Nearly 2,300 Americans die of cardiovascular diseases each day — one person every 38 seconds. Cardiovascular diseases claim more lives each year than cancer, chronic lower respiratory diseases and accidents combined. About every 25 seconds, an American will have a coronary event, and about every minute someone will die from one. On average, every 40 seconds someone in the United States has a stroke.

Research is a major weapon in our fight against these diseases. Since 1949, the American Heart Association has spent more than $3.2 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 2008–09, we contributed more than $132.2 million, which compares favorably with other health organizations. (See chart on page 2.)

The following summarizes the distribution of the association’s 2009 awards:

Cardiovascular Disease-Related: 401 awards totaling $59.6 million
Cardiovascular Disease- and Broadly Stroke-Related: 331 awards totaling $43.9 million
Cardiovascular Disease- and Closely Stroke-Related: 58 awards totaling $13.6 million
Closely Stroke-Related: 87 awards totaling $13.6 million
Broadly Stroke-Related: 111 awards totaling $13.4 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 over 70 percent of our research dollars to early career investigators. In 2008–09, that amounted to $100.8 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 $132.2 million spent on research in 2008–09, administrative costs of $5.5 million for national and affiliate programs represent only 4.2 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 1,021 new research awards in 2008–09, we didn’t have the additional $153.4 million needed to fund over 1,000 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.
Partnerships

In 2007, the Henrietta B. and Frederick H. Bugher Foundation’s commitment of $8.4 million created a network of three centers for stroke prevention research. Now in their third year, the American Stroke Association-Bugher Foundation Centers for Stroke Prevention Research are discovