



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 #: 0671

Corresponding Measures:

De.2. Measure Title: Cardiac stress imaging not meeting appropriate use criteria: Routine testing after percutaneous coronary intervention (PCI)

Co.1.1. Measure Steward: American College of Cardiology

De.3. Brief Description of Measure: 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.

1b.1. Developer Rationale: Appropriate use criteria define "when to do" and "how often to do" a given procedure in the context of scientific evidence, the health care environment, the patient's profile and a physician's judgment. While practice guidelines provide a foundation for summarizing evidence-based cardiovascular care or for providing expert consensus opinions, in many areas, marked variability remains in the use of cardiovascular procedures, raising questions about over-use and under-use. Appropriate use criteria provide practical tools to measure this variability and to look at utilization patterns. The criteria are designed to examine the use of diagnostic and therapeutic procedures to support efficient use of medical resources, while also providing patients with quality, appropriate care.

A measure that reports rates of inappropriate imaging within practices would contain information regarding both cost and quality, because an inappropriate test results in both higher costs and poorer-quality care. Conversely, a reduction in this rate would simultaneously improve quality and decrease cost. Improvements in this metric should lead to consistent application of AUC and improve the efficiency of the system.

S.4. Numerator Statement: Number of stress SPECT MPI, stress echo, CCTA and CMR performed in asymptomatic patients within 2 years of the most recent PCI

S.6. Denominator Statement: Number of stress SPECT MPI, stress echo, CCTA and CMR performed

S.8. Denominator Exclusions: None

De.1. Measure Type: Efficiency

S.17. Data Source: Other, Registry Data

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

IF Endorsement Maintenance – Original Endorsement Date: Apr 26, 2011 **Most Recent Endorsement Date:** Jun 29, 2015

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?

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_Sep2017_-_671.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.

Appropriate use criteria define “when to do” and “how often to do” a given procedure in the context of scientific evidence, the health care environment, the patient’s profile and a physician’s judgment. While practice guidelines provide a foundation for summarizing evidence-based cardiovascular care or for providing expert consensus opinions, in many areas, marked variability remains in the use of cardiovascular procedures, raising questions about over-use and under-use. Appropriate use criteria provide practical tools to measure this variability and to look at utilization patterns. The criteria are designed to examine the use of diagnostic and therapeutic procedures to support efficient use of medical resources, while also providing patients with quality, appropriate care.

A measure that reports rates of inappropriate imaging within practices would contain information regarding both cost and quality, because an inappropriate test results in both higher costs and poorer-quality care. Conversely, a reduction in this rate would simultaneously improve quality and decrease cost. Improvements in this metric should lead to consistent application of AUC and improve the efficiency of the system.

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.*

Hendel RC, Cerqueira M, Douglas PS. A multicenter assessment of the use of single-photon emission computed tomography myocardial perfusion imaging with appropriateness criteria. J Am Coll Cardiol. 2010 Jan 12;55(2):156-62.

These site specific performance scores were provided by a sub-analysis of the data collected for the above study.

Six sites participated in this pilot study; 3 urban, 2 suburban, and 1 rural location. Practices were located in Florida, Wisconsin, Oregon, and Arizona, and the number of cardiologists at each site ranged from 7 to 20 physicians. The number of SPECT MPI patients submitted from each site varied from 328 to 1,597 patients. A total of 6,351 subjects with complete data were entered into the pilot database.

All Sites - 3.4%

Site 1 - 2.5%

Site 2 - 4.8%

Site 3 - 2.8%

Site 4 - 0.9%

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.

Hendel RC, Cerqueira M, Douglas PS. A multicenter assessment of the use of single-photon emission computed tomography myocardial perfusion imaging with appropriateness criteria. J Am Coll Cardiol. 2010 Jan 12;55(2):156-62.

See above

Fonseca R, Negishi K, Otahal P, et al. Temporal Changes in Appropriateness of Cardiac Imaging. J Am Coll Cardiol. 2015 Mar 3;65(8):763-73.

Mehta R, Agarwal S, Chandra S, Ward RP, Williams KA: Evaluation of the American College of Cardiology Foundation/American Society of Nuclear Cardiology appropriateness criteria for SPECT myocardial perfusion imaging. J Nucl Cardiol. 2008;5:337–44. There were 1,623 patients (mean age 61 years ± 11, 61% males). Most common indications for SPECT were evaluation of ischemic equivalent for coronary artery disease (CAD), risk assessment post-revascularization, and preoperative evaluation for non-cardiac surgery. 10% of referrals were classified as inappropriate, 5% uncertain, and 3% unclassified. Appropriate referrals had a higher proportion of abnormal SPECT results than inappropriate referrals (40% vs 27%, OR 2.08, 95% CI 1.56-2.77, P < .001).

Ward RP, Al-Mallah MH, Grossman GB, Hansen CL, Hendel RC, Kerwin TC, McCallister BD Jr., Mehta R, Dm Polk, Tilkemeier PL, Vashist A, Williams KA, Wolinsky DG, Ficaro EP: American Society of Nuclear Cardiology: American Society of Nuclear Cardiology review of the ACCF/ASNC appropriateness criteria for single-photon emission computed tomography myocardial perfusion imaging (SPECT MPI). J Nucl Cardiol. 2007;14:e26–38.

Gibbons RJ, Miller TD, Hodge D, Urban L, Araoz PA, Pellikka P, McCully RB: Application of appropriateness criteria to stress single photon emission computed tomography sestamibi studies and stress echocardiograms in an academic medical center. J Am Coll Cardiol. 2008;51:1283–9.

The purpose of this study was to apply published appropriateness criteria for single-photon emission computed tomography (SPECT) myocardial perfusion imaging (MPI) in a single academic medical center.

The study retrospectively examined 284 patients who underwent stress SPECT MPI and 298 patients who underwent stress echocardiography before publication of the criteria.

5% of imaging was performed in asymptomatic patients within two years of prior PCI.

Carrier DJ, Hodge DO, Miller TD, Askew JW, Gibbons RJ. Application of appropriateness criteria to stress single photon emission computed tomography sestamibi studies: a comparison of the 2009 revised appropriateness criteria to the 2005 original criteria. Am Heart J. 2010 Aug;160(2):244-9..

An equal percentage of inappropriate studies (10.3%) were due to pre-op evaluation for low to intermediate risk non-cardiac surgery (indications 40, 41, and 42) and asymptomatic patients, less than 2 years after PCI (indication no. 59).

Bagai A, Eberg M, Koh M, Cheema AN, Yan AT, Dhoot A, Bhavnani SP, Wijeyesundera HC, Bhatia RS, Kaul P, Goodman SG, Ko DT. Population-Based Study on Patterns of Cardiac Stress Testing After Percutaneous Coronary Intervention. Circ Cardiovasc Qual Outcomes. 2017 Oct;10(10).

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.

None

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

Mudrick DW, Shah BR, McCoy LA, et al. Patterns of stress testing and diagnostic catheterization after coronary stenting in 250 350 medicare beneficiaries. *Circ Cardiovasc Imaging*. 2013 Jan 1;6(1):11-9.

Several clinical risk factors at time of index PCI were associated with decreased likelihood of downstream testing (ST or CA, $P < 0.05$ for all), including older age (hazard ratio [HR] 0.784 per 10-year increase), male sex (HR 0.946), heart failure (HR 0.925), diabetes mellitus (HR 0.954), smoking, (HR 0.804), and renal failure (HR 0.880).

Peterson T, Askew JW, Bell M, et al. Low yield of stress imaging in a population-based study of asymptomatic patients after percutaneous coronary intervention. *Circ Cardiovasc Imaging*. 2014 May;7(3):438-45.

Compared with patients who were asymptomatic at the time of stress imaging, patients who did not undergo any followup procedures (stress imaging, angiography, or coronary artery bypass grafting) after the index PCI were older, were more likely to have comorbidities

Luca SR, Koh M, Qiu F, Alter DA, Bagai A, Bhatia RS, Czarnecki A, Goodman SG, Lau C, Wijeyesundera HC, Ko DT. Stress testing after percutaneous coronary interventions: a population-based study. *CMAJ Open*. 2017 May 26;5(2):E417-E423

The authors found that stress tests were not performed in accordance with patients' higher baseline risk of adverse outcomes or risk of restenosis. Instead, many nonclinical factors, such as patients' socioeconomic status and hospitals' teaching status, were associated with higher use of stress tests.

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 : Coronary Artery Disease (PCI)

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

Safety : Overuse

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

Elderly, Populations at Risk

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.)

No current webpage; only NQF specifications page

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 not an eMeasure Attachment:

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:** [Imaging-Efficiency-Measures-Micro-specifications_Measure_Maintenance-635231485653419342.doc](#)

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.

No

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.

No changes have been made since endorsement.

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).

Number of stress SPECT MPI, stress echo, CCTA and CMR performed in asymptomatic patients within 2 years of the most recent PCI

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).

For all orders post PCI, determine all orders that were in asymptomatic patients:

Among asymptomatic patients, subtract date of most recent PCI from date of test requisition and categorize into orders less than two years since most recent PCI and orders placed greater than or equal to two years since most recent PCI

Patients qualify for this measure if:

- Asymptomatic AND
- Less than two years since most recent PCI

NOTE: Data collection from patient requisition is required to adequately determine patient's symptom status. Determination with only administrative data is not possible for these measures.

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

Number of stress SPECT MPI, stress echo, CCTA and CMR performed

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).

All consecutive stress SPECT MPI, stress echocardiography, CCTA and CMR orders

Measurement Entity: Imaging laboratory prospectively measured on test requisition forms and/or patient charts

Level of Measurement/Analysis: Imaging laboratory*

*Attribution for inappropriate use is shared between the ordering physician and imaging laboratory. In an ideal world, attribution to the ordering physician or institution, as well as the imaging laboratory, would be reflected in the reporting of these measures. However, there are numerous complexities that prevent assignment of these measures to individual ordering physicians. For example, ordering volumes from individual physicians and institutions are insufficient to make meaningful comparisons to allow such attribution. Thus, these measures will be reported at the level of the imaging laboratory. However, the extent to which the institution housing the imaging laboratory can impact these measures will be dependent upon cooperation of ordering physicians with the imaging laboratory.

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

None

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.)

None

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.)

None

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 = Lower 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.)

Locate all stress SPECT MPI, stress echocardiography, CCTA and CMR orders performed during the sampling period.

Record the total number of tests during the sampling period as the denominator.

From this sets of test orders, identify orders containing the criteria listed in the numerator

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.

Measures are to be developed based on a sample of a full calendar year based on the following sampling methodology:

Select a starting month:

- ☐ January
- ☐ March
- ☐ May
- ☐ July
- ☐ September
- ☐ November

Begin 60 day data collection period on the 1st on the month for the selected starting month

Determine whether at least 30 stress SPECT, stress echo, CCTA and CMR orders have been placed during the selected time period. If not, select another time period with a minimum number of 30 cases. If no time period includes the minimum number of cases, then the imaging laboratory does not have sufficient volume to report this measure.

Sampling is required for this measure as full year data collection does not alter performance rates for this measure and would place an additional data collection burden on laboratories. It also allows laboratories to share performance with ordering physicians more quickly than would be possible under full year calendar reporting.

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.

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

If other, please describe in S.18.

Other, Registry Data

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.

Optimization of Patient Selection for Cardiac Imaging

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)

Available in attached appendix at A.1

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

Clinician : Group/Practice, Facility

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

Outpatient Services

If other:

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.)

2. Validity – See attached Measure Testing Submission Form

[nqf_testing_attachment_7.1_671_July_2018_updated.docx](#)

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.

No

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.

No

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 by and used by healthcare personnel during the provision of care, e.g., blood pressure, lab value, medical condition, Coded by someone other than person obtaining original information (e.g., DRG, ICD-9 codes on claims), Other
If other: An EHR or Web portal prompts for clinical information in a decision support tool for individual cases that then are transmitted to a measurement registry

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.

Some data elements are in defined fields in electronic sources

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).

