

RESEARCH FACTS

Research: Our Strategy To Fight CVD and Stroke

Nearly 2,400 Americans die of cardiovascular diseases each day — one person every 36 seconds. Cardiovascular diseases claim more lives each year than cancer, chronic lower respiratory diseases, accidents and diabetes mellitus combined. On average, someone dies of a stroke every 3 to 4 minutes.

Research is a major weapon in our fight against these diseases.

Since 1949, the American Heart Association has spent more than \$3.1 billion on research to increase our knowledge about cardiovascular diseases and stroke. In 1948–49, the American Heart Association’s National Center and affiliates contributed \$700,000 to research; in 2007–08, we contributed more than \$160 million, which compares favorably with other health organizations. (See chart on page 2.)

The following summarizes the association’s 2008 investment in new research awards:

- Cardiovascular Disease-Related: 611 awards totaling \$90.7 million
- Cardiovascular Disease- and Broadly Stroke-Related: 380 awards totaling \$58.3 million
- Cardiovascular Disease- and Closely Stroke-Related: 54 awards totaling \$12.8 million
- Closely Stroke-Related: 78 awards totaling \$13.6 million
- Broadly Stroke-Related: 57 awards totaling \$6.0 million

Research: Our Commitment

To ensure that knowledge discovery continues, the American Heart Association is committed to supporting early career investigators. We’re second only to the federal government in funding cardiovascular and stroke research. Yet, our combined efforts fall short each year — forcing many promising young researchers into other careers because only a fraction get the funding needed. To avoid losing a generation of researchers, we award about two-thirds of our research dollars to early career investigators. In 2007–08, that amounted to \$116.3 million.

Each of our eight American Heart Association affiliates channels at least 28 cents of every publicly donated dollar into research. For each dollar, 13 cents supports the association’s National Research Program, and at least 15 cents supports the affiliate research program.

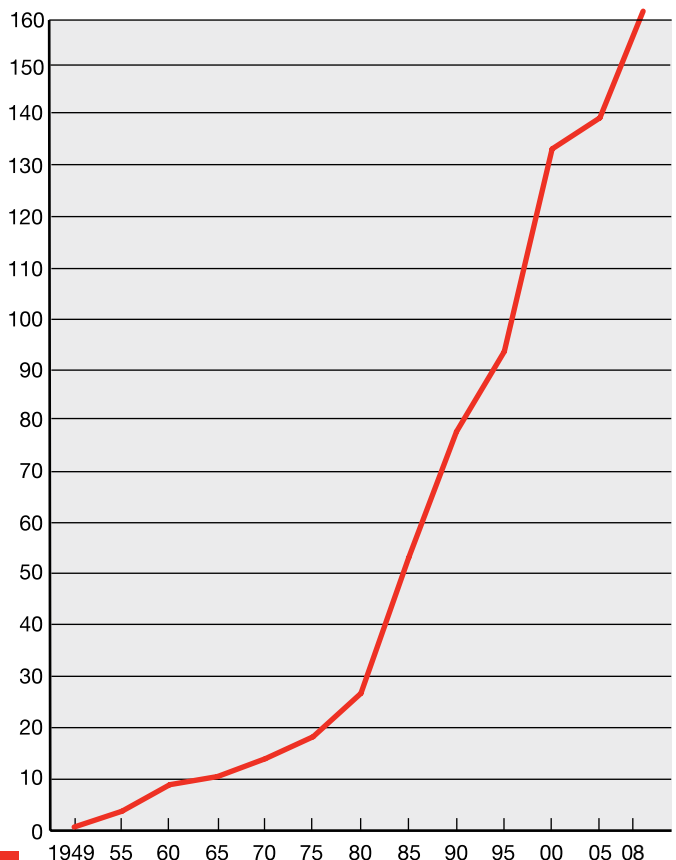
Of the \$160.4 million spent on research in 2007–08, administrative costs of \$5.6 million for national and affiliate programs represent only 3.5 percent of the total.

Research: More Support Needed

Our research programs have contributed to many important scientific advances. Yet we need more resources to attract and encourage promising scientists to careers in cardiovascular and stroke research, fund high-quality research projects, and originate new programs to meet the needs of the research community. For example, although we funded 1,157 new research awards in 2007–08, we didn’t have the additional \$132.1 million needed for 732 other highly meritorious grant and fellowship applications. This means that many scientific projects must be shelved and the knowledge that would result from them deferred.

