

**Quality ID #324: Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Testing in Asymptomatic, Low-Risk Patients – National Quality Strategy Domain: Efficiency and Cost Reduction**

**2018 OPTIONS FOR INDIVIDUAL MEASURES:**  
**REGISTRY ONLY**

**MEASURE TYPE:**  
Efficiency

**DESCRIPTION:**

Percentage of all stress single-photon emission computed tomography (SPECT) myocardial perfusion imaging (MPI), stress echocardiogram (ECHO), cardiac computed tomography angiography (CCTA), and cardiovascular magnetic resonance (CMR) performed in asymptomatic, low coronary heart disease (CHD) risk patients 18 years and older for initial detection and risk assessment

**INSTRUCTIONS:**

This measure is to be submitted **once per procedure** of cardiac stress imaging (i.e., SPECT, MPI, ECHO, CCTA, and CMR) for patients seen during the performance period. There is no diagnosis associated with this measure. It is anticipated that eligible clinicians who provide the professional component of diagnostic imaging studies for cardiac stress will submit this measure.

**Measure Submission:**

The listed denominator criteria is used to identify the intended patient population. The numerator options included in this specification are used to submit the quality actions allowed by the measure. The quality-data codes listed do not need to be submitted for registry-based submissions; however, these codes may be submitted for those registries that utilize claims data.

**DENOMINATOR:**

All instances of stress single-photon emission computed tomography (SPECT) myocardial perfusion imaging (MPI), stress echocardiogram (ECHO), cardiac computed tomography angiography (CCTA), or cardiac magnetic resonance (CMR) performed on patients aged 18 years and older during the performance period

**Denominator Criteria (Eligible Cases):**

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

**AND**

**Cardiac Stress Imaging Performed – Procedure Codes (CPT):** 75559, 75563, 75571, 75572, 75573, 75574, 78451, 78452, 78453, 78454, 78491, 78492, 78494, 93350, 93351

**NUMERATOR:**

Number of stress SPECT MPI, stress echo, CCTA, or CMR primarily performed for asymptomatic, low CHD risk patients for initial detection and risk assessment

**Definition:**

**Low CHD risk** – clinicians should consider the maximum number of available patient factors used to estimate risk based on Framingham (ATP III criteria), typically age, gender, diabetes, smoking status, and use of blood pressure medication, and integrate age appropriate estimates for missing elements, such as LDL or standard blood pressure.

**NUMERATOR INSTRUCTIONS:**

**INVERSE MEASURE** - A lower calculated performance rate for this measure indicates better clinical care or control. The "Performance Not Met" numerator option for this measure is the representation of the better

clinical quality or control. Submitting that numerator option will produce a performance rate that trends closer to 0%, as quality increases. For inverse measures, a rate of 100% means all of the denominator eligible patients did not receive the appropriate care or were not in proper control.

**NUMERATOR NOTE:** A lower calculated performance rate for this measure indicates better clinical care or control. This measure is assessing overuse of cardiac stress imaging in low-risk CHD patients. Clinical quality outcome is cardiac stress imaging NOT performed on patient who is asymptomatic or low CHD risk.

**Numerator Options:**

**Performance Met:**

Cardiac Stress Imaging Test primarily performed on low CHD risk patient for initial detection and risk assessment (**G8965**)

**OR**

**Performance Not Met:**

Cardiac Stress Imaging Test performed on symptomatic or higher than low CHD risk patient or for any reason other than initial detection and risk assessment (**G8966**)

**RATIONALE:**

Diagnostic testing, such as stress SPECT MPI, stress echocardiography, CCTA, and CMR, is used to detect disease and provide risk assessment used to modify treatment strategies and approaches. Information provided by such testing can initiate, modify and stop further treatments for coronary heart disease (medications and revascularization) which have an impact on patient outcomes. In addition, false positives and false negatives can adversely impact the patient and their treatment outcomes. Lastly, radiation from stress SPECT MPI poses a minimal but still important consideration for patient safety. Ensuring proper patient selection can avoid using resources in patients not expected to benefit from the testing and for which the associated risks would be unnecessary.

**CLINICAL RECOMMENDATION STATEMENTS:**

2002 Stable Angina Guideline

"Asymptomatic patients with abnormal findings on ambulatory ECG or EBCT who are able to exercise can be evaluated with exercise ECG testing, although the efficacy of exercise ECG testing in asymptomatic patients is not well established. Stress imaging procedures (i.e., either stress myocardial perfusion imaging or stress echocardiography) are generally not indicated in most such patients".

