

AMERICAN HEART ASSOCIATION RESEARCH FACTS FY 2016-2017



LIFE IS WHY. RESEARCH IS HOW.

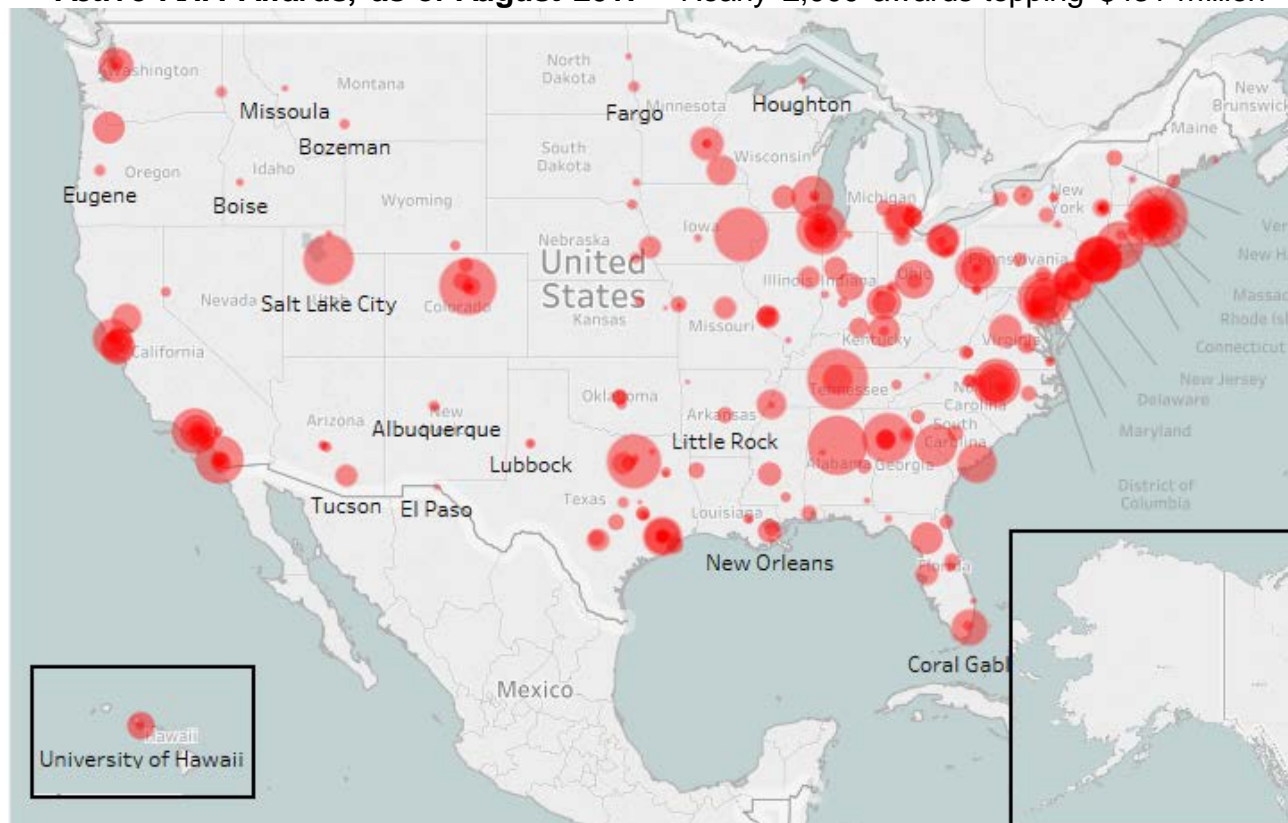
The AHA research program has tremendous impact on science discovery and researchers' careers. New knowledge that results from our funding benefit millions of lives in every corner of the U.S. and around the world. The findings made possible by the AHA are translated into medical advancements and guidelines that give healthcare providers tools to most effectively treat cardiovascular and cerebrovascular illnesses. As the largest private funder of cardiovascular disease and stroke research next to the federal government, AHA is committed to supporting cutting-edge science and building careers in research that impact every aspect of CVD and stroke prevention and treatment.

- In 2016-17, AHA invested \$152.5 million to fund 882 new awards
- AHA has funded \$4.1 billion in research since 1949
- 13 Nobel Prize winners have been AHA awardees
- AHA funding contributed to many important scientific advances:
 - First artificial heart valve
 - Techniques & standards for CPR
 - Implantable pacemakers
 - Cholesterol inhibitors
 - Microsurgery
 - Drug-coated stents
 - Treatment for infant respiratory distress syndrome

The Demand for More Funding

Each year, more and more researchers look to the AHA to fund their advancements, but the pool of dollars is not large enough to accommodate every idea. AHA received 4,222 more applications, worth \$736.5 million, that we could not fund. This means many scientific projects were shelved, and the knowledge that would result from them deferred.

