Using Real-World Data to Improve Implementation of Coronary Artery Calcium Testing

Key Dates

RFP Posted:	Nov. 13, 2026
ProposalCentral Open:	TBA
Required Pre-proposal Deadline:	Jan. 11, 2027
Invitation to Submit Full Proposal:	Jan. 18, 2027
Invited Full Proposal Deadline:	March 15, 2027
Notification of Awards:	May 6, 2027
Award Start Date:	July 1, 2027

Overview

Coronary artery calcium (CAC) scoring measures calcified plaque in the heart's arteries using non-contrast CT. CAC is a measure of the burden of coronary atherosclerosis. The 2026 American College of Cardiology (ACC)/American Heart Association Dyslipidemia Clinical Practice Guidelines[1] raise CAC scoring to a Class I recommendation for further risk stratification (based on PREVENT) and to guide decisions to initiate or defer lipid lowering therapy for untreated adults with no prior atherosclerotic cardiovascular disease who are at intermediate risk and select adults at borderline risk.

Despite these recommendations, the implementation of CAC scoring requires more research[2,3,4]. A few examples of implementation areas of interest for this RFA include

i.) models and clinical workflows that help identify patients eligible for CAC testing,
ii.) multimodal AI clinical decision support tools that include CAC to predict atherosclerotic cardiovascular disease[5], and
iii.) tools that assist in interpreting and communicating incidental CAC results in a patient's individual clinical context (see below for a full list of relevant research topics).

The purpose of this Request for Proposals (RFP) is to fund research that advances understanding and implementation of CAC-guided therapy decisions including the development and testing of new multimodal clinical decision support tools.

[1] Blumenthal et al. Circulation, 2026.
[2] Nerlakar et al. JAMA, 2025.
[3] Lindholt et al. NEJM, 2022.
[4] Whitmore et al. Heart Lung and Circulation. 2025.
[5] Zeleznik et al. Nature Communications, 2021.

A successful application will use real-world data to address one or more of the following topics:

- Development and validation of new, generalizable models within existing clinical datasets to identify individuals who are eligible for CAC testing (i.e., untreated, at appropriate risk, and without prior cardiovascular disease).
- Development and testing of clinical decision support tools to facilitate appropriate ordering of CAC testing in eligible patients.
- Development and testing of digital media or electronic communication aides that assist in interpreting and communicating dedicated CAC results in a patient's individual clinical context.
- Development and testing of digital media or electronic communication aides that assist in interpreting and communicating incidental CAC results (i.e. from non-dedicated, non-gated chest CTs) in a patient's individual clinical context
- Development and testing of clinical decision support tools that effectively translate individual patient data and CAC results into guideline-based recommendations for preventive approaches.
- Development and testing of generalizable, EHR-based clinical workflows to enhance appropriate implementation of CAC testing.
- Development and testing of generalizable, EHR-based clinical workflows to enhance appropriate prescription of lipid-lowering therapy in patients after CAC testing.
- Cost effectiveness analyses of various CAC strategies, including reducing patient out-of-pocket costs.

Researchers supported by this RFP are encouraged to leverage data sources including epidemiological studies, clinical trial data, electronic health record data, genetic data, claims data, and imaging data.

Eligibility

- The project lead at each site must be an American Heart Association professional member.
  - Join or renew when preparing an application in Proposal Central, online or by phone at 301-223- 2307 or 800-787-8984.
  - Membership processing takes 3 to 5 days; do not wait until the application deadline to renew or join.

- The project proposal must be submitted by a project lead representing an academic or non-profit organization based in the United States.

- Preference will be given to applicant organizations that are institutes of higher education, public entities, or nonprofits that are tax exempt under Section 501(c)(3) of the Internal Revenue Code and are not private foundations or Type III supporting organizations. Other types of nonprofit and for-profit organizations are also eligible to apply. The American Heart Association may require additional documentation.

- Organizations that are currently funded through other American Heart Association funding mechanisms can apply.

- Organizations can submit multiple proposals.

- Proposals are encouraged from multidisciplinary research teams with expertise in two or more of the following areas: coronary artery calcium imaging and algorithms, cardiovascular, kidney and metabolic disease, health economics, epidemiology, and biostatistics with experience in causal inference methods, machine learning, and cardiovascular research.

Required Pre-proposal Components

Pre-proposals are due Monday, January 11, 2027, at 3 pm CT via ProposalCentral.