AHA Annual Research Expense: 1949–2000

In Millions of Dollars



Partnerships

In 2007, the Henrietta B. and Frederick H. Bugher Foundation committed \$8.4 million to create a network of three centers for stroke prevention research. We expect the American Stroke Association-Bugher Foundation Centers for Stroke Prevention Research to discover new knowledge on stroke prevention, provide insights into the challenges and successful mechanisms for scientific collaboration and produce a cadre of new investigators who will energize this field.

With a \$14.5 million contribution from the AHA Pharmaceutical Roundtable, we funded four centers for cardiovascular and stroke outcomes research in 2008. The initiative is also supported by a generous gift from American Heart Association board member David Spina and his wife, Stevie. Over the next four years, these centers will strive to determine what interventions, environments, patient factors and other issues most influence improvements in healthcare outcomes for heart disease and stroke patients. We expect the interaction among the centers to provide in-depth knowledge and support breakthroughs in outcomes research, while uncovering challenges and successful mechanisms for active collaboration among research centers.

In 2009, with support from the Jon Holden DeHaan Foundation, investigators in centers focused on cardiac myogenesis research will begin efforts to understand the fundamental mechanisms underlying development and specification of cardiac myocytes and the application of insights gained from these studies to benefit patients with cardiac injury.

We've also established other research funding partnerships with organizations that share a common interest in developing targeted fields related to cardiovascular disease and stroke. In 2008 these partnerships funded training and early career awards in:

- Resuscitation (Philips Medical Systems)
- Emergency medicine (Emergency Medicine Foundation/Society for Academic Emergency Medicine)
- Geriatric cardiology (Society of Geriatric Cardiology)
- Children's cardiomyopathy (Children's Cardiomyopathy Foundation)
- Friedreich's Ataxia (Friedreich's Ataxia Research Alliance).

Research: Goals for the Future

Scientific research related to cardiovascular disease and stroke is a critical component of the 2006–10 AHA Strategic Plan. To achieve the goal of supporting highly meritorious research that promotes innovation with significant potential impact, including investment in basic and translational approaches, the 2006–10 association goals includes the following strategies:

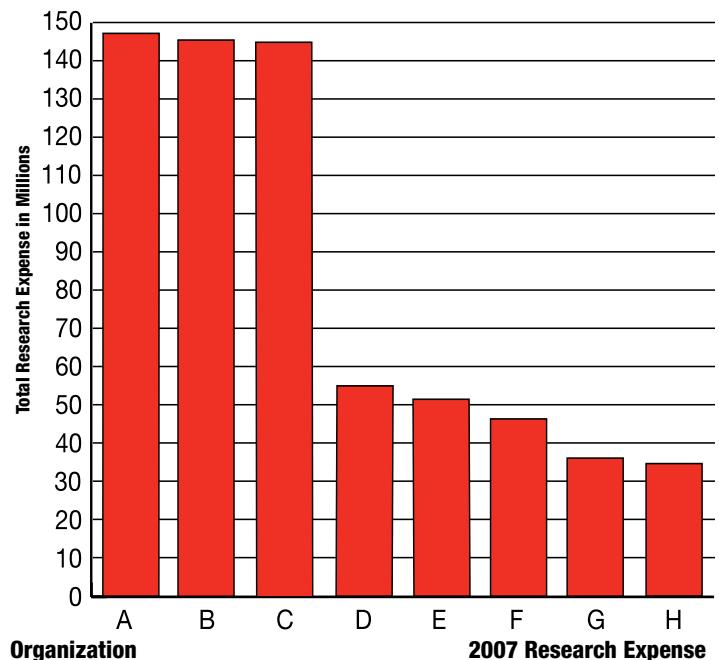
- Fund highly meritorious research

- Advocate for increased government funding of CVD and stroke related research
- Maintain and promote a comprehensive early career investigator program
- Increase collaboration within and across the research community
- Encourage changes in the statutory and regulatory environment that support ongoing discovery
- Fill gaps in the existing knowledge base; address research issues related to cost, quality, and access
- Accelerate discovery and innovation

With the AHA Strategic Plan as a starting point, the AHA research community has developed the 2006–16 Research Strategic Plan and made the following vision its priority:

The American Heart Association will be the premiere cardiovascular and stroke influencing agent for developing and funding early career investigators, including high school and undergraduate students. The association will endorse and support multidisciplinary and collaborative models; undertake high-risk, high-reward research; actively balance basic, clinical, population, and translational research; and expand its international scope.