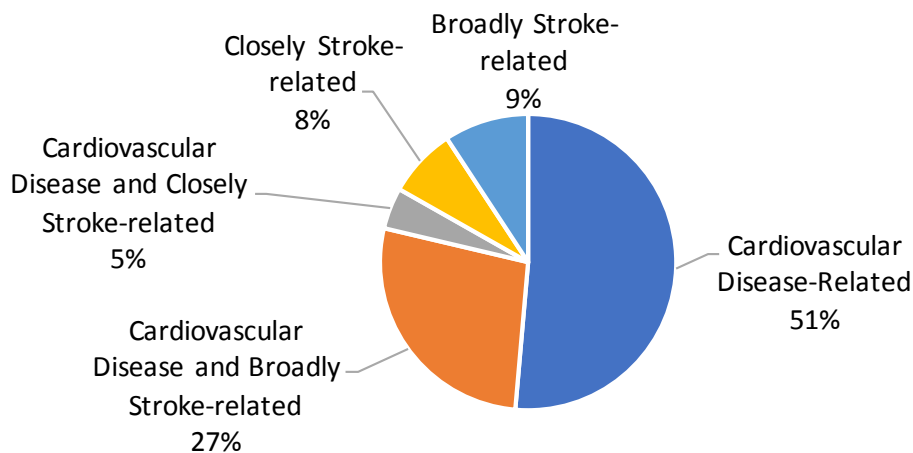
Active AHA Awards, as of August 2017 – Nearly 2,000 awards topping \$431 million



2016-17 Allocation by Research Type

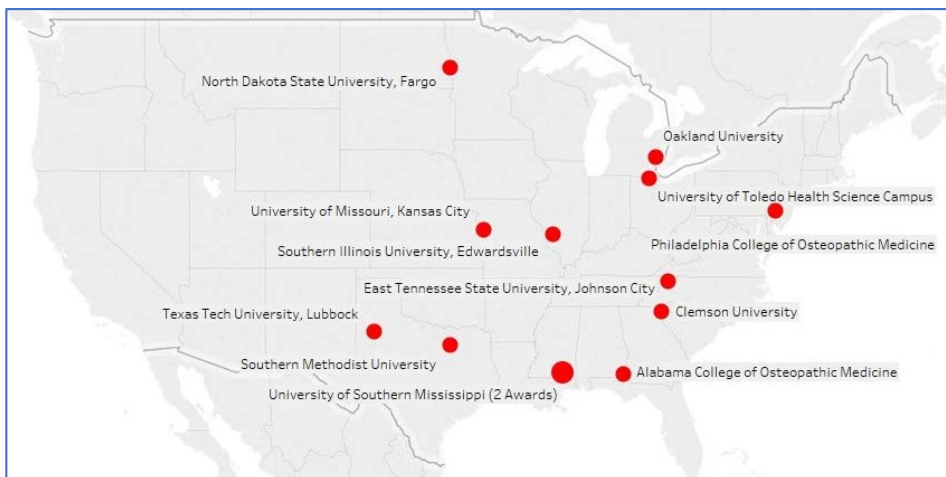
68%	Basic Science	The study of life processes that are universal in their application to scientific knowledge
22%	Clinical Investigations	Addresses important questions of normal function and disease using human subjects
10%	Population Health Research	Studies determinants of health status influenced by social, economic and physical environments, human biology, health policy and services

2016-17 AHA Awards: CVD/Stroke Categories



Revised Portfolio of Research Awards

AHA volunteer leaders announced a revised portfolio of research awards to better meet the needs of the science community, respond to the current science landscape, and focus on AHA’s mission and strategic goals.



The new **AHA Institutional Research Enhancement Award (AIREA)** ensures funding opportunities for less research-intensive institutions.

