



Measure Information

This document contains the information submitted by measure developers/stewards, but is organized according to NQF's measure evaluation criteria and process. The item numbers refer to those in the submission form but may be in a slightly different order here. In general, the item numbers also reference the related criteria (e.g., item 1b.1 relates to sub criterion 1b).

Brief Measure Information

NQF #: 0083e

Corresponding Measures: 0083

De.2. Measure Title: Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)

Co.1.1. Measure Steward: PCPI Foundation

De.3. Brief Description of Measure: 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

1b.1. Developer Rationale: Beta-blockers are recommended for all patients with stable heart failure and left ventricular systolic dysfunction, unless contraindicated. Treatment should be initiated as soon as a patient is diagnosed with left ventricular systolic dysfunction and does not have low blood pressure, fluid overload, or recent treatment with an intravenous positive inotropic agent. Beta-blockers have been shown to lessen the symptoms of heart failure, improve the clinical status of patients, reduce future clinical deterioration, and decrease the risk of mortality and the combined risk of mortality and hospitalization.

Also, a 2011 analysis of IMPROVE HF data by Fonarow and colleagues revealed that all 4 current ACC/AHA HF outpatient performance measures were associated with decreased risk of 24-month mortality. For the 2 summary measures of HF care processes, there was also a strong positive association between greater conformity to the summary measures and improved risk-adjusted survival. These findings may have significant clinical and public health implications, providing evidence to suggest that current, and some emerging, outpatient process measures may effectively reflect the quality of care provided to patients with HF who are treated in outpatient practice settings.

S.4. Numerator Statement: Patients who were prescribed beta-blocker therapy either within a 12-month period when seen in the outpatient setting OR at each hospital discharge

S.6. Denominator Statement: All patients aged 18 years and older with a diagnosis of heart failure with a current or prior LVEF < 40%

S.8. Denominator Exclusions: Denominator Exceptions:

Documentation of medical reason(s) for not prescribing beta-blocker therapy (e.g., low blood pressure, fluid overload, asthma, patients recently treated with an intravenous positive inotropic agent, 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 healthcare system).

De.1. Measure Type: Process

S.17. Data Source: Electronic Health Records

S.20. Level of Analysis: Clinician : Group/Practice, Clinician : Individual

IF Endorsement Maintenance – Original Endorsement Date: Mar 14, 2016 **Most Recent Endorsement Date:** Mar 14, 2016

IF this measure is included in a composite, NQF Composite#/title:

IF this measure is paired/grouped, NQF#/title:

De.4. IF PAIRED/GROUPED, what is the reason this measure must be reported with other measures to appropriately interpret results? Measures #0083 and #0081 (Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) or Angiotensin-Neprilysin Inhibitor (ARNI) Therapy for Left Ventricular Systolic Dysfunction) address related aspects of care for effective treatment for patients with heart failure and should be measured concurrently. Combined treatment with these agents produces additive benefits and is required for optimal management of heart failure. It is not recommended that either of these measures be used independently. The pairing of these measures is not intended to suggest the use of any particular scoring methodology (ie, a composite score), nor does it imply either equality of or difference in the relative “weights” of the two measures. A performance score for each measure should be reported individually to provide actionable information upon which to focus quality improvement efforts.

1. Evidence, Performance Gap, Priority – Importance to Measure and Report

Extent to which the specific measure focus is evidence-based, important to making significant gains in healthcare quality, and improving health outcomes for a specific high-priority (high-impact) aspect of healthcare where there is variation in or overall less-than-optimal performance. **Measures must be judged to meet all sub criteria to pass this criterion and be evaluated against the remaining criteria.**

1a. Evidence to Support the Measure Focus – See attached Evidence Submission Form

[nqf_evidence_attachment_0083e_FINAL_08APR19.docx](#)

1a.1 For Maintenance of Endorsement: Is there new evidence about the measure since the last update/submission?

Do not remove any existing information. If there have been any changes to evidence, the Committee will consider the new evidence. Please use the most current version of the evidence attachment (v7.1). Please use red font to indicate updated evidence.

No

1b. Performance Gap

Demonstration of quality problems and opportunity for improvement, i.e., data demonstrating:

- considerable variation, or overall less-than-optimal performance, in the quality of care across providers; and/or
- Disparities in care across population groups.

1b.1. Briefly explain the rationale for this measure (e.g., how the measure will improve the quality of care, the benefits or improvements in quality envisioned by use of this measure)

If a COMPOSITE (e.g., combination of component measure scores, all-or-none, any-or-none), SKIP this question and answer the composite questions.

Beta-blockers are recommended for all patients with stable heart failure and left ventricular systolic dysfunction, unless contraindicated. Treatment should be initiated as soon as a patient is diagnosed with left ventricular systolic dysfunction and does not have low blood pressure, fluid overload, or recent treatment with an intravenous positive inotropic agent. Beta-blockers have been shown to lessen the symptoms of heart failure, improve the clinical status of patients, reduce future clinical deterioration, and decrease the risk of mortality and the combined risk of mortality and hospitalization.

Also, a 2011 analysis of IMPROVE HF data by Fonarow and colleagues revealed that all 4 current ACC/AHA HF outpatient performance measures were associated with decreased risk of 24-month mortality. For the 2 summary measures of HF care processes, there was also a strong positive association between greater conformity to the summary measures and improved risk-adjusted survival. These findings may have significant clinical and public health implications, providing evidence to suggest that current, and some emerging, outpatient process measures may effectively reflect the quality of care provided to patients with HF who are treated in outpatient practice settings.

1b.2. Provide performance scores on the measure as specified (current and over time) at the specified level of analysis. (This is required for maintenance of endorsement. Include mean, std dev, min, max, interquartile range, scores by decile. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities include.) This information also will be used to address the sub-criterion on improvement (4b1) under Usability and Use.

2016 EHR data from the PQRS program was provided to the PCPI by CMS for the purposes of testing the measure. The data are analyzed for the time period January 2016 through December 2016 and include 52,213 quality events. The mean performance rate is 0.72, the standard deviation is 0.32, the minimum is 0, the maximum is 1, and the interquartile range is 0.50 (1.00 – 0.50).

Performance Scores by Decile: (1st,0.10; 2nd,0.50; 3rd,0.62; 4th,0.74; 5th,0.87; 6th,1.00; 7th,1.00; 8th,1.00; 9th,1.00; 10th,1.00)

Historical PQRS data from the PQRS experience report does not differentiate between EHR and Registry average performance rates. Performance scores over time are for 2013: 0.78, 2014: 0.69, 2015: 0.86. It should be noted that PQRS was a voluntary reporting program. Overall participation in the program was suboptimal with 72% of eligible professionals using any method to participate in PQRS, in 2016. The performance scores listed above are not consistently derived from a nationally representative sample.

Quality benchmarks for MIPS 2018 were made publicly available in January 2019. As MIPS is a new program, historical PQRS data was used with MIPS eligibility criteria applied in order to create the benchmark. Providers earn points depending what decile of the benchmark they fall into. The EHR average performance rate reported in the benchmark report is 73.2% and standard deviation of 19.6. Deciles 3 through 10 are also reported and are as follows: Decile, Performance (3rd, 60.00%-65.78%, 4th, 65.79%-70.58%, 5th, 70.59%-74.99%, 6th, 75.00%-79.99%, 7th, 80.00%-85.95%, 8th, 85.96%-90.47%, 9th, 90.48%-95.99%, 10th, =96.00%. While not made explicit in the publicly available documentation, it is thought that deciles 1 and 2 are not included in the file since providers earn the same amount of points for results in those deciles regardless of performance. No additional data is available at this time.

1b.3. If no or limited performance data on the measure as specified is reported in 1b2, then provide a summary of data from the literature that indicates opportunity for improvement or overall less than optimal performance on the specific focus of measurement.

A study evaluating 15,205 Medicare beneficiaries hospitalized for heart failure with reduced ejection fraction (HFrEF) between 2007 to 2013 examined beta-blocker prescription fill rates after hospital discharge. Researchers found that 38% of hospitalizations were followed by a prescription fill for a beta-blocker within 30 days. While most commonly contraindications (e.g., hypotension, COPD, or syncope) were why the prescription was not filled, that alone does not explain the low fill rate. While this study focused on prescription fill rates, the prescription has to be written (the focus of this measure) in order for the patient to fill it. (1)

According to Fonarow and colleagues (2010), for aggregate practices at baseline, a β -blocker was prescribed for 11 868 (86.2%) of 13 772 eligible patients. (2)

1. Loop MS, van Dyke MK, Chen L, Safford MM, Kilgore ML, Brown TM, et al. Low utilization of beta-blockers among Medicare beneficiaries for heart failure with reduced ejection fraction. *J Card Fail*. 2018. DOI: 10.1016/j.cardfail.2018.10.005

2. Fonarow GC; Albert NM; Curtis AB; Stough WG; Gheorghiade M; Heywood T; McBride M; Inge PJ; Mehra MR; O'Connor CM; Reynolds D; Walsh MN; Yancy CW. Improving Evidence-Based Care for Heart Failure in Outpatient Cardiology Practices: Primary Results of the Registry to Improve the Use of Evidence-Based Heart Failure Therapies in the Outpatient Setting (IMPROVE HF). *Circulation* 2010; 122: 585-596. Published online before print July 26, 2010, doi: 10.1161/CIRCULATIONAHA.109.934471.

1b.4. Provide disparities data from the measure as specified (current and over time) by population group, e.g., by race/ethnicity, gender, age, insurance status, socioeconomic status, and/or disability. (This is required for maintenance of endorsement. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included.) For measures that show high levels of performance, i.e., "topped out", disparities data may demonstrate an opportunity for improvement/gap in care for certain sub-populations. This information also will be used to address the sub-criterion on improvement (4b1) under Usability and Use.

While this measure is included in several federal reporting programs, those programs have not yet made disparities data available for us to analyze and report.

1b.5. If no or limited data on disparities from the measure as specified is reported in 1b.4, then provide a summary of data from the literature that addresses disparities in care on the specific focus of measurement. Include citations. Not necessary if performance data provided in 1b.4

A 2011 study by Bagchi et al of the TRICARE program found that African Americans were less likely than whites to have received beta blockers and angiotensin-converting enzyme inhibitors or angiotensin receptor blockers following a CHF diagnosis ($P < 0.0001$). Hispanics were, in some cases, equally likely as whites to receive pharmacological treatments for CHF. In multivariate models, there were no significant racial/ethnic differences in the odds of a potentially avoidable hospitalization (PAH); age greater than 65 was the most significant predictor of a PAH. This study suggests that although there are some racial and ethnic disparities in the receipt of pharmacological therapy for CHF among TRICARE beneficiaries, these differences do not translate into disparities in the likelihood of a PAH. The findings support previous research suggesting that equal access to care may mitigate racial/ethnic health disparities.

Bagchi AD, Stewart K, McLaughlin C, Higgins P, Croghan T. Treatment and outcomes for congestive heart failure by race/ethnicity in TRICARE. Med Care. 2011 May;49(5):489-95. doi: 10.1097/MLR.0b013e318207ef87.

<http://www.ncbi.nlm.nih.gov/pubmed/21422958>

2. Reliability and Validity—Scientific Acceptability of Measure Properties

Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. **Measures must be judged to meet the sub criteria for both reliability and validity to pass this criterion and be evaluated against the remaining criteria.**

2a.1. Specifications The measure is well defined and precisely specified so it can be implemented consistently within and across organizations and allows for comparability. eMeasures should be specified in the Health Quality Measures Format (HQMF) and the Quality Data Model (QDM).

De.5. Subject/Topic Area (check all the areas that apply):

Cardiovascular, Cardiovascular : Congestive Heart Failure

De.6. Non-Condition Specific(check all the areas that apply):

De.7. Target Population Category (Check all the populations for which the measure is specified and tested if any):

Elderly

S.1. Measure-specific Web Page (Provide a URL link to a web page specific for this measure that contains current detailed specifications including code lists, risk model details, and supplemental materials. Do not enter a URL linking to a home page or to general information.)

The measure specifications are attached to this submission. Additional measure details may be found at: eCQI Resource Center <https://ecqi.healthit.gov/eligible-professional-eligible-clinician-ecqms>. Value set details at VSAC: <https://vsac.nlm.nih.gov/>.

S.2a. If this is an eMeasure, HQMF specifications must be attached. Attach the zipped output from the eMeasure authoring tool (MAT) - if the MAT was not used, contact staff. (Use the specification fields in this online form for the plain-language description of the specifications)

This is an eMeasure Attachment: CMS144_v5_6_Artifacts_2019Apr09.zip

S.2b. Data Dictionary, Code Table, or Value Sets (and risk model codes and coefficients when applicable) must be attached. (Excel or csv file in the suggested format preferred - if not, contact staff)

Attachment Attachment: 0083e_HF_BetaBlocker_ValueSets_20190409.xlsx

S.2c. Is this an instrument-based measure (i.e., data collected via instruments, surveys, tools, questionnaires, scales, etc.)? Attach copy of instrument if available.

No, this is not an instrument-based measure Attachment:

S.2d. Is this an instrument-based measure (i.e., data collected via instruments, surveys, tools, questionnaires, scales, etc.)? Attach copy of instrument if available.

Not an instrument-based measure

S.3.1. For maintenance of endorsement: Are there changes to the specifications since the last updates/submission. If yes, update the specifications for S1-2 and S4-22 and explain reasons for the changes in S3.2.

Yes

S.3.2. For maintenance of endorsement, please briefly describe any important changes to the measure specifications since last measure update and explain the reasons.

Supporting guidelines and coding value sets included in the measure are reviewed on an annual basis. This annual review has resulted in minor changes to the value sets, to account for updates to the coding terminologies for existing data elements. Measure specifications are annually updated to align with any changes to the standards or tools used to support electronic measurement. Beginning with 2019 implementation, the measure was revised to have two populations: 1.) Patients who were prescribed beta-blocker therapy within a 12-month period when seen in the outpatient setting OR 2.) Patients who were prescribed beta-blocker therapy at each hospital discharge. This change was made to more clearly delineate the denominator requirements to promote accurate implementation. Based on feedback we heard regarding how vendors have implemented the measure, there was an inconsistent approach to applying the measure criteria. Therefore, we decided to split this measure out into two populations, based on the care setting, which can be implemented in both the eCQM and registry versions of this measure. Though the measure is split into two, the measure still requires only one performance rate for reporting.