AUC Indications

2013 ACCF/AHA/ASE/ASNC/HFSA/HRS/SCAI/SCCT/SCMR/STS multimodality appropriate use criteria for the detection and risk assessment of stable ischemic heart disease (J Am Coll Cardiol. 2014 Feb 4;63(4):380-406)

Indication 7: Asymptomatic (Without Symptoms or Ischemic Equivalent): Low global CHD risk: Regardless of ECG interpretability and ability to exercise – Rarely Appropriate

2008 Appropriateness Criteria for Stress Echocardiography Indication 11: Detection of CAD and Risk Assessment: Asymptomatic (without Chest Pain Syndrome or Anginal Equivalent): Low CHD risk (Framingham risk criteria) - Inappropriate (1)

2009 Appropriate Use Criteria for Cardiac Radionuclide Imaging Indication 12: Detection of CAD/Risk Assessment Without Ischemic Equivalent: Asymptomatic: Low CHD risk (ATP III risk criteria) - Inappropriate (1)

2006 Appropriateness Criteria for CCT and CMR Indication 10 - Detection of CAD: Asymptomatic (Use of CCTA) (Without Chest Pain Syndrome): Asymptomatic: Low CHD risk (Framingham risk criteria) - Inappropriate (1)

## 2002 Chronic Stable Angina Guideline Class III

### Recommendations for Cardiac Stress Imaging as the Initial Test for Diagnosis in Asymptomatic Patients

1. Exercise or dobutamine echocardiography in asymptomatic patients with left bundle-branch block. (Level of Evidence: C)
2. Exercise myocardial perfusion imaging, exercise echocardiography, adenosine or dipyridamole myocardial perfusion imaging, or dobutamine echocardiography as the initial stress test in an asymptomatic patient with a normal rest ECG who is not taking digoxin. (Level of Evidence: C)
3. Adenosine or dipyridamole myocardial perfusion imaging or dobutamine echocardiography in asymptomatic patients who are able to exercise and do not have left bundle-branch block or electronically paced ventricular rhythm. (Level of Evidence: C)

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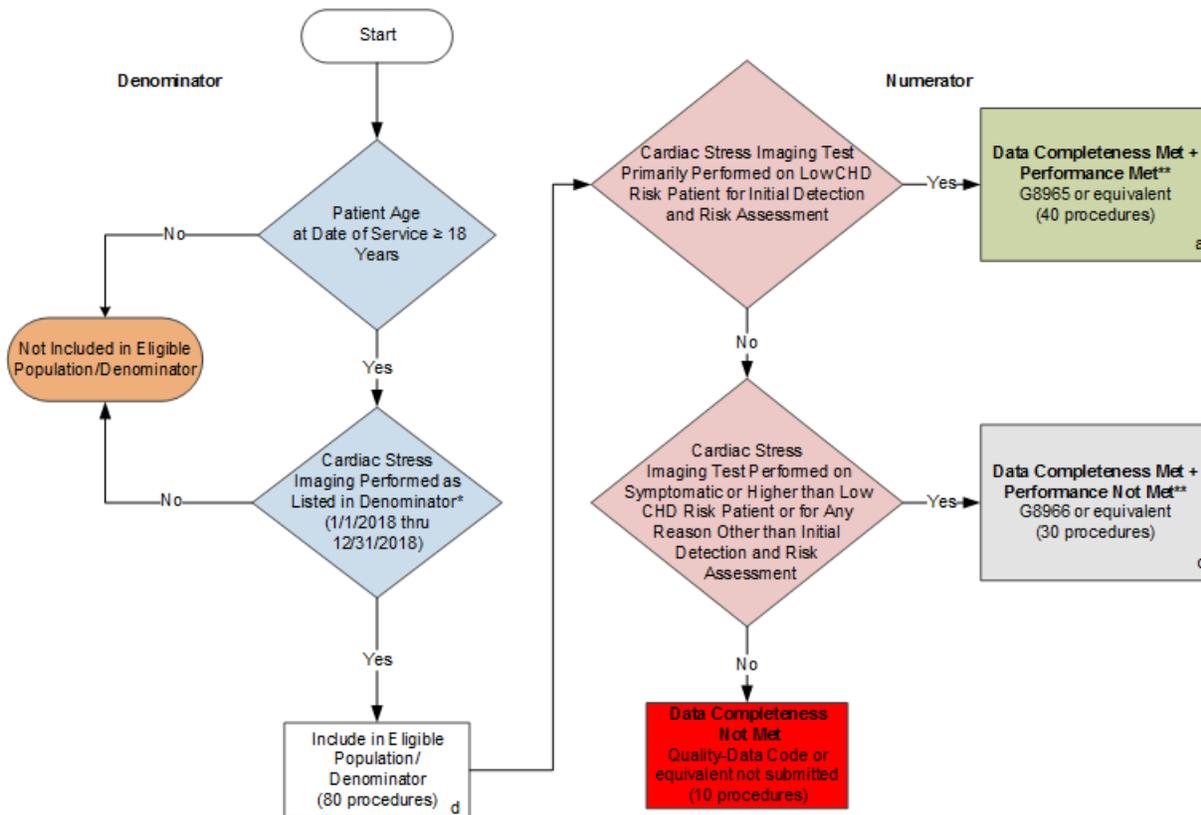
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**2018 Registry Individual Measure Flow**  
**#324: Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Testing in Asymptomatic, Low-Risk Patients**



**SAMPLE CALCULATIONS:**

**Data Completeness=**  

$$\frac{\text{Performance Met (a=40 procedures)} + \text{Performance Not Met (c=30 procedures)}}{\text{Eligible Population / Denominator (d=80 procedures)}} = \frac{70 \text{ procedures}}{80 \text{ procedures}} = 87.50\%$$

**Performance Rate\*\*=**  

$$\frac{\text{Performance Met (a=40 procedures)}}{\text{Data Completeness Numerator (70 procedures)}} = \frac{40 \text{ procedures}}{70 \text{ procedures}} = 57.14\%$$

\* See the posted Measure Specification for specific coding and instructions to submit this measure.

\*\*A lower calculate performance rate for this measure indicates better clinical control or care.

NOTE: Submission Frequency: Procedure

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## 2018 Measure Flow for Quality ID

### #324: Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Testing in Asymptomatic, Low-Risk Patients

Please refer to the specific section of the Measure Specification to identify the denominator and numerator information for use in submitting this Individual Specification. This flow is for registry-data submission.

1. Start with Denominator
2. Check Patient Age:
  - a. If the Age is greater than or equal to 18 years of age at Date of Service and equals No during the measurement period, do not include in Eligible Patient Population. Stop Processing.
  - b. If the Age is greater than or equal to 18 years of age at Date of Service and equals Yes during the measurement period, proceed to check Cardiac Stress Imaging Performed.
3. Check Cardiac Stress Imaging Performed:
  - a. If Cardiac Stress Imaging Performed as Listed in the Denominator equals No, do not include in Eligible Patient Population. Stop Processing.
  - b. If Cardiac Stress Imaging Performed as Listed in the Denominator equals Yes, include in the Eligible Population.
4. Denominator Population:
  - a. Denominator population is all Eligible Patients in the Denominator. Denominator is represented as Denominator in the Sample Calculation listed at the end of this document. Letter d equals 80 procedures in the Sample Calculation.
5. Start Numerator
6. Check Cardiac Stress Imaging Test Primarily Performed on Low CHD Risk Patient for Initial Detection and Risk Assessment:
  - a. If Cardiac Stress Imaging Test Primarily Performed on Low CHD Risk Patient for Initial Detection and Risk Assessment equals Yes, include in Data Completeness Met and Performance Met.
  - b. Data Completeness Met and Performance Met letter is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter a equals 40 procedures in the Sample Calculation.
  - c. If Cardiac Stress Imaging Test Primarily Performed on Low CHD Risk Patient for Initial Detection and Risk Assessment equals No, proceed to Cardiac Stress Imaging Test Performed on Symptomatic or Higher than Low CHD Risk Patient or for Any Reason Other than Initial Detection and Risk Assessment.
7. Check Cardiac Stress Imaging Test Performed on Symptomatic or Higher than Low CHD Risk Patient or for Any Reason Other than Initial Detection and Risk Assessment:
  - a. If Cardiac Stress Imaging Test Performed on Symptomatic or Higher than Low CHD Risk Patient or for Any Reason Other than Initial Detection and Risk Assessment equals Yes, include in Data Completeness Met and Performance Not Met.

- b. Data Completeness Met and Performance Not Met is represented in the Data Completeness in the Sample Calculation listed at the end of this document. Letter c equals 30 procedures in the Sample Calculation.
  - c. If Cardiac Stress Imaging Test Performed on Symptomatic or Higher than Low CHD Risk Patient or for Any Reason Other than Initial Detection and Risk Assessment equals No, proceed to Data Completeness Not Met.
8. Check Data Completeness Not Met:
- a. If Data Completeness Not Met equals No, the Quality Data Code or equivalent was not submitted. 10 procedures have been subtracted from the Data Completeness Numerator in the Sample Calculation.

**SAMPLE CALCULATIONS:**

**Data Completeness=**

$$\frac{\text{Performance Met (a=40 procedures) + Performance Not Met (c=30 procedures)}}{\text{Eligible Population / Denominator (d=80 procedures)}} = \frac{70 \text{ procedures}}{80 \text{ procedures}} = 87.50\%$$

**Performance Rate\*\*=**

$$\frac{\text{Performance Met (a=40 procedures)}}{\text{Data Completeness Numerator (70 procedures)}} = \frac{40 \text{ procedures}}{70 \text{ procedures}} = 57.14\%$$