator of an individual measure. These measure exception categories are not uniformly relevant across all measures; for each measure, there must be a clear rationale to permit an exception for a medical, patient, or	- Asthma - COPD - Obstructive chronic bronchitis - Chronic respiratory conditions due to fumes and vapors - Hypotension, heart block >1 degree or sinus bradycardia - A medication dispensing event indicative of a history of asthma MEDICATIONS TO IDENTIFY HISTORY OF ASTHMA DESCRIPTION / PRESCRIPTION Bronchodilator combinations / Budesonide-formoterol; Fluticasone-vilantero; Fluticasone-salmeterol; Formoterol-mometasone Inhaled corticosteroids / Beclomethasone; Budesonide; Ciclesonide;	would not be appropriate due to patient-specific reasons. The patient would otherwise meet the denominator criteria. Exceptions are not absolute, and are based on clinical judgment, individual patient characteristics, or patient preferences. The PCPI exception methodology uses three categories of reasons for which a patient may be removed from the denominator of an individual measure. These measure exception categories are not uniformly relevant across all measures; for each measure, there must be a clear rationale to permit an exception for a medical, patient, or system reason. Examples are provided in the measure exception language of instances that may constitute an exception and are intended to serve as a guide to clinicians. For measure Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD), exceptions may include medical reason(s) (eg, hypotensive patients who are at

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
		language of instances that may constitute an exception and are intended to serve as a guide to clinicians. For measure #0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy-Diabetes or Left Ventricular Systolic Dysfunction (LVEF <40%), exceptions may include medical reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, allergy, intolerance, pregnancy, renal failure due to ACE inhibitor, diseases of the aortic or mitral valve, other medical reasons), patient reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, patient declined, other patient reasons), or	system reason. Examples are provided in the measure exception language of instances that may constitute an exception and are intended to serve as a guide to clinicians. For measure Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%), exceptions may include medical reason(s) (eg, allergy, intolerance, other medical reasons), patient reason(s) (eg, patient declined, other patient reasons), or system reason(s) (eg, other reasons attributable to the health care system) for not prescribing beta-blocker therapy. Although this methodology does not	Flunisolide; Fluticasone; Mometasone Exclude patients who use hospice services or elect to use a hospice benefit any time during the measurement year, regardless of when the services began. These patients may be identified using various methods, which may include but are not limited to enrollment data, medical record or claims/encounter data. Exclude adults who meet any of the following criteria: - Medicare members 66 years of age and older as of December 31 of the measurement year who meet either of the following: -- Enrolled in an Institutional SNP (I-SNP) any time on or between July 1 of the year prior to the measurement	immediate risk of cardiogenic shock, hospitalized patients who have experienced marked azotemia, allergy, intolerance, other medical reasons), patient reason(s) (eg, patient declined, other patient reasons), or system reason(s) for not prescribing an ACE inhibitor or ARB or ARNI therapy. Although this methodology does not require the external reporting of more detailed exception data, the PCPI recommends that physicians document the specific reasons for exception in patients' medical records for purposes of optimal patient management and audit- readiness. The PCPI also advocates the systematic review and analysis of each physician's exceptions data to identify practice patterns and opportunities for quality improvement. Append a modifier to CPT Category II Code: 4010F-1P: Documentation of medical reason(s) for not prescribing ACE inhibitor or ARB or ARNI therapy (e.g., hypotensive patients who are at immediate risk of cardiogenic shock, hospitalized patients who have

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
		system reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, lack of drug availability, other reasons attributable to the health care system).Although this methodology does not require the external reporting of more detailed exception data, the ACC/AHA/PCPI recommends that physicians document the specific reasons for exception in patients' medical records for purposes of optimal patient management and audit-readiness. The ACC/AHA/PCPI also advocates for the systematic review and analysis of each physician's exceptions data to identify practice patterns and opportunities for quality improvement.	require the external reporting of more detailed exception data, the PCPI recommends that physicians document the specific reasons for exception in patients' medical records for purposes of optimal patient management and audit-readiness. The PCPI also advocates the systematic review and analysis of each physician's exceptions data to identify practice patterns and opportunities. Additional details are as follows: For Submission Criteria 1 – Report Quality Data Code, G9190: Documentation of medical reason(s) for not prescribing beta-blocker therapy (eg, allergy,	year and the end of the measurement year. -- Living long-term in an institution any time on or between July 1 of the year prior to the measurement year and the end of the measurement year as identified by the LTI flag in the Monthly Membership Detail Data File. Use the run date of the file to determine if an adult had an LTI flag any time on or between July 1 of the year prior to the measurement year and the end of the measurement year. - Members 66-80 years of age as of December 31 of the measurement year (all product lines) with frailty and advanced illness. Adults must meet BOTH of the following frailty and advanced illness criteria to be excluded: 1. At least one claim/encounter for frailty	experienced marked azotemia, allergy, intolerance, other medical reasons) 4010F-2P: Documentation of patient reason(s) for not prescribing ACE inhibitor or ARB or ARNI therapy (e.g., patient declined, other patient reasons) 4010F-3P: Documentation of system reason(s) for not prescribing ACE inhibitor or ARB or ARNI therapy (e.g., other system reasons)

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
		Additional details are as follows: FOR POPULATION 1: Patients who are 18 years and older with a diagnosis of CAD with LVEF < 40% Report Quality Data Code G8936: Clinician documented that patient was not an eligible candidate for angiotensin converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) therapy (e.g., allergy, intolerance, pregnancy, renal failure due to ACE inhibitor, diseases of the aortic or mitral valve, other medical reasons) or (e.g., patient declined, other patient reasons) or (e.g., lack of drug availability, other reasons attributable to the health care system) FOR POPULATION 2: Patients who are 18 years	intolerance, other medical reasons). Report Quality Data Code, G9191: Documentation of patient reason(s) for not prescribing beta-blocker therapy (eg, patient declined, other patient reasons). Report Quality Data Code, G9192: Documentation of system reason(s) for not prescribing beta-blocker therapy (eg, other reasons attributable to the health care system). For Submission Criteria 2 – Append a modifier to CPT Category II Code: 4008F-1P: Documentation of medical reason(s) for not prescribing beta-blocker therapy (eg, allergy,	any time on or between July 1 of the year prior to the measurement year and the end of the measurement year. 2. Any of the following during the measurement year or the year prior to the measurement year (count services that occur over both years): -- At least two outpatient visits, observation visits, ED visits, nonacute inpatient encounters or nonacute inpatient discharges (instructions below) on different dates of service, with an advanced illness diagnosis. Visit type need not be the same for the two visits. To identify a nonacute inpatient discharge: 1. Identify all acute and nonacute inpatient stays. 2. Confirm the stay was for nonacute care based on the	

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
		and older with a diagnosis of CAD who have diabetes Report Quality Data Code G8474: Angiotensin converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) therapy not prescribed for reasons documented by the clinician (e.g., allergy, intolerance, pregnancy, renal failure due to ACE inhibitor, diseases of the aortic or mitral valve, other medical reasons) or (e.g., patient declined, other patient reasons) or (e.g., lack of drug availability, other reasons attributable to the health care system)	intolerance, other medical reasons). 4008F-2P: Documentation of patient reason(s) for not prescribing beta-blocker therapy (eg, patient declined, other patient reasons). 4008F-3P: Documentation of system reason(s) for not prescribing beta-blocker therapy (eg, other reasons attributable to the health care system).	presence of a nonacute code on the claim. 3. Identify the discharge date for the stay. -- At least one acute inpatient encounter with an advanced illness diagnosis. -- At least one acute inpatient discharge with an advanced illness diagnosis. To identify an acute inpatient discharge: 1. Identify all acute and nonacute inpatient stays. 2. Exclude nonacute inpatient stays. 3. Identify the discharge date for the stay. -- A dispensed dementia medication. DEMENTIA MEDICATIONS DESCRIPTION / PRESCRIPTION Cholinesterase inhibitors / Donepezil; Galantamine; Rivastigmine	

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
				Miscellaneous central nervous system agents / Memantine - Members 81 years of age and older as of December 31 of the measurement year (all product lines) with frailty any time on or between July 1 of the year prior to the measurement year and the end of the measurement year. See attached code value sets.	
Risk Adjustment	No risk adjustment or risk stratification	No risk adjustment or risk stratification	No risk adjustment or risk stratification	No risk adjustment or risk stratification	No risk adjustment or risk stratification
Stratification	N/A	Consistent with CMS' Measures Management System Blueprint and recent national recommendations put forth by the IOM and NQF to standardize the collection of race and ethnicity data, we encourage the results of this measure to be	Consistent with CMS' Measures Management System Blueprint and national recommendations put forth by the IOM (now NASEM) and NQF to standardize the collection of race and ethnicity data, we encourage the results of	No stratification	Consistent with CMS' Measures Management System Blueprint and recent national recommendations put forth by the IOM and NQF to standardize the collection of race and ethnicity data, we encourage the results of this measure to be stratified by race, ethnicity, administrative sex, and payer.

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
		stratified by race, ethnicity, administrative sex, and payer.	this measure to be stratified by race, ethnicity, administrative sex, and payer.		
Type Score	Rate/proportion better quality = higher score	Rate/proportion better quality = higher score	Rate/proportion better quality = higher score	Rate/proportion better quality = higher score	Rate/proportion better quality = higher score
Algorithm	1) Check if given patient survived hospitalization and is eligible for 1 of the 2 medication therapies. 2) If eligible for at least 1 medication, then keep this patient. 3) If not eligible for any of the 2 medications, then patient is removed from eligibility. If eligible for ACE/ARB and given, then code “Yes” If eligible for ACE/ARB and not given, then code “No, no reason” If eligible for ACE/ARB but contraindicated, then code “No – medical reason” or “No – patient reason”	To calculate performance rates: 1. Find the patients who meet the initial population (ie, the general group of patients that a set of performance measures is designed to address). 2. From the patients within the initial population criteria, find the patients who qualify for the denominator (ie, the specific group of patients for inclusion in a specific performance measure based on defined criteria). Note: in some cases the initial population and denominator are identical.	This measure is comprised of two submission criteria but is intended to result in one reporting rate. The reporting rate is the aggregate of Submission Criteria 1 and Submission Criteria 2, resulting in a single performance rate. For the purposes of this measure, the single performance rate can be calculated as follows: $\text{Performance Rate} = \frac{(\text{Numerator 1} + \text{Numerator 2})}{[(\text{Denominator 1} - \text{Denominator Exceptions 1}) + (\text{Denominator 2} - \text{Denominator Exceptions 2})]}$	STEP 1: Determine the eligible population. To do so, identify patients who meet all specified criteria. - AGES: 18 years and older as of December 31 of the measurement year. - EVENT/DIAGNOSIS: Identify patients who were discharged from an acute setting with an AMI from July 1 of the year prior to the measurement year through June 30 of the measurement year. SEE S.6 and S.7 for eligible population and denominator criteria and details.	S.12. Type of score: Rate/proportion If other: S.13. Interpretation of Score (Classifies interpretation of score according to whether better quality is associated with a higher score, a lower score, a score falling within a defined interval, or a passing score) Better quality = Higher score S.14. Calculation Algorithm/Measure Logic (Diagram or describe the calculation of the measure score as an ordered sequence of steps including identifying the target population; exclusions; cases meeting the target process, condition, event, or outcome; time period for data, aggregating data; risk adjustment; etc.) This measure is comprised of two submission criteria but is intended to result in one reporting rate. The

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
	If eligible for Beta Blocker and given, then code then “Yes” If eligible for Beta Blocker and not given, then code “No, no reason” If eligible for Beta Blocker but contraindicated, then code “No – medical reason” or “No – patient reason” 4) If any “No, no reason” present, then performance not met. Else, performance met. Although ineligible cases are removed from the denominator population for the performance calculation, the number of patients with valid exceptions should be calculated and reported along with performance rates to track variations in care and highlight possible areas of focus for QI.	3. From the patients within the denominator, find the patients who meet the numerator criteria (ie, the group of patients in the denominator for whom a process or outcome of care occurs). Validate that the number of patients in the numerator is less than or equal to the number of patients in the denominator 4. From the patients who did not meet the numerator criteria, determine if the provider has documented that the patient meets any criteria for exception when denominator exceptions have been specified [for this measure medical reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, allergy, intolerance, pregnancy, renal failure	Calculation algorithm for Submission Criteria 1: Patients with left ventricular systolic dysfunction (LVEF <40%) 1. Find the patients who meet the initial population (i.e., the general group of patients that a set of performance measures is designed to address). 2. From the patients within the initial population criteria, find the patients who qualify for the denominator (i.e., the specific group of patients for inclusion in a specific performance measure based on defined criteria). Note: in some cases the initial population and denominator are identical. 3. From the patients within the denominator, find the patients who	STEP 2: Exclude patients who meet the exclusions criteria. SEE S.8 and S.9 for denominator exclusion criteria and details. STEP 3: Determine the number of patients in the eligible population who were given a 180-day course of treatment with beta blockers post discharge. STEP 4: Identify patients whose dispensed days' supply is >=135 days in the 180-day measurement interval. SEE S.4 and S.5 for numerator criteria and details. STEP 5: Calculate the rate by dividing the numerator (STEP 4) by the denominator (after exclusions) (STEP 2).	reporting rate is the aggregate of Submission Criteria 1 and Submission Criteria 2, resulting in a single performance rate. For the purposes of this measure, the single performance rate can be calculated as follows: Performance Rate = (Numerator 1 + Numerator 2)/ [(Denominator 1 - Denominator Exceptions 1) + (Denominator 2 - Denominator Exceptions 2)] Calculation algorithm for Submission Criteria 1: Patients who were prescribed ACE inhibitor or ARB or ARNI therapy within a 12-month period when seen in the outpatient setting 1. Find the patients who meet the initial population (ie, the general group of patients that a set of performance measures is designed to address). 2. From the patients within the initial population criteria, find the patients who qualify for the denominator (i.e., the specific group of patients for inclusion in a specific performance

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
	If the patient does not meet the numerator and a valid exception is not present, this case represents a quality failure. Missing data defaults to “performance not met” This measure assumes that missing documentation on the process results in a failure of meeting an evidence based therapy.	due to ACE inhibitor, diseases of the aortic or mitral valve, other medical reasons), patient reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, patient declined, other patient reasons), or system reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, lack of drug availability, other reasons attributable to the health care system)]. If the patient meets any exception criteria, they should be removed from the denominator for performance calculation. --Although the exception cases are removed from the denominator population for the performance calculation, the exception rate (ie, percentage with valid exceptions) should be calculated and reported	meet the numerator criteria (i.e., the group of patients in the denominator for whom a process or outcome of care occurs). Validate that the number of patients in the numerator is less than or equal to the number of patients in the denominator 4. From the patients who did not meet the numerator criteria, determine if the provider has documented that the patient meets any criteria for exception when denominator exceptions have been specified [for this measure: medical reason(s) (e.g., allergy, intolerance, other medical reasons), patient reason(s) (e.g., patient declined, other patient reasons), or system		measure based on defined criteria). Note: in some cases the initial population and denominator are identical. 3. From the patients within the denominator, find the patients who meet the numerator criteria (i.e., the group of patients in the denominator for whom a process or outcome of care occurs). Validate that the number of patients in the numerator is less than or equal to the number of patients in the denominator. 4. From the patients who did not meet the numerator criteria, determine if the provider has documented that the patient meets any criteria for exception when denominator exceptions have been specified [for this measure: medical reason(s) (e.g., hypotensive patients who are at immediate risk of cardiogenic shock, hospitalized patients who have experienced marked azotemia, allergy, intolerance, other medical reasons), patient reason(s) (e.g., patient declined, other patient reasons), or system reason(s) for not prescribing ACE inhibitor or ARB or ARNI therapy].

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
		along with performance rates to track variations in care and highlight possible areas of focus for QI. If the patient does not meet the numerator and a valid exception is not present, this case represents a quality failure. 140560 107246	reason(s) (e.g., other reasons attributable to the health care system) for not prescribing beta-blocker therapy]. If the patient meets any exception criteria, they should be removed from the denominator for performance calculation. --Although the exception cases are removed from the denominator population for the performance calculation, the exception rate (i.e., percentage with valid exceptions) should be calculated and reported along with performance rates to track variations in care and highlight possible areas of focus for QI. If the patient does not meet the numerator and a valid exception is not present, this case		If the patient meets any exception criteria, they should be removed from the denominator for performance calculation. --Although the exception cases are removed from the denominator population for the performance calculation, the exception rate (i.e., percentage with valid exceptions) should be calculated and reported along with performance rates to track variations in care and highlight possible areas of focus for QI. If the patient does not meet the numerator and a valid exception is not present, this case represents a quality failure. Calculation algorithm for Submission Criteria 2: Patients who were prescribed ACE inhibitor or ARB or ARNI therapy at each hospital discharge 1. Find the patients who meet the initial population (i.e., the general group of patients that a set of performance measures is designed to address). 2. From the patients within the initial population criteria, find the patients

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
			represents a quality failure. Calculation algorithm for Submission Criteria 2: Patients with a prior (within the past 3 years) myocardial infarction 1. Find the patients who meet the initial population (ie, the general group of patients that a set of performance measures is designed to address). 2. From the patients within the initial population criteria, find the patients who qualify for the denominator (i.e., the specific group of patients for inclusion in a specific performance measure based on defined criteria). Note: in some cases the initial population and denominator are identical.		who qualify for the denominator (i.e., the specific group of patients for inclusion in a specific performance measure based on defined criteria). Note: in some cases the initial population and denominator are identical. 3. From the patients within the denominator, find the patients who meet the numerator criteria (i.e., the group of patients in the denominator for whom a process or outcome of care occurs). Validate that the number of patients in the numerator is less than or equal to the number of patients in the denominator. 4. From the patients who did not meet the numerator criteria, determine if the provider has documented that the patient meets any criteria for exception when denominator exceptions have been specified [for this measure: medical reason(s) (e.g., hypotensive patients who are at immediate risk of cardiogenic shock, hospitalized patients who have experienced marked azotemia, allergy, intolerance, other medical reasons), patient reason(s) (e.g., patient

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
			3. From the patients within the denominator, find the patients who meet the numerator criteria (i.e., the group of patients in the denominator for whom a process or outcome of care occurs). Validate that the number of patients in the numerator is less than or equal to the number of patients in the denominator 4. From the patients who did not meet the numerator criteria, determine if the provider has documented that the patient meets any criteria for exception when denominator exceptions have been specified [for this measure: medical reason(s) (e.g., allergy, intolerance, other medical reasons), patient		declined, other patient reasons), or system reason(s) for not prescribing ACE inhibitor or ARB or ARNI therapy]. If the patient meets any exception criteria, they should be removed from the denominator for performance calculation. --Although the exception cases are removed from the denominator population for the performance calculation, the exception rate (i.e., percentage with valid exceptions) should be calculated and reported along with performance rates to track variations in care and highlight possible areas of focus for QI. If the patient does not meet the numerator and a valid exception is not present, this case represents a quality failure.