S.4. Numerator Statement (Brief, narrative description of the measure focus or what is being measured about the target population, i.e., cases from the target population with the target process, condition, event, or outcome) DO NOT include the rationale for the measure.

IF an OUTCOME MEASURE, state the outcome being measured. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).

Patients who were prescribed beta-blocker therapy either within a 12-month period when seen in the outpatient setting OR at each hospital discharge

S.5. Numerator Details (All information required to identify and calculate the cases from the target population with the target process, condition, event, or outcome such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)

IF an OUTCOME MEASURE, describe how the observed outcome is identified/counted. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).

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 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.

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.

Guidance:

Beta-blocker therapy: For patients with prior LVEF < 40%, beta-blocker therapy should include bisoprolol, carvedilol, or sustained release metoprolol succinate.

HQMF eCQM developed and is attached to this submission in fields S.2a and S.2b.

S.6. Denominator Statement (Brief, narrative description of the target population being measured)

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

S.7. Denominator Details (All information required to identify and calculate the target population/denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b.)

IF an OUTCOME MEASURE, describe how the target population is identified. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).

Time Period for Data Collection: 12 consecutive months

Definition:

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

Guidance:

A range value should satisfy the logic requirement for 'Ejection Fraction' as long as the ranged observation value clearly meets the less than 40% threshold noted in the denominator logic. A range that is inclusive of or greater than 40% would not meet the measure requirement.

To satisfy this measure, it must be reported for all heart failure patients at least once during the measurement period if seen in the outpatient setting. If the patient has an eligible inpatient discharge during the measurement period, as defined in the measure logic, it is expected to be reported at each hospital discharge.

The requirement of two or more visits is to establish that the eligible professional or eligible clinician has an existing relationship with the patient

HQMF eCQM developed and is attached to this submission in fields S.2a and S.2b.

S.8. Denominator Exclusions *(Brief narrative description of exclusions from the target population)*

Denominator Exceptions:

Documentation of medical reason(s) for not prescribing beta-blocker therapy (e.g., low blood pressure, fluid overload, asthma, patients recently treated with an intravenous positive inotropic agent, 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 healthcare system).

S.9. Denominator Exclusion Details *(All information required to identify and calculate exclusions from the denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b.)*

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 Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD), exceptions may include medical reason(s) (e.g., low blood pressure, fluid overload, asthma, patients recently treated with an intravenous positive inotropic agent, 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 healthcare system) for not prescribing beta-blocker therapy. Where examples of exceptions are included in the measure language, value sets for these examples are developed and included in the eCQM. 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.

HQMF eCQM developed and is attached to this submission in fields S.2a and S.2b.

S.10. Stratification Information *(Provide all information required to stratify the measure results, if necessary, including the stratification variables, definitions, specific data collection items/responses, code/value sets, and the risk-model covariates and coefficients for the clinically-adjusted version of the measure when appropriate – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format with at S.2b.)*

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 and have included these variables as recommended data elements to be collected.

S.11. Risk Adjustment Type (Select type. Provide specifications for risk stratification in measure testing attachment)

No risk adjustment or risk stratification

If other:

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 populations but is intended to result in one reporting rate. The reporting rate is the aggregate of Population 1 and Population 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 Population 1: Patients who were prescribed beta-blocker therapy within a 12-month period when seen in the outpatient setting

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., low blood pressure, fluid overload, asthma, patients recently treated with an intravenous positive inotropic agent, 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 healthcare 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 Population 2: Patients who were beta-blocker 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., low blood pressure, fluid overload, asthma, patients recently treated with an intravenous positive inotropic agent, 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 healthcare 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.

S.15. Sampling (If measure is based on a sample, provide instructions for obtaining the sample and guidance on minimum sample size.)

If an instrument-based performance measure (e.g., PRO-PM), identify whether (and how) proxy responses are allowed.

Not applicable. The measure is not based on a sample.

S.16. Survey/Patient-reported data (If measure is based on a survey or instrument, provide instructions for data collection and guidance on minimum response rate.)

Specify calculation of response rates to be reported with performance measure results.

Not applicable. The measure is not based on a survey.

S.17. Data Source (Check ONLY the sources for which the measure is SPECIFIED AND TESTED).

If other, please describe in S.18.

Electronic Health Records

S.18. Data Source or Collection Instrument (Identify the specific data source/data collection instrument (e.g. name of database, clinical registry, collection instrument, etc., and describe how data are collected.)

If instrument-based, identify the specific instrument(s) and standard methods, modes, and languages of administration.