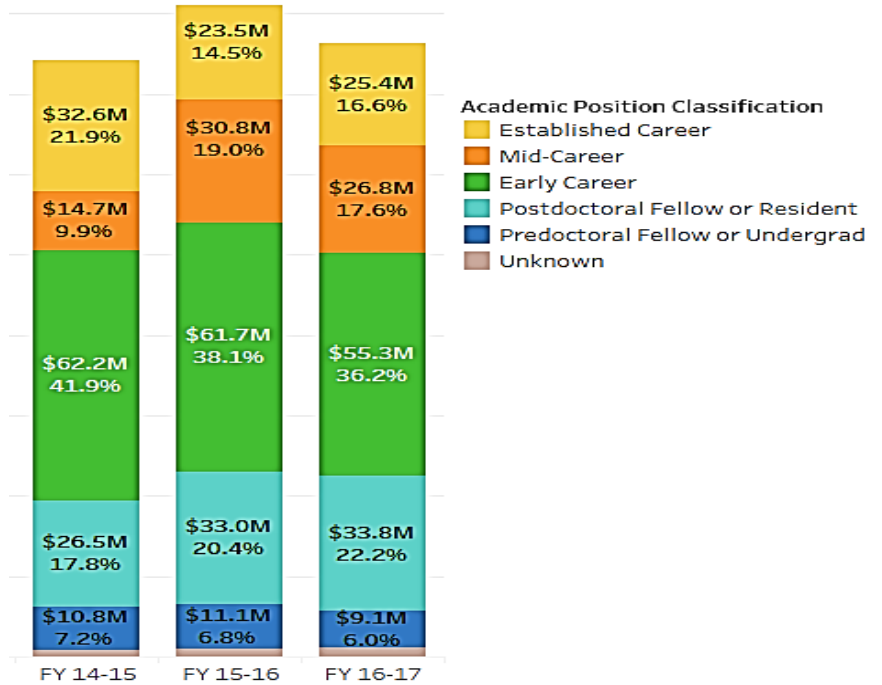
- 38% of applicant institutions had not received an AHA award in the past decade
- 13 awards given for total of \$2 million

Continued Focus on the Next Generation of Researchers

One of AHA’s research priorities is to support investigators at the start of their careers, ensuring a continuous supply of cardiovascular and stroke researchers.

Throughout the process of revising AHA’s award programs, volunteer leaders held at the core, a commitment to programs that support trainees and early-career investigators. These programs represented 65% of award funds in FY 2016-17.

Award Amount by Academic Position



AHA Merit Awardees Blaze Trails

The Merit Award is a recent addition to AHA award offerings. Introduced in 2016, the Merit Award funds highly promising investigators who have the potential to move a field of science forward with creative approaches — those who propose novel approaches to major research challenges in cardiovascular disease and stroke that have the potential to produce an unusually high impact. Each award is \$1 million over five years. The research must reflect substantially divergent ideas from those already being pursued by the awardee.

2017 Merit Awardees



Joseph Wu, M.D., Director of Stanford Cardiovascular Institute, plans to use information from stem cells to speed up the slow, expensive process of bringing a new drug to market — which can take years and cost millions, sometimes billions. Such a step would also help doctors who “are making educated but still semi-blind guesses about a drug’s effectiveness for a particular patient.”



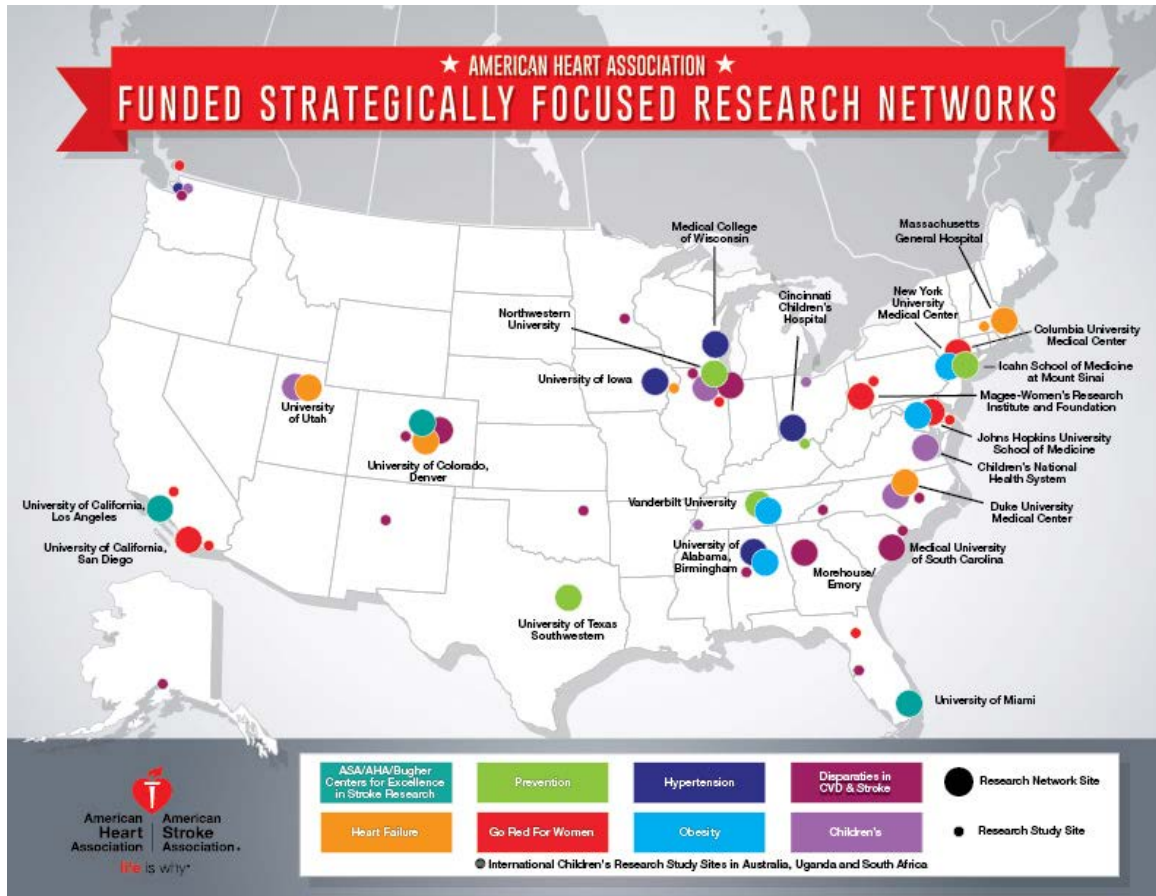
Garret FitzGerald, M.D., a professor at the University of Pennsylvania’s Perelman School of Medicine, is exploring how to improve blood pressure control over a 24-hour period. “Given the increasing prevalence of high blood pressure in our aging population and in the developing world generally, this program promises to have a considerable impact on global health.”

