ACRad 36 Specifications
Metrics Committee Input on Proposed Updates for 2026 QCDR Self-nomination
July 17, 2025

**Measure Title**: Comprehensive Reporting of Coronary Artery Calcification (CAC) on Chest CT

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| **Measure Purpose** | Opportunistic reporting of CAC (when present), including severity and recommended follow-up care, ensures earlier identification of patients with higher risk for cardiovascular complications and promotes preventive and/or timely patient care. |
| **Measure Description** | Percentage of final reports for any chest CT examinations (non-cardiac and cardiac, with or without contrast) performed on patients, aged 18 and older, that<br>**1.** Document the presence or absence of coronary artery calcification (CAC), **AND** if present,<br>2. Include a qualitative (visual) severity assessment of CAC and a recommendation that the patient receive a consultation with their primary care clinician and/or comprehensive cardiovascular risk assessment. |
| **Rationale** | **Background**<br>Coronary artery calcification (CAC) is a well-validated marker of subclinical atherosclerosis and a strong, independent predictor of future cardiovascular events, including myocardial infarction and stroke.[6] CAC can be incidentally found on non-cardiac chest CTs, performed for indications such as lung cancer screening, pulmonary evaluation, or trauma. These are valuable, underutilized opportunities to identify patients at a higher risk for cardiovascular complications. The incidental detection of CAC serves as a gateway to preventive care in populations that may not otherwise undergo formal cardiovascular risk assessment. In fact, The Society of Cardiovascular Computed Tomography (SCCT) and the Society of Thoracic Radiology (STR) recommendation states 'Coronary Artery Calcium (CAC) should be evaluated and reported on all non-contrast chest CT examinations (Class I Recommendation).[1] These recommendations are further reinforced by major global CAC guidelines, which emphasize the prognostic value of CAC and support its routine assessment in both dedicated and incidental imaging contexts.[2]<br><br>Radiologic tests often contain rich imaging data not relevant to the clinical indication. *Opportunistic screening* refers to the practice of systematically leveraging these incidental imaging findings. Although opportunistic screening can apply to imaging modalities such as conventional radiography, US, and MRI, most attention to date has focused on body CT.[8] Incidental coronary artery calcification (CAC) identified on routine chest CT scans is a strong, independent predictor of future cardiovascular events. Study findings support the inclusion of CAC documentation and severity assessment in chest CT reports, along with recommendations for follow-up care, to improve early detection and management of cardiovascular risk in patients undergoing imaging for non-cardiac reasons.[9] The emergence of “explainable” AI algorithms that fully automate these measurements could eventually lead to their routine clinical use.[8] Visual calcium score assessment |

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| | using the Agatston method (Agatston 1990) is still considered standard of care today.[11] When Agatston scoring is not feasible, visual estimation of CAC severity—categorized as mild, moderate, or severe—can be used as a surrogate. These visual categories have been shown to correlate with Agatston score ranges, as outlined in expert consensus documents.[3,4]<br><br>**Care Gap**<br>Despite the high prevalence of CAC, its opportunistic documentation in chest CT reports is inconsistent and non-standardized.[1,12] Studies show that CAC is either omitted entirely or described without actionable interpretation in a significant proportion of radiology reports. Such variability contributes to a systemic care gap: patients with early signs of coronary disease are not being flagged for follow-up, and primary care clinicians may be unaware of a critical risk marker. Without structured reporting and recommendations, the clinical significance of CAC is often lost, and opportunities for early intervention are missed.[1,12]<br><br>**Clinical Justification**<br>Heart disease is the leading cause of death for men, women, and people of most racial and ethnic group in the United States. One person dies every 34 seconds from cardiovascular disease. In 2023, 919,032 people died from cardiovascular disease. That's the equivalent of one in every three deaths.[13] The American College of Cardiology and American Heart Association endorse CAC as a valuable tool for refining cardiovascular risk assessment.[1,6] The 2018 Cholesterol Guideline recommends CAC scoring to guide statin use in intermediate-risk patients, while the 2019 Primary Prevention Guideline highlights its role in shared decision-making.<br><br>**Financial Impact**<br>Cardiovascular disease remains the leading cause of death and a major driver of healthcare costs in the United States. Heart disease cost about $417.9 billion from 2020 to 2021. This includes the cost of health care services, medicines, and lost productivity due to death.[14]<br><br>Hospitalizations, procedures, and long-term management of advanced disease are significantly more expensive than preventive care. Early identification of CAC enables timely initiation of cost-effective interventions, which have been shown to reduce the incidence of major adverse cardiovascular events (MACE), thereby lowering downstream costs.[1] Further, measuring this action supports the shift toward value-based care by incentivizing radiologists and health systems to contribute meaningfully to prevention and population health management. |
| **Denominator:** | All final reports for patients aged 18 years or older, undergoing non-cardiac chest CT with or without contrast<br><br>**<u>Denominator Criteria (Eligible Cases)</u>:**<br><br>All patients, aged 18 or older |