2007 Research Expense for Major Health Agencies



Organization	2007 Research Expense
A American Heart Association	147,500,000
B American Cancer Society	146,933,000
C Juvenile Diabetes Research Foundation	146,614,000
D American Diabetes Association	54,341,000
E National Multiple Sclerosis Society	50,940,905
F March of Dimes (includes research and medical support)	46,323,000
G Alzheimer's Association	37,593,000
H Muscular Dystrophy Association	37,313,847

Source: Respective Health Agencies' 2007 Annual Reports

National Research Program

Program	2008 New Awards	2008 Continuing Awards	Award Amount	Award Duration	New Commitments*	Description
Clinical Research Program	9	0	\$55,000	2 years	\$986,810	To encourage early career investigators to engage in high quality introductory and pilot clinical studies that will guide future strategies for reducing CVD and stroke.
Fellow-to-Faculty Transition Awards	8	28	\$593,000 over 5 years	5 years	\$4.8 million	To provide funding for beginning physician-scientists with outstanding potential for careers in cardiovascular and stroke research.
Scientist Development Grants	175	532	\$65,000/yr	4 years	\$53.6 million	To support highly promising beginning scientists in their progress toward independence; bridges the gap between completion of research training and readiness as an independent investigator.
Established Investigator Awards	25	98	\$100,000/yr	4 years	\$12.5 million	To support mid-career investigators with unusual promise, a rapidly growing research career committed to CVD or stroke and an established record of accomplishments.
AHA PRT Outcomes Research Centers	4	0	\$3.89 million over 4 years	4 years	\$14.5 million	To fund cardiovascular and stroke research focused on the end results of health care and the determinants of these outcomes.
AHA-Bugher Foundation Awards for the Investigation of Stroke	0	8	\$100,000/yr project support	4-year maximum	0	To stimulate the development of better stroke preventive measures and interventions.
AHA PRT Career Development in Implementation Research	0	11	\$150,000/yr project support	4-year maximum	0	To stimulate career development in investigators interested in implementation research in primary and secondary prevention and quality of care.
ASA-Bugher Foundation Centers for Stroke Prevention Research	0	3	\$2.5 million/yr	4 years	0	To produce a network of interacting institutions and scientists for collaborative, multidisciplinary research to improve stroke prevention, support breakthroughs to advance stroke prevention and produce a cadre of new investigators.

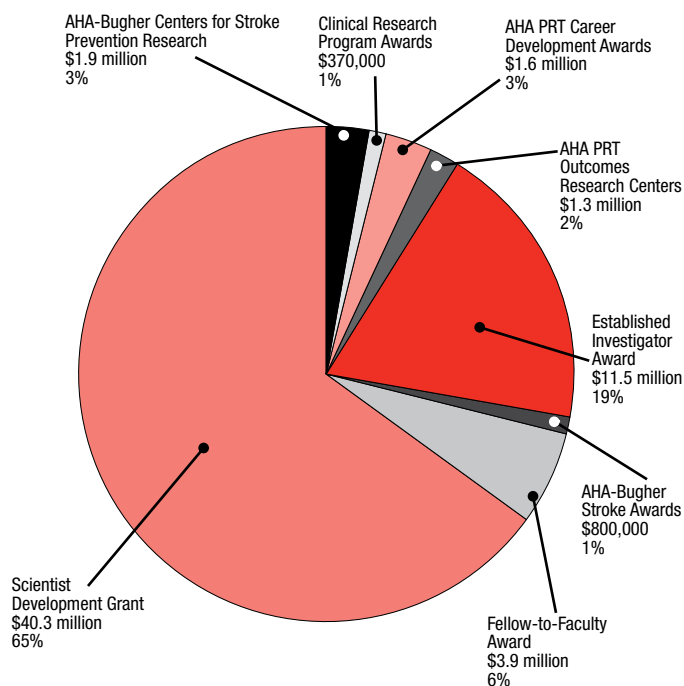
* The full, multi-year amount of new research awards approved in 2007-08 for activation Jan. 1, 2008 and July 1, 2008. • Source: Division of Research Administration, American Heart Association

