

American Heart Association

Health Equity Research Network (HERN) on Improving Access to Care and other Health Inequities in Rural America

Key Dates

RFA Posted:	November 30, 2022
Pre-Proposal Deadline (via email):	Thursday, January 26, 2023
Application Deadline:	Tuesday, April 4, 2023, by 3 p.m. Central time
AHA Peer Review:	May and June, 2023
Notification of Awards:	Late June 2023
Award Start Date:	July 1, 2023

Applicant Requirement

Each applicant must be an **AHA Professional Member**. Join or renew when preparing an application in ProposalCentral, [online](#), or by phone at [301-223-2307](#) or [1-800-787-8984](#). Membership processing may take 3-5 days; do not wait until the application deadline to renew or join.

Pre-Proposal

Each Coordinating Center PI is **required** to send a pre-proposal via email with the following information:

- Names and institutions of the Coordinating Center PI and each Project PI
- Network title and title of each proposed project

Diversity and Inclusion

The AHA strongly supports diversity and inclusion and encourages applications by women, underrepresented racial and ethnic groups in the sciences, military veterans, people with disabilities, members of the LGBTQ community, and those who have experienced varied and non-traditional career trajectories.

Purpose

Compared to urban populations, the health of those living in rural communities in the United States has significantly worsened over the past several decades. To help bring forward possible solutions for the disparity in health of rural populations, the American Heart Association (AHA) recently released a Presidential Advisory Call to Action¹ to prioritize rural populations in programming, research, and policy. As a next step in addressing this critical issue, the AHA is releasing this Request For Applications (RFA) that propose novel solutions to meaningfully impact rural health disparities.

In the U.S., 15-20% of the population lives in rural counties, as defined by the Office of Management and Budget. While these rural counties are predominantly White (80%), there are significant race and ethnicity differences in parts of the country. For example, the rural South has a large population of non-Hispanic Black individuals, the rural Southwest is home to many Hispanic individuals, and rural Oklahoma, Alaska, the Great Plains and the Southwest are home to high percentages of American Indian/Alaska Native individuals.² Rural areas also have a higher percentage of elderly individuals and experience lower population growth and higher rates of poverty compared to urban and suburban populations.²

Data going back to 1970 show that through the 1980s, mortality rates for rural and urban populations were comparable. Over the past three decades, however, mortality rates have differentially shifted, such that the mortality rate is now 20% higher in rural populations compared to urban populations.³ Life expectancy has followed a similar pattern, with urban populations living more than three years longer than individuals in rural areas.⁴ These disparities are especially prominent for indigenous people, whose life expectancy is 5.5 years lower than the general population.⁵

Cardiovascular conditions are among the disparities in health now present between rural and urban populations. Rural populations have a higher prevalence of heart disease as compared to urban populations, as well as an increased risk for cardiovascular and stroke mortality. The differences in risks have been reported to be 30-40% on average for cardiovascular conditions, and it appears the gap in cardiovascular health outcomes between rural and urban populations is growing.⁶⁻¹⁰

Several factors impact the disparities in cardiovascular health of rural communities. Rural populations have higher levels of obesity, diabetes and hypertension,^{6,11} all of which contribute to poor cardiovascular outcomes. Tobacco use and lack of physical activity are also more common in rural populations.^{12,13} Rural populations also suffer from poorer mental and behavioral health, both of which are tied to cardiovascular disease incidence. For example, rates of depression and suicide are higher in rural areas, particularly for children.^{14,15} Likewise, alcohol and drug use can affect cardiovascular health. In recent years, the opioid crisis has contributed to soaring rates of drug use and overdose in rural communities, with opioid-related mortality as much as 15-fold higher in some rural regions of the country compared to urban areas.¹⁶ These issues are further complicated by a lack of mental health care in rural areas.

Social determinants of health contribute to poor cardiovascular outcomes in rural populations as compared to urban populations. Income, education, employment, housing, transportation, food insecurity, and the physical environment all contribute to one's health -- rural populations fare less well on average for all these indicators.^{1, references therein} Moreover, tax bases for local government decline as fewer young people move into or remain in rural areas due to lack of job and other opportunities. This leads to fewer resources for critical programs and services, exacerbating the health challenges seen in rural communities.