Not applicable

S.19. Data Source or Collection Instrument (available at measure-specific Web page URL identified in S.1 OR in attached appendix at A.1)

No data collection instrument provided

S.20. Level of Analysis (Check ONLY the levels of analysis for which the measure is SPECIFIED AND TESTED)

Clinician : Group/Practice, Clinician : Individual

S.21. Care Setting (Check ONLY the settings for which the measure is SPECIFIED AND TESTED)

Home Care, Inpatient/Hospital, Other, Outpatient Services

If other: Domiciliary, Nursing Facility

S.22. COMPOSITE Performance Measure - Additional Specifications (Use this section as needed for aggregation and weighting rules, or calculation of individual performance measures if not individually endorsed.)

Not applicable. The measure is not a composite.

2. Validity – See attached Measure Testing Submission Form

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2.1 For maintenance of endorsement

Reliability testing: If testing of reliability of the measure score was not presented in prior submission(s), has reliability testing of the measure score been conducted? If yes, please provide results in the Testing attachment. Please use the most current version of the testing attachment (v7.1). Include information on all testing conducted (prior testing as well as any new testing); use red font to indicate updated testing.

Yes

2.2 For maintenance of endorsement

Has additional empirical validity testing of the measure score been conducted? If yes, please provide results in the Testing attachment. Please use the most current version of the testing attachment (v7.1). Include information on all testing conducted (prior testing as well as any new testing); use red font to indicate updated testing.

Yes

2.3 For maintenance of endorsement

Risk adjustment: For outcome, resource use, cost, and some process measures, risk-adjustment that includes social risk factors is not prohibited at present. Please update sections 1.8, 2a2, 2b1, 2b4.3 and 2b5 in the Testing attachment and S.140 and S.11 in the online submission form. NOTE: These sections must be updated even if social risk factors are not included in the risk-adjustment strategy. You MUST use the most current version of the Testing Attachment (v7.1) -- older versions of the form will not have all required questions.

No - This measure is not risk-adjusted

3. Feasibility

Extent to which the specifications including measure logic, require data that are readily available or could be captured without undue burden and can be implemented for performance measurement.

3a. Byproduct of Care Processes

For clinical measures, the required data elements are routinely generated and used during care delivery (e.g., blood pressure, lab test, diagnosis, medication order).

3a.1. Data Elements Generated as Byproduct of Care Processes.

Generated or collected by and used by healthcare personnel during the provision of care (e.g., blood pressure, lab value, diagnosis, depression score), Coded by someone other than person obtaining original information (e.g., DRG, ICD-9 codes on claims), Abstracted from a record by someone other than person obtaining original information (e.g., chart abstraction for quality measure or registry)

If other:

3b. Electronic Sources

The required data elements are available in electronic health records or other electronic sources. If the required data are not in electronic health records or existing electronic sources, a credible, near-term path to electronic collection is specified.

3b.1. To what extent are the specified data elements available electronically in defined fields (i.e., data elements that are needed to compute the performance measure score are in defined, computer-readable fields) Update this field for maintenance of endorsement.

ALL data elements are in defined fields in electronic health records (EHRs)

3b.2. If ALL the data elements needed to compute the performance measure score are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using other than electronic sources. For maintenance of endorsement, if this measure is not an eMeasure (eCQM), please describe any efforts to develop an eMeasure (eCQM).

3b.3. If this is an eMeasure, provide a summary of the feasibility assessment in an attached file or make available at a measure-specific URL. Please also complete and attach the NQF Feasibility Score Card.

Attachment:

3c. Data Collection Strategy

Demonstration that the data collection strategy (e.g., source, timing, frequency, sampling, patient confidentiality, costs associated with fees/licensing of proprietary measures) can be implemented (e.g., already in operational use, or testing demonstrates that it is ready to put into operational use). For eMeasures, a feasibility assessment addresses the data elements and measure logic and demonstrates the eMeasure can be implemented or feasibility concerns can be adequately addressed.

3c.1. Required for maintenance of endorsement. Describe difficulties (as a result of testing and/or operational use of the measure) regarding data collection, availability of data, missing data, timing and frequency of data collection, sampling, patient

confidentiality, time and cost of data collection, other feasibility/implementation issues.

IF instrument-based, consider implications for both individuals providing data (patients, service recipients, respondents) and those whose performance is being measured.

We have not identified an areas of concern or made any modifications as a result of testing and operational use of the measure in relation to data collection, availability of data, missing data, timing and frequency of data collection, sampling, patient confidentiality, time and cost of data collection, and other feasibility issues unless otherwise noted.

3c.2. Describe any fees, licensing, or other requirements to use any aspect of the measure as specified (e.g., value/code set, risk model, programming code, algorithm).

The Measures, while copyrighted, can be reproduced and distributed, without modification, for noncommercial purposes, eg, use by health care providers in connection with their practices. Commercial uses of the Measures require a license agreement between the user and the AMA, (on behalf of the PCPI), ACC or AHA.