National Research Program Dollars to Be Paid to Research Institutions in American Heart Association Affiliate Areas, 2008-09

Founders Affiliate <i>CT, MA, ME, NH, NJ, NY, RI, VT</i>	\$12.1 million
Great Rivers <i>DE, KY, OH, PA, WV</i>	\$8.9 million
Greater Southeast Affiliate <i>AL, FL, GA, LA, MS, PR, TN</i>	\$5.6 million
Mid-Atlantic Affiliate <i>DC, MD, NC, SC, VA</i>	\$7.6 million
Midwest Affiliate <i>IA, IL, IN, KS, MI, MN, MO, ND, NE, SD, WI</i>	\$11.3 million
Pacific Mountain Affiliate <i>AK, AZ, CO, HI, ID, MT, OR, WA, WY</i>	\$3.0 million
South Central Affiliate <i>AR, NM, OK, TX</i>	\$5.3 million
Western States Affiliate <i>CA, NV, UT</i>	\$7.9 million
Total 08-09 National Expense	\$61.7 million

Includes awards activated through Oct. 1, 2008.

Distribution of National Research Program Dollars To Be Paid in 2008-09



Affiliate Research Programs

Affiliate Predoctoral Fellowship All affiliates offer programs to help students initiate careers in cardiovascular and stroke research; 326 new and 249 continuing awards funded in 2008-09, totaling \$11.1 million.

Affiliate Postdoctoral Fellowship All affiliates offer programs to provide training for and encourage the pursuit of research careers; 256 new and 207 continuing awards funded in 2008-09, totaling \$17.0 million.

Clinical Research Program Two affiliates offer programs to encourage early career investigators to engage in high quality introductory and pilot clinical studies; 3 new awards funded in 2008-09, totaling \$127,834.

Scientist Development Grants Three affiliates offer this program to help promising beginning scientists to move from completion of research training to independent investigators; 23 new and 37 continuing awards funded in 2008-09, totaling \$3.7 million.

Affiliate Beginning Grants-in-Aid Six affiliates offer this program to promote the independent status of promising beginning scientists; 110 new and 111 continuing awards funded in 2008-09, totaling \$12.4 million.

Affiliate Grants-in-Aid All affiliates offer programs to support innovative, highly meritorious cardiovascular and stroke research projects from independent investigators; 203 new and 234 continuing grants funded in 2008-09, totaling \$26.3 million.

Affiliate Research Program Dollars To Be Paid to Research Institutions in American Heart Association Affiliate Areas, 2008-09

Founders Affiliate	\$9,788,171
Great Rivers	\$9,369,744
Greater Southeast	\$9,615,322
Mid-Atlantic Affiliate	\$8,292,492
Midwest Affiliate	\$14,830,184
Pacific Mountain Affiliate	\$4,969,246
South Central Affiliate	\$5,053,231
Western States Affiliate	\$9,035,073

Affiliates listed in bold type participated in the National Cooperative Research Program by investing some of their research dollars to support awardees of the American Heart Association's National Research Program.

Research: Science Focus

The American Heart Association funds research broadly related to cardiovascular function and disease and stroke. Within this broad range of topics, here are the 2008 commitments to awards related to specific risk factors or populations:

Topic	2008 commitment*
African Americans	\$18,252,362
Aging/Elderly	\$22,305,364
Asian Americans	\$8,046,569
Cholesterol	\$17,756,204
Diabetes	\$22,570,484
High Blood Pressure	\$43,343,050
Hispanic/Latino Americans	\$12,131,357
Native Americans	\$5,171,243
Nutrition	\$9,229,411
Obesity	\$18,309,502
Outcomes Research	\$21,308,089
Pediatric Research	\$11,223,975
Physical Activity/Inactivity	\$3,844,078
Smoking/Tobacco	\$4,019,108
Women	\$12,778,974

*The table is not additive; one project may encompass more than one category.

Distribution of American Heart Association Expenditures 2007-08