Differences in health care delivery in rural compared to urban communities is another important consideration in the health of rural Americans. Contributors to this difference are numerous and include an insufficient number of both primary care and specialty care providers, inconsistent availability, and quality of care in both hospital and outpatient settings, longer distances to available care and inadequate transportation options, and slower response times of emergency personnel.^{1, references therein} In addition, rural communities tend to have a lower percentage of individuals with insurance (exacerbated by the decision of many rural states to not expand Medicaid), private insurance consumes a higher proportion of income for rural Americans, and existing payment models may limit efforts to optimize care for rural Americans.¹

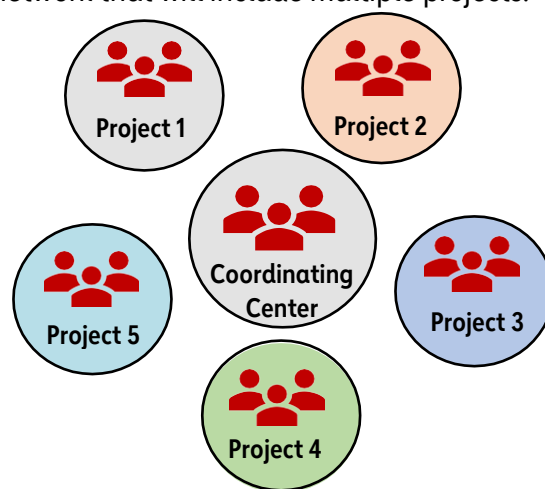
The AHA Call to Action put forth a variety of solutions to address unique challenges that exist in rural versus urban areas¹. Suggested approaches to addressing health inequities in rural America are encompassed in several broad themes. These themes include expanding the workforce and fostering team approaches to care, developing novel models of care, rethinking funding models in rural areas, and addressing health insurance deficiencies and economic issues more broadly.

Evidence is strong that several of the suggested approaches (e.g., increasing the clinical workforce, expanding health coverage) will result in improved health. However, novel solutions for sustainable

implementation are needed. In other cases, the evidence base to support possible approaches is underdeveloped (e.g., efficacy of novel delivery models in different rural populations). Thus, additional research is needed to support rural populations and address the existing and worsening health inequities that persist in these communities. The AHA is committed to supporting research that will directly address the individual factors, social determinants, and healthcare delivery system challenges that are unique to rural communities. This AHA HERN provides an opportunity to significantly advance our understanding of the factors underlying this crisis in rural communities.

NETWORK OVERVIEW AND STRUCTURE

GENERAL OVERVIEW – The HERN on Rural Health will be a single network that will include multiple projects. An overall project plan will be developed by self-identified sites and submitted to AHA as a coordinated submission. Proposed projects are expected to have a common fundamental theme that will assess intervention(s) and/or approaches that address rural health disparities. **All aspects of the network application (each project and the Coordinating Center) will be reviewed as a collective program.** The successful network application will be one wherein each project and the Coordinating Center are judged to be exemplary, and thus all components will be funded -- either the entire network (with some possible budgetary adjustments) will be funded, or the entire network will not be funded.



PROJECTS - Each network application will include five projects. Each project will be at a distinct institution, and each will be led by a project principal investigator (PI). Each project must have the necessary research team, required infrastructure and ability to recruit and retain a diverse group of study participants, if applicable.

COORDINATING CENTER – During development of the network application, the

project PIs will designate one individual as the HERN Coordinating Center PI. The Coordinating Center PI is not required to also be a Project PI, but this individual will be at one of the institutions submitting a project application and will have some scientific role in a project. The Coordinating Center PI will have an additional set of responsibilities to coordinate the efforts of the funded projects, facilitate and manage communication among the HERN project awardees, and establish collaborations and resource sharing as appropriate. The Coordinating Center PI will coordinate the dissemination of all findings resulting from this award mechanism. And whereas each site will have its own budget (see Award Details section below) and be separately awarded a grant from the AHA, the Coordinating Center PI will be responsible for collation and submission of annual progress reports to the AHA (see Interim Assessment section below).

Representative types of projects responsive to this RFA

The AHA encourages applicant teams to submit innovative intervention or investigative projects that can prevent or reduce poor rural health outcomes. Whereas studies focused specifically on disparities in

cardiovascular health and outcomes are of interest, it is recognized that studies with an exclusive cardiovascular focus may not be feasible in all cases or for all study designs. Thus, studies that address potential solutions to rural health disparities more broadly are also acceptable, provided that improvements in cardiovascular health can reasonably be inferred. Below are examples of general themes that are research areas of opportunity; this list is not exhaustive and is not meant to direct applicants to a particular approach.