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
			reason(s) (e.g., patient declined, other patient reasons), or system reason(s) (eg, other reasons attributable to the health care system) for not prescribing beta-blocker therapy]. If the patient meets any exception criteria, they should be removed from the denominator for performance calculation. --Although the exception cases are removed from the denominator population for the performance calculation, the exception rate (i.e., percentage with valid exceptions) should be calculated and reported along with performance rates to track variations in care and highlight possible areas of focus for QI. If the patient does not meet the numerator and		

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
			a valid exception is not present, this case represents a quality failure. 140560 135810 117446		
Submission items	5.1 Identified measures: 0066 : Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%) 0070 : Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%) 0081 : Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction (LVSD)	5.1 Identified measures: 0067 : Chronic Stable Coronary Artery Disease: Antiplatelet Therapy 0070 : Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%) 0074 : Chronic Stable Coronary Artery Disease: Lipid Control 0081 : Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction (LVSD) 1522 : ACE/ARB Therapy at Discharge for ICD implant patients with Left	5.1 Identified measures: 0083 : Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD) 0117 : Beta Blockade at Discharge 0127 : Preoperative Beta Blockade 0071 : Persistence of Beta-Blocker Treatment After a Heart Attack 0070e : Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%) 0083e : Heart Failure (HF): Beta-Blocker Therapy for Left	5.1 Identified measures: 0070 : Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%) 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: DUE TO THE TEXT LIMIT IN THIS SECTION – WE ARE PROVIDING OUR ANSWER FOR 5a.2 IN SECTION 5b.1 5b.1 If competing, why superior or rationale for	5.1 Identified measures: 0066 : Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%) 1662 : Angiotensin Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy 0081e : Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD) 5a.1 Are specs completely harmonized? Yes 5a.2 If not completely harmonized, identify difference, rationale, impact:

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
	0083 : Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD) 0236 : Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery 0594 : Post MI: ACE inhibitor or ARB therapy 0117 : Beta Blockade at Discharge 0071 : Persistence of Beta-Blocker Treatment After a Heart Attack 0070e : Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%) 0081e : Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-	Ventricular Systolic Dysfunction 1662 : Angiotensin Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy 2467 : Adherence to ACEIs/ARBs for Individuals with Diabetes Mellitus 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: While this measure's specifications are harmonized with existing measures where possible, there are several key differences between this measure and other existing related measures. The first group of related measures (NQF #1662, 1522, 0081, 2467) all have	Ventricular Systolic Dysfunction (LVSD) 5a.1 Are specs completely harmonized? Yes 5a.2 If not completely harmonized, identify difference, rationale, impact: Measure 0070 addresses a patient population of patients with CAD and either a recent prior MI or LVSD. This patient population is also covered in part by the following NQF-endorsed measures: NQF 0071: Persistence of Beta-Blocker Treatment After a Heart Attack and NQF 0083 and 0083e: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD). The specifications are	additive value: ANSWER FOR SECTION 5a.2 NCQA's current Persistence of Beta Blocker Treatment After a Heart Attack measure (NQF measure 0071) uses health plan-reported data to assess the percentage of patients 18 years of age and older during the measurement year who were discharged with a diagnosis of AMI during the 6 months prior to the beginning of the measurement year through the 6 months after the beginning of the measurement year and who received persistent beta-blocker treatment for six months after discharge. RELATED NQF MEASURE 0070 (Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)):	NQF 1662 is specific to patients with a diagnosis of chronic kidney disease who also have proteinuria. NQF 0066 is specific to patients with coronary artery disease who also have diabetes OR a current/prior LVEF of <40%. In both measures, the population of focus (ie, the denominator) is different. NQF 0081e is the eCQM version of this measure. 5b.1 If competing, why superior or rationale for additive value:

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
	Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD) 5a.1 Are specs completely harmonized? Yes 5a.2 If not completely harmonized, identify difference, rationale, impact: Measure #0965 is a subset of other measures and the measures are completely harmonized with the exception of one area. It appears that only one measure (#81e) currently includes prescribing of ARNI as an acceptable therapy in the numerator. We assume that the other measures be updated to reflect the current evidence and there is no need for further harmonization.	a similar focus on the prescription of ACEI/ARBs. However they all have different target populations, with measure #1662 focusing on patients with chronic kidney disease (CKD), measure #1522 being a facility-level measure focusing on patients with an ICD implant, measure #0081 focusing on patients with a diagnosis of heart failure and left ventricular ejection fraction <40%, and measure #2467 focusing on medication adherence among patients with diabetes. This group of measures reflect the importance of ACEI/ARBs among a variety of patient populations, that are distinct from the patient population included in this measure. We believe that the measures are	harmonized to the extent possible. As a result, the denominator specifications for the measures differ where needed based on the differing patient populations. Additionally, NQF 0071 is intended for use at the health plan level. NQF 0117 is an inpatient/hospital level measure and includes only patients who have undergone isolated CABG surgery. NQF 0127 is also an inpatient/hospital level measure that focuses on administration of beta-blockers prior to isolated CABG surgery. Measure 0070e is the EHR version of this measure and is completely harmonized.	This measure assesses the percentage of patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12-month period who also have a prior MI or a current left ventricular ejection fraction (LVEF) <40% who were prescribed beta-blocker therapy. HARMONIZED MEASURE ELEMENTS: Measure 0071 and 0070 focus on patients 18 years and older who are prescribed beta-blocker treatment post-discharge after having a MI or history of MI. The National Quality Strategy Priorities classification for both measures is Prevention and Treatment of Cardiovascular Disease. Both measures exclude patients who are allergic or have an intolerance to beta blockers.	

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
	5b.1 If competing, why superior or rationale for additive value: N/A	complementary rather than competing, and differences in the measure specifications are a result of the differences in the target patient population. These differences should not result in any additional data collection burden. The second group of related measures (NQF #0067, 0074, and 0070) all focus on different aspects of care for patients with CAD. Measure #0067 focuses on use of antiplatelet therapy, while measure #0074 focuses on LDL control, and measure #0070 focuses on the use of beta-blocker therapy. We view these measures as complementary measures that, when taken together, provide a rounded view of the quality of care for patients with CAD. While these	5b.1 If competing, why superior or rationale for additive value:	DIFFERENCES: Below are the unharmonized measure elements between measure 0071 and measure 0070: Measure 0071 focuses on beta-blocker treatment post a MI and Measure 0070 focuses on patients who have a prior MI or a current or prior LVEF <40%. - Data Source: Data for measure 0071 is collected through administrative claims, electronic clinical data, and pharmacy data, while data for measure 0070 is collected through medical record, electronic health record data, electronic clinical data, and paper records - Level of Accountability: Measure 0071 is a health plan level measure while measure 0070 is a clinician-level measure.	

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
		measures share a focus on the patient population with CAD, differences in measure specifications are reflective of the different care processes being targeted in each measure. We don't believe that these differences result in any additional data collection burden. 5b.1 If competing, why superior or rationale for additive value: This measure addresses a distinct target population and/or quality action from other related measures, as described above. The measures are complementary to form a well-rounded view of the quality of care for patients with CAD.		- Population: Measure 0071 focuses on patients who were diagnosed with a MI and discharged and prescribed a beta-blocker therapy treatment. Measure 0070 focuses on patients in a measurement year with a diagnosis of coronary artery diseases who also have a prior MI or current or prior LVEF. - Exclusions: The difference in exclusions is that measure 0071 specifies asthma, COPD, obstructive chronic bronchitis, chronic respiratory conditions due to fumes and vapors, hypotension, heart block >1 degree, sinus bradycardia, and medication dispensing events indicative of a history of asthma as exclusions. Additionally, measure 0071 excludes hospitalizations in which the patient was transferred directly to a nonacute care facility for	

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
				any diagnosis, patients enrolled in an I-SNP, patients living long-term in an institution, patients 66-80 years of age with frailty and advanced illness, and patients 81 years of age and older with frailty. Measure 0070 exclusions include: documentation of patient reason(s) for not prescribing beta-blocker therapy (e.g., patient declined, other patient reasons) and documentation of system reason(s) for not prescribing beta-blocker therapy (e.g., other reasons attributable to the health care system). IMPACT ON INTERPRETABILITY AND DATA COLLECTION BURDEN: The differences between measures 0071 and 0070 do not have an impact on interpretability of publicly reported rates, or the burden of data collection, because all data for both	

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)	0071: Persistence of Beta-Blocker Treatment After a Heart Attack	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)
				measures are collected from different data sources by different entities. ANSWER FOR SECTION 5b.1 Our current measure has a long-standing history of use by health plans and has been implemented for nearly 15 years.	

Comparison of NQF 0965, NQF 0081, NQF 0083, NQF 0117, and NQF 0236

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)	0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)	0117: Beta Blockade at Discharge	0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery
Steward	American College of Cardiology	PCPI Foundation	PCPI Foundation	The Society of Thoracic Surgeons	Centers for Medicare & Medicaid Services
Description	Proportion of patients undergoing ICD/CRT-D implant who received prescriptions for all medications (ACE/ARB and beta blockers) for which they are eligible at discharge.	Percentage of patients aged 18 years and older with a diagnosis of heart failure (HF) with a current or prior left ventricular ejection fraction (LVEF) < 40% who were prescribed ACE inhibitor or ARB or ARNI therapy either within a 12-month period when seen in the outpatient setting OR at each hospital discharge	Percentage of patients aged 18 years and older with a diagnosis of heart failure (HF) with a current or prior left ventricular ejection fraction (LVEF) < 40% who were prescribed beta-blocker therapy either within a 12-month period when seen in the outpatient setting OR at each hospital discharge	Percent of patients aged 18 years and older undergoing isolated CABG who were discharged on beta blockers	Percentage of isolated Coronary Artery Bypass Graft (CABG) surgeries for patients aged 18 years and older who received a beta-blocker within 24 hours prior to surgical incision
Type	Composite	Process	Process	Process	Process
Data Source	Registry Data National Cardiovascular Data Registry (NCDR) ICD Registry Available in attached appendix at A.1	Electronic Health Records Not applicable	Registry Data Not applicable		

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)	0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)	0117: Beta Blockade at Discharge	0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery
	Attachment icd_v2_codersdatadictionary_2-2-637061353934779116-637088191497113357.pdf				
Level	Facility	No data collection instrument provided Attachment 0081e_HF_ACE_ARB_ARNI_ValueSets_20190409.xlsx	No data collection instrument provided Attachment NQF0083_I9toI10_conversion_2019Apr09.xlsx	Registry Data STS Adult Cardiac Surgery Database Version 2.81	
Setting	Inpatient/Hospital	Clinician : Group/Practice, Clinician : Individual	Available at measure-specific web page URL identified in S.1 No data dictionary	Registry Data The source is the medical record, which provides patient information for the encounter. Medicare Part B claims and registry data is provided for test purposes.	
Numerator Statement	Generator patients who receive all medications for which they are eligible: 1. ACE/ARB prescribed at discharge (if	Home Care, Inpatient/Hospital, Other, Outpatient Services Domiciliary, Nursing Facility	No data collection instrument provided Attachment NQF_0236_DataDic-636800391751711336-636832311904869870.xlsx		

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)	0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)	0117: Beta Blockade at Discharge	0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery
	eligible for ACE/ARB as described in denominator) AND 2. Beta blockers prescribed at discharge (if eligible for beta blockers as described in denominator)				
Numerator Details	If eligible for ACE/ARB and given, then code "Yes" If eligible for ACE/ARB but contraindicated, then code "No – medical reason" or "No – patient reason" If eligible for ACE/ARB and not given, then code "No, no reason" If eligible for beta blocker and given, then code "Yes" If eligible for beta blocker but contraindicated, then code "No – medical reason" or "No – patient reason" If eligible for beta blocker and not given, then code "No, no reason" If any "No, no reason" present, then performance	Patients who were prescribed ACE inhibitor or ARB or ARNI therapy either within a 12-month period when seen in the outpatient setting OR at each hospital discharge	Clinician : Group/Practice, Clinician : Individual	Facility, Clinician : Group/Practice	Clinician : Group/Practice, Clinician : Individual

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)	0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)	0117: Beta Blockade at Discharge	0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery
	not met. Else, performance met. Note: Contraindicated and those participating in blinded studies are considered performance met. There are technically no exclusions or exceptions that would remove patients from the denominator.				
Denominator or Statement	All generator patients surviving hospitalization who are eligible to receive either an ACE/ARB or beta blocker at discharge.	Time Period for Data Collection: At least once during the measurement period when seen in the outpatient setting OR at each hospital discharge	Home Care, Inpatient/Hospital, Other, Outpatient Services Domiciliary, Nursing Facility	Inpatient/Hospital	Outpatient Services
Denominator or Details	All generator patients surviving hospitalization who are eligible to receive any one of the two medication classes: 1) ACE/ARB: Patients who have an ejection fraction (EF) of <40% OR 2) Beta blockers: Patients have either:	Definition:	Patients who were prescribed beta-blocker therapy either within a 12-month period when seen in the outpatient setting OR at each hospital discharge	Number of patients undergoing isolated CABG who were discharged on beta blockers	Patients who received a beta-blocker within 24 hours prior to surgical incision of isolated CABG surgeries

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)	0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)	0117: Beta Blockade at Discharge	0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery
	a. EF of <40% AND/OR b. Previous myocardial infarction (MI)				
Exclusions	None	Prescribed-Outpatient setting: prescription given to the patient for ACE inhibitor or ARB or ARNI therapy at one or more visits in the measurement period OR patient already taking ACE inhibitor or ARB or ARNI therapy as documented in current medication list.	Time Period for Data Collection: At least once during the measurement period when seen in the outpatient setting OR at each hospital discharge		
Exclusion Details	N/A	Prescribed-Inpatient setting: prescription given to the patient for ACE inhibitor or ARB or ARNI therapy at discharge OR ACE inhibitor or ARB or ARNI therapy to be continued after discharge as documented in the discharge medication list.	Definition:		
Risk Adjustment	No risk adjustment or risk stratification	at discharge OR ACE inhibitor or ARB therapy to be continued after discharge as documented in the discharge medication list.	Prescribed-Outpatient setting: prescription given to the patient for beta-blocker therapy at one or more visits in the measurement period OR patient already taking beta-blocker therapy as documented in current medication list.		
Stratification	N/A	Guidance:	Prescribed-Inpatient setting: prescription given to the patient for beta-blocker therapy at discharge OR beta-blocker therapy to be continued		

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)	0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)	0117: Beta Blockade at Discharge	0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery
			after discharge as documented in the discharge medication list.		
Type Score	Rate/proportion better quality = higher score	Eligible clinicians who have given a prescription for or whose patient is already taking an Angiotensin-Converting Enzyme Inhibitor (ACEI) or Angiotensin Receptor Blocker (ARB) would meet performance for this measure. Other combination therapies that consist of an ACEI plus diuretic, ARB + neprilysin inhibitor (ARNI), ARB plus diuretic, ACEI plus calcium channel blocker, ARB plus calcium channel blocker, or ARB plus calcium channel blocker plus diuretic would also meet performance for this measure.	Beta-blocker therapy: For patients with prior LVEF < 40%, beta-blocker therapy should include bisoprolol, carvedilol, or sustained release metoprolol succinate.		
Algorithm	1) Check if given patient survived hospitalization and is eligible for 1 of the 2 medication therapies. 2) If eligible for at least 1 medication, then keep this patient. 3) If not eligible for any of the 2 medications, then patient is removed from eligibility. If eligible for ACE/ARB and given, then code "Yes"	HQMF eCQM developed and is attached to this submission in fields S.2a and S.2b.	Numerator Note: To meet the intent of the measure, the numerator quality action must be performed at the encounter at which the active diagnosis of heart failure is documented.		

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)	0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)	0117: Beta Blockade at Discharge	0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery
	If eligible for ACE/ARB and not given, then code "No, no reason" If eligible for ACE/ARB but contraindicated, then code "No – medical reason" or "No – patient reason" If eligible for Beta Blocker and given, then code then "Yes" If eligible for Beta Blocker and not given, then code "No, no reason" If eligible for Beta Blocker but contraindicated, then code "No – medical reason" or "No – patient reason" 4) If any "No, no reason" present, then performance not met. Else, performance met. Although ineligible cases are removed from the denominator population for the performance calculation, the number of patients with valid exceptions should be				

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)	0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)	0117: Beta Blockade at Discharge	0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery
	calculated and reported along with performance rates to track variations in care and highlight possible areas of focus for QI. If the patient does not meet the numerator and a valid exception is not present, this case represents a quality failure. Missing data defaults to "performance not met" This measure assumes that missing documentation on the process results in a failure of meeting an evidence based therapy.				
Submission items	5.1 Identified measures: 0066 : Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%) 0070 : Coronary Artery Disease (CAD): Beta-Blocker	All patients aged 18 years and older with a diagnosis of heart failure with a current or prior LVEF < 40%	For Submission Criteria 1 and Submission Criteria 2, report Quality Data Code, G8450: Beta-blocker therapy prescribed	Number of isolated CABG procedures in which discharge beta blockers [DCBeta (STS Adult Cardiac Surgery Database Version 2.81)] is marked "yes"	Numerator Options:

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)	0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)	0117: Beta Blockade at Discharge	0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery
	Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%) 0081 : Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction (LVSD) 0083 : Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD) 0236 : Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery 0594 : Post MI: ACE inhibitor or ARB therapy 0117 : Beta Blockade at Discharge 0071 : Persistence of Beta-Blocker Treatment After a Heart Attack				

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)	0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)	0117: Beta Blockade at Discharge	0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery
	0070e : Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%) 0081e : Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD) 5a.1 Are specs completely harmonized? Yes 5a.2 If not completely harmonized, identify difference, rationale, impact: Measure #0965 is a subset of other measures and the measures are completely harmonized with the exception of one area. It appears that only				

	0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients	0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)	0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)	0117: Beta Blockade at Discharge	0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery
	one measure (#81e) currently includes prescribing of ARNI as an acceptable therapy in the numerator. We assume that the other measures be updated to reflect the current evidence and there is no need for further harmonization. 5b.1 If competing, why superior or rationale for additive value: N/A				

Comparison of NQF 3534 and NQF 2561

	3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).	2561: STS Aortic Valve Replacement (AVR) Composite Score
Steward	American College of Cardiology	The Society of Thoracic Surgeons
Description	This measure estimates hospital risk standardized odds ratio for death from all causes within 30 days following transcatheter aortic valve replacement. The measure uses clinical data available in the STS/ACC TVT Registry for risk adjustment. For the purpose of development and testing,	STS AVR Composite Score comprises two domains consisting of six measures: Domain 1) Absence of Operative Mortality – Proportion of patients (risk-adjusted) who do not experience operative mortality. Operative mortality is defined as death during the same hospitalization as surgery or after discharge but within 30 days of the procedure; and Domain 2) Absence of Major Morbidity – Proportion of patients (risk-adjusted) who do not

	3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).	2561: STS Aortic Valve Replacement (AVR) Composite Score
	the measure used site-reported 30-day follow-up data contained in the STS/ACC TVT Registry.	experience any major morbidity. Major morbidity is defined as having at least one of the following adverse outcomes: 1. reoperations for any cardiac reason, 2. renal failure, 3. deep sternal wound infection, 4. prolonged ventilation/intubation, and 5. cerebrovascular accident/permanent stroke. All measures are based on audited clinical data collected in a prospective registry and are risk-adjusted. Participants receive a score for each of the two domains, plus an overall composite score. The overall composite score was created by “rolling up” the domain scores into a single number. In addition to receiving a numeric score, participants are assigned to rating categories designated by one star (below average performance), two stars (average performance), or three stars (above average performance). Star ratings are publicly reported on the STS website and are also currently reported on the Consumer Reports website.
Type	Outcome	Composite
Data Source	Registry Data STS/ACC TVT Registry Available at measure-specific web page URL identified in S.1 Attachment TAVR_S.2b_attachment-637092425369121221.xlsx	Registry Data STS Adult Cardiac Surgery Database Version 2.81 (effective July 1, 2014); Version 2.9 (effective July 1, 2017) Available at measure-specific web page URL identified in S.1 Attachment S.2b_-_S.15._Detailed_Risk_Model_Specifications.STS_AVR_Composite_Score.docx
Level	Facility	Facility, Clinician : Group/Practice
Setting	Inpatient/Hospital	Inpatient/Hospital
Numerator Statement	The outcome of this measure is all-cause death within 30 days following a transcatheter aortic valve replacement (TAVR).	Due to the complex methodology used to construct the composite measure, it is impractical to separately discuss the numerator and denominator. The following discussion describes how each domain score is calculated and how these are combined into an overall composite score. The STS AVR Composite Score comprises two domains consisting of six individual measures: 1. Absence of Operative Mortality NQF # 0120 Risk-Adjusted Operative Mortality for AVR 2. Absence of Major Morbidity, scored any-or-none. The measures used are the same morbidity outcomes included in NQF #0696 STS CABG Composite Score.