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| | **AND**<br><br>Patient procedure during the performance period (CPT): 71250, 71270, 71271 |
| **Denominator Exclusions** | Patients who have received prior coronary artery bypass grafts or prior percutaneous coronary intervention with stent; patients with known CAD; trauma or intraoperative CTs |
| **Denominator Exceptions** | Instances when anatomical variability, patient positioning, or motion artifact prevent CAC detection and/or visual assessment. |
| **Numerator** | Final reports that note:<br><br>1. Document the presence or absence of coronary artery calcification (CAC), **AND** if present,<br>2. Include a qualitative visual assessment of CAC and recommendation that the patient receives a consultation with their primary care clinician and/or comprehensive cardiovascular risk assessment.<br><br>**Numerator Instructions**: A short note may be made in the report, such as: "Given the presence of mild CAC, it is recommended that the patient consult with their primary care clinician for a comprehensive cardiovascular risk assessment and consideration of preventive management strategies."<br><br>Additional guidance may be found below.<br><br>**Numerator Codes:**<br><br>***Performance Met:***<br><br>**36XPM:** Final reports of CT chest for patients aged 18 or older that include documentation of element one AND two of the numerator.<br><br>**OR**<br><br>***Performance Not Met:***<br><br>**36XNM:** Final reports of CT chest for patients aged 18 or older that exclude documentation of element one and two. |
| **Guidance** | The Coronary Artery Calcium Data and Reporting System (CAC-DRS), created by the Society of Cardiovascular Computed Tomography (SCCT), is endorsed by the Society of Thoracic Radiology (STR). This system correlates Agatston scoring with visual severity scoring and supports the following radiologist recommendations. |

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| | <table><tr><th>Agatston Scoring Ranges</th><th>Visual Severity Assessment</th><th>Radiologist Follow-up Recommendations for Patients and Clinicians</th></tr><tr><td>1–99</td><td>Mild</td><td>Consultation with PCP for cardiovascular risk assessment.</td></tr><tr><td>100–299</td><td>Moderate</td><td>Consultation with PCP for a formal CAC risk assessment or cardiology referral.</td></tr><tr><td>> 300</td><td>Severe</td><td>Consultation with PCP and for comprehensive CAD assessment, including cardiology referral and/or stress testing.</td></tr></table><br>If Agatston scoring cannot be performed, the indication of presence or absence of coronary artery calcifications and/or description of the number of calcified coronary arteries can be used instead. All three methods of reporting have been shown to be equally useful.[5] If there are no coronary artery calcifications, the final report should include a statement to this effect. For example, the Findings section may have a statement of "No evidence of coronary artery calcifications."<br><br>When coronary artery calcifications are present, the Impression should indicate this, along with a visual assessment score (when feasible) and a clinical recommendation. For example, the Impression may include a statement of "There is evidence of mild coronary artery calcifications. The overall cardiovascular risk for this patient is unknown. A clinical consultation may be helpful for further risk assessment and management. |
| **Supporting Guidelines & Other References** | **The following evidence statements are quoted verbatim from the referenced clinical guidelines.**<br><br>Hecht HS, Cronin P, Blaha MJ, et al. 2016 SCCT/STR guidelines for coronary artery calcium scoring of noncontrast noncardiac chest CT scans: A report of the Society of Cardiovascular Computed Tomography and Society of Thoracic Radiology. J Cardiovasc Comput Tomogr. 2017 Jan - Feb;11(1):74-84. doi: 10.1016/j.jcct.2016.11.003. Epub 2016 Nov 10.<br><br>"Coronary Artery Calcium (CAC) should be evaluated and reported on all non-contrast chest CT examinations (Class I Recommendation)"<br><br>**The following references are cited in the rationale statement.**<br><br>1. Arnett, D. K., Blumenthal, R. S., Albert, M. A., Buroker, A. B., Goldberger, Z. D., Hahn, E. J., Himmelfarb, C. D., Khera, A., Lloyd-Jones, D., McEvoy, J. W., Michos, E. D., Miedema, M. D., Muñoz, D., Smith, S. C. Jr., Virani, S. S., Williams, K. A. Sr., Yeboah, J., & Ziaeian, B. (2019). 2019 ACC/AHA guideline on the primary |

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"Assessment of ASCVD risk is the foundation of primary prevention. In adults 20 to 39 years of age, it is reasonable to assess traditional risk factors (e.g., smoking, hypertension, family history of premature ASCVD, dyslipidemia) at least every 4 to 6 years. For adults 20 to 39 years of age and those 40 to 59 years of age not at high short-term risk, estimating lifetime or 30-year ASCVD risk may be considered to guide the intensity of risk-reduction efforts. The presence of risk-enhancing factors (e.g., family history, inflammatory disease, metabolic syndrome) may justify more aggressive therapy."

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