- Research on the effectiveness of digital medicine or other technological approaches in different rural areas and/or populations
- Studies to understand the most effective types and configurations of clinicians and community-based practitioners to support the needs of one or more distinct rural populations
- Development and assessment of rural-specific quality and outcome measures to inform value-based reimbursement models
- Development and assessment of a 'Levels of Care' (similar to Levels of Maternal Care) or other care regionalization approach to identify the best location for patient care based on individual risk level

A network may address a single research approach using one or more study populations or study targets with possible inclusion of comparator study arms. Alternatively, a network may propose to address multiple approaches that are closely aligned thematically. Regardless of the study approach, successful applications will clearly convey the ability to address rural health disparities.

Additional Expectations and Opportunities

- Each network application must include at least one project that incorporates the use of community-based participatory research (CBPR) into its research design.
 - The use of technology in at least one of the projects (e.g., health applications, wearables/sensors, telehealth, or telemedicine solutions) is strongly encouraged.
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 - In keeping with the AHA's commitment to supporting diverse researchers and institutions, network applications must meet at least one of the following conditions. A letter will be required as part of the required pre-proposal confirming that the institution meets these conditions:
 - A. Academic institutions that primarily educate/train individuals from groups who are under-represented in the sciences (e.g., Historically Black Colleges and Universities [HBCUs], Tribal Colleges and Universities [TCUs], institutions who serve Hispanic students as a majority of their population) **or** from investigators at a non-research-intensive institution as defined by NIH (an average of less than \$7.5M in total NIH funding over the past three fiscal years)
- OR**
- B. Other non-federal, non-profit institutions that primarily provide services to historically under-served populations (e.g., a Federally Qualified Health Center [FQHC] and/or a Rural Health Clinic [RCH])

OR

C. Network applications not originating from one of the categories noted in A or B, **must** partner with an institution from one of the categories noted in the preceding paragraphs. Investigators from these partnering institutions must be included in a substantive manner (see Projects section below).

- **At least 25% of research team key personnel must be from a group or groups under-represented in science and medicine** (Black/African American; Hispanic/Latino; Native American or Alaska Native; Hawaiian or other Pacific Islander; LGBTQ+; women, military veterans, and/or individuals with disabilities). **Projects with principal investigators who are under-represented in science and medicine are strongly encouraged.**
- **Each project MUST name at least two full-time ($\geq 75\%$ FTE) pre- or postdoctoral trainees during the award term.**
 - a. **At least 50% of the trainees** named to each project must be from a racial or ethnic group that is **under-represented in science** (Black/African American; Hispanic/Latino; American Indian or Alaska Native; and/or Hawaiian or other Pacific Islander), an LGBTQ+ person, or a woman).
 - b. There is no salary cap for trainees; however, the minimum salary of \$65,000/year for post-doctoral trainees and \$32,036/year for pre-doctoral trainees (including fringe) must be met. The institution may supplement funding, if desired.
- Additionally, at least one early-career faculty member (assistant professor or equivalent) must be included in a substantive manner during the award period.

AWARD DETAILS

Duration: Four years

Number of Awards: The AHA will fund one HERN comprised of five projects and one Coordinating Center. Each institution that has a funded project will receive an award directly from the American Heart Association. The HERN awardees will be selected based on scientific merit and how each proposal aligns with the AHA's mission and goals.

Award Amount: The maximum budget amount that may be awarded to the network is **\$20 million, including funds to support the Coordinating Center responsibilities, and indirect costs of 10% maximum for all projects and the Coordinating Center.** The AHA reserves the right to determine the final award amount for competitive projects based on need and potential impact.

There is no requirement that all sites receive an equal allocation of the total available budget. However, **all sites must meaningfully contribute to the overall network outcomes.** As such, it is expected that all sites will have a reasonable portion of the total funds available to the network.