Pre-proposals must not exceed two (2) pages (12-point font, single spacing, 1-inch margins) and must include:

a. Project title
b. Name, institution, and contact information for the Project Lead
c. Key personnel and team expertise
d. Research objectives and significance
e. Analytic approach
f. Approximate budget for the study

Pre-proposal Review and Invitation to Submit Full Proposal

1. All pre-proposals will be reviewed.
2. Those responsive to the RFP will be invited to submit a full proposal.
3. Invited proposals must be submitted using ProposalCENTRAL, the American Heart Association's online submission portal. The online application requires you to provide information and answer questions beyond what is captured in this document.
4. Full proposals are due by Monday, March 15, 2027, at 3 pm CT.

Full Proposal Requirements

Full proposals must use 12-point font, be single spaced, and allow for 1-inch margins on all sides.

1. Specific Aims (1 page)
   Clearly state the scientific objectives, hypotheses, and anticipated impact of the proposed work.

2. Research plan (not to exceed 5 pages)
   Describe:
   - Scientific rationale
   - Data sources
   - Analytical methods
   - Potential limitations
   - Expected outcomes

3. Works Cited (no page limit)
4. Budget information, including:
    - Salary and fringe benefits of the project lead, mentor, collaborating investigators, and other participating research staff or faculty.
    - Project-related expenses must be in accordance with American Heart Association policies. Please note that the American Heart Association does not fund the costs of program implementation or operations beyond what is established in an approved budget.
    - Maximum of 10% institutional indirect costs may be claimed on the award.

Full Proposal Review Criteria

Full proposals will be evaluated based on:

Significance
- Importance of the scientific question.
- Potential contribution to a better implementation of CAC in clinical practice.

Innovation
- Novelty of the hypothesis, methodology, or analytical approach.

Scientific Rigor
- Appropriateness of study design, datasets, statistical methods, and validation or testing strategy.

Impact
- Potential to advance scientific knowledge and inform future research, prevention, or clinical practice.

Award Details and Requirements

Duration
One (1) year. No-cost extensions will not be allowed.

Number of Awards
The American Heart Association anticipates awarding up to five (5) grants, up to $250K per award. The Association reserves the right to determine the final number of awardees.

Precision Medicine Platform, Research Environment, Trial Workspace
A grantee may request to use a secure and private workspace on the American Heart Association's Precision Medicine Platform to perform the analyses outlined in their grant.

Data analysis is enabled in secure workspaces by a web interface that allows researchers to code in various languages, including R and Python, and to use statistical software including but not limited to R studio. The most up-to-date machine learning and artificial intelligence software available from Amazon Web Services is also included. Researchers are also able to install their own tools.

The Platform is HIPAA compliant and is FedRamp Low Authorized. Data must be de-identified prior to uploading to a private and secure workspace. Learn more about the Platform's Security Information. If grantees choose to use the Precision Medicine, the Heart Association will provide research credits of up to $30,000 for the grant funding period.

To learn more about the Precision Medicine Platform:

- Overview
- Full list of available analytical tools

1. Register here for a 60-day complimentary trial workspace to use during the application period.
2. Once registered, login and go to the Data page and click Request Workspace (do not select any datasets).
3. Within the form, please include the following text for your Researcher Purpose: *CAC RFP*

Progress Reports

Awardees must submit two progress reports; halfway through the award and at the conclusion of the award. Progress reports may take the form of a required written report in addition to video conferencing, phone calls, and/or face-to-face visits. Reporting will be focused on achievement of stated milestones as indicated in the project timeline. The American Heart Association reserves the right to request additional updates, site visits, or reporting.

Public Access

The American Heart Association's public access policy requires that all journal articles resulting from American Heart Association funding be made freely available in PubMed Central and attributed to a specific American Heart Association award within 12 months of publication. It is the responsibility of the awardee to ensure journal articles are deposited into PubMed Central.

Open Data

Any factual data that is needed for independent verification of research results must be made freely and publicly available in an AHA-approved repository as soon as possible, and no later than the time of an associated publication or the end of the award period (and any no-cost extension), whichever comes first. In addition to fulfilling this requirement, awardees can also choose to make their data available in the American Heart Association's Precision Medicine Platform.

Additional Requirements

- The projects submitted can have no scientific or budgetary overlap with other work funded by the Heart Association or any other source.
- Any inventions, intellectual property, and patents resulting from this funding are governed by the Association's Patent, Intellectual Property and Technology Transfer Policy.
- The applicant/awardee and institution are responsible for compliance with all research award policies and guidelines for the duration of any awards they may receive.
- Visit American Heart Association Policies Governing All Research Awards for information.

For questions and assistance: datascience@heart.org