	3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).	2561: STS Aortic Valve Replacement (AVR) Composite Score
		Risk-Adjusted Postoperative Stroke/Cerebrovascular Accident Risk-Adjusted Postoperative Surgical Re-exploration Risk-Adjusted Postoperative Deep Sternal Wound Infection Rate Risk-Adjusted Postoperative Renal Failure Risk-Adjusted Postoperative Prolonged Intubation (Ventilation) Participants receive a score for each of the two domains, plus an overall composite score. The overall composite score is created by “rolling up” the domain scores into a single number. In addition to receiving a numeric score, participants are assigned to rating categories designated by one star (below average performance), two stars (average performance), or three stars (above average performance). Patient Population: The analysis population consists of adult patients aged 18 years or older who undergo isolated AVR surgery Time Period: 3 years Data Completeness Requirement: Participants are excluded from the analysis if they have fewer than 10 isolated AVR procedures in the patient population. Technical Details The unit of measurement for the STS AVR Composite Score can be either a participant (most often a cardiac surgical practice but occasionally an individual surgeon) or a hospital. For the Absence of Operative Mortality domain, the NUMERATOR is: Number of patients undergoing isolated AVR who survived until after discharge and >30 days post-surgery For the Absence of Major Morbidity domain, the NUMERATOR is: Number of patients undergoing isolated AVR who did not experience any of the five specified major morbidity endpoints* *Morbidity endpoints consist of postoperative stroke/cerebrovascular accident, surgical re-exploration, deep sternal wound infection, renal failure, prolonged intubation (ventilation). Patients with documented history of

	3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).	2561: STS Aortic Valve Replacement (AVR) Composite Score
		renal failure (i.e., dialysis or baseline serum creatinine of 4.0 or higher) are excluded when counting renal failure outcomes. STS AVR risk models are used to estimate expected rates of mortality and any-or-none morbidity (Reference: O'Brien SM, Shahian DM, Filardo G, et al. The Society of Thoracic Surgeons 2008 cardiac surgery risk models: part 2— isolated valve surgery. Ann Thorac Surg 2009;88(1 Suppl):S23–42). To enhance interpretation, mortality rates are converted to survival rates (risk-standardized survival rate = $100 - \text{risk-standardized mortality rate}$), and morbidity rates are converted to “absence of morbidity” rates (risk-standardized absence of morbidity rate = $100 - \text{risk-standardized morbidity rate}$). Defining scores in this manner ensures that increasingly positive values reflect better performance, which is easier for consumers to interpret. (Please see the appendix for the formula used to calculate the overall composite score.) The method is equivalent to calculating a weighted average, with weights proportional to the inverse of the SD. In the most recent production of the STS AVR Composite Score based on data from July 2010 – June 2013, $\text{wtmorb}=0.79$ and $\text{wtmort} = 0.21$. Star Rating: Star ratings are derived by testing whether the participant's composite or domain score is significantly different from the overall STS average. For instance, if for each of the 2 composite score domains, a participant's estimated score is lower than the overall STS average, but the difference between the participant and STS is not statistically significant, the ratings would each be 2 stars. If however, for the overall composite, the point estimate is lower than the STS average, AND this difference is statistically significant, the overall participant star rating is 1 star. The fact that statistical significance was achieved for the composite score but not the individual domains reflects the greater precision of the composite score compared to individual endpoints. This precision is achieved by aggregating information across multiple endpoints instead of a single endpoint. Additional details regarding the AVR Composite Score are provided in the attached manuscript:

	3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).	2561: STS Aortic Valve Replacement (AVR) Composite Score
		Shahian DM, He X, Jacobs JP, et al. The Society of Thoracic Surgeons Isolated Aortic Valve Replacement (AVR) Composite Score: a report of the STS Quality Measurement Task Force. Ann Thorac Surg 2012;94:2166-71.
Numerator Details	NUMERATOR: 1. Discharge status of expired or 2. Follow-up status=deceased and date difference between index procedure and death date is ≤ 30 or 3. 30-day follow-up status=deceased, death date is missing, and difference between index procedure and follow-up assessment date is ≤ 75 days. * *Notes: The ≤ 75 day follow-up assessment timeframe was identified to be a clinically reasonable surrogate to capture a 30 day death if 30 day follow-up date of death was missing (this occurred in 0.9% of deceased records from January 2015 to December 2017). Sometimes a status of “deceased” is known and documented but the exact date of death is not available. In addition, we validated the accuracy of 30-day mortality in the TVT Registry by comparing Registry data linked CMS claims data from 2012-2015. Across 3.5 years, 99.6% of the 29,247 patient records had no discrepancy.	Please see S.4 above
Denominator Statement	The target population for the outcome is for individuals who have undergone transcatheter aortic valve replacement. For development, reassessment and reporting of this measure, we use site reported data from the STS/ACC TVT Registry.	Due to the complex methodology used to construct the composite measure, it is impractical to separately discuss the numerator and denominator. The following discussion describes how each domain score is calculated and how these are combined into an overall composite score. The STS AVR Composite Score comprises two domains consisting of six individual measures: 1. Absence of Operative Mortality NQF # 0120 Risk-Adjusted Operative Mortality for AVR 2. Absence of Major Morbidity, scored any-or-none. The measures used are the same morbidity outcomes included in NQF #0696 STS CABG Composite Score. Risk-Adjusted Postoperative Stroke/Cerebrovascular Accident

	3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).	2561: STS Aortic Valve Replacement (AVR) Composite Score
		Risk-Adjusted Postoperative Surgical Re-exploration Risk-Adjusted Postoperative Deep Sternal Wound Infection Rate Risk-Adjusted Postoperative Renal Failure Risk-Adjusted Postoperative Prolonged Intubation (Ventilation) Participants receive a score for each of the two domains, plus an overall composite score. The overall composite score is created by “rolling up” the domain scores into a single number. In addition to receiving a numeric score, participants are assigned to rating categories designated by one star (below average performance), two stars (average performance), or three stars (above average performance). Patient Population: The analysis population consists of adult patients aged 18 years or older who undergo isolated AVR surgery Time Period: 3 years Data Completeness Requirement: Participants are excluded from the analysis if they have fewer than 10 isolated AVR procedures in the patient population. Technical Details The unit of measurement for the STS AVR Composite Score can be either a participant (most often a cardiac surgical practice but occasionally an individual surgeon) or a hospital. For the Absence of Operative Mortality domain AND the Absence of Major Morbidity domain, the DENOMINATOR is: Number of patients undergoing isolated AVR during the measurement period STS AVR risk models are used to estimate expected rates of mortality and any-or-none morbidity (Reference: O’Brien SM, Shahian DM, Filardo G, et al. The Society of Thoracic Surgeons 2008 cardiac surgery risk models: part 2— isolated valve surgery. Ann Thorac Surg 2009;88(1 Suppl):S23–42). To enhance interpretation, mortality rates are converted to survival rates (risk-standardized survival rate = 100 – risk-standardized mortality rate), and morbidity rates are converted to “absence of morbidity” rates (risk-standardized absence of morbidity rate = 100 – risk-standardized morbidity rate). Defining scores in this manner ensures that increasingly

	3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).	2561: STS Aortic Valve Replacement (AVR) Composite Score
		positive values reflect better performance, which is easier for consumers to interpret. (Please see the appendix for the formula used to calculate the overall composite score.) The method is equivalent to calculating a weighted average, with weights proportional to the inverse of the SD. In the most recent production of the STS AVR Composite Score based on data from July 2010 – June 2013, wtmort=0.79 and wtmorb = 0.21. Star Rating: Star ratings are derived by testing whether the participant's composite or domain score is significantly different from the overall STS average. For instance, if for each of the 2 composite score domains, a participant's estimated score is lower than the overall STS average, but the difference between the participant and STS is not statistically significant, the ratings would each be 2 stars. If however, for the overall composite, the point estimate is lower than the STS average, AND this difference is statistically significant, the overall participant star rating is 1 star. The fact that statistical significance was achieved for the composite score but not the individual domains reflects the greater precision of the composite score compared to individual endpoints. This precision is achieved by aggregating information across multiple endpoints instead of a single endpoint. Additional details regarding the AVR Composite Score are provided in the attached manuscript: Shahian DM, He X, Jacobs JP, et al. The Society of Thoracic Surgeons Isolated Aortic Valve Replacement (AVR) Composite Score: a report of the STS Quality Measurement Task Force. Ann Thorac Surg 2012;94:2166-71.
Denominator Details	Measure Eligibility and Population Definition 1) Eligibility at the hospital level: a) Acceptable “Data Quality Report” data submissions for each quarter in the reporting period. b) Hospitals must have $\geq 90\%$ completeness of the following items for all patient records in the rolling 3-year reporting period to receive feedback on the measure:	Please see S.6 above

	3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).	2561: STS Aortic Valve Replacement (AVR) Composite Score
	i) Computed baseline Kansas City Cardiomyopathy Questionnaire (a key risk model covariate) AND ii) Baseline 5-meter walk test (a key model covariate), AND iii) 30-day follow-up status =alive or dead as defined above (the outcome variable) 2) Eligibility at the patient level: Hospitalization for first-time TAVR procedure	
Exclusions	1) Hospitals need to meet eligibility criteria to be included in the measure. 2) Patients are excluded if: a) They did not have a first-time TAVR in the episode of care (admission), b) The TAVR was subsequent to another procedure in the Registry (other TAVR, Mitral Leaflet Clip and/or TMVR) during that admission. c) The patient is readmitted for a repeat TAVR (re-admission) and the initial TAVR was performed during the rolling 3-year timeframe for the measure. d) 30-day mortality status missing.	Please see S.6 above
Exclusion Details	1) Hospital ineligibility: a) Unacceptable data quality report submissions for all quarters of the reporting time-period. b) Hospitals who have less than 90% of patient records with respect to ANY of the following assessments in the rolling 3-year reporting period: i) Computed baseline Kansas City Cardiomyopathy Questionnaire (a key risk model covariate) OR ii) Baseline 5 meter walk test (a key model covariate), OR iii) 30 day follow-up status =alive or dead as defined above (the outcome variable)	Please see S.6 above

	3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).	2561: STS Aortic Valve Replacement (AVR) Composite Score
	2) Patient Ineligibility: a) They did not have a first-time TAVR in the episode of care (admission), b) The TAVR was subsequent to another procedure in the Registry (other TAVR, Mitral Leaflet Clip and/or TMVR) during that admission. c) The patient is readmitted for a repeat TAVR (re-admission) and the initial TAVR was performed during the rolling 3-year timeframe for the measure. d) 30-day mortality status is missing.	
Risk Adjustment	Statistical risk model 118162 118162	Statistical risk model
Stratification	This measure will not be stratified.	N/A
Type Score	Ratio better quality = lower score	Rate/proportion better quality = higher score
Algorithm	The measure score is calculated based on the following steps: 1) Patient cohort is identified based on inclusion criteria (see questions S.7-S.11) 2) Data elements for risk adjusted are collected using the first collected value, as identified below; 3) Outcome is ascertained (see S.5) 4) Measure score is calculated with aggregated data across all included sites as described below. Risk adjustment variables include: 1. Age 2. Body surface area (BSA) 3. Sex 4. Race/ethnicity	Please see S.4 and S.6 above

	3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).	2561: STS Aortic Valve Replacement (AVR) Composite Score
	5. Estimated glomerular filtration rate (eGFR), which quantifies kidney function 6. Hemodialysis for end-stage renal disease 7. Left ventricular ejection fraction (LVEF) 8. Hemoglobin 9. Platelet count 10. Procedure date 11. Left main coronary artery stenosis = 50% 12. Proximal left anterior descending coronary artery stenosis = 70% 13. Prior myocardial infarction 14. Endocarditis 15. Gait speed (via the 5-meter walk test which assesses frailty) 16. Baseline Kansas City Cardiomyopathy Questionnaire-12 (KCCQ-12, a measure of heart-failure specific health status) 17. Peripheral artery disease 18. Current/recent smoker 19. Diabetes 20. Atrial fibrillation/flutter 21. Conduction defect 22. Chronic lung disease 23. Home oxygen 24. "Hostile" chest 25. Porcelain (severely concentrically calcified) aorta 26. Access site 27. Pacemaker 28. Previous implantable cardioverter defibrillator 29. Prior percutaneous coronary intervention 30. Prior coronary artery bypass surgery	

	3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).	2561: STS Aortic Valve Replacement (AVR) Composite Score
	31. # prior cardiac operations 32. Prior aortic valve surgery/procedure 33. Prior other valve procedure surgery/procedure (mitral, tricuspid, pulmonic) 34. Aortic valve disease etiology 35. Aortic valve morphology 36. Aortic insufficiency (moderate or severe) 37. Mitral insufficiency (moderate or severe) 38. Tricuspid insufficiency (moderate or severe) 39. Acuity status (defined by a combination of procedure status, prior cardiac arrest w/in 24 hours, need for pre-procedure inotropic medications, and use of mechanical assist device) 40. Carotid stenosis 41. Prior transient ischemic attack or stroke Case mix adjustment is implemented using a hierarchical logistic regression model with the above covariates and a site-specific random intercept. The main summary measure of a hospital's risk-adjusted outcomes performance is the hospital's estimated odds ratio, which compares the predicted odds of death of the patient population at a hospital if TAVR is performed by the hospital of interest to the predicted odds of death if TAVR were performed by an average hospital. An odds ratio greater than 1 implies higher than expected mortality and an odds ratio less than 1 implies lower than expected mortality. Each hospital's estimated odds ratio is reported along with an approximate 95% empirical Bayes interval around the estimated odds ratio. Definition of Measure Score Calculation - Odds ratio: a parameter reflecting the association between risk factors and an outcome. The Risk Standardized Odds Ratio is calculated as the odds that an outcome (e.g. 30-day mortality) will occur for	

	3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).	2561: STS Aortic Valve Replacement (AVR) Composite Score
	patients treated at your facility compared to the “odds” that outcome will occur for patients with identical risk factors if treated by a hypothetical (average) hospital. It conceptually allows for a comparison of a particular hospital’s performance given its case mix to an average hospital’s performance with the same case mix. Thus, a lower odds ratio implies lower-than-expected mortality (better quality) and a higher ratio implies higher-than-expected mortality (worse quality). To assess hospital performance in any reporting period, we re-estimate the model coefficients using the years of data in that period. References: Normand S-LT, Shahian DM. 2007. Statistical and Clinical Aspects of Hospital Outcomes Profiling. Stat Sci 22 (2): 206-226. Arnold, S.V. et al. Measures in the Risk Adjustment of 30-Day Mortality After Transcatheter Aortic Valve Replacement: A Report From the Society of Thoracic Surgeons/American College of Cardiology TVT Registry JACC: Cardiovascular Interventions Volume 11, Issue 6, 26 March 2018, Pages 581-589 118162	
Submission items	5.1 Identified measures: 5a.1 Are specs completely harmonized? Yes 5a.2 If not completely harmonized, identify difference, rationale, impact: While this measure focuses on a different population (ie those undergoing surgical AVR) and different outcomes, the current measure has been harmonized to the extent possible. Residual differences in the two models include the following: 1. Some variables are unique to each population/procedure/measure (e.g. TAVR 30-day RAM includes variables unique to the procedure such as gait speed, KCCQ, access site, porcelain aorta and aortic valve	5.1 Identified measures: 0120 : Risk-Adjusted Operative Mortality for Aortic Valve Replacement (AVR) 0131 : Risk-Adjusted Stroke/Cerebrovascular Accident 0115 : Risk-Adjusted Surgical Re-exploration 0130 : Risk-Adjusted Deep Sternal Wound Infection 0114 : Risk-Adjusted Postoperative Renal Failure 0129 : Risk-Adjusted Postoperative Prolonged Intubation (Ventilation) 5a.1 Are specs completely harmonized? Yes 5a.2 If not completely harmonized, identify difference, rationale, impact: N/A

	3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).	2561: STS Aortic Valve Replacement (AVR) Composite Score
	morphology). 2. The outcome of each measure is different. TAVR 30-day RAM is subset of the STS AVR Composite Score (which includes 30-day mortality as well as 5 morbidities). 3. The patient population of each measure is different. TAVR 30 day RAM is only patients who had a transcatheter aortic valve replacement procedures. STS AVR Composite is for all patients having an aortic valve replacement (which MAY include a TAVR). 5b.1 If competing, why superior or rationale for additive value: N/A	5b.1 If competing, why superior or rationale for additive value: N/A

Appendix E2: Related and Competing Measures (narrative)

Comparison of NQF 0071 and NQF 0070

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Steward

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

National Committee for Quality Assurance

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

PCPI Foundation

Description

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

The percentage of patient's 18 years of age and older during the measurement year who were hospitalized and discharged from July 1 of the year prior to the measurement year to June 30 of the measurement year with a diagnosis of acute myocardial infarction (AMI) and who received persistent beta-blocker treatment for six months after discharge.

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Percentage of patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12-month period who also have a prior MI or a current or prior LVEF <40% who were prescribed beta-blocker therapy

Type

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

Outcome: Intermediate Clinical Outcome

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Process

Data Source

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

Claims This measure is based on administrative claims collected in the course of providing care to health plan members. NCQA collects the Healthcare Effectiveness Data and Information Set (HEDIS) data for this measure directly from health plans via NCQA's online data submission system.

No data collection instrument provided Attachment 0071_PBH_Value_Sets_Fall_2019-637091548789757231.xlsx

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Registry Data Not applicable.

No data collection instrument provided Attachment NQF0070_I9to10_conversion-636904075196450947.xlsx

Level

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

Health Plan

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Clinician : Group/Practice, Clinician : Individual

Setting

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

Outpatient Services

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Home Care, Other, Outpatient Services, Post-Acute Care Nursing Facility Visit, Care Services in Long-Term Residential Facility

Numerator Statement

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

Patients who received at least 135 days of treatment with beta-blockers during the 180-day measurement interval.

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Patients who were prescribed beta-blocker therapy

Numerator Details

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

At least 135 days of treatment with beta-blockers during the 180-day measurement interval.

180-day measurement interval – The 180-day period that includes the discharge date and the 179 days after discharge.

To determine continuity of treatment during the 180-day period, identify all prescriptions filled within the 180-day measurement interval, and add the number of allowed gap days (up to a total of 45 days) to the number of treatment days for a maximum of 180 days (i.e., 135 treatment days + 45 gap days = 180 days).

Treatment days (days covered) – The actual number of calendar days covered with prescriptions within the specified 180-day measurement interval (i.e., a prescription of a 90-day supply dispensed on the 100th day will have 80 days counted in the 180-day interval).

Assess for active prescriptions and include days supply that fall within the 180-day measurement interval. For patients who were on beta-blockers prior to admission and those who were dispensed an ambulatory prescription during their inpatient stay, factor those prescriptions into adherence rates if the actual treatment days fall within the 180-day measurement interval.

PBH-B BETA-BLOCKER MEDICATIONS

DESCRIPTION / PRESCRIPTION

Noncardioselective beta-blockers / Carvedilol; Labetalol; Nadolo; Penbutolol; Pindolol; Propranolol; Timolol; Sotalol

Cardioselective beta-blockers / Acebutolol; Atenolol; Betaxolol; Bisoprolol; Metoprolol; Nebivolol

Antihypertensive combinations / Atenolol-chlorthalidone; Bendroflumethiazide-nadolol; Bisoprolol-hydrochlorothiazide; Hydrochlorothiazide-metoprolol; Hydrochlorothiazide-propranolol

See attached code value sets.

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Time Period for Data Collection: At least once during the measurement period

Definition:

Prescribed may include prescription given to the patient for beta-blocker therapy at one or more visits in the measurement period OR patient already taking beta-blocker therapy as documented in current medication list.

Beta-blocker therapy:

- For patients with prior LVEF <40%, beta-blocker therapy includes the following: bisoprolol, carvedilol, or sustained release metoprolol succinate.
- For patients with prior MI, beta-blocker therapy includes any agent within the beta-blocker drug class. As of 2015, no recommendations or evidence are cited in current stable ischemic heart disease guidelines for preferential use of specific agents.

Numerator Note: To meet the intent of the measure, the numerator quality action must be performed at the encounter at which the active diagnosis of CAD or history of cardiac surgery proxy is documented.

For Submission Criteria 1, report Quality Data Code, G9189: Beta-blocker therapy prescribed or currently being taken

For Submission Criteria 2, report CPT Category II Code, 4008F: Beta-blocker therapy prescribed or currently being taken

Denominator Statement

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

An acute inpatient discharge from July 1 of the year prior to the measurement year through June 30 of the measurement year with any diagnosis of acute myocardial infarction (AMI) on the discharge claim.

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

All patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12-month period who also have a prior (within the past 3 years) MI or a current or prior LVEF < 40%

Denominator Details

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

Patients who had continuous enrollment from discharge date through 179 days after discharge. No more than one gap in continuous enrollment of up to 45 days within the 180 days of the event. If the patient has Medicaid, then no more than a 1-month gap in coverage.

An acute inpatient discharge from July 1 of the year prior to the measurement year through June 30 of the measurement year with any diagnosis of acute myocardial infarction (AMI) on the discharge claim.

To identify an acute inpatient discharge:

1. Identify all acute and nonacute inpatient stays.
2. Exclude nonacute inpatient stays.
3. Identify the discharge date for the stay.

If a patient has more than one episode of AMI that meets the event/diagnosis criteria, from July 1 of the year prior to the measurement year through June 30 of the measurement year, include only the first discharge.

Direct transfers to an acute inpatient care setting: If a patient had a direct transfer to an acute inpatient setting (for any diagnosis), use the discharge date from the transfer setting, not the initial discharge. Exclude both the initial discharge and the direct transfer discharge if the transfer discharge occurs after June 30 of the measurement year. Use the instructions below to identify direct transfers and exclude nonacute inpatient stays.

Direct transfers to a nonacute inpatient care setting: Exclude from the denominator, hospitalizations in which the patient had a direct transfer to a nonacute inpatient care setting for any diagnosis. Use the instructions below to identify direct transfers and confirm the stay was for nonacute inpatient care based on the presence of a nonacute code on the claim.

A direct transfer is when the discharge date from the first inpatient setting precedes the admission date to a second inpatient setting by one calendar day or less. For example:

- An inpatient discharge on June 1, followed by an admission to another inpatient setting on June 1, is a direct transfer.
- An inpatient discharge on June 1, followed by an admission to an inpatient setting on June 2, is a direct transfer.
- An inpatient discharge on June 1, followed by an admission to another inpatient setting on June 3, is not a direct transfer; these are two distinct inpatient stays.

Use the following method to identify admissions to and discharges from inpatient settings.

1. Identify all acute and nonacute inpatient stays.
2. If needed, identify nonacute inpatient stays.
3. Identify the admission and discharge dates for the stay.

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Time Period for Data Collection: 12 consecutive months

Denominator Note:

The history of cardiac surgery serves as a proxy for a diagnosis of CAD; a diagnosis is not needed if the patient has documented history of cardiac surgery. Only one of the two criteria – a diagnosis of CAD or history of cardiac surgery proxy – is required. To meet the denominator criteria, a patient must have an active diagnosis of CAD (or proxy documented) at the time of the encounter which is used to qualify for the denominator and evaluate the numerator.