Appropriate Budget Items:

All budgeted items must be justified explicitly in the application. Broad categories of allowable costs for both the Project Sites and the Coordinating Center include the following:

Projects

- Salary and fringe benefits for the Project PIs, collaborating investigator(s), and other participating research staff or trainees.
 - Each Project PI is expected to commit a minimum of 10% time.
 - There is no salary cap; however, salary must be commensurate with experience and level of effort.
 - Naming of Project Co-PIs is acceptable for this funding mechanism; however, one person must be named in the application in ProposalCentral as PI and take full responsibility for the role, including committing the requisite minimum percent effort.
- Non-salary project-related expenses, such as study medication (if proposed), supplies and consumables, funds to offset costs incurred by study participants, equipment, travel, and publication costs in accordance with institutional and AHA policies.
- Travel/meetings: PIs will use award dollars to pay for required face-to-face (as feasible), network-wide meetings and other meetings where HERN research is presented. It is anticipated that one or two face-to-face meetings will be held each year at which awardees will share results, discuss best practices, challenges to progress, developing opportunities, etc. Project PIs should anticipate hosting these meetings on a rotating basis; alternatively, a network may propose all meetings be held at the Coordinating Center. In that event, costs related to hosting should be included in the Coordinating Center's budget. More information about planned face-to-face meetings will be provided upon award. *(Note that in addition to these face-to-face meetings, the Coordinating Center plan should include frequently recurring virtual meetings).*
- Maximum of 10% institutional indirect costs may be claimed on the award.

Coordinating Center

- Salary and fringe benefits for the Coordinating Center PI, collaborating investigator(s), and other participating research staff or trainees.
 - The Coordinating Center PI is expected to commit a minimum of 10% effort for responsibilities specifically associated with the Coordinating Center.
 - NOTE: If one individual serves as both a Project PI and the Coordinating Center PI, that individual will be expected to devote at least 20% effort to these responsibilities (i.e., at least 10% for role as the Project PI and at least 10% for role as Coordinating Site/Center PI).
- Non-salary expenses related to the activities of the Coordinating Center, such as supplies and consumables, tele- and web-based communications costs, equipment, travel, and publication costs in accordance with institutional and AHA policies.

Each PI will be responsible for overseeing the total budget for their award. The PIs and the institution assume an obligation to expend grant funds for the research purposes set forth in the application and in accordance with all regulations and policies governing the research programs of the AHA.

In the event of potential performance issues at a particular site, the Coordinating Center PI, in consultation with the Oversight Advisory Committee and AHA staff, may request to rebudget across sites to ensure optimal progress of the network. Any potential rebudgeting would only occur with explicit,

written approval of the AHA.

RELEVANT POLICIES AND REQUIREMENTS

Applicants should review the Characteristics of All AHA Awards for answers to commonly asked questions about eligibility and award details.

Eligibility of Coordinating Center PI

- Must hold a doctoral-level degree.
- Must hold a faculty-rank position of any level. This award is not intended for trainees.

Eligibility of Project PIs

- Must hold a doctoral-level degree, or comparable credentials and experience documenting the ability to effectively lead the proposed project.
- Must hold a faculty-rank position of any level, or comparable research-related position from any project application originating from a non-academic institution.

Other: The projects described can have no scientific or budgetary overlap with other funded work. Any inventions, intellectual property, and patents resulting from this funding are governed by the AHA Intellectual Property Policy for Research Funding EXCEPT to the extent modified by specific Intellectual Property terms for this award mechanism, including financial terms, which will be communicated to awardees following the review process. The applicant/awardee and institution are responsible for compliance with all AHA research award policies and guidelines for the duration of any awards they may receive. Visit the Research Programs Awards Policies page for more information on this topic: AHA Policies Governing All Research Awards.

Application Submission: Applications must be submitted using ProposalCentral, AHA's online submission system.

For **Project applications**, the following uploads are required:

- Applicant/PI Biosketch (5 pages)
- Budget Justification (2 pages)
- Research project Environment (2 pages)
- Research Plan (up to 12 pages) – See Peer Review Phase I below for the criteria against which the proposal will be evaluated.
- Literature Cited (4 pages)
- Coordinating Center Vision and Approach to foster Synergy and Collaboration (obtain from Coordinating Center PI)
- Summary for Non-scientists/Lay Summary - The lay summary is not a document to be uploaded, rather it is entered through form fields in ProposalCentral. We list it here, so the applicant may be aware that this is required.