Limited proprietary coding is contained in the Measure specifications for convenience. Users of the proprietary code sets should obtain all necessary licenses from the owners of these code sets.

4. Usability and Use

Extent to which potential audiences (e.g., consumers, purchasers, providers, policy makers) are using or could use performance results for both accountability and performance improvement to achieve the goal of high-quality, efficient healthcare for individuals or populations.

4a. Accountability and Transparency

Performance results are used in at least one accountability application within three years after initial endorsement and are publicly reported within six years after initial endorsement (or the data on performance results are available). If not in use at the time of initial endorsement, then a credible plan for implementation within the specified timeframes is provided.

4.1. Current and Planned Use

NQF-endorsed measures are expected to be used in at least one accountability application within 3 years and publicly reported within 6 years of initial endorsement in addition to performance improvement.

Specific Plan for Use	Current Use (for current use provide URL)
Public Reporting	Payment Program Quality Payment Program Merit-Based Incentive Payment System (MIPS) https://qpp.cms.gov/mips/quality-measures Quality Payment Program Merit-Based Incentive Payment System (MIPS) https://qpp.cms.gov/mips/quality-measures

4a1.1 For each CURRENT use, checked above (update for maintenance of endorsement), provide:

- Name of program and sponsor
- Purpose
- Geographic area and number and percentage of accountable entities and patients included
- Level of measurement and setting

1) Merit-based Incentive Payment System (MIPS)-Sponsored by the Centers for Medicare and Medicaid Services (CMS)
 Prior to 2016, this measure was used for Eligible Providers (EPs) in the Physician Quality Reporting System (PQRS). As of 2017, PQRS has been replaced by the Merit-based Incentive Payment System (MIPS). MIPS is a national performance-based payment program that uses performance scores across several categories to determine payment rates for EPs. MIPS takes a comprehensive approach to payment by basing consideration of quality on a set of evidence-based measures that were primarily developed by clinicians, thus encouraging improvement in clinical practice and supporting advances in technology that allow for easy exchange of information.

According to the CY 2019 Quality Payment Program final rule, CMS intends to “make all measures under MIPS quality performance category available for public reporting on Physician Compare in the transition year of the Quality Payment Program, as technically feasible.” These measures include those reported via all available submission methods for MIPS-eligible clinicians and groups. Because this measure has been in use for at least one year and meets the minimum sample size requirement for reliability, this

measure meets criteria for public reporting. 2018 data will be available for public reporting on Physician Compare in late 2019. The Registry version of this measure is currently included in the downloadable database on the Physician Compare website and is not yet available on individual or group profiles.

4a1.2. If not currently publicly reported OR used in at least one other accountability application (e.g., payment program, certification, licensing) what are the reasons? (e.g., Do policies or actions of the developer/steward or accountable entities restrict access to performance results or impede implementation?)

We support the expanded use of this measure in government or other programs, including those intended for accountability or public reporting. The ACC, AHA and PCPI do not have any policies that would restrict access to the performance measure specifications or results or that would impede implementation of the measure for any application. We would welcome its implementation in emerging applications such as accountable care organizations (ACO), Medicare Advantage insurance plans or health plans selling on the insurance marketplace.

4a1.3. If not currently publicly reported OR used in at least one other accountability application, provide a credible plan for implementation within the expected timeframes -- any accountability application within 3 years and publicly reported within 6 years of initial endorsement. (Credible plan includes the specific program, purpose, intended audience, and timeline for implementing the measure within the specified timeframes. A plan for accountability applications addresses mechanisms for data aggregation and reporting.)

As described above, it is our understanding that CMS is also planning to move towards publicly reporting physician data via Physician Compare. This measure is currently included in the downloadable database on the Physician Compare website and is not yet available on individual or group profiles. Also, although the measure is currently in use, we support expanded use of this measure in government or other programs, including those intended for accountability or public reporting.

4a2.1.1. Describe how performance results, data, and assistance with interpretation have been provided to those being measured or other users during development or implementation.

How many and which types of measured entities and/or others were included? If only a sample of measured entities were included, describe the full population and how the sample was selected.

The PCPI measure development and maintenance process is a rigorous, evidence-based process that has been refined and standardized since the PCPI's inception in 2000. Throughout its tenure, the PCPI has conducted its measure development and maintenance process with strict adherence to several key principles, including the following which underscore the role those being measured have played in the development and maintenance process and in providing feedback based on measure implementation:

Collaborative Approach to Measure Development

PCPI measures are developed and maintained through cross-specialty, multi-disciplinary technical expert panels. Representatives of relevant clinical specialties are invited to participate in our expert panels to advise us throughout the measure development process and as questions arise during measure implementation. Additionally, other health care providers and stakeholders participate in our panels as equal contributors to the measure development process. The PCPI also strives to include on its panels individuals representing the perspectives of patients, consumers, private health plans, and employers. Liaisons from key measure development organizations, including The Joint Commission and NCQA, at times participate in the PCPI's measure development process to ensure measure harmonization. Measure methodologists and coding and informatics experts are also considered important members of the expert panel. This broad-based approach to measure development maximizes the input from those being measured and other stakeholders to develop evidence-based, feasible and clinically meaningful measures.