Inaugural 2016 Merit Awards were given to Kenneth Poss, Ph.D., Duke University School of Medicine, to study how heart cells regenerate, and William Sessa, Ph.D., Yale University School of Medicine, to understand what triggers the beginning stages of coronary artery disease.

Strategic Research Topics

A major priority is to fund strategic research topics that will help drive the AHA to achieve our 2020 goals. This year, 29 percent of awards funded strategic topics, while the remainder supported the ideas of individual investigators.

For example, **AHA Strategically Focused Research Networks (SFRNs)** focus on the causes, prevention and treatment of cardiovascular disease or stroke in specific topics, selected by AHA science leadership. The AHA is currently funding eight research networks. Two networks are added each year.



- \$110 million has been allocated to SFRNs to date
- The 2016-17 networks are related to obesity and children
- In 2017-18, the new networks will be centered around vascular disease and atrial fibrillation

The AHA Institute for Precision Cardiovascular Medicine



A new frontier in science – precision medicine – is finding cures and preventing diseases by considering a person’s genetics, environment and lifestyle. AHA is the only organization dedicated to advancing precision medicine in cardiovascular care. The Institute accelerates more precise scientific discoveries in cardiovascular diseases and stroke through patient engagement, integrated knowledge, data analysis, new grants and practical translation.

Research Partnerships

The American Heart/Stroke Association has ongoing partnerships to fund focused research to achieve mutual goals. Two partnerships of note:

With the *Children's Heart Foundation (CHF)*, the **AHA/CHF Congenital Heart Defect Research Awards** were established. A total of \$22.5 million is being awarded from July 2014 through June 2021 to investigators actively conducting basic, clinical, population or translational research directly related to congenital heart defects.

AHA jointly funded two \$1.5 million **AHA-Allen Distinguished Investigator Awards** in an inaugural partnership with *The Paul G. Allen Frontiers Group*. These three-year awards support highly-promising investigators working in research on the cardiovascular extracellular matrix (ECM), who have creative ideas with the potential to move ECM science forward and transform matrix biology.



Apte S. Suneel, MBBS, DPhil
Cleveland Clinic Foundation

*Forward and Reverse
Degradomics of Cardiovascular
Extracellular Matrix*



Jeffrey W. Holmes, MD, PhD
University of Virginia

*Information Storage and
Retrieval in the Cardiac
Extracellular Matrix*

Serving Underrepresented Minorities in Science

- A partnership between the American Heart Association (AHA) and the *Harold Amos Medical Faculty Development Program (AMFDP) of The Robert Wood Johnson Foundation* was established this year to address the shortage of scholars with academic and research appointments in the fields of cardiology and stroke who come from historically disadvantaged backgrounds. The partnership will fund four-year awards to physicians, dentists, and nurses who are committed to developing careers in academic medicine and to serving as role models for students and faculty of similar backgrounds.
- AHA maintains a goal to commit at least 6% of annual funding to underrepresented minorities in research. The FY 2016-17 actual was 7.1%.
- In early 2017, AHA worked with the RAND Corporation to explore program options to inspire and support the careers of underrepresented minorities in science and research.

For more information about AHA's research program, please visit Heart.org/Research