Washington State Health Care Authority, HTA Program
Calcium Scoring for Cardiac Disease
Final Key Questions and Background

Introduction

HTA has selected Calcium scoring for cardiac disease to undergo a health technology assessment where an independent vendor will systematically review the evidence available on the safety, efficacy, and cost-effectiveness. HTA posted the topic and gathered public input about available evidence. Key questions guide the development of the draft evidence report.

Final Key Questions

Cardiac calcium scoring uses a CT to check for the buildup of calcium in plaque on the coronary arteries.

When used to diagnose persons with suspected coronary artery disease (CAD):

1. What are the test characteristics, PPV (positive predictive value), NPV (negative predictive value), sensitivity and specificity, or coronary artery calcium scoring (CACS) compared with the reference standard of coronary angiography for the diagnosis of CAD or other established diagnostic tests for CAD. What is the evidence to describe the reliability (i.e., test-retest, intra-reader, inter-reader performance) of CACS compared with the evidence about the reference standard or other diagnostic tests for CAD?
2. What is the safety of CACS?
3. What is the evidence that CACS influences clinical decision making and improves patient clinical outcomes (e.g. mortality)?
4. What is the evidence that CACS may perform differently in special populations (e.g. women, diabetic populations)?
5. What evidence of cost implications and cost-effectiveness for CACS compared with other diagnostic tests?

Technology Background

Technology: Cardiac calcium scoring uses a CT to check for the buildup of calcium in plaque on the coronary arteries. This test identifies and quantifies a marker of coronary disease (plaque), believed to detect earlier stages of CAD. Significant questions remain about the clinical significance and threshold for amount of plaque signifying disease; whether detection with this method changes treatment decisions; which patients might benefit from testing; and whether early intervention provides better health outcomes or leads to additional unnecessary interventions, especially invasive interventions that involve risk of harm.