Public Comment Period

Input from a wide range of stakeholders is integral to the measure development process. To invite other perspectives and expertise beyond the expert panels and particularly from those providers and facilities that will implement these measures, the PCPI submits the measures for public comment. All measures are released for a 30-day public and PCPI member comment period. All comments are reviewed by the technical expert panel to determine whether measure modifications are needed based on comments received.

Feedback Mechanisms

The PCPI has a dedicated mechanism set up to receive measure-related comments and questions from implementers. As comments and questions are received, they are shared with appropriate staff for follow up. If comments or questions require expert input, these are shared with the PCPI's technical expert panels to determine if measure modifications may be warranted. Additionally, for PCPI measures included in federal reporting programs, there is a system that has been set up to elicit timely feedback and responses

from PCPI staff in consultation with technical expert panel members, as appropriate.

Feasibility Assessments

The PCPI solicits feedback on measure feasibility in the following domains: data availability, data accuracy, data standards, and workflow to guide future modifications to the measure. During this process, we may receive recommendations to improve the experience of those implementing and reporting on this measure and we follow up on any questions or concerns received by those completing the feasibility assessment. Doing so addresses any issues with interpretation and serves as an important step in the measure development process.

4a2.1.2. Describe the process(es) involved, including when/how often results were provided, what data were provided, what educational/explanatory efforts were made, etc.

See description in Section 4a2.1.1 above

4a2.2.1. Summarize the feedback on measure performance and implementation from the measured entities and others described in 4d.1.

Describe how feedback was obtained.

As described in Section 4a2.1.1, the PCPI invites feedback through various mechanisms. We obtain input from our topic-specific technical expert panels during the measure development and during the annual maintenance process. Additionally, the PCPI obtains feedback via an online public comment and an email-based process set up to receive measure inquiries from implementers.

4a2.2.2. Summarize the feedback obtained from those being measured.

We have received no feedback from those being measured that resulted in any changes to this measure.

4a2.2.3. Summarize the feedback obtained from other users

Based on feedback received via the ONC Project Tracking System, we received a request to clarify the difference between the two populations in this measure as well as explanation of calculation of the single performance rate. Based on this feedback, a clarifying guidance statement was added to the specifications for the purposes of clarity and consistency. This statement was added in 2018 and was effective for 2019 reporting.

4a2.3. Describe how the feedback described in 4a2.2.1 has been considered when developing or revising the measure specifications or implementation, including whether the measure was modified and why or why not.

See summary in 4a.2.2.3.

Improvement

Progress toward achieving the goal of high-quality, efficient healthcare for individuals or populations is demonstrated. If not in use for performance improvement at the time of initial endorsement, then a credible rationale describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

4b1. Refer to data provided in 1b but do not repeat here. Discuss any progress on improvement (trends in performance results, number and percentage of people receiving high-quality healthcare; Geographic area and number and percentage of accountable entities and patients included.)

If no improvement was demonstrated, what are the reasons? If not in use for performance improvement at the time of initial endorsement, provide a credible rationale that describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

While the PCPI creates measures with an ultimate goal of improving the quality of care, measurement is a mechanism to drive improvement but does not equate with improvement. Measurement can help identify opportunities for improvement with actual improvement requiring making changes to health care processes and structure. In order to promote improvement, quality measurement systems need to provide feedback to front-line clinical staff in as close to real time as possible and at the point of care whenever possible. (1)

1. Conway PH, Mostashari F, Clancy C. The future of quality measurement for improvement and accountability. JAMA. 2013 Jun 5;309(21):2215-6.

4b2. Unintended Consequences

The benefits of the performance measure in facilitating progress toward achieving high-quality, efficient healthcare for

individuals or populations outweigh evidence of unintended negative consequences to individuals or populations (if such evidence exists).

4b2.1. Please explain any unexpected findings (positive or negative) during implementation of this measure including unintended impacts on patients.

The intent of this measure is to improve care of patients diagnosed with heart failure. CMS data report an improvement in performance rates in the last 6 years. However, performance rates represent but one facet of the quality improvement process.

While the PCPI creates measures with an ultimate goal of improving the quality of care, measurement is a mechanism to drive improvement but does not equate with improvement. Measurement can help identify opportunities for improvement with actual improvement requiring making changes to health care processes and/or structure. In order to promote improvement, quality measurement systems need to provide feedback to front-line clinical staff in as close to real time as possible and at the point of care whenever possible. (1)

1. Conway PH, Mostashari F, Clancy C. The future of quality measurement for improvement and accountability. JAMA. 2013 Jun 5;309(21):2215-6.

