



AHA Rapid Response Grant COVID-19 and its Cardiovascular Impact

Request for Applications:
Due by Monday, April 6, 2020 at 5 pm Central Time

Background

Coronavirus infection (coronavirus disease, COVID-19) shows no signs of abating soon. There is an urgent need to better understand the pathobiology and the clinical implications of the viral infection that leads to the morbidity and mortality seen with COVID-19.

Like other diseases associated with the coronavirus family such as SARS (Severe Acute Respiratory Syndrome), COVID-19 is a disease of the respiratory system. However, those with hypertension and cardiovascular disease appear to be highly susceptible to its more severe effects, with mortality rates 2-3-fold higher, respectively, than the general population (WHO-China Joint Mission report). Recent reports of profound myocarditis and fatal arrhythmias suggest the potential critical influence of COVID-19 on the cardiovascular systems (Yang et al., *Int J Infect Dis*, S1201-9712(20)30136-3, 2020; Zou et al., *Front Med* DOI: 10.1007/s11684-020-0754-0, 2020). In addition, there is evidence that coronaviruses can travel retrograde from the lungs to the brainstem cardiorespiratory center via neuronal synapses, potentially contributing to respiratory failure (Li YC et al., *J Med Virol*, 2020, 1:1-4; Li YC et al., *J Comp Neurol*, 2013, 521:203-212). The SARS coronavirus, to which the current pandemic virus SARS-CoV-2 is closely related, has been reported in brains from both patients and experimental animals, and the brainstem was heavily infected (Ding Y et al., *J Pathol*, 2004, 203:622-630; Netland J et al., *J Virol*, 2008, 82:7264-7275). In the COVID-19 outbreak in China, neurological manifestations occurred in 36% of patients, including stroke in 6% and encephalopathy in 15% (Mao L et al., *MedRExiv*, 2020, <https://doi.org/10.1101/2020.02.22.20026500>).

Action is needed now

To address this need, the American Heart Association (AHA) invites cardiovascular-focused applications that will contribute to understanding the cardiovascular and cerebrovascular pathogenesis, diagnosis, prevention, clinical manifestations, clinical management (including critical care management) and social behaviors which can lead to dissemination, containment, and complications of COVID-19. Because of the urgency of this issue, innovative, highly impactful short-term proposals (9-12 months), which can show progress within the period of this award, are sought.

Grant amounts will be up to \$100,000, including up to 10 percent institutional indirect costs. The AHA anticipates funding at least 10 awards and a nationwide Coordinating Center.

The need to move quickly is similarly driving the AHA's timeline and process for submission and peer review (April 2020). Activation of the awards is planned to occur as early as six weeks after grant submission (subject to receipt of required assurances).

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COVID-19 is a global disease. Whereas awardee institutions must be based in the United States, international partners may be included as part of the proposal and subcontracting to these sites is allowable.

Eligibility

Applicant

- The candidate must hold a post-baccalaureate Ph.D. degree or equivalent, or a doctoral-level clinical degree, such as M.D., D.O., D.V.M., Pharm.D., or Ph.D. in nursing, public health, or other clinical health science.
- This program places no limit on eligibility based on career stage, academic rank or discipline. It requires only evidence of employment at a qualified institution, beyond the fellowship/training stage.
- AHA awards are open all academic and health professionals. This includes but is not limited to all academic disciplines (biology, chemistry, mathematics, technology, physics, engineering, data science, etc.) and all health-related professions (physicians, nurses, nurse practitioners, pharmacists, physical and occupational therapists, statisticians, nutritionists, etc.).
- 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.

Sponsoring Institution

Unless otherwise stated, American Heart Association research awards are limited to U.S.-based non-profit institutions, including medical, osteopathic and dental schools, veterinary schools, schools of public health, pharmacy schools, nursing schools, universities and colleges, public and voluntary hospitals and others that can demonstrate the ability to conduct the proposed research.

Applications will not be accepted for work with funding to be administered through any federal institution or work to be performed by a federal employee, except for Veterans Administrations employees.

Submission requires the following

1. Two- to three-page proposal (11 pt. Arial font, margins of at least 0.75" on all sides) that addresses the following items:
 1. What specific question is being addressed?
 2. What population(s) is being studied?
 3. What is the anticipated actionable outcome?
 4. Please provide a total budget request; a detailed budget and/or budget justification is not required. Grant amounts will be up to \$100,000, including up to 10 percent institutional indirect costs.

2. NIH Biosketch of the Principal Investigator (biosketches of co-investigators, if any, are not necessary and will not be accepted). The biosketch should separately denote up to three publications that are relevant to the work being proposed and/or demonstrate the ability to carry out the proposed research.
3. An additional one-page reference document is permitted (optional).

Applicants must combine the proposal, references, and the biosketch (and the Coordinating Center narrative, if applicable, see below) into a single PDF document . Email that document to apply@heart.org, with the subject heading, "COVID-19 Grant". Applicants will receive an email confirmation upon submission.

AHA COVID-19 Coordinating Center

To ensure rapid dissemination of results to the medical and research communities, one grant recipient will be selected to establish the COVID-19 Coordinating Center. This center will coordinate communication among the awardees, help establish collaborations where appropriate, receive results from all awardees and serve to coordinate dissemination of all findings resulting from this mechanism.

The Principal Investigator (PI) of the individual project proposal and the PI of the proposed Coordinating Center may be two different individuals. They do, however, need to be at the same institution.

For those applicants interested in also serving as the AHA COVID-19 Coordinating Center, an additional narrative of 300 words will be required. This narrative should describe the PI's experience in multi-institutional collaborative research, data management, rapid and accurate dissemination of very contemporary research and clinical information, as well as institutional infrastructure supportive of this need.

The 300 word narrative must be part of the single pdf file that also includes the application and the biosketch.

Up to an additional \$150,000 will be awarded for the AHA COVID-19 Coordinating Center.

Additional requirements

- All awardees must commit to submitting results to the AHA COVID-19 Coordinating Center described above.
- Awardees must deposit all data collected through this funding mechanism to the AHA's [Institute for Precision Cardiovascular Medicine](#).
- As noted above, all institutional assurances (IRB and/or IACUC protocols, etc.) must be submitted to AHA prior to release of funds.

American Heart Association and the Global COVID-19 Pandemic

Visit AHAjournals.org/Coronavirus for the AHA president's statement, related journal articles, and other resources. Included on the site is a Circulation series of video interviews on best

practices and insights from healthcare providers on the front lines, across the U.S. and around the world.