

Reporting Coronary Artery Calcification on Non-Contrast Chest CTs: A Quality Improvement Initiative

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Introduction:

Coronary artery calcification (CAC), a modifying risk factor in the ACC/AHA preventative care guidelines, can be visually estimated on chest CTs but is under-reported by radiologists. CAC reporting for chest CTs is recommended by multinational societies and is considered a radiology quality metric. We aimed to sustainably increase CAC reporting within a residency training environment.

Methods:

A structured reporting template for CAC, with qualitative assessment of severity (i.e. none/mild/moderate/severe) or history of prior coronary intervention, was included in all non-contrast, non-cardiac chest CT reports at a large academic medical center. Residents and faculty were trained to visually estimate CAC. In collaboration with cardiology faculty, we developed a clinical guidance statement to help providers and patients consider next steps when CAC was reported. After six months, we surveyed the top 50 chest CT ordering providers to assess perceptions of the intervention.

Results:

Baseline CAC reporting was 2008/6026 (33%) during the year prior to intervention (7/1/2017-6/30/2018). CAC reporting increased to 4825/5075 (95.1%) during the study period (7/1/2018-4/30/2019), with the addition of a clinical guidance statement. Twenty-four providers (48%) responded to the survey, including 12 pulmonologists and 6 oncologists. 17/24 (71%) were neutral or opposed to the guidance statement; 17/24 were neutral or uncomfortable addressing CAD preventative measures. The guidance statement was modified to direct patients toward primary care providers to consider CAD preventative measures.

Conclusions:

Structured reporting and education can improve CAC reporting compliance in an academic practice setting. Involving referring clinicians is essential to ensure that the intervention does not have a perceived negative impact on clinical care.

Highlights:

CAC is an important marker of CAD risk. Structured reporting can sustainably increase CAC reporting on chest CTs, and may help guide approaches to cardiovascular preventative care. However, a multidisciplinary effort is critical to garner buy-in from referring clinicians and ultimately improve clinical care.