The encounter used to evaluate the numerator counts as 1 of the 2 encounters required for denominator inclusion. If the patient meets the CAD diagnosis criterion, the diagnosis needs to be active only at the encounter being evaluated for the numerator action. If the patient meets the proxy of a history of cardiac surgery inclusion criterion, there should be documentation of the proxy at the encounter being evaluated for the numerator action.

Prior Myocardial Infarction (MI) – for Submission Criteria 2, prior MI is limited to those occurring within the past 3 years.

Submission Criteria 1: Patients with left ventricular systolic dysfunction (LVEF <40%)

Patients aged ≥ 18 years on date of encounter

AND

Diagnosis for coronary artery disease (ICD-10-CM): I20.0, I20.1, I20.8, I20.9, I24.0, I24.1, I24.8, I24.9, I25.10, I25.110, I25.111, I25.118, I25.119, I25.5, I25.6, I25.700, I25.701, I25.708, I25.709, I25.710, I25.711, I25.718, I25.719, I25.720, I25.721, I25.728, I25.729, I25.730, I25.731, I25.738, I25.739, I25.750, I25.751, I25.758, I25.759, I25.760, I25.761, I25.768, I25.769, I25.790, I25.791, I25.798, I25.799, I25.810, I25.811, I25.812, I25.82, I25.83, I25.89, I25.9, Z95.1, Z95.5, Z98.61

OR

History of cardiac surgery (CPT): 33140, 33510, 33511, 33512, 33513, 33514, 33516, 33517, 33518, 33519, 33521, 33522, 33523, 33533, 33534, 33535, 33536, 92920, 92924, 92928, 92933, 92937, 92941, 92943, 92980, 92981, 92982, 92984, 92995, 92996

AND

Patient encounter during performance period – to be used for numerator evaluation (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350

WITHOUT

Telehealth Modifier: GQ, GT, 95, POS 02

AND

At least one additional patient encounter during performance period (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350

WITH OR WITHOUT

Telehealth Modifier: GQ, GT, 95, POS 02

AND

Left ventricular ejection fraction (LVEF) < 40%: G8694

Submission Criteria 2: Patients with a prior (within the past 3 years) myocardial infarction

Patients aged >= 18 years on date of encounter

AND

Diagnosis for coronary artery disease (ICD-10-CM): I20.0, I20.1, I20.8, I20.9, I24.0, I24.1, I24.8, I24.9, I25.10, I25.110, I25.111, I25.118, I25.119, I25.5, I25.6, I25.700, I25.701, I25.708, I25.709, I25.710, I25.711, I25.718, I25.719, I25.720, I25.721, I25.728, I25.729, I25.730, I25.731, I25.738, I25.739, I25.750, I25.751, I25.758, I25.759, I25.760, I25.761, I25.768, I25.769, I25.790, I25.791, I25.798, I25.799, I25.810, I25.811, I25.812, I25.82, I25.83, I25.89, I25.9, Z95.1, Z95.5, Z98.61

OR

History of cardiac surgery (CPT): 33140, 33510, 33511, 33512, 33513, 33514, 33516, 33517, 33518, 33519, 33521, 33522, 33523, 33533, 33534, 33535, 33536, 92920, 92924, 92928, 92933, 92937, 92941, 92943, 92980, 92981, 92982, 92984, 92995, 92996

AND

Diagnosis for myocardial infarction— includes patient that had a prior (within the past 3 years) myocardial infarction (ICD-10-CM): I21.01, I21.02, I21.09, I21.11, I21.19, I21.21, I21.29, I21.3, I21.4, I21.9, I21.A1, I21.A9, I22.0, I22.1, I22.2, I22.8, I22.9, I24.1, I25.2

AND

Patient encounter during performance period – to be used for numerator evaluation (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350

WITHOUT

Telehealth Modifier: GQ, GT, 95, POS 02

AND

At least one additional patient encounter during performance period (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350

WITH OR WITHOUT

Telehealth Modifier: GQ, GT, 95, POS 02

Exclusions

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

Any of the following any time during the patient's history through the end of the continuous enrollment period meet criteria:

- Asthma

- COPD
- Obstructive chronic bronchitis
- Chronic respiratory conditions due to fumes and vapors
- Hypotension, heart block >1 degree or sinus bradycardia
- A medication dispensing event indicative of a history of asthma
- Intolerance or allergy to beta-blocker therapy

Additionally, this measure excludes adults in hospice. It also excludes adults with advanced illness and frailty, as well as Medicare adults 65 years of age and older enrolled in an I-SNP or living long-term in institutional settings.

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Denominator Exceptions:

Documentation of medical reason(s) for not prescribing beta-blocker therapy (e.g., allergy, intolerance, other medical reasons).

Documentation of patient reason(s) for not prescribing beta-blocker therapy (e.g., patient declined, other patient reasons).

Documentation of system reason(s) for not prescribing beta-blocker therapy (e.g., other reasons attributable to the health care system).

Exclusion Details

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

Patients identified as having an intolerance or allergy to beta-blocker therapy. Any of the following any time during the patient's history through the end of the continuous enrollment period meet criteria:

- Asthma
- COPD
- Obstructive chronic bronchitis
- Chronic respiratory conditions due to fumes and vapors
- Hypotension, heart block >1 degree or sinus bradycardia
- A medication dispensing event indicative of a history of asthma

MEDICATIONS TO IDENTIFY HISTORY OF ASTHMA

DESCRIPTION / PRESCRIPTION

Bronchodilator combinations / Budesonide-formoterol; Fluticasone-vilantero; Fluticasone-salmeterol; Formoterol-mometasone

Inhaled corticosteroids / Beclomethasone; Budesonide; Ciclesonide; Flunisolide; Fluticasone; Mometasone

Exclude patients who use hospice services or elect to use a hospice benefit any time during the measurement year, regardless of when the services began. These patients may be identified using various methods, which may include but are not limited to enrollment data, medical record or claims/encounter data.

Exclude adults who meet any of the following criteria:

- Medicare members 66 years of age and older as of December 31 of the measurement year who meet either of the following:
 - Enrolled in an Institutional SNP (I-SNP) any time on or between July 1 of the year prior to the measurement year and the end of the measurement year.
 - Living long-term in an institution any time on or between July 1 of the year prior to the measurement year and the end of the measurement year as identified by the LTI flag in the Monthly Membership Detail Data File. Use the run date of the file to determine if an adult had an LTI flag any time on or between July 1 of the year prior to the measurement year and the end of the measurement year.
- Members 66-80 years of age as of December 31 of the measurement year (all product lines) with frailty and advanced illness. Adults must meet BOTH of the following frailty and advanced illness criteria to be excluded:
 1. At least one claim/encounter for frailty any time on or between July 1 of the year prior to the measurement year and the end of the measurement year.
 2. Any of the following during the measurement year or the year prior to the measurement year (count services that occur over both years):
 - At least two outpatient visits, observation visits, ED visits, nonacute inpatient encounters or nonacute inpatient discharges (instructions below) on different dates of service, with an advanced illness diagnosis. Visit type need not be the same for the two visits. To identify a nonacute inpatient discharge:
 1. Identify all acute and nonacute inpatient stays.
 2. Confirm the stay was for nonacute care based on the presence of a nonacute code on the claim.
 3. Identify the discharge date for the stay.
 - At least one acute inpatient encounter with an advanced illness diagnosis.
 - At least one acute inpatient discharge with an advanced illness diagnosis. To identify an acute inpatient discharge:
 1. Identify all acute and nonacute inpatient stays.
 2. Exclude nonacute inpatient stays.
 3. Identify the discharge date for the stay.
 - A dispensed dementia medication.

DEMENTIA MEDICATIONS

DESCRIPTION / PRESCRIPTION

Cholinesterase inhibitors / Donepezil; Galantamine; Rivastigmine

Miscellaneous central nervous system agents / Memantine

- Members 81 years of age and older as of December 31 of the measurement year (all product lines) with frailty any time on or between July 1 of the year prior to the measurement year and the end of the measurement year.

See attached code value sets.

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Time Period for Data Collection: During the encounter within the 12-month period

Exceptions are used to remove a patient from the denominator of a performance measure when the patient does not receive a therapy or service AND that therapy or service would not be appropriate due to patient-specific reasons. The patient would otherwise meet the denominator criteria. Exceptions are not absolute, and are based on clinical judgment, individual patient characteristics, or patient preferences. The PCPI exception methodology uses three categories of reasons for which a patient may be removed from the denominator of an individual measure. These measure exception categories are not uniformly relevant across all measures; for each measure, there must be a clear rationale to permit an exception for a medical, patient, or system reason. Examples are provided in the measure exception language of instances that may constitute an exception and are intended to serve as a guide to clinicians. For measure Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%), exceptions may include medical reason(s) (eg, allergy, intolerance, other medical reasons), patient reason(s) (eg, patient declined, other patient reasons), or system reason(s) (eg, other reasons attributable to the health care system) for not prescribing beta-blocker therapy. Although this methodology does not require the external reporting of more detailed exception data, the PCPI recommends that physicians document the specific reasons for exception in patients' medical records for purposes of optimal patient management and audit-readiness. The PCPI also advocates the systematic review and analysis of each physician's exceptions data to identify practice patterns and opportunities.

Additional details are as follows:

For Submission Criteria 1 –

Report Quality Data Code, G9190: Documentation of medical reason(s) for not prescribing beta-blocker therapy (eg, allergy, intolerance, other medical reasons).

Report Quality Data Code, G9191: Documentation of patient reason(s) for not prescribing beta-blocker therapy (eg, patient declined, other patient reasons).

Report Quality Data Code, G9192: Documentation of system reason(s) for not prescribing beta-blocker therapy (eg, other reasons attributable to the health care system).

For Submission Criteria 2 –

Append a modifier to CPT Category II Code:

4008F-1P: Documentation of medical reason(s) for not prescribing beta-blocker therapy (eg, allergy, intolerance, other medical reasons).

4008F-2P: Documentation of patient reason(s) for not prescribing beta-blocker therapy (eg, patient declined, other patient reasons).

4008F-3P: Documentation of system reason(s) for not prescribing beta-blocker therapy (eg, other reasons attributable to the health care system).

Risk Adjustment

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

No risk adjustment or risk stratification

116000| 123834| 140881

116000| 123834| 140881

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

No risk adjustment or risk stratification

140560| 135810| 117446

140560| 135810| 117446

Stratification

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

No stratification

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Consistent with CMS' Measures Management System Blueprint and national recommendations put forth by the IOM (now NASEM) and NQF to standardize the collection of race and ethnicity data, we encourage the results of this measure to be stratified by race, ethnicity, administrative sex, and payer.

Type Score

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

Rate/proportion better quality = higher score

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Rate/proportion better quality = higher score

Algorithm

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

STEP 1: Determine the eligible population. To do so, identify patients who meet all specified criteria.

- AGES: 18 years and older as of December 31 of the measurement year.
- EVENT/DIAGNOSIS: Identify patients who were discharged from an acute setting with an AMI from July 1 of the year prior to the measurement year through June 30 of the measurement year. SEE S.6 and S.7 for eligible population and denominator criteria and details.

STEP 2: Exclude patients who meet the exclusions criteria. SEE S.8 and S.9 for denominator exclusion criteria and details.

STEP 3: Determine the number of patients in the eligible population who were given a 180-day course of treatment with beta blockers post discharge.

STEP 4: Identify patients whose dispensed days' supply is ≥ 135 days in the 180-day measurement interval. SEE S.4 and S.5 for numerator criteria and details.

STEP 5: Calculate the rate by dividing the numerator (STEP 4) by the denominator (after exclusions) (STEP 2). 116000| 123834| 140881

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

This measure is comprised of two submission criteria but is intended to result in one reporting rate. The reporting rate is the aggregate of Submission Criteria 1 and Submission Criteria 2, resulting in a single performance rate. For the purposes of this measure, the single performance rate can be calculated as follows:

Performance Rate = (Numerator 1 + Numerator 2) / [(Denominator 1 - Denominator Exceptions 1) + (Denominator 2 - Denominator Exceptions 2)]

Calculation algorithm for Submission Criteria 1: Patients with left ventricular systolic dysfunction (LVEF <40%)

1. Find the patients who meet the initial population (i.e., the general group of patients that a set of performance measures is designed to address).
2. From the patients within the initial population criteria, find the patients who qualify for the denominator (i.e., the specific group of patients for inclusion in a specific performance measure based on defined criteria). Note: in some cases the initial population and denominator are identical.
3. From the patients within the denominator, find the patients who meet the numerator criteria (i.e., the group of patients in the denominator for whom a process or outcome of care occurs). Validate that the number of patients in the numerator is less than or equal to the number of patients in the denominator
4. From the patients who did not meet the numerator criteria, determine if the provider has documented that the patient meets any criteria for exception when denominator exceptions have been specified [for this measure: medical reason(s) (e.g., allergy, intolerance, other medical reasons), patient reason(s) (e.g., patient declined, other patient reasons), or system reason(s) (e.g., other reasons attributable to the health care system) for not prescribing beta-blocker therapy]. If the patient meets any exception criteria, they should be removed from the denominator for performance calculation. --Although the exception cases are removed from the denominator population for the performance calculation, the exception rate (i.e., percentage with valid exceptions) should be calculated and reported along with performance rates to track variations in care and highlight possible areas of focus for QI.

If the patient does not meet the numerator and a valid exception is not present, this case represents a quality failure.

Calculation algorithm for Submission Criteria 2: Patients with a prior (within the past 3 years) myocardial infarction

1. Find the patients who meet the initial population (ie, the general group of patients that a set of performance measures is designed to address).
2. From the patients within the initial population criteria, find the patients who qualify for the denominator (i.e., the specific group of patients for inclusion in a specific performance measure based on defined criteria). Note: in some cases the initial population and denominator are identical.
3. From the patients within the denominator, find the patients who meet the numerator criteria (i.e., the group of patients in the denominator for whom a process or outcome of care occurs). Validate that the number of patients in the numerator is less than or equal to the number of patients in the denominator

4. From the patients who did not meet the numerator criteria, determine if the provider has documented that the patient meets any criteria for exception when denominator exceptions have been specified [for this measure: medical reason(s) (e.g., allergy, intolerance, other medical reasons), patient reason(s) (e.g., patient declined, other patient reasons), or system reason(s) (eg, other reasons attributable to the health care system) for not prescribing beta-blocker therapy]. If the patient meets any exception criteria, they should be removed from the denominator for performance calculation. --Although the exception cases are removed from the denominator population for the performance calculation, the exception rate (i.e., percentage with valid exceptions) should be calculated and reported along with performance rates to track variations in care and highlight possible areas of focus for QI.

If the patient does not meet the numerator and a valid exception is not present, this case represents a quality failure. 140560 | 135810 | 117446

Submission items

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

5.1 Identified measures: 0070 : Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

5a.1 Are specs completely harmonized? No

5a.2 If not completely harmonized, identify difference, rationale, impact: DUE TO THE TEXT LIMIT IN THIS SECTION – WE ARE PROVIDING OUR ANSWER FOR 5a.2 IN SECTION 5b.1

5b.1 If competing, why superior or rationale for additive value: ANSWER FOR SECTION 5a.2

NCQA's current Persistence of Beta Blocker Treatment After a Heart Attack measure (NQF measure 0071) uses health plan-reported data to assess the percentage of patients 18 years of age and older during the measurement year who were discharged with a diagnosis of AMI during the 6 months prior to the beginning of the measurement year through the 6 months after the beginning of the measurement year and who received persistent beta-blocker treatment for six months after discharge.

RELATED NQF MEASURE 0070 (Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)):

This measure assesses the percentage of patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12-month period who also have a prior MI or a current left ventricular ejection fraction (LVEF) <40% who were prescribed beta-blocker therapy.

HARMONIZED MEASURE ELEMENTS:

Measure 0071 and 0070 focus on patients 18 years and older who are prescribed beta-blocker treatment post-discharge after having a MI or history of MI. The National Quality Strategy Priorities classification for both measures is Prevention and Treatment of Cardiovascular Disease. Both measures exclude patients who are allergic or have an intolerance to beta blockers.

DIFFERENCES:

Below are the unharmonized measure elements between measure 0071 and measure 0070:

Measure 0071 focuses on beta-blocker treatment post a MI and Measure 0070 focuses on patients who have a prior MI or a current or prior LVEF <40%.

- Data Source: Data for measure 0071 is collected through administrative claims, electronic clinical data, and pharmacy data, while data for measure 0070 is collected through medical record, electronic health record data, electronic clinical data, and paper records
- Level of Accountability: Measure 0071 is a health plan level measure while measure 0070 is a clinician-level measure.
- Population: Measure 0071 focuses on patients who were diagnosed with a MI and discharged and prescribed a beta-blocker therapy treatment. Measure 0070 focuses on patients in a measurement year with a diagnosis of coronary artery diseases who also have a prior MI or current or prior LVEF.
- Exclusions: The difference in exclusions is that measure 0071 specifies asthma, COPD, obstructive chronic bronchitis, chronic respiratory conditions due to fumes and vapors, hypotension, heart block >1 degree, sinus bradycardia, and medication dispensing events indicative of a history of asthma as exclusions. Additionally, measure 0071 excludes hospitalizations in which the patient was transferred directly to a nonacute care facility for any diagnosis, patients enrolled in an I-SNP, patients living long-term in an institution, patients 66-80 years of age with frailty and advanced illness, and patients 81 years of age and older with frailty. Measure 0070 exclusions include: documentation of patient reason(s) for not prescribing beta-blocker therapy (e.g., patient declined, other patient reasons) and documentation of system reason(s) for not prescribing beta-blocker therapy (e.g., other reasons attributable to the health care system).

IMPACT ON INTERPRETABILITY AND DATA COLLECTION BURDEN:

The differences between measures 0071 and 0070 do not have an impact on interpretability of publicly reported rates, or the burden of data collection, because all data for both measures are collected from different data sources by different entities.

ANSWER FOR SECTION 5b.1

Our current measure has a long-standing history of use by health plans and has been implemented for nearly 15 years.

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

5.1 Identified measures: 0083 : Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

0117 : Beta Blockade at Discharge

0127 : Preoperative Beta Blockade

0071 : Persistence of Beta-Blocker Treatment After a Heart Attack

0070e : Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

0083e : Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

5a.1 Are specs completely harmonized? Yes

5a.2 If not completely harmonized, identify difference, rationale, impact: Measure 0070 addresses a patient population of patients with CAD and either a recent prior MI or LVSD. This patient population is also covered in part by the following NQF-endorsed measures: NQF 0071: Persistence of Beta-Blocker Treatment After a Heart Attack and NQF 0083 and 0083e: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction

(LVSD). The specifications are harmonized to the extent possible. As a result, the denominator specifications for the measures differ where needed based on the differing patient populations. Additionally, NQF 0071 is intended for use at the health plan level. NQF 0117 is an inpatient/hospital level measure and includes only patients who have undergone isolated CABG surgery. NQF 0127 is also an inpatient/hospital level measure that focuses on administration of beta-blockers prior to isolated CABG surgery. Measure 0070e is the EHR version of this measure and is completely harmonized.

5b.1 If competing, why superior or rationale for additive value:

Comparison of NQF 0965, NQF 0066, NQF 0070, NQF 0071, and NQF 0081

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Steward

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

American College of Cardiology

0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)

American Heart Association/American Stroke Association

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

PCPI Foundation

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

National Committee for Quality Assurance

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

PCPI Foundation

Description

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

Proportion of patients undergoing ICD/CRT-D implant who received prescriptions for all medications (ACE/ARB and beta blockers) for which they are eligible at discharge.

0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)

Percentage of patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12 month period who also have diabetes OR a current or prior Left Ventricular Ejection Fraction (LVEF) < 40% who were prescribed ACE inhibitor or ARB therapy

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Percentage of patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12-month period who also have a prior MI or a current or prior LVEF <40% who were prescribed beta-blocker therapy

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

The percentage of patient's 18 years of age and older during the measurement year who were hospitalized and discharged from July 1 of the year prior to the measurement year to June 30 of the measurement year with a diagnosis of acute myocardial infarction (AMI) and who received persistent beta-blocker treatment for six months after discharge.

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Percentage of patients aged 18 years and older with a diagnosis of heart failure (HF) with a current or prior left ventricular ejection fraction (LVEF) < 40% who were prescribed ACE inhibitor or ARB or ARNI therapy either within a 12-month period when seen in the outpatient setting OR at each hospital discharge

Type

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

Composite

0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)

Process

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Process

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

Outcome: Intermediate Clinical Outcome

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Process

Data Source

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

Registry Data National Cardiovascular Data Registry (NCDR) ICD Registry

Available in attached appendix at A.1 Attachment icd_v2_codersdatadictionary_2-2-637061353934779116-637088191497113357.pdf

0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)

Registry Data This measure is currently being used in the ACCF PINNACLE registry for the outpatient office setting

No data collection instrument provided Attachment NQF0066__I9toI10_conversion-637065936225258259.xlsx

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Registry Data Not applicable.

No data collection instrument provided Attachment NQF0070_I9toI10_conversion-636904075196450947.xlsx

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

Claims This measure is based on administrative claims collected in the course of providing care to health plan members. NCQA collects the Healthcare Effectiveness Data and Information Set (HEDIS) data for this measure directly from health plans via NCQA's online data submission system.

No data collection instrument provided Attachment 0071_PBH_Value_Sets_Fall_2019-637091548789757231.xlsx

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Registry Data Not applicable

No data collection instrument provided Attachment NQF0081_I9toI10_conversion_2019Apr09.xlsx

Level

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

Facility

0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)

Clinician : Group/Practice, Clinician : Individual

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Clinician : Group/Practice, Clinician : Individual

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

Health Plan

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Clinician : Group/Practice, Clinician : Individual

Setting

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

Inpatient/Hospital

0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)

Home Care, Outpatient Services, Post-Acute Care

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Home Care, Other, Outpatient Services, Post-Acute Care Nursing Facility Visit, Care Services in Long-Term Residential Facility

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

Outpatient Services

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Home Care, Inpatient/Hospital, Other, Outpatient Services Domiciliary, Nursing Facility

Numerator Statement

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

Generator patients who receive all medications for which they are eligible:

1. ACE/ARB prescribed at discharge (if eligible for ACE/ARB as described in denominator)
- AND
2. Beta blockers prescribed at discharge (if eligible for beta blockers as described in denominator)

0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)

Patients who were prescribed ACE inhibitor or ARB therapy

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Patients who were prescribed beta-blocker therapy

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

Patients who received at least 135 days of treatment with beta-blockers during the 180-day measurement interval.

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Patients who were prescribed ACE inhibitor or ARB or ARNI therapy either within a 12-month period when seen in the outpatient setting OR at each hospital discharge

Numerator Details

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

If eligible for ACE/ARB and given, then code "Yes"

If eligible for ACE/ARB but contraindicated, then code "No – medical reason" or "No – patient reason"

If eligible for ACE/ARB and not given, then code "No, no reason"

If eligible for beta blocker and given, then code "Yes"

If eligible for beta blocker but contraindicated, then code "No – medical reason" or "No – patient reason"

If eligible for beta blocker and not given, then code "No, no reason"

If any "No, no reason" present, then performance not met. Else, performance met.

Note: Contraindicated and those participating in blinded studies are considered performance met. There are technically no exclusions or exceptions that would remove patients from the denominator.

0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)

Numerator Definition:

Prescribed – May include prescription given to the patient for ACE inhibitor or ARB therapy at one or more visits in the measurement period OR patient already taking ACE inhibitor or ARB therapy as documented in current medication list.

FOR POPULATION 1: Patients who are 18 years and older with a diagnosis of CAD with LVEF < 40%

Report Quality Data Code G8935: Clinician prescribed angiotensin converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) therapy

FOR POPULATION 2: Patients who are 18 years and older with a diagnosis of CAD who have diabetes

Report Quality Data Code G8473: Angiotensin converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) therapy prescribed

Note: For reporting, the two populations are combined for a single reported performance score on the combined measure population. If a patient has both diabetes and LVSD, reporting criteria #2 (CAD with diabetes) will count as appropriate reporting for this patient.

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Time Period for Data Collection: At least once during the measurement period

Definition:

Prescribed may include prescription given to the patient for beta-blocker therapy at one or more visits in the measurement period OR patient already taking beta-blocker therapy as documented in current medication list.

Beta-blocker therapy:

- For patients with prior LVEF <40%, beta-blocker therapy includes the following: bisoprolol, carvedilol, or sustained release metoprolol succinate.
- For patients with prior MI, beta-blocker therapy includes any agent within the beta-blocker drug class. As of 2015, no recommendations or evidence are cited in current stable ischemic heart disease guidelines for preferential use of specific agents.

Numerator Note: To meet the intent of the measure, the numerator quality action must be performed at the encounter at which the active diagnosis of CAD or history of cardiac surgery proxy is documented.

For Submission Criteria 1, report Quality Data Code, G9189: Beta-blocker therapy prescribed or currently being taken

For Submission Criteria 2, report CPT Category II Code, 4008F: Beta-blocker therapy prescribed or currently being taken

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

At least 135 days of treatment with beta-blockers during the 180-day measurement interval.

180-day measurement interval – The 180-day period that includes the discharge date and the 179 days after discharge.

To determine continuity of treatment during the 180-day period, identify all prescriptions filled within the 180-day measurement interval, and add the number of allowed gap days (up to a total of 45 days) to the number of treatment days for a maximum of 180 days (i.e., 135 treatment days + 45 gap days = 180 days).

Treatment days (days covered) – The actual number of calendar days covered with prescriptions within the specified 180-day measurement interval (i.e., a prescription of a 90-day supply dispensed on the 100th day will have 80 days counted in the 180-day interval).

Assess for active prescriptions and include days supply that fall within the 180-day measurement interval. For patients who were on beta-blockers prior to admission and those who were dispensed an ambulatory prescription during their inpatient stay, factor those prescriptions into adherence rates if the actual treatment days fall within the 180-day measurement interval.

PBH-B BETA-BLOCKER MEDICATIONS

DESCRIPTION / PRESCRIPTION

Noncardioselective beta-blockers / Carvedilol; Labetalol; Nadolo; Penbutolol; Pindolol; Propranolol; Timolol; Sotalol

Cardioselective beta-blockers / Acebutolol; Atenolol; Betaxolol; Bisoprolol; Metoprolol; Nebivolol

Antihypertensive combinations / Atenolol-chlorthalidone; Bendroflumethiazide-nadolol; Bisoprolol-hydrochlorothiazide; Hydrochlorothiazide-metoprolol; Hydrochlorothiazide-propranolol

See attached code value sets.

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Time Period for Data Collection: At least once during the measurement period when seen in the outpatient setting OR at each hospital discharge

Definition:

Prescribed-Outpatient setting: prescription given to the patient for ACE inhibitor or ARB or ARNI therapy at one or more visits in the measurement period OR patient already taking ACE inhibitor or ARB or ARNI therapy as documented in current medication list.

Prescribed-Inpatient setting: prescription given to the patient for ACE inhibitor or ARB or ARNI therapy at discharge OR ACE inhibitor or ARB or ARNI therapy to be continued after discharge as documented in the discharge medication list.

Numerator Note:

To meet the intent of the measure, the numerator quality action must be performed at the encounter at which the active diagnosis of heart failure is documented. Eligible clinicians who have given a prescription for or whose patient is already taking an Angiotensin-Converting Enzyme Inhibitor (ACEI) or Angiotensin Receptor Blocker (ARB) would meet performance for this measure. Other combination therapies that consist of an ACEI plus diuretic, ARB + neprilysin inhibitor (ARNI), ARB plus diuretic, ACEI plus calcium channel blocker, ARB plus calcium channel blocker, or ARB plus calcium channel blocker plus diuretic would also meet performance for this measure.

For Submission Criteria 1 and Submission Criteria 2, report CPT Category II Code, 4010F: Angiotensin converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) therapy prescribed or currently being taken

(NOTE to NQF: Based on the language revision, PCPI is requesting updated coding and descriptor.)

Denominator Statement

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

All generator patients surviving hospitalization who are eligible to receive either an ACE/ARB or beta blocker at discharge.

0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)

All patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12 month period who also have diabetes OR current or prior LVEF <40%

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

All patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12-month period who also have a prior (within the past 3 years) MI or a current or prior LVEF < 40%

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

An acute inpatient discharge from July 1 of the year prior to the measurement year through June 30 of the measurement year with any diagnosis of acute myocardial infarction (AMI) on the discharge claim.

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

All patients aged 18 years and older with a diagnosis of heart failure with a current or prior LVEF < 40%

Denominator Details

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

All generator patients surviving hospitalization who are eligible to receive any one of the two medication classes:

1) ACE/ARB: Patients who have an ejection fraction (EF) of <40%

OR

2) Beta blockers:

Patients have either:

a. EF of <40% AND/OR

b. Previous myocardial infarction (MI)

0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)

FOR POPULATION 1: Patients who are 18 years and older with a diagnosis of CAD with LVEF < 40%

Denominator Definition:

LVEF < 40% corresponds to qualitative documentation of moderate dysfunction or severe dysfunction.

Patients aged >= 18 years

AND

Diagnosis for coronary artery disease (ICD-9-CM) [reportable through 9/30/2015]: 410.00, 410.01, 410.02, 410.10, 410.11, 410.12, 410.20, 410.21, 410.22, 410.30, 410.31, 410.32, 410.40, 410.41, 410.42, 410.50, 410.51, 410.52, 410.60, 410.61, 410.62, 410.70, 410.71, 410.72, 410.80, 410.81, 410.82, 410.90, 410.91, 410.92, 411.0, 411.1, 411.81, 411.89, 412, 413.0, 413.1, 413.9, 414.00, 414.01, 414.02, 414.03, 414.04, 414.05, 414.06, 414.07, 414.2, 414.3, 414.8, 414.9, V45.81, V45.82

Diagnosis for coronary artery disease (ICD-10-CM) [reportable beginning 10/01/2015]: I20.0, I20.1, I20.8, I20.9, I21.01, I21.02, I21.09, I21.11, I21.19, I21.21, I21.29, I21.3, I21.4, I22.0, I22.1, I22.2, I22.8, I22.9, I24.0, I24.1, I24.8, I24.9, I25.10, I25.110, I25.111, I25.118, I25.119, I25.2, I25.5, I25.6, I25.700, I25.701, I25.708, I25.709, I25.710, I25.711, I25.718, I25.719, I25.720, I25.721, I25.728, I25.729, I25.730, I25.731, I25.738, I25.739, I25.750, I25.751, I25.758, I25.759, I25.760, I25.761, I25.768, I25.769, I25.790, I25.791, I25.798, I25.799, I25.810, I25.811, I25.812, I25.82, I25.83, I25.89, I25.9, Z95.1, Z95.5, Z98.61

AND

Patient encounter during the reporting period (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350

AND

Two Denominator Eligible Visits

AND

Report Quality Data Code: G8934: Left Ventricular Ejection Fraction (LVEF) < 40% or documentation of moderately or severely depressed left ventricular systolic function
FOR POPULATION 2: Patients who are 18 years and older with a diagnosis of CAD who have diabetes

Patients aged >= 18 years

AND

Diagnosis for coronary artery disease (ICD-9-CM) [reportable through 9/30/2015]: 410.00, 410.01, 410.02, 410.10, 410.11, 410.12, 410.20, 410.21, 410.22, 410.30, 410.31, 410.32, 410.40, 410.41, 410.42, 410.50, 410.51, 410.52, 410.60, 410.61, 410.62, 410.70, 410.71, 410.72, 410.80, 410.81, 410.82, 410.90, 410.91, 410.92, 411.0, 411.1, 411.81, 411.89, 412, 413.0, 413.1, 413.9, 414.00, 414.01, 414.02, 414.03, 414.04, 414.05, 414.06, 414.07, 414.2, 414.3, 414.8, 414.9, V45.81, V45.82

Diagnosis for coronary artery disease (ICD-10-CM) [reportable beginning 10/01/2015]: I20.0, I20.1, I20.8, I20.9, I21.01, I21.02, I21.09, I21.11, I21.19, I21.21, I21.29, I21.3, I21.4, I22.0, I22.1, I22.2, I22.8, I22.9, I24.0, I24.1, I24.8, I24.9, I25.10, I25.110, I25.111, I25.118, I25.119, I25.2, I25.5, I25.6, I25.700, I25.701, I25.708, I25.709, I25.710, I25.711, I25.718, I25.719, I25.720, I25.721, I25.728, I25.729, I25.730, I25.731, I25.738, I25.739, I25.750, I25.751, I25.758, I25.759, I25.760, I25.761, I25.768, I25.769, I25.790, I25.791, I25.798, I25.799, I25.810, I25.811, I25.812, I25.82, I25.83, I25.89, I25.9, Z95.1, Z95.5, Z98.61

AND

Diagnosis for diabetes (ICD-9-CM) [reportable through 9/30/2015]: 250.00, 250.01, 250.02, 250.03, 250.10, 250.11, 250.12, 250.13, 250.20, 250.21, 250.22, 250.23, 250.30, 250.31, 250.32, 250.33, 250.40, 250.41, 250.42, 250.43, 250.50, 250.51, 250.52, 250.53, 250.60,

250.61, 250.62, 250.63, 250.70, 250.71, 250.72, 250.73, 250.80, 250.81, 250.82, 250.83, 250.90, 250.91, 250.92, 250.93

Diagnosis for diabetes (ICD-10-CM) [reportable beginning 10/01/2015]: E10.10, E10.11, E10.21, E10.22, E10.29, E10.311, E10.319, E10.321, E10.329, E10.331, E10.339, E10.341, E10.349, E10.351, E10.359, E10.36, E10.39, E10.40, E10.41, E10.42, E10.43, E10.44, E10.49, E10.51, E10.52, E10.59, E10.610, E10.618, E10.620, E10.621, E10.622, E10.628, E10.630, E10.638, E10.641, E10.649, E10.65, E10.69, E10.8, E10.9, E11.00, E11.01, E11.21, E11.22, E11.29, E11.311, E11.319, E11.321, E11.329, E11.331, E11.339, E11.341, E11.349, E11.351, E11.359, E11.36, E11.39, E11.40, E11.41, E11.42, E11.43, E11.44, E11.49, E11.51, E11.52, E11.59, E11.610, E11.618, E11.620, E11.621, E11.622, E11.628, E11.630, E11.638, E11.641, E11.649, E11.65, E11.69, E11.8, E11.9, E13.00, E13.01, E13.10, E13.11, E13.21, E13.22, E13.29, E13.311, E13.319, E13.321, E13.329, E13.331, E13.339, E13.341, E13.349, E13.351, E13.359, E13.36, E13.39, E13.40, E13.41, E13.42, E13.43, E13.44, E13.49, E13.51, E13.52, E13.59, E13.610, E13.618, E13.620, E13.621, E13.622, E13.628, E13.630, E13.638, E13.641, E13.649, E13.65, E13.69, E13.8, E13.9

AND

Patient encounter during the reporting period (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350

AND

Two Denominator Eligible Visits

Note: For reporting, the two populations are combined for a single reported performance score on the combined measure population. If a patient has both diabetes and LVSD, reporting criteria #2 (CAD with diabetes) will count as appropriate reporting for this patient.

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Time Period for Data Collection: 12 consecutive months

Denominator Note:

The history of cardiac surgery serves as a proxy for a diagnosis of CAD; a diagnosis is not needed if the patient has documented history of cardiac surgery. Only one of the two criteria – a diagnosis of CAD or history of cardiac surgery proxy – is required. To meet the denominator criteria, a patient must have an active diagnosis of CAD (or proxy documented) at the time of the encounter which is used to qualify for the denominator and evaluate the numerator.

The encounter used to evaluate the numerator counts as 1 of the 2 encounters required for denominator inclusion. If the patient meets the CAD diagnosis criterion, the diagnosis needs to be active only at the encounter being evaluated for the numerator action. If the patient meets the proxy of a history of cardiac surgery inclusion criterion, there should be documentation of the proxy at the encounter being evaluated for the numerator action.

Prior Myocardial Infarction (MI) – for Submission Criteria 2, prior MI is limited to those occurring within the past 3 years.

Submission Criteria 1: Patients with left ventricular systolic dysfunction (LVEF <40%)

Patients aged ≥ 18 years on date of encounter

AND

Diagnosis for coronary artery disease (ICD-10-CM): I20.0, I20.1, I20.8, I20.9, I24.0, I24.1, I24.8, I24.9, I25.10, I25.110, I25.111, I25.118, I25.119, I25.5, I25.6, I25.700, I25.701, I25.708, I25.709, I25.710, I25.711, I25.718, I25.719, I25.720, I25.721, I25.728, I25.729, I25.730, I25.731, I25.738, I25.739, I25.750, I25.751, I25.758, I25.759, I25.760, I25.761, I25.768, I25.769, I25.790, I25.791, I25.798, I25.799, I25.810, I25.811, I25.812, I25.82, I25.83, I25.89, I25.9, Z95.1, Z95.5, Z98.61

OR

History of cardiac surgery (CPT): 33140, 33510, 33511, 33512, 33513, 33514, 33516, 33517, 33518, 33519, 33521, 33522, 33523, 33533, 33534, 33535, 33536, 92920, 92924, 92928, 92933, 92937, 92941, 92943, 92980, 92981, 92982, 92984, 92995, 92996

AND

Patient encounter during performance period – to be used for numerator evaluation (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350

WITHOUT

Telehealth Modifier: GQ, GT, 95, POS 02

AND

At least one additional patient encounter during performance period (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350

WITH OR WITHOUT

Telehealth Modifier: GQ, GT, 95, POS 02

AND

Left ventricular ejection fraction (LVEF) $< 40\%$: G8694

Submission Criteria 2: Patients with a prior (within the past 3 years) myocardial infarction

Patients aged ≥ 18 years on date of encounter

AND

Diagnosis for coronary artery disease (ICD-10-CM): I20.0, I20.1, I20.8, I20.9, I24.0, I24.1, I24.8, I24.9, I25.10, I25.110, I25.111, I25.118, I25.119, I25.5, I25.6, I25.700, I25.701, I25.708, I25.709, I25.710, I25.711, I25.718, I25.719, I25.720, I25.721, I25.728, I25.729, I25.730, I25.731, I25.738, I25.739, I25.750, I25.751, I25.758, I25.759, I25.760, I25.761, I25.768, I25.769, I25.790, I25.791, I25.798, I25.799, I25.810, I25.811, I25.812, I25.82, I25.83, I25.89, I25.9, Z95.1, Z95.5, Z98.61

OR

History of cardiac surgery (CPT): 33140, 33510, 33511, 33512, 33513, 33514, 33516, 33517, 33518, 33519, 33521, 33522, 33523, 33533, 33534, 33535, 33536, 92920, 92924, 92928, 92933, 92937, 92941, 92943, 92980, 92981, 92982, 92984, 92995, 92996

AND

Diagnosis for myocardial infarction— includes patient that had a prior (within the past 3 years) myocardial infarction (ICD-10-CM): I21.01, I21.02, I21.09, I21.11, I21.19, I21.21, I21.29, I21.3, I21.4, I21.9, I21.A1, I21.A9, I22.0, I22.1, I22.2, I22.8, I22.9, I24.1, I25.2

AND

Patient encounter during performance period – to be used for numerator evaluation (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350

WITHOUT

Telehealth Modifier: GQ, GT, 95, POS 02

AND

At least one additional patient encounter during performance period (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350

WITH OR WITHOUT

Telehealth Modifier: GQ, GT, 95, POS 02

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

Patients who had continuous enrollment from discharge date through 179 days after discharge. No more than one gap in continuous enrollment of up to 45 days within the 180 days of the event. If the patient has Medicaid, then no more than a 1-month gap in coverage.

An acute inpatient discharge from July 1 of the year prior to the measurement year through June 30 of the measurement year with any diagnosis of acute myocardial infarction (AMI) on the discharge claim.

To identify an acute inpatient discharge:

1. Identify all acute and nonacute inpatient stays.
2. Exclude nonacute inpatient stays.
3. Identify the discharge date for the stay.

If a patient has more than one episode of AMI that meets the event/diagnosis criteria, from July 1 of the year prior to the measurement year through June 30 of the measurement year, include only the first discharge.

Direct transfers to an acute inpatient care setting: If a patient had a direct transfer to an acute inpatient setting (for any diagnosis), use the discharge date from the transfer setting, not the initial discharge. Exclude both the initial discharge and the direct transfer discharge if the transfer discharge occurs after June 30 of the measurement year. Use the instructions below to identify direct transfers and exclude nonacute inpatient stays.

Direct transfers to a nonacute inpatient care setting: Exclude from the denominator, hospitalizations in which the patient had a direct transfer to a nonacute inpatient care setting for any diagnosis. Use the instructions below to identify direct transfers and

confirm the stay was for nonacute inpatient care based on the presence of a nonacute code on the claim.

A direct transfer is when the discharge date from the first inpatient setting precedes the admission date to a second inpatient setting by one calendar day or less. For example:

- An inpatient discharge on June 1, followed by an admission to another inpatient setting on June 1, is a direct transfer.
- An inpatient discharge on June 1, followed by an admission to an inpatient setting on June 2, is a direct transfer.
- An inpatient discharge on June 1, followed by an admission to another inpatient setting on June 3, is not a direct transfer; these are two distinct inpatient stays.

Use the following method to identify admissions to and discharges from inpatient settings.

1. Identify all acute and nonacute inpatient stays.
2. If needed, identify nonacute inpatient stays.
3. Identify the admission and discharge dates for the stay.

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Time Period for Data Collection: 12 consecutive months

Denominator Note:

LVEF < 40% corresponds to qualitative documentation of moderate dysfunction or severe dysfunction. The LVSD may be determined by quantitative or qualitative assessment, which may be current or historical. Examples of a quantitative or qualitative assessment may include an echocardiogram: 1) that provides a numerical value of LVSD or 2) that uses descriptive terms such as moderately or severely depressed left ventricular systolic function. Any current or prior ejection fraction study documenting LVSD can be used to identify patients.

To meet the denominator criteria, a patient must have an active diagnosis of heart failure at the time of the encounter which is used to qualify for the denominator and evaluate the numerator.

The encounter used to evaluate the numerator counts as 1 of the 2 encounters required for denominator inclusion. If the patient meets the heart failure diagnosis criterion, the diagnosis needs to be active only at the encounter being evaluated for the numerator action.

Submission Criteria 1: Patients who were prescribed ACE inhibitor or ARB therapy within a 12-month period when seen in the outpatient setting

Patients aged $\geq$ 18 years on date of encounter

AND

Diagnosis for heart failure (ICD-10-CM): I11.0, I13.0, I13.2, I50.1, I50.20, I50.21, I50.22, I50.23, I50.30, I50.31, I50.32, I50.33, I50.40, I50.41, I50.42, I50.43, I50.814, I50.82, I50.83, I50.84, I50.89, I50.9

AND

Patient encounter during performance period – to be used for numerator evaluation (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243,

99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350

WITHOUT

Telehealth Modifier: GQ, GT, 95, POS 02

AND

At least one additional patient encounter during performance period (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350

WITH OR WITHOUT

Telehealth Modifier: GQ, GT, 95, POS 02

AND

Left ventricular ejection fraction (LVEF) less than 40% or documentation of moderately or severely depressed left ventricular systolic function: 3021F

Submission Criteria 2: Patients who were prescribed ACE inhibitor or ARB or ARNI therapy at each hospital discharge

Patients aged ≥ 18 years on date of encounter

AND

Diagnosis for heart failure (ICD-10-CM): I11.0, I13.0, I13.2, I50.1, I50.20, I50.21, I50.22, I50.23, I50.30, I50.31, I50.32, I50.33, I50.40, I50.41, I50.42, I50.43, I50.814, I50.82, I50.83, I50.84, I50.89, I50.9

AND

Patient encounter during performance period (CPT): 99238, 99239

AND

Left ventricular ejection fraction (LVEF) less than 40% or documentation of moderately or severely depressed left ventricular systolic function: 3021F

Exclusions

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

None

0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)

Documentation of medical reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, allergy, intolerance, pregnancy, renal failure due to ACE inhibitor, diseases of the aortic or mitral valve, other medical reasons)

Documentation of patient reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, patient declined, other patient reasons)

Documentation of system reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, lack of drug availability, other reasons attributable to the health care system)

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Denominator Exceptions:

Documentation of medical reason(s) for not prescribing beta-blocker therapy (e.g., allergy, intolerance, other medical reasons).

Documentation of patient reason(s) for not prescribing beta-blocker therapy (e.g., patient declined, other patient reasons).

Documentation of system reason(s) for not prescribing beta-blocker therapy (e.g., other reasons attributable to the health care system).

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

Any of the following any time during the patient's history through the end of the continuous enrollment period meet criteria:

- Asthma
- COPD
- Obstructive chronic bronchitis
- Chronic respiratory conditions due to fumes and vapors
- Hypotension, heart block >1 degree or sinus bradycardia
- A medication dispensing event indicative of a history of asthma
- Intolerance or allergy to beta-blocker therapy

Additionally, this measure excludes adults in hospice. It also excludes adults with advanced illness and frailty, as well as Medicare adults 65 years of age and older enrolled in an I-SNP or living long-term in institutional settings.

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Nepilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Denominator Exceptions:

Documentation of medical reason(s) for not prescribing ACE inhibitor or ARB or ARNI therapy (e.g., hypotensive patients who are at immediate risk of cardiogenic shock, hospitalized patients who have experienced marked azotemia, allergy, intolerance, other medical reasons).

Documentation of patient reason(s) for not prescribing ACE inhibitor or ARB or ARNI therapy (e.g., patient declined, other patient reasons).

Documentation of system reason(s) for not prescribing ACE inhibitor or ARB or ARNI therapy (e.g., other system reasons).

Exclusion Details

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

N/A

0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)

Exceptions are used to remove a patient from the denominator of a performance measure when the patient does not receive a therapy or service AND that therapy or service would not be appropriate due to patient-specific reasons. The patient would otherwise meet the denominator criteria. Exceptions are not absolute, and are based on clinical judgment, individual patient characteristics, or patient preferences. The ACC/AHA/PCPI exception methodology uses three categories of reasons for which a patient may be removed from the denominator of an individual measure. These measure exception categories are not uniformly relevant across all measures; for each measure, there must be a clear rationale to permit an exception for a medical, patient, or system reason. Examples are provided in the measure exception language of instances that may constitute an exception and are intended to serve as a guide to clinicians. For measure #0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy-Diabetes or Left Ventricular Systolic Dysfunction (LVEF <40%), exceptions may include medical reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, allergy, intolerance, pregnancy, renal failure due to ACE inhibitor, diseases of the aortic or mitral valve, other medical reasons), patient reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, patient declined, other patient reasons), or system reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, lack of drug availability, other reasons attributable to the health care system). Although this methodology does not require the external reporting of more detailed exception data, the ACC/AHA/PCPI recommends that physicians document the specific reasons for exception in patients' medical records for purposes of optimal patient management and audit-readiness. The ACC/AHA/PCPI also advocates for the systematic review and analysis of each physician's exceptions data to identify practice patterns and opportunities for quality improvement.

Additional details are as follows:

FOR POPULATION 1: Patients who are 18 years and older with a diagnosis of CAD with LVEF < 40%

Report Quality Data Code G8936: Clinician documented that patient was not an eligible candidate for angiotensin converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) therapy (e.g., allergy, intolerance, pregnancy, renal failure due to ACE inhibitor, diseases of the aortic or mitral valve, other medical reasons) or (e.g., patient declined, other patient reasons) or (e.g., lack of drug availability, other reasons attributable to the health care system)

FOR POPULATION 2: Patients who are 18 years and older with a diagnosis of CAD who have diabetes

Report Quality Data Code G8474: Angiotensin converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) therapy not prescribed for reasons documented by the clinician (e.g., allergy, intolerance, pregnancy, renal failure due to ACE inhibitor, diseases of the aortic or mitral valve, other medical reasons) or (e.g., patient declined, other patient reasons) or (e.g., lack of drug availability, other reasons attributable to the health care system)

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Time Period for Data Collection: During the encounter within the 12-month period

Exceptions are used to remove a patient

from the denominator of a performance measure when the patient does not receive a therapy or service AND that therapy or service would not be appropriate due to patient-specific reasons. The patient would otherwise meet the denominator criteria. Exceptions are not absolute, and are based on clinical judgment, individual patient characteristics, or patient preferences. The PCPI exception methodology uses three categories of reasons for which a patient may be removed from the denominator of an individual measure. These measure exception categories are not uniformly relevant across all measures; for each measure, there must be a clear rationale to permit an exception for a medical, patient, or system reason. Examples are provided in the measure exception language of instances that may constitute an exception and are intended to serve as a guide to clinicians. For measure Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%), exceptions may include medical reason(s) (eg, allergy, intolerance, other medical reasons), patient reason(s) (eg, patient declined, other patient reasons), or system reason(s) (eg, other reasons attributable to the health care system) for not prescribing beta-blocker therapy. Although this methodology does not require the external reporting of more detailed exception data, the PCPI recommends that physicians document the specific reasons for exception in patients' medical records for purposes of optimal patient management and audit-readiness. The PCPI also advocates the systematic review and analysis of each physician's exceptions data to identify practice patterns and opportunities.

Additional details are as follows:

For Submission Criteria 1 –

Report Quality Data Code, G9190: Documentation of medical reason(s) for not prescribing beta-blocker therapy (eg, allergy, intolerance, other medical reasons).

Report Quality Data Code, G9191: Documentation of patient reason(s) for not prescribing beta-blocker therapy (eg, patient declined, other patient reasons).

Report Quality Data Code, G9192: Documentation of system reason(s) for not prescribing beta-blocker therapy (eg, other reasons attributable to the health care system).

For Submission Criteria 2 –

Append a modifier to CPT Category II Code:

4008F-1P: Documentation of medical reason(s) for not prescribing beta-blocker therapy (eg, allergy, intolerance, other medical reasons).

4008F-2P: Documentation of patient reason(s) for not prescribing beta-blocker therapy (eg, patient declined, other patient reasons).

4008F-3P: Documentation of system reason(s) for not prescribing beta-blocker therapy (eg, other reasons attributable to the health care system).

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

Patients identified as having an intolerance or allergy to beta-blocker therapy. Any of the following any time during the patient's history through the end of the continuous enrollment period meet criteria:

- Asthma
- COPD
- Obstructive chronic bronchitis
- Chronic respiratory conditions due to fumes and vapors
- Hypotension, heart block >1 degree or sinus bradycardia
- A medication dispensing event indicative of a history of asthma

MEDICATIONS TO IDENTIFY HISTORY OF ASTHMA

DESCRIPTION / PRESCRIPTION

Bronchodilator combinations / Budesonide-formoterol; Fluticasone-vilantero; Fluticasone-salmeterol; Formoterol-mometasone

Inhaled corticosteroids / Beclomethasone; Budesonide; Ciclesonide; Flunisolide; Fluticasone; Mometasone

Exclude patients who use hospice services or elect to use a hospice benefit any time during the measurement year, regardless of when the services began. These patients may be identified using various methods, which may include but are not limited to enrollment data, medical record or claims/encounter data.

Exclude adults who meet any of the following criteria:

- Medicare members 66 years of age and older as of December 31 of the measurement year who meet either of the following:
 - Enrolled in an Institutional SNP (I-SNP) any time on or between July 1 of the year prior to the measurement year and the end of the measurement year.
 - Living long-term in an institution any time on or between July 1 of the year prior to the measurement year and the end of the measurement year as identified by the LTI flag in the Monthly Membership Detail Data File. Use the run date of the file to determine if an adult had an LTI flag any time on or between July 1 of the year prior to the measurement year and the end of the measurement year.
- Members 66-80 years of age as of December 31 of the measurement year (all product lines) with frailty and advanced illness. Adults must meet BOTH of the following frailty and advanced illness criteria to be excluded:
 1. At least one claim/encounter for frailty any time on or between July 1 of the year prior to the measurement year and the end of the measurement year.
 2. Any of the following during the measurement year or the year prior to the measurement year (count services that occur over both years):
 - At least two outpatient visits, observation visits, ED visits, nonacute inpatient encounters or nonacute inpatient discharges (instructions below) on different dates of service, with an advanced illness diagnosis. Visit type need not be the same for the two visits. To identify a nonacute inpatient discharge:
 1. Identify all acute and nonacute inpatient stays.
 2. Confirm the stay was for nonacute care based on the presence of a nonacute code on the claim.
 3. Identify the discharge date for the stay.
 - At least one acute inpatient encounter with an advanced illness diagnosis.

-- At least one acute inpatient discharge with an advanced illness diagnosis. To identify an acute inpatient discharge:

1. Identify all acute and nonacute inpatient stays.
2. Exclude nonacute inpatient stays.
3. Identify the discharge date for the stay.

-- A dispensed dementia medication.

DEMENTIA MEDICATIONS

DESCRIPTION / PRESCRIPTION

Cholinesterase inhibitors / Donepezil; Galantamine; Rivastigmine

Miscellaneous central nervous system agents / Memantine

- Members 81 years of age and older as of December 31 of the measurement year (all product lines) with frailty any time on or between July 1 of the year prior to the measurement year and the end of the measurement year.

See attached code value sets.

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Time Period for Data Collection: During the encounter within the 12-month period

Exceptions are used to remove a patient from the denominator of a performance measure when the patient does not receive a therapy or service AND that therapy or service would not be appropriate due to patient-specific reasons. The patient would otherwise meet the denominator criteria. Exceptions are not absolute, and are based on clinical judgment, individual patient characteristics, or patient preferences. The PCPI exception methodology uses three categories of reasons for which a patient may be removed from the denominator of an individual measure. These measure exception categories are not uniformly relevant across all measures; for each measure, there must be a clear rationale to permit an exception for a medical, patient, or system reason. Examples are provided in the measure exception language of instances that may constitute an exception and are intended to serve as a guide to clinicians. For measure Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD), exceptions may include medical reason(s) (eg, hypotensive patients who are at immediate risk of cardiogenic shock, hospitalized patients who have experienced marked azotemia, allergy, intolerance, other medical reasons), patient reason(s) (eg, patient declined, other patient reasons), or system reason(s) for not prescribing an ACE inhibitor or ARB or ARNI therapy. Although this methodology does not require the external reporting of more detailed exception data, the PCPI recommends that physicians document the specific reasons for exception in patients' medical records for purposes of optimal patient management and audit- readiness. The PCPI also advocates the systematic review and analysis of each physician's exceptions data to identify practice patterns and opportunities for quality improvement.

Append a modifier to CPT Category II Code:

4010F-1P: Documentation of medical reason(s) for not prescribing ACE inhibitor or ARB or ARNI therapy (e.g., hypotensive patients who are at immediate risk of cardiogenic shock,

hospitalized patients who have experienced marked azotemia, allergy, intolerance, other medical reasons)

4010F-2P: Documentation of patient reason(s) for not prescribing ACE inhibitor or ARB or ARNI therapy (e.g., patient declined, other patient reasons)

4010F-3P: Documentation of system reason(s) for not prescribing ACE inhibitor or ARB or ARNI therapy (e.g., other system reasons)

Risk Adjustment

0065: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

No risk adjustment or risk stratification

0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)

No risk adjustment or risk stratification

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

No risk adjustment or risk stratification

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

No risk adjustment or risk stratification

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Nepilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

No risk adjustment or risk stratification

Stratification

0065: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

N/A

0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)

Consistent with CMS' Measures Management System Blueprint and recent national recommendations put forth by the IOM and NQF to standardize the collection of race and ethnicity data, we encourage the results of this measure to be stratified by race, ethnicity, administrative sex, and payer.

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Consistent with CMS' Measures Management System Blueprint and national recommendations put forth by the IOM (now NASEM) and NQF to standardize the collection of race and ethnicity data, we encourage the results of this measure to be stratified by race, ethnicity, administrative sex, and payer.

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

No stratification

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Consistent with CMS' Measures Management System Blueprint and recent national recommendations put forth by the IOM and NQF to standardize the collection of race and ethnicity data, we encourage the results of this measure to be stratified by race, ethnicity, administrative sex, and payer.

Type Score

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

Rate/proportion better quality = higher score

0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)

Rate/proportion better quality = higher score

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

Rate/proportion better quality = higher score

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

Rate/proportion better quality = higher score

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Rate/proportion better quality = higher score

Algorithm

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

- 1) Check if given patient survived hospitalization and is eligible for 1 of the 2 medication therapies.
 - 2) If eligible for at least 1 medication, then keep this patient.
 - 3) If not eligible for any of the 2 medications, then patient is removed from eligibility.
- If eligible for ACE/ARB and given, then code "Yes"
- If eligible for ACE/ARB and not given, then code "No, no reason"
- If eligible for ACE/ARB but contraindicated, then code "No – medical reason" or "No – patient reason"
- If eligible for Beta Blocker and given, then code then "Yes"
- If eligible for Beta Blocker and not given, then code "No, no reason"

If eligible for Beta Blocker but contraindicated, then code “No – medical reason” or “No – patient reason”

4) If any “No, no reason” present, then performance not met. Else, performance met.

Although ineligible cases are removed from the denominator population for the performance calculation, the number of patients with valid exceptions should be calculated and reported along with performance rates to track variations in care and highlight possible areas of focus for QI.

If the patient does not meet the numerator and a valid exception is not present, this case represents a quality failure.

Missing data defaults to “performance not met” This measure assumes that missing documentation on the process results in a failure of meeting an evidence based therapy.

0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)

To calculate performance rates:

1. Find the patients who meet the initial population (ie, the general group of patients that a set of performance measures is designed to address).
2. From the patients within the initial population criteria, find the patients who qualify for the denominator (ie, the specific group of patients for inclusion in a specific performance measure based on defined criteria). Note: in some cases the initial population and denominator are identical.
3. From the patients within the denominator, find the patients who meet the numerator criteria (ie, the group of patients in the denominator for whom a process or outcome of care occurs). Validate that the number of patients in the numerator is less than or equal to the number of patients in the denominator
4. From the patients who did not meet the numerator criteria, determine if the provider has documented that the patient meets any criteria for exception when denominator exceptions have been specified [for this measure medical reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, allergy, intolerance, pregnancy, renal failure due to ACE inhibitor, diseases of the aortic or mitral valve, other medical reasons), patient reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, patient declined, other patient reasons), or system reason(s) for not prescribing ACE inhibitor or ARB therapy (eg, lack of drug availability, other reasons attributable to the health care system)]. If the patient meets any exception criteria, they should be removed from the denominator for performance calculation.

--Although the exception cases are removed from the denominator population for the performance calculation, the exception rate (ie, percentage with valid exceptions) should be calculated and reported along with performance rates to track variations in care and highlight possible areas of focus for QI.

If the patient does not meet the numerator and a valid exception is not present, this case represents a quality failure. 140560 | 107246

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

This measure is comprised of two submission criteria but is intended to result in one reporting rate. The reporting rate is the aggregate of Submission Criteria 1 and Submission Criteria 2, resulting in a single performance rate. For the purposes of this measure, the single performance rate can be calculated as follows:

Performance Rate = (Numerator 1 + Numerator 2) / [(Denominator 1 - Denominator Exceptions 1) + (Denominator 2 - Denominator Exceptions 2)]

Calculation algorithm for Submission Criteria 1: Patients with left ventricular systolic dysfunction (LVEF <40%)

1. Find the patients who meet the initial population (i.e., the general group of patients that a set of performance measures is designed to address).
2. From the patients within the initial population criteria, find the patients who qualify for the denominator (i.e., the specific group of patients for inclusion in a specific performance measure based on defined criteria). Note: in some cases the initial population and denominator are identical.
3. From the patients within the denominator, find the patients who meet the numerator criteria (i.e., the group of patients in the denominator for whom a process or outcome of care occurs). Validate that the number of patients in the numerator is less than or equal to the number of patients in the denominator
4. From the patients who did not meet the numerator criteria, determine if the provider has documented that the patient meets any criteria for exception when denominator exceptions have been specified [for this measure: medical reason(s) (e.g., allergy, intolerance, other medical reasons), patient reason(s) (e.g., patient declined, other patient reasons), or system reason(s) (e.g., other reasons attributable to the health care system) for not prescribing beta-blocker therapy]. If the patient meets any exception criteria, they should be removed from the denominator for performance calculation. --Although the exception cases are removed from the denominator population for the performance calculation, the exception rate (i.e., percentage with valid exceptions) should be calculated and reported along with performance rates to track variations in care and highlight possible areas of focus for QI.

If the patient does not meet the numerator and a valid exception is not present, this case represents a quality failure.

Calculation algorithm for Submission Criteria 2: Patients with a prior (within the past 3 years) myocardial infarction

1. Find the patients who meet the initial population (ie, the general group of patients that a set of performance measures is designed to address).
2. From the patients within the initial population criteria, find the patients who qualify for the denominator (i.e., the specific group of patients for inclusion in a specific performance measure based on defined criteria). Note: in some cases the initial population and denominator are identical.
3. From the patients within the denominator, find the patients who meet the numerator criteria (i.e., the group of patients in the denominator for whom a process or outcome of care occurs). Validate that the number of patients in the numerator is less than or equal to the number of patients in the denominator

4. From the patients who did not meet the numerator criteria, determine if the provider has documented that the patient meets any criteria for exception when denominator exceptions have been specified [for this measure: medical reason(s) (e.g., allergy, intolerance, other medical reasons), patient reason(s) (e.g., patient declined, other patient reasons), or system reason(s) (eg, other reasons attributable to the health care system) for not prescribing beta-blocker therapy]. If the patient meets any exception criteria, they should be removed from the denominator for performance calculation. --Although the exception cases are removed from the denominator population for the performance calculation, the exception rate (i.e., percentage with valid exceptions) should be calculated and reported along with performance rates to track variations in care and highlight possible areas of focus for QI.

If the patient does not meet the numerator and a valid exception is not present, this case represents a quality failure. 140560| 135810| 117446

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

STEP 1: Determine the eligible population. To do so, identify patients who meet all specified criteria.

- AGES: 18 years and older as of December 31 of the measurement year.
- EVENT/DIAGNOSIS: Identify patients who were discharged from an acute setting with an AMI from July 1 of the year prior to the measurement year through June 30 of the measurement year. SEE S.6 and S.7 for eligible population and denominator criteria and details.

STEP 2: Exclude patients who meet the exclusions criteria. SEE S.8 and S.9 for denominator exclusion criteria and details.

STEP 3: Determine the number of patients in the eligible population who were given a 180-day course of treatment with beta blockers post discharge.

STEP 4: Identify patients whose dispensed days' supply is ≥ 135 days in the 180-day measurement interval. SEE S.4 and S.5 for numerator criteria and details.

STEP 5: Calculate the rate by dividing the numerator (STEP 4) by the denominator (after exclusions) (STEP 2).

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Nepilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

S.12. Type of score:

Rate/proportion

If other:

S.13. Interpretation of Score (Classifies interpretation of score according to whether better quality is associated with a higher score, a lower score, a score falling within a defined interval, or a passing score)

Better quality = Higher score

S.14. Calculation Algorithm/Measure Logic (Diagram or describe the calculation of the measure score as an ordered sequence of steps including identifying the target population; exclusions; cases meeting the target process, condition, event, or outcome; time period for data, aggregating data; risk adjustment; etc.)

This measure is comprised of two submission criteria but is intended to result in one reporting rate. The reporting rate is the aggregate of Submission Criteria 1 and Submission Criteria 2, resulting in a single performance rate. For the purposes of this measure, the single performance rate can be calculated as follows:

Performance Rate = (Numerator 1 + Numerator 2) / [(Denominator 1 - Denominator Exceptions 1) + (Denominator 2 - Denominator Exceptions 2)]

Calculation algorithm for Submission Criteria 1: Patients who were prescribed ACE inhibitor or ARB or ARNI therapy within a 12-month period when seen in the outpatient setting

1. Find the patients who meet the initial population (ie, the general group of patients that a set of performance measures is designed to address).
2. From the patients within the initial population criteria, find the patients who qualify for the denominator (i.e., the specific group of patients for inclusion in a specific performance measure based on defined criteria). Note: in some cases the initial population and denominator are identical.
3. From the patients within the denominator, find the patients who meet the numerator criteria (i.e., the group of patients in the denominator for whom a process or outcome of care occurs). Validate that the number of patients in the numerator is less than or equal to the number of patients in the denominator.
4. From the patients who did not meet the numerator criteria, determine if the provider has documented that the patient meets any criteria for exception when denominator exceptions have been specified [for this measure: medical reason(s) (e.g., hypotensive patients who are at immediate risk of cardiogenic shock, hospitalized patients who have experienced marked azotemia, allergy, intolerance, other medical reasons), patient reason(s) (e.g., patient declined, other patient reasons), or system reason(s) for not prescribing ACE inhibitor or ARB or ARNI therapy]. If the patient meets any exception criteria, they should be removed from the denominator for performance calculation. -- Although the exception cases are removed from the denominator population for the performance calculation, the exception rate (i.e., percentage with valid exceptions) should be calculated and reported along with performance rates to track variations in care and highlight possible areas of focus for QI.

If the patient does not meet the numerator and a valid exception is not present, this case represents a quality failure.

Calculation algorithm for Submission Criteria 2: Patients who were prescribed ACE inhibitor or ARB or ARNI therapy at each hospital discharge

1. Find the patients who meet the initial population (i.e., the general group of patients that a set of performance measures is designed to address).
2. From the patients within the initial population criteria, find the patients who qualify for the denominator (i.e., the specific group of patients for inclusion in a specific performance measure based on defined criteria). Note: in some cases the initial population and denominator are identical.
3. From the patients within the denominator, find the patients who meet the numerator criteria (i.e., the group of patients in the denominator for whom a process or outcome of care occurs). Validate that the number of patients in the numerator is less than or equal to the number of patients in the denominator.

4. From the patients who did not meet the numerator criteria, determine if the provider has documented that the patient meets any criteria for exception when denominator exceptions have been specified [for this measure: medical reason(s) (e.g., hypotensive patients who are at immediate risk of cardiogenic shock, hospitalized patients who have experienced marked azotemia, allergy, intolerance, other medical reasons), patient reason(s) (e.g., patient declined, other patient reasons), or system reason(s) for not prescribing ACE inhibitor or ARB or ARNI therapy]. If the patient meets any exception criteria, they should be removed from the denominator for performance calculation. -- Although the exception cases are removed from the denominator population for the performance calculation, the exception rate (i.e., percentage with valid exceptions) should be calculated and reported along with performance rates to track variations in care and highlight possible areas of focus for QI.

If the patient does not meet the numerator and a valid exception is not present, this case represents a quality failure.

Submission items

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

5.1 Identified measures: 0066 : Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)

0070 : Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

0081 : Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

0083 : Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

0236 : Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery

0594 : Post MI: ACE inhibitor or ARB therapy

0117 : Beta Blockade at Discharge

0071 : Persistence of Beta-Blocker Treatment After a Heart Attack

0070e : Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

0081e : Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Nepriylsin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

5a.1 Are specs completely harmonized? Yes

5a.2 If not completely harmonized, identify difference, rationale, impact: Measure #0965 is a subset of other measures and the measures are completely harmonized with the exception of one area. It appears that only one measure (#81e) currently includes prescribing of ARNI as an acceptable therapy in the numerator. We assume that the other measures be updated to reflect the current evidence and there is no need for further harmonization.

5b.1 If competing, why superior or rationale for additive value: N/A

0066: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)

5.1 Identified measures: 0067 : Chronic Stable Coronary Artery Disease: Antiplatelet Therapy

0070 : Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

0074 : Chronic Stable Coronary Artery Disease: Lipid Control

0081 : Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

1522 : ACE/ARB Therapy at Discharge for ICD implant patients with Left Ventricular Systolic Dysfunction

1662 : Angiotensin Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy

2467 : Adherence to ACEIs/ARBs for Individuals with Diabetes Mellitus

5a.1 Are specs completely harmonized? No

5a.2 If not completely harmonized, identify difference, rationale, impact: While this measure's specifications are harmonized with existing measures where possible, there are several key differences between this measure and other existing related measures. The first group of related measures (NQF #1662, 1522, 0081, 2467) all have a similar focus on the prescription of ACEI/ARBs. However they all have different target populations, with measure #1662 focusing on patients with chronic kidney disease (CKD), measure #1522 being a facility-level measure focusing on patients with an ICD implant, measure #0081 focusing on patients with a diagnosis of heart failure and left ventricular ejection fraction <40%, and measure #2467 focusing on medication adherence among patients with diabetes. This group of measures reflect the importance of ACEI/ARBs among a variety of patient populations, that are distinct from the patient population included in this measure. We believe that the measures are complementary rather than competing, and differences in the measure specifications are a result of the differences in the target patient population. These differences should not result in any additional data collection burden. The second group of related measures (NQF #0067, 0074, and 0070) all focus on different aspects of care for patients with CAD. Measure #0067 focuses on use of antiplatelet therapy, while measure #0074 focuses on LDL control, and measure #0070 focuses on the use of beta-blocker therapy. We view these measures as complementary measures that, when taken together, provide a rounded view of the quality of care for patients with CAD. While these measures share a focus on the patient population with CAD, differences in measure specifications are reflective of the different care processes being targeted in each measure. We don't believe that these differences result in any additional data collection burden.

5b.1 If competing, why superior or rationale for additive value: This measure addresses a distinct target population and/or quality action from other related measures, as described above. The measures are complementary to form a well-rounded view of the quality of care for patients with CAD.

0070: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

5.1 Identified measures: 0083 : Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

0117 : Beta Blockade at Discharge

0127 : Preoperative Beta Blockade

0071 : Persistence of Beta-Blocker Treatment After a Heart Attack

0070e : Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

0083e : Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

5a.1 Are specs completely harmonized? Yes

5a.2 If not completely harmonized, identify difference, rationale, impact: Measure 0070 addresses a patient population of patients with CAD and either a recent prior MI or LVSD. This patient population is also covered in part by the following NQF-endorsed measures: NQF 0071: Persistence of Beta-Blocker Treatment After a Heart Attack and NQF 0083 and 0083e: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD). The specifications are harmonized to the extent possible. As a result, the denominator specifications for the measures differ where needed based on the differing patient populations. Additionally, NQF 0071 is intended for use at the health plan level. NQF 0117 is an inpatient/hospital level measure and includes only patients who have undergone isolated CABG surgery. NQF 0127 is also an inpatient/hospital level measure that focuses on administration of beta-blockers prior to isolated CABG surgery. Measure 0070e is the EHR version of this measure and is completely harmonized.

5b.1 If competing, why superior or rationale for additive value:

0071: Persistence of Beta-Blocker Treatment After a Heart Attack

5.1 Identified measures: 0070 : Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

5a.1 Are specs completely harmonized? No

5a.2 If not completely harmonized, identify difference, rationale, impact: DUE TO THE TEXT LIMIT IN THIS SECTION – WE ARE PROVIDING OUR ANSWER FOR 5a.2 IN SECTION 5b.1

5b.1 If competing, why superior or rationale for additive value: ANSWER FOR SECTION 5a.2

NCQA's current Persistence of Beta Blocker Treatment After a Heart Attack measure (NQF measure 0071) uses health plan-reported data to assess the percentage of patients 18 years of age and older during the measurement year who were discharged with a diagnosis of AMI during the 6 months prior to the beginning of the measurement year through the 6 months after the beginning of the measurement year and who received persistent beta-blocker treatment for six months after discharge.

RELATED NQF MEASURE 0070 (Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)):

This measure assesses the percentage of patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12-month period who also have a prior MI or a current left ventricular ejection fraction (LVEF) <40% who were prescribed beta-blocker therapy.

HARMONIZED MEASURE ELEMENTS:

Measure 0071 and 0070 focus on patients 18 years and older who are prescribed beta-blocker treatment post-discharge after having a MI or history of MI. The National Quality Strategy Priorities classification for both measures is Prevention and Treatment of Cardiovascular Disease. Both measures exclude patients who are allergic or have an intolerance to beta blockers.

DIFFERENCES:

Below are the unharmonized measure elements between measure 0071 and measure 0070:

Measure 0071 focuses on beta-blocker treatment post a MI and Measure 0070 focuses on patients who have a prior MI or a current or prior LVEF <40%.

- Data Source: Data for measure 0071 is collected through administrative claims, electronic clinical data, and pharmacy data, while data for measure 0070 is collected through medical record, electronic health record data, electronic clinical data, and paper records

- Level of Accountability: Measure 0071 is a health plan level measure while measure 0070 is a clinician-level measure.

- Population: Measure 0071 focuses on patients who were diagnosed with a MI and discharged and prescribed a beta-blocker therapy treatment. Measure 0070 focuses on patients in a measurement year with a diagnosis of coronary artery diseases who also have a prior MI or current or prior LVEF.

- Exclusions: The difference in exclusions is that measure 0071 specifies asthma, COPD, obstructive chronic bronchitis, chronic respiratory conditions due to fumes and vapors, hypotension, heart block >1 degree, sinus bradycardia, and medication dispensing events indicative of a history of asthma as exclusions. Additionally, measure 0071 excludes hospitalizations in which the patient was transferred directly to a nonacute care facility for any diagnosis, patients enrolled in an I-SNP, patients living long-term in an institution, patients 66-80 years of age with frailty and advanced illness, and patients 81 years of age and older with frailty. Measure 0070 exclusions include: documentation of patient reason(s) for not prescribing beta-blocker therapy (e.g., patient declined, other patient reasons) and documentation of system reason(s) for not prescribing beta-blocker therapy (e.g., other reasons attributable to the health care system).

IMPACT ON INTERPRETABILITY AND DATA COLLECTION BURDEN:

The differences between measures 0071 and 0070 do not have an impact on interpretability of publicly reported rates, or the burden of data collection, because all data for both measures are collected from different data sources by different entities.

ANSWER FOR SECTION 5b.1

Our current measure has a long-standing history of use by health plans and has been implemented for nearly 15 years.

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Nepilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

5.1 Identified measures: 0066 : Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)

1662 : Angiotensin Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy

0081e : Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Nepriylsin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

5a.1 Are specs completely harmonized? Yes

5a.2 If not completely harmonized, identify difference, rationale, impact: NQF 1662 is specific to patients with a diagnosis of chronic kidney disease who also have proteinuria. NQF 0066 is specific to patients with coronary artery disease who also have diabetes OR a current/prior LVEF of <40%. In both measures, the population of focus (ie, the denominator) is different. NQF 0081e is the eCQM version of this measure.

5b.1 If competing, why superior or rationale for additive value:

Comparison of NQF 0965, NQF 0081, NQF 0083, NQF 0117, and NQF 0236

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Nepriylsin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

0117: Beta Blockade at Discharge

0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery

Steward

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

American College of Cardiology

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Nepriylsin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

PCPI Foundation

0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

PCPI Foundation

0117: Beta Blockade at Discharge

The Society of Thoracic Surgeons

0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery

Centers for Medicare & Medicaid Services

*Description***0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients**

Proportion of patients undergoing ICD/CRT-D implant who received prescriptions for all medications (ACE/ARB and beta blockers) for which they are eligible at discharge.

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Percentage of patients aged 18 years and older with a diagnosis of heart failure (HF) with a current or prior left ventricular ejection fraction (LVEF) < 40% who were prescribed ACE inhibitor or ARB or ARNI therapy either within a 12-month period when seen in the outpatient setting OR at each hospital discharge

0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Percentage of patients aged 18 years and older with a diagnosis of heart failure (HF) with a current or prior left ventricular ejection fraction (LVEF) < 40% who were prescribed beta-blocker therapy either within a 12-month period when seen in the outpatient setting OR at each hospital discharge

0117: Beta Blockade at Discharge

Percent of patients aged 18 years and older undergoing isolated CABG who were discharged on beta blockers

0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery

Percentage of isolated Coronary Artery Bypass Graft (CABG) surgeries for patients aged 18 years and older who received a beta-blocker within 24 hours prior to surgical incision

*Type***0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients**

Composite

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Process

0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Process

0117: Beta Blockade at Discharge

Process

0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery

Process

Data Source

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

Registry Data National Cardiovascular Data Registry (NCDR) ICD Registry

Available in attached appendix at A.1 Attachment icd_v2_codersdatadictionary_2-2-637061353934779116-637088191497113357.pdf

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Nepilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Electronic Health Records Not applicable

0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Registry Data Not applicable

0117: Beta Blockade at Discharge

0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery

Level

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

Facility

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Nepilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

No data collection instrument provided Attachment

0081e_HF_ACE_ARB_ARNI_ValueSets_20190409.xlsx

0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

No data collection instrument provided Attachment

NQF0083_I9toI10_conversion_2019Apr09.xlsx

0117: Beta Blockade at Discharge

Registry Data STS Adult Cardiac Surgery Database Version 2.81

0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery

Setting

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

Inpatient/Hospital

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Nepilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Clinician : Group/Practice, Clinician : Individual

0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Available at measure-specific web page URL identified in S.1 No data dictionary

0117: Beta Blockade at Discharge

Registry Data The source is the medical record, which provides patient information for the encounter. Medicare Part B claims and registry data is provided for test purposes.

0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery

Numerator Statement

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

Generator patients who receive all medications for which they are eligible:

1. ACE/ARB prescribed at discharge (if eligible for ACE/ARB as described in denominator) AND
2. Beta blockers prescribed at discharge (if eligible for beta blockers as described in denominator)

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Home Care, Inpatient/Hospital, Other, Outpatient Services Domiciliary, Nursing Facility

0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

No data collection instrument provided Attachment NQF_0236_DataDic-636800391751711336-636832311904869870.xlsx

0117: Beta Blockade at Discharge

0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery

Numerator Details

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

If eligible for ACE/ARB and given, then code "Yes"

If eligible for ACE/ARB but contraindicated, then code "No – medical reason" or "No – patient reason"

If eligible for ACE/ARB and not given, then code "No, no reason"

If eligible for beta blocker and given, then code "Yes"

If eligible for beta blocker but contraindicated, then code "No – medical reason" or "No – patient reason"

If eligible for beta blocker and not given, then code "No, no reason"

If any "No, no reason" present, then performance not met. Else, performance met.

Note: Contraindicated and those participating in blinded studies are considered performance met. There are technically no exclusions or exceptions that would remove patients from the denominator.

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Patients who were prescribed ACE inhibitor or ARB or ARNI therapy either within a 12-month period when seen in the outpatient setting OR at each hospital discharge

0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Clinician : Group/Practice, Clinician : Individual

0117: Beta Blockade at Discharge

Facility, Clinician : Group/Practice

0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery

Clinician : Group/Practice, Clinician : Individual

Denominator Statement

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

All generator patients surviving hospitalization who are eligible to receive either an ACE/ARB or beta blocker at discharge.

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Time Period for Data Collection: At least once during the measurement period when seen in the outpatient setting OR at each hospital discharge

0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Home Care, Inpatient/Hospital, Other, Outpatient Services Domiciliary, Nursing Facility

0117: Beta Blockade at Discharge

Inpatient/Hospital

0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery

Outpatient Services

Denominator Details

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

All generator patients surviving hospitalization who are eligible to receive any one of the two medication classes:

1) ACE/ARB: Patients who have an ejection fraction (EF) of <40%

OR

2) Beta blockers:

Patients have either:

a. EF of <40% AND/OR

b. Previous myocardial infarction (MI)

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Definition:

0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Patients who were prescribed beta-blocker therapy either within a 12-month period when seen in the outpatient setting OR at each hospital discharge

0117: Beta Blockade at Discharge

Number of patients undergoing isolated CABG who were discharged on beta blockers

0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery

Patients who received a beta-blocker within 24 hours prior to surgical incision of isolated CABG surgeries

Exclusions

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

None

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Prescribed-Outpatient setting: prescription given to the patient for ACE inhibitor or ARB or ARNI therapy at one or more visits in the measurement period OR patient already taking ACE inhibitor or ARB or ARNI therapy as documented in current medication list.

0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Time Period for Data Collection: At least once during the measurement period when seen in the outpatient setting OR at each hospital discharge

0117: Beta Blockade at Discharge

0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery

Exclusion Details

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

N/A

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Prescribed-Inpatient setting: prescription given to the patient for ACE inhibitor or ARB or ARNI therapy at discharge OR ACE inhibitor or ARB or ARNI therapy to be continued after discharge as documented in the discharge medication list.

0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Definition:

0117: Beta Blockade at Discharge

0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery

Risk Adjustment

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

No risk adjustment or risk stratification

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

at discharge OR ACE inhibitor or ARB therapy to be continued after discharge as documented in the discharge medication list.

0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Prescribed-Outpatient setting: prescription given to the patient for beta-blocker therapy at one or more visits in the measurement period OR patient already taking beta-blocker therapy as documented in current medication list.

0117: Beta Blockade at Discharge

0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery

Stratification

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

N/A

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Guidance:

0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Prescribed-Inpatient setting: prescription given to the patient for beta-blocker therapy at discharge OR beta-blocker therapy to be continued after discharge as documented in the discharge medication list.

0117: Beta Blockade at Discharge**0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery***Type Score***0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients**

Rate/proportion better quality = higher score

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Eligible clinicians who have given a prescription for or whose patient is already taking an Angiotensin-Converting Enzyme Inhibitor (ACEI) or Angiotensin Receptor Blocker (ARB) would meet performance for this measure. Other combination therapies that consist of an ACEI plus diuretic, ARB + neprilysin inhibitor (ARNI), ARB plus diuretic, ACEI plus calcium channel blocker, ARB plus calcium channel blocker, or ARB plus calcium channel blocker plus diuretic would also meet performance for this measure.

0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Beta-blocker therapy: For patients with prior LVEF < 40%, beta-blocker therapy should include bisoprolol, carvedilol, or sustained release metoprolol succinate.

0117: Beta Blockade at Discharge**0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery***Algorithm***0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients**

1) Check if given patient survived hospitalization and is eligible for 1 of the 2 medication therapies.

2) If eligible for at least 1 medication, then keep this patient.

3) If not eligible for any of the 2 medications, then patient is removed from eligibility.

If eligible for ACE/ARB and given, then code "Yes"

If eligible for ACE/ARB and not given, then code "No, no reason"

If eligible for ACE/ARB but contraindicated, then code "No – medical reason" or "No – patient reason"

If eligible for Beta Blocker and given, then code then "Yes"

If eligible for Beta Blocker and not given, then code "No, no reason"

If eligible for Beta Blocker but contraindicated, then code "No – medical reason" or "No – patient reason"

4) If any "No, no reason" present, then performance not met. Else, performance met.

Although ineligible cases are removed from the denominator population for the performance calculation, the number of patients with valid exceptions should be

calculated and reported along with performance rates to track variations in care and highlight possible areas of focus for QI.

If the patient does not meet the numerator and a valid exception is not present, this case represents a quality failure.

Missing data defaults to “performance not met” This measure assumes that missing documentation on the process results in a failure of meeting an evidence based therapy.

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

HQMF eCQM developed and is attached to this submission in fields S.2a and S.2b.

0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Numerator Note: To meet the intent of the measure, the numerator quality action must be performed at the encounter at which the active diagnosis of heart failure is documented.

0117: Beta Blockade at Discharge

0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery

Submission items

0965: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD/CRT-D Implant Patients

5.1 Identified measures: 0066 : Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)

0070 : Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

0081 : Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

0083 : Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

0236 : Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery

0594 : Post MI: ACE inhibitor or ARB therapy

0117 : Beta Blockade at Discharge

0071 : Persistence of Beta-Blocker Treatment After a Heart Attack

0070e : Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%)

0081e : Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

5a.1 Are specs completely harmonized? Yes

5a.2 If not completely harmonized, identify difference, rationale, impact: Measure #0965 is a subset of other measures and the measures are completely harmonized with the

exception of one area. It appears that only one measure (#81e) currently includes prescribing of ARNI as an acceptable therapy in the numerator. We assume that the other measures be updated to reflect the current evidence and there is no need for further harmonization.

5b.1 If competing, why superior or rationale for additive value: N/A

0081: Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin Receptor-Nepilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction (LVSD)

All patients aged 18 years and older with a diagnosis of heart failure with a current or prior LVEF < 40%

0083: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

For Submission Criteria 1 and Submission Criteria 2, report Quality Data Code, G8450: Beta-blocker therapy prescribed

0117: Beta Blockade at Discharge

Number of isolated CABG procedures in which discharge beta blockers [DCBeta (STS Adult Cardiac Surgery Database Version 2.81)] is marked "yes"

0236: Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery

Numerator Options:

Comparison of NQF 3534 and NQF 2561

3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).

2561: STS Aortic Valve Replacement (AVR) Composite Score

Steward

3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).

American College of Cardiology

2561: STS Aortic Valve Replacement (AVR) Composite Score

The Society of Thoracic Surgeons

Description

3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).

This measure estimates hospital risk standardized odds ratio for death from all causes within 30 days following transcatheter aortic valve replacement. The measure uses clinical data available in the STS/ACC TVT Registry for risk adjustment. For the purpose of development and testing, the measure used site-reported 30-day follow-up data contained in the STS/ACC TVT Registry.

2561: STS Aortic Valve Replacement (AVR) Composite Score

STS AVR Composite Score comprises two domains consisting of six measures: Domain 1) Absence of Operative Mortality – Proportion of patients (risk-adjusted) who do not

experience operative mortality. Operative mortality is defined as death during the same hospitalization as surgery or after discharge but within 30 days of the procedure; and Domain 2) Absence of Major Morbidity – Proportion of patients (risk-adjusted) who do not experience any major morbidity. Major morbidity is defined as having at least one of the following adverse outcomes: 1. reoperations for any cardiac reason, 2. renal failure, 3. deep sternal wound infection, 4. prolonged ventilation/intubation, and 5. cerebrovascular accident/permanent stroke. All measures are based on audited clinical data collected in a prospective registry and are risk-adjusted.

Participants receive a score for each of the two domains, plus an overall composite score. The overall composite score was created by “rolling up” the domain scores into a single number. In addition to receiving a numeric score, participants are assigned to rating categories designated by one star (below average performance), two stars (average performance), or three stars (above average performance). Star ratings are publicly reported on the STS website and are also currently reported on the Consumer Reports website.

Type

3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).

Outcome

2561: STS Aortic Valve Replacement (AVR) Composite Score

Composite

Data Source

3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).

Registry Data STS/ACC TVT Registry

Available at measure-specific web page URL identified in S.1 Attachment

TAVR_S.2b_attachment-637092425369121221.xlsx

2561: STS Aortic Valve Replacement (AVR) Composite Score

Registry Data STS Adult Cardiac Surgery Database Version 2.81 (effective July 1, 2014);

Version 2.9 (effective July 1, 2017)

Available at measure-specific web page URL identified in S.1 Attachment S.2b._

_S.15._Detailed_Risk_Model_Specifications.STS_AVR_Composite_Score.docx

Level

3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).

Facility

2561: STS Aortic Valve Replacement (AVR) Composite Score

Facility, Clinician : Group/Practice

*Setting***3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).**

Inpatient/Hospital

2561: STS Aortic Valve Replacement (AVR) Composite Score

Inpatient/Hospital

*Numerator Statement***3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).**

The outcome of this measure is all-cause death within 30 days following a transcatheter aortic valve replacement (TAVR).

2561: STS Aortic Valve Replacement (AVR) Composite Score

Due to the complex methodology used to construct the composite measure, it is impractical to separately discuss the numerator and denominator. The following discussion describes how each domain score is calculated and how these are combined into an overall composite score.

The STS AVR Composite Score comprises two domains consisting of six individual measures:

1. Absence of Operative Mortality

NQF # 0120 Risk-Adjusted Operative Mortality for AVR

2. Absence of Major Morbidity, scored any-or-none. The measures used are the same morbidity outcomes included in NQF #0696 STS CABG Composite Score.

Risk-Adjusted Postoperative Stroke/Cerebrovascular Accident

Risk-Adjusted Postoperative Surgical Re-exploration

Risk-Adjusted Postoperative Deep Sternal Wound Infection Rate

Risk-Adjusted Postoperative Renal Failure

Risk-Adjusted Postoperative Prolonged Intubation (Ventilation)

Participants receive a score for each of the two domains, plus an overall composite score.

The overall composite score is created by “rolling up” the domain scores into a single number. In addition to receiving a numeric score, participants are assigned to rating categories designated by one star (below average performance), two stars (average performance), or three stars (above average performance).

Patient Population: The analysis population consists of adult patients aged 18 years or older who undergo isolated AVR surgery

Time Period: 3 years

Data Completeness Requirement: Participants are excluded from the analysis if they have fewer than 10 isolated AVR procedures in the patient population.

Technical Details

The unit of measurement for the STS AVR Composite Score can be either a participant (most often a cardiac surgical practice but occasionally an individual surgeon) or a hospital.

For the Absence of Operative Mortality domain, the NUMERATOR is:

Number of patients undergoing isolated AVR who survived until after discharge and >30 days post-surgery

For the Absence of Major Morbidity domain, the NUMERATOR is:

Number of patients undergoing isolated AVR who did not experience any of the five specified major morbidity endpoints*

*Morbidity endpoints consist of postoperative stroke/cerebrovascular accident, surgical re-exploration, deep sternal wound infection, renal failure, prolonged intubation (ventilation). Patients with documented history of renal failure (i.e., dialysis or baseline serum creatinine of 4.0 or higher) are excluded when counting renal failure outcomes.

STS AVR risk models are used to estimate expected rates of mortality and any-or-none morbidity (Reference: O'Brien SM, Shahian DM, Filardo G, et al. The Society of Thoracic Surgeons 2008 cardiac surgery risk models: part 2—isolated valve surgery. *Ann Thorac Surg* 2009;88(1 Suppl):S23–42). To enhance interpretation, mortality rates are converted to survival rates (risk-standardized survival rate = $100 - \text{risk-standardized mortality rate}$), and morbidity rates are converted to “absence of morbidity” rates (risk-standardized absence of morbidity rate = $100 - \text{risk-standardized morbidity rate}$). Defining scores in this manner ensures that increasingly positive values reflect better performance, which is easier for consumers to interpret.

(Please see the appendix for the formula used to calculate the overall composite score.)

The method is equivalent to calculating a weighted average, with weights proportional to the inverse of the SD. In the most recent production of the STS AVR Composite Score based on data from July 2010 – June 2013, $w_{\text{mortality}}=0.79$ and $w_{\text{morbidity}} = 0.21$.

Star Rating: Star ratings are derived by testing whether the participant's composite or domain score is significantly different from the overall STS average. For instance, if for each of the 2 composite score domains, a participant's estimated score is lower than the overall STS average, but the difference between the participant and STS is not statistically significant, the ratings would each be 2 stars. If however, for the overall composite, the point estimate is lower than the STS average, AND this difference is statistically significant, the overall participant star rating is 1 star. The fact that statistical significance was achieved for the composite score but not the individual domains reflects the greater precision of the composite score compared to

individual endpoints. This precision is achieved by aggregating information across multiple endpoints instead of a single endpoint.

Additional details regarding the AVR Composite Score are provided in the attached manuscript:

Shahian DM, He X, Jacobs JP, et al. The Society of Thoracic Surgeons Isolated Aortic Valve Replacement (AVR) Composite Score: a report of the STS Quality Measurement Task Force. *Ann Thorac Surg* 2012;94:2166–71.

Numerator Details

3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).

NUMERATOR:

1. Discharge status of expired or

2. Follow-up status=deceased and date difference between index procedure and death date is ≤ 30 or

3. 30-day follow-up status=deceased, death date is missing, and difference between index procedure and follow-up assessment date is ≤ 75 days. *

*Notes: The ≤ 75 day follow-up assessment timeframe was identified to be a clinically reasonable surrogate to capture a 30 day death if 30 day follow-up date of death was missing (this occurred in 0.9% of deceased records from January 2015 to December 2017). Sometimes a status of “deceased” is known and documented but the exact date of death is not available.

In addition, we validated the accuracy of 30-day mortality in the TVT Registry by comparing Registry data linked CMS claims data from 2012-2015. Across 3.5 years, 99.6% of the 29,247 patient records had no discrepancy.

2561: STS Aortic Valve Replacement (AVR) Composite Score

Please see S.4 above

Denominator Statement

3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).

The target population for the outcome is for individuals who have undergone transcatheter aortic valve replacement.

For development, reassessment and reporting of this measure, we use site reported data from the STS/ACC TVT Registry.

2561: STS Aortic Valve Replacement (AVR) Composite Score

Due to the complex methodology used to construct the composite measure, it is impractical to separately discuss the numerator and denominator. The following discussion describes how each domain score is calculated and how these are combined into an overall composite score.

The STS AVR Composite Score comprises two domains consisting of six individual measures:

1. Absence of Operative Mortality

NQF # 0120 Risk-Adjusted Operative Mortality for AVR

2. Absence of Major Morbidity, scored any-or-none. The measures used are the same morbidity outcomes included in NQF #0696 STS CABG Composite Score.

Risk-Adjusted Postoperative Stroke/Cerebrovascular Accident

Risk-Adjusted Postoperative Surgical Re-exploration

Risk-Adjusted Postoperative Deep Sternal Wound Infection Rate

Risk-Adjusted Postoperative Renal Failure

Risk-Adjusted Postoperative Prolonged Intubation (Ventilation)

Participants receive a score for each of the two domains, plus an overall composite score. The overall composite score is created by “rolling up” the domain scores into a single number. In addition to receiving a numeric score, participants are assigned to rating categories designated by one star (below average performance), two stars (average performance), or three stars (above average performance).

Patient Population: The analysis population consists of adult patients aged 18 years or older who undergo isolated AVR surgery

Time Period: 3 years

Data Completeness Requirement: Participants are excluded from the analysis if they have fewer than 10 isolated AVR procedures in the patient population.

Technical Details

The unit of measurement for the STS AVR Composite Score can be either a participant (most often a cardiac surgical practice but occasionally an individual surgeon) or a hospital.

For the Absence of Operative Mortality domain AND the Absence of Major Morbidity domain, the DENOMINATOR is:

Number of patients undergoing isolated AVR during the measurement period

STS AVR risk models are used to estimate expected rates of mortality and any-or-none morbidity (Reference: O'Brien SM, Shahian DM, Filardo G, et al. The Society of Thoracic Surgeons 2008 cardiac surgery risk models: part 2—isolated valve surgery. *Ann Thorac Surg* 2009;88(1 Suppl):S23–42). To enhance interpretation, mortality rates are converted to survival rates (risk-standardized survival rate = $100 - \text{risk-standardized mortality rate}$), and morbidity rates are converted to “absence of morbidity” rates (risk-standardized absence of morbidity rate = $100 - \text{risk-standardized morbidity rate}$). Defining scores in this manner ensures that increasingly positive values reflect better performance, which is easier for consumers to interpret.

(Please see the appendix for the formula used to calculate the overall composite score.)

The method is equivalent to calculating a weighted average, with weights proportional to the inverse of the SD. In the most recent production of the STS AVR Composite Score based on data from July 2010 – June 2013, $w_{\text{mort}}=0.79$ and $w_{\text{morb}} = 0.21$.

Star Rating: Star ratings are derived by testing whether the participant's composite or domain score is significantly different from the overall STS average. For instance, if for each of the 2 composite score domains, a participant's estimated score is lower than the overall STS average, but the difference between the participant and STS is not statistically significant, the ratings would each be 2 stars. If however, for the overall composite, the point estimate is lower than the STS average, AND this difference is statistically significant, the overall participant star rating is 1 star. The fact that statistical significance was achieved for the composite score but not the individual domains reflects the greater precision of the composite score compared to

individual endpoints. This precision is achieved by aggregating information across multiple endpoints instead of a single endpoint.

Additional details regarding the AVR Composite Score are provided in the attached manuscript:

Shahian DM, He X, Jacobs JP, et al. The Society of Thoracic Surgeons Isolated Aortic Valve Replacement (AVR) Composite Score: a report of the STS Quality Measurement Task Force. *Ann Thorac Surg* 2012;94:2166–71.

*Denominator Details***3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).**

Measure Eligibility and Population Definition

1) Eligibility at the hospital level:

- a) Acceptable “Data Quality Report” data submissions for each quarter in the reporting period.
- b) Hospitals must have $\geq 90\%$ completeness of the following items for all patient records in the rolling 3-year reporting period to receive feedback on the measure:
 - i) Computed baseline Kansas City Cardiomyopathy Questionnaire (a key risk model covariate) AND
 - ii) Baseline 5-meter walk test (a key model covariate), AND
 - iii) 30-day follow-up status = alive or dead as defined above (the outcome variable)
- 2) Eligibility at the patient level: Hospitalization for first-time TAVR procedure

2561: STS Aortic Valve Replacement (AVR) Composite Score

Please see S.6 above

*Exclusions***3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).**

- 1) Hospitals need to meet eligibility criteria to be included in the measure.
- 2) Patients are excluded if:
 - a) They did not have a first-time TAVR in the episode of care (admission),
 - b) The TAVR was subsequent to another procedure in the Registry (other TAVR, Mitral Leaflet Clip and/or TMVR) during that admission.
 - c) The patient is readmitted for a repeat TAVR (re-admission) and the initial TAVR was performed during the rolling 3-year timeframe for the measure.
 - d) 30-day mortality status missing.

2561: STS Aortic Valve Replacement (AVR) Composite Score

Please see S.6 above

*Exclusion Details***3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).**

- 1) Hospital ineligibility:
 - a) Unacceptable data quality report submissions for all quarters of the reporting time-period.
 - b) Hospitals who have less than 90% of patient records with respect to ANY of the following assessments in the rolling 3-year reporting period:
 - i) Computed baseline Kansas City Cardiomyopathy Questionnaire (a key risk model covariate) OR
 - ii) Baseline 5 meter walk test (a key model covariate), OR

- iii) 30 day follow-up status =alive or dead as defined above (the outcome variable)
- 2) Patient Ineligibility:
 - a) They did not have a first-time TAVR in the episode of care (admission),
 - b) The TAVR was subsequent to another procedure in the Registry (other TAVR, Mitral Leaflet Clip and/or TMVR) during that admission.
 - c) The patient is readmitted for a repeat TAVR (re-admission) and the initial TAVR was performed during the rolling 3-year timeframe for the measure.
 - d) 30-day mortality status is missing.

2561: STS Aortic Valve Replacement (AVR) Composite Score

Please see S.6 above

Risk Adjustment

3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).

Statistical risk model

118162

118162

2561: STS Aortic Valve Replacement (AVR) Composite Score

Statistical risk model

Stratification

3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).

This measure will not be stratified.

2561: STS Aortic Valve Replacement (AVR) Composite Score

N/A

Type Score

3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).

Ratio better quality = lower score

2561: STS Aortic Valve Replacement (AVR) Composite Score

Rate/proportion better quality = higher score

Algorithm

3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).

The measure score is calculated based on the following steps:

- 1) Patient cohort is identified based on inclusion criteria (see questions S.7-S.11)
- 2) Data elements for risk adjusted are collected using the first collected value, as identified below;
- 3) Outcome is ascertained (see S.5)

4) Measure score is calculated with aggregated data across all included sites as described below. Risk adjustment variables include:

1. Age
2. Body surface area (BSA)
3. Sex
4. Race/ethnicity
5. Estimated glomerular filtration rate (eGFR), which quantifies kidney function
6. Hemodialysis for end-stage renal disease
7. Left ventricular ejection fraction (LVEF)
8. Hemoglobin
9. Platelet count
10. Procedure date
11. Left main coronary artery stenosis = 50%
12. Proximal left anterior descending coronary artery stenosis = 70%
13. Prior myocardial infarction
14. Endocarditis
15. Gait speed (via the 5-meter walk test which assesses frailty)
16. Baseline Kansas City Cardiomyopathy Questionnaire-12 (KCCQ-12, a measure of heart-failure specific health status)
17. Peripheral artery disease
18. Current/recent smoker
19. Diabetes
20. Atrial fibrillation/flutter
21. Conduction defect
22. Chronic lung disease
23. Home oxygen
24. "Hostile" chest
25. Porcelain (severely concentrically calcified) aorta
26. Access site
27. Pacemaker
28. Previous implantable cardioverter defibrillator
29. Prior percutaneous coronary intervention
30. Prior coronary artery bypass surgery
31. # prior cardiac operations
32. Prior aortic valve surgery/procedure
33. Prior other valve procedure surgery/procedure (mitral, tricuspid, pulmonic)
34. Aortic valve disease etiology
35. Aortic valve morphology

36. Aortic insufficiency (moderate or severe)
37. Mitral insufficiency (moderate or severe)
38. Tricuspid insufficiency (moderate or severe)
39. Acuity status (defined by a combination of procedure status, prior cardiac arrest w/in 24 hours, need for pre-procedure inotropic medications, and use of mechanical assist device)
40. Carotid stenosis
41. Prior transient ischemic attack or stroke

Case mix adjustment is implemented using a hierarchical logistic regression model with the above covariates and a site-specific random intercept. The main summary measure of a hospital's risk-adjusted outcomes performance is the hospital's estimated odds ratio, which compares the predicted odds of death of the patient population at a hospital if TAVR is performed by the hospital of interest to the predicted odds of death if TAVR were performed by an average hospital. An odds ratio greater than 1 implies higher than expected mortality and an odds ratio less than 1 implies lower than expected mortality. Each hospital's estimated odds ratio is reported along with an approximate 95% empirical Bayes interval around the estimated odds ratio.

Definition of Measure Score Calculation - Odds ratio: a parameter reflecting the association between risk factors and an outcome.

The Risk Standardized Odds Ratio is calculated as the odds that an outcome (e.g. 30-day mortality) will occur for patients treated at your facility compared to the “odds” that outcome will occur for patients with identical risk factors if treated by a hypothetical (average) hospital.

It conceptually allows for a comparison of a particular hospital's performance given its case mix to an average hospital's performance with the same case mix. Thus, a lower odds ratio implies lower-than-expected mortality (better quality) and a higher ratio implies higher-than-expected mortality (worse quality). To assess hospital performance in any reporting period, we re-estimate the model coefficients using the years of data in that period.

References:

Normand S-LT, Shahian DM. 2007. Statistical and Clinical Aspects of Hospital Outcomes Profiling. *Stat Sci* 22 (2): 206-226.

Arnold, S.V. et al. Measures in the Risk Adjustment of 30-Day Mortality After Transcatheter Aortic Valve Replacement: A Report From the Society of Thoracic Surgeons/American College of Cardiology TVT Registry JACC: Cardiovascular Interventions Volume 11, Issue 6, 26 March 2018, Pages 581-589 118162

2561: STS Aortic Valve Replacement (AVR) Composite Score

Please see S.4 and S.6 above

Submission items

3534: 30 Day All-cause Risk Standardized Mortality Odds Ratio following Transcatheter Aortic Valve Replacement (TAVR).

5.1 Identified measures:

5a.1 Are specs completely harmonized? Yes

5a.2 If not completely harmonized, identify difference, rationale, impact: While this measure focuses on a different population (ie those undergoing surgical AVR) and different outcomes, the current measure has been harmonized to the extent possible. Residual differences in the two models include the following: 1. Some variables are unique to each population/procedure/measure (e.g. TAVR 30-day RAM includes variables unique to the procedure such as gait speed, KCCQ, access site, porcelain aorta and aortic valve morphology). 2. The outcome of each measure is different. TAVR 30-day RAM is subset of the STS AVR Composite Score (which includes 30-day mortality as well as 5 morbidities). 3. The patient population of each measure is different. TAVR 30 day RAM is only patients who had a transcatheter aortic valve replacement procedures. STS AVR Composite is for all patients having an aortic valve replacement (which MAY include a TAVR).

5b.1 If competing, why superior or rationale for additive value: N/A

2561: STS Aortic Valve Replacement (AVR) Composite Score

5.1 Identified measures: 0120 : Risk-Adjusted Operative Mortality for Aortic Valve Replacement (AVR)

0131 : Risk-Adjusted Stroke/Cerebrovascular Accident

0115 : Risk-Adjusted Surgical Re-exploration

0130 : Risk-Adjusted Deep Sternal Wound Infection

0114 : Risk-Adjusted Postoperative Renal Failure

0129 : Risk-Adjusted Postoperative Prolonged Intubation (Ventilation)

5a.1 Are specs completely harmonized? Yes

5a.2 If not completely harmonized, identify difference, rationale, impact: N/A

5b.1 If competing, why superior or rationale for additive value: N/A

Appendix F: Pre-Evaluation Comments

No comments received as of January 28, 2020.

National Quality Forum
1099 14th Street NW, Suite 500
Washington, DC 20005
<http://www.qualityforum.org>

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