Some data elements should already be a part of the electronic record (PCI history, scheduled surgery). In addition, e-ordering for diagnostic testing has been proposed for meaningful use, encouraging integration of these types of data elements. In addition, ACC has developed clinical decision support tools that can be embedded in electronic health records to capture the necessary information.

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.

Hendel, RC; Cerqueira, M; Douglas, PS et al. "A Multicenter Assessment of the Use of Single-Photon Emission Computed Tomography Myocardial Perfusion Imaging With Appropriateness Criteria". J Am Coll Cardiol. Published online December 10, 2009.

This study demonstrated the feasibility of data collection as well as the most frequent inappropriate indications. This allowed ACC to narrow the number of indications measured for this measure set along with the associated data elements.

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).

None required. Decision support tools are available to aid in data collection and are available on a per test basis.

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 PQRS http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/index.html Payment Program QPP https://qpp.cms.gov/mips/ QPP https://qpp.cms.gov/mips/ Regulatory and Accreditation Programs IAC http://www.intersocietal.org/intersocietal.htm Professional Certification or Recognition Program FOCUS www.cardiosource.org/focus Quality Improvement (Internal to the specific organization)

	FOCUS https://www.acc.org/focus
4a1.1 For each CURRENT use, checked above (update for <u>maintenance of endorsement</u>), provide: • Name of program and sponsor • Purpose • Geographic area and number and percentage of accountable entities and patients included • Level of measurement and setting QPP/MIPS - CMS/pay for performance/national. The data collected at the lab level for this measure can be further segmented by physician to help them understand their appropriate use patterns; although small sample sizes can limit comparability for some providers. FOCUS - ACC/lab accreditation, quality improvement and utilization management/national - 25,000 cases with concentrations in DE (100% for SPECT MPI) and Western PA (10% for SPECT MPI and stress echo for cardiologists) - additional 6,000 cases IAC - lab accreditation/national - 100% - 5% of lab tests performed on an annual basis 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?) n/a 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.) n/a 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. through CMS 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. through CMS 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. through CMS 4a2.2.2. Summarize the feedback obtained from those being measured. n/a 4a2.2.3. Summarize the feedback obtained from other users n/a 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. n/a	
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.

Luca SR, Koh M, Qiu F, Alter DA, Bagai A, Bhatia RS, Czarnecki A, Goodman SG, Lau C, Wijeyesundera HC, Ko DT. Stress testing after percutaneous coronary interventions: a population-based study. CMAJ Open. 2017 May 26;5(2):E417-E423

The authors observed a decrease in the use of stress testing after PCI procedures over time. Same study cited in "disparities".

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.

None have been identified at this time.

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

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.

No

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

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?

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

interpretability and data collection burden.
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. Attachment: FOCUS_Data_Collection_Sheet.docx
Contact Information
Co.1 Measure Steward (Intellectual Property Owner): American College of Cardiology Co.2 Point of Contact: Amy, Dearborn, adearborn@acc.org, 202-375-6576- Co.3 Measure Developer if different from Measure Steward: American College of Cardiology Foundation Co.4 Point of Contact: Joseph, Allen, jallen@acc.org, 202-375-6463-
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. All individuals are volunteer members representing American College of Cardiology Foundation: Pamela Douglas, MD, MACC Joseph Allen, MA Robert Hendel, MD, FACC Joseph Cacchione, MD, FACC Manuel Cerqueira, MD, FACC Joseph Drozda, MD, FACC Michael Picard, MD, FACC Martha Radford, MD, FACC Leslee Shaw, PhD, FACC Allen Taylor, MD, FACC Group developed list of proposed measures, specifications, definitions, justification, etc.
Measure Developer/Steward Updates and Ongoing Maintenance Ad.2 Year the measure was first released: 2009 Ad.3 Month and Year of most recent revision: 11, 2019 Ad.4 What is your frequency for review/update of this measure? Annual Ad.5 When is the next scheduled review/update for this measure? 12, 2020
Ad.6 Copyright statement: Copyright 2009. American College of Cardiology Foundation

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Ad.7 Disclaimers:
Ad.8 Additional Information/Comments: dates above refer to maintenance of endorsement