For the **Coordinating Center application**, the following uploads are required:

- Applicant/PI Biosketch (5 pages)
- Budget Justification (2 pages)
- Infrastructure to support Coordinating Center (2 pages)
- Coordinating Center Vision and Approach to foster Synergy and Collaboration (up to 8 pages)
- Coordinating Center PI Qualifications (2 pages)

- Literature Cited (4 pages)
- Summary for Non-scientists/Lay Summary -- The lay summary is not a document to be uploaded, rather it is entered through form fields in ProposalCentral. We list it here, so the applicant may be aware that this is required.

PEER REVIEW

Applicants are prohibited from contacting AHA peer reviewers. This is a form of scientific misconduct and will result in removal of the application from funding consideration and institutional notification of misconduct.

Peer Review will be a two-phase process. In Phase I, individual projects and the broad approach to coordination of the network will be assessed by a convened panel of experts, based on the criteria described below.

Network applications that advance past Phase I will undergo a separate Phase II review. In this review, invited network teams will present either virtually or in-person to a convened expert panel. Phase II review will focus predominantly on the overall network as a whole, and how the various projects can collectively enhance the likelihood of significantly advancing the health of rural populations.

Phase I Review

Each **project** within a network application and the Coordinating Center plan will be scored individually according to the criteria below. An overall composite score will be derived based on the individual scores.

Projects – Potential impact of the project on research in the field of the rural health disparities; strengths of applicant investigators (qualifications, expertise and productivity); potential for collaboration or synergy of projects; scientific content; background; preliminary studies; detailed specific aims; approach detail; analytical plan; sample size; data management; significance; innovation; individual project scientific merit; and total project coordination (within and among projects). Projects will be rated on the following areas:

- **Approach:** Are the conceptual framework, design, methods, and analyses adequately developed, well-integrated, well-reasoned and feasible (as determined by preliminary data) and appropriate to the aims of the project? Does the applicant acknowledge potential problem areas and consider alternative tactics?

As all proposals will include human subject participants, applicants must explain how relevant biological variables, such as sex, are factored into the research design, analysis, and reporting. Furthermore, strong justification from the scientific literature, preliminary data, or other relevant considerations, must be provided for applications proposing to study only one sex.

- **Innovation:** Is the project original and innovative? For example: Does the project challenge existing paradigms and address an innovative hypothesis or critical barrier to progress in the field? Does the project develop or employ novel concepts, approaches, methodologies, tools, or technologies for this area?
- **Investigator(s):** Is the investigator(s) appropriately trained and well-suited to carry out this work? Is the work proposed appropriate to the experience level of the principal investigator and other researchers? Does the investigative team bring complementary and integrated expertise to the project (if applicable)?

- **Significance:** Does this study address an important problem related to rural health disparities? If the aims of the application are achieved, how will scientific knowledge or clinical practice be advanced? What will be the effect of these studies on the concepts, methods and technologies that drive this field?
- **Environment:** Does the scientific environment in which the work will be done contribute to the probability of success? Do the proposed studies benefit from unique features of the scientific environment, or subject populations, or employ useful collaborative arrangements? Is there evidence of institutional support?
- **Impact:** How does the project relate to and support the mission of the AHA, *to be a relentless force for a world of longer, healthier lives*, and AHA's 2024 Impact Goal, *to advance cardiovascular health for all, including identifying and removing barriers to health care access and quality by 2024*?
- **Synergy:** How does this project enhance the entire network application? i.e., does this project enhance the likelihood that the collective network outcomes will exceed outcomes of the individual sum of its distinct components?
- **Summary for Non-Scientists:** How well does this lay summary convey to a non-scientific audience the purpose and importance of the research? The following attributes will be assessed:
 - How well written is the lay summary in explaining to a non-scientist audience the research proposed and its importance?
 - Does the Lay Summary adequately explain the major health problem being addressed by this study?
 - Does it provide specific questions and how the projects will address them?
 - Does it provide information on the overall impact of this work and the potential advances in the field?
 - Does it relay how the proposal supports the mission of the AHA?