4b2.2. Please explain any unexpected benefits from implementation of this measure.

As the prescription of beta blocker therapy for patients with HF who have who have LVEF <40% is part of the pharmacotherapy piece of guideline directed medical therapy (along with prescription of ACE, ARB, or ARNI therapy), it could be anticipated that rates of prescribing these therapies as well as providing other guideline directed medical therapies would show improvement as well

5. Comparison to Related or Competing Measures

If a measure meets the above criteria and there are endorsed or new related measures (either the same measure focus or the same target population) or competing measures (both the same measure focus and the same target population), the measures are compared to address harmonization and/or selection of the best measure.

5. Relation to Other NQF-endorsed Measures

Are there related measures (conceptually, either same measure focus or target population) or competing measures (conceptually both the same measure focus and same target population)? If yes, list the NQF # and title of all related and/or competing measures.
Yes

5.1a. List of related or competing measures (selected from NQF-endorsed measures)

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

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

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

0117 : Beta Blockade at Discharge

0127 : Preoperative Beta Blockade

5.1b. If related or competing measures are not NQF endorsed please indicate measure title and steward.

5a. Harmonization of Related Measures

The measure specifications are harmonized with related measures;

OR

The differences in specifications are justified

5a.1. If this measure conceptually addresses EITHER the same measure focus OR the same target population as NQF-endorsed measure(s):

Are the measure specifications harmonized to the extent possible?

Yes

5a.2. If the measure specifications are not completely harmonized, identify the differences, rationale, and impact on interpretability and data collection burden.

Measure 0083 addresses a therapy which is also covered in part by the following NQF-endorsed measures: NQF 0071: Persistence of Beta-Blocker Treatment After a Heart Attack and NQF 0070 and 0070e: Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF <40%). 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.

5b. Competing Measures

The measure is superior to competing measures (e.g., is a more valid or efficient way to measure);

OR

Multiple measures are justified.

5b.1. If this measure conceptually addresses both the same measure focus and the same target population as NQF-endorsed measure(s):

Describe why this measure is superior to competing measures (e.g., a more valid or efficient way to measure quality); OR provide a rationale for the additive value of endorsing an additional measure. (Provide analyses when possible.)

Appendix

A.1 Supplemental materials may be provided in an appendix. All supplemental materials (such as data collection instrument or methodology reports) should be organized in one file with a table of contents or bookmarks. If material pertains to a specific submission form number, that should be indicated. Requested information should be provided in the submission form and required attachments. There is no guarantee that supplemental materials will be reviewed.

No appendix Attachment:

Contact Information

Co.1 Measure Steward (Intellectual Property Owner): PCPI Foundation

Co.2 Point of Contact: Samantha, Tierney, samantha.tierney@thepcpi.org, 312-224-6071-

Co.3 Measure Developer if different from Measure Steward: PCPI Foundation

Co.4 Point of Contact: Kerri, Fei, kerri.fei@thepcpi.org, 312-224-6070-

Additional Information

Ad.1 Workgroup/Expert Panel involved in measure development

Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.

PCPI measures are developed and maintained under the aegis of topic-specific technical expert panels (TEPs). The PCPI TEPs are comprised of clinicians and other healthcare professionals representing medical specialty societies and other stakeholders. The TEPs provide clinical expertise as well as advise on methodologic questions and review the measures annually to ensure accuracy and adherence to the most current evidence.

Cardiovascular Technical Expert Panel

Sarah J. Goodlin MD, FACC, FAAHPM (Co-Chair)

Ileana L. Piña MD, MPH (Co-Chair)

Donald E. Casey MD, MPH, MBA

Ted Ganiats MD

Kathleen L. Grady PhD, RN, FAAN

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Tony Hermann
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 Stephen D. Persell MD, MPH
 Paul D. Rockswold MD, MPH, FAAFP
 Nancy K. Sweitzer MD, PhD
 Carmen M. Terzic MD, PhD

Measure Developer/Steward Updates and Ongoing Maintenance

Ad.2 Year the measure was first released: 2003

Ad.3 Month and Year of most recent revision: 2019

Ad.4 What is your frequency for review/update of this measure? Supporting guidelines and specifications for this measure are reviewed on an annual basis.

Ad.5 When is the next scheduled review/update for this measure? 2020

Ad.6 Copyright statement: Copyright 2019 American College of Cardiology, American Heart Association and American Medical Association. All Rights Reserved.

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AMA and PCPI encourage use of the Measure by other health care professionals, where appropriate.

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Ad.8 Additional Information/Comments: Zip file containing feasibility results for 3b.3 will be sent via email as it cannot be uploaded.