Coordinating Center: A detailed and cohesive plan for coordination among the projects will be critical for success of the network. This plan will be assessed based on the following criteria:

- **Approach:** Has the Coordinating Center PI developed a plan that will optimize the synergies and collaborative opportunities across the network? Will the delineated plan ensure clear, consistent, and frequent communication with and between the project sites? Does the applicant acknowledge potential problem areas and have a plan to mitigate those should they arise?
- **Innovation:** In addition to the expectation of innovation in the proposed projects, is the Coordinating Center PI proposing to utilize innovative approaches and tools to ensure effective engagement with and optimal performance of project sites? Does the project develop or employ novel concepts, approaches, methodologies, tools, or technologies for this area?
- **Investigator(s):** Is the Coordinating Center PI experienced in leading collaborative initiatives, or has he/she/they demonstrated strong potential to do so? Has he/she/they demonstrated the ability to manage large-scale, multi-site initiatives? Does he/she/they demonstrate the ability to foster communications between distinct teams of investigators? AHA is committed to facilitating diversity in the biomedical research enterprise. Consistent with this, AHA anticipates successful applicant teams will be those that are diverse with regard to gender and/or race and ethnicity.
- **Significance:** Does this study address an important problem related to rural health disparities? If the

aims of the network are achieved, what is the likelihood of advances in clinical practice or policies regarding the health of rural Americans? What will be the effect of these studies on the concepts, methods and technologies that drive this field?

- **Environment and Infrastructure:** Does the scientific environment and available infrastructure contribute to the probability of success? Is there evidence of institutional support?
- **Summary for Non-Scientists:** How well does this lay summary convey to a non-scientific audience the purpose and importance of the research? The following attributes will be assessed:
 - How well written is the lay summary in explaining to a non-scientist audience the research proposed and its importance?
 - Does the Lay Summary adequately explain the major health problem being addressed by this study?
 - Does it provide specific questions and how the projects will address them?
 - Does it provide information on the overall impact of this work and the potential advances in the field?
 - Does it relay how the proposal supports the mission of the AHA?

Only projects that demonstrate synergy and a strong coordination plan, in addition to exemplary science, will move forward to Phase II.

Phase II Review

As noted above, Phase II review will have as a particular focus assessment of how the projects will work together to achieve optimal outcomes. As such, the plan for coordination and collaboration across the network will be a key aspect of this review, and application scoring will be based on the following criteria:

- **Synergy** – A clear vision of scientific direction is expected. A HERN should be viewed as a group of interrelated research projects, each of which is not only individually scientifically meritorious, but also complements the other projects and contributes to an integrating theme. Describe the rationale for the total program. Explain the strategy of achieving the objectives of the overall program and how each individual project relates to the strategy. Describe the synergies and interactions among projects and their investigators.
- **Collaboration** – History of collaboration, as well as the ability and commitment to collaborate with other institutions, investigators and within the applicant institution as well as within the awarded network. Defined and detailed process for collaboration with other sites in addition to within and among the proposed projects; plans to actively participate in a collaborative and diverse network. Evidence of formal training in leadership skills with an emphasis on collaborative leadership of diverse teams will be favorably reviewed. What collaborations do you envision between investigators working on individual projects?
- **Network Team (Coordinating Center PI and Project PIs and Co-Is)** – Qualifications of the Coordinating Center PI to provide scientific and administrative leadership for the network; experience leading complex multi-site, collaborative and inclusive initiatives; documented evidence of willingness to collaborate with others outside their institution to share ideas, science, etc. to progress the field of research as outlined in the RFA; qualifications of Project PIs and Co-investigators; diversity of the

research team; experience in the field of study outlined by the RFA; training experience. *AHA is committed to facilitating diversity in the biomedical research enterprise. As noted above, at least 25% of key personnel of the research team must be from a group or groups under-represented in science and medicine.*

- **Project Teams** – Qualifications of each PI to provide scientific and administrative leadership for their respective projects; demonstrated commitment of each Project PI, and experience with studies in the field outlined by the RFA; qualifications and experience of named co-investigators and project team members; diversity of the project research teams.
- **Environment** – Institutional commitment, resources, and facilities to sustain the network; institutional resources available to complete the project; analytical resources available to the project.

Timeline for Peer Review Phases

The two phases of Peer Review will be conducted separately, 1-2 weeks apart. Network teams will not be present for Phase 1 reviews but will be required to participate in Phase II. **Applicant teams should be prepared to be available via videoconference for Phase II review during a TBD week in June 2023. AHA will share exact times with network teams as soon as is feasible.**

Please direct inquiries to strategicawards@heart.org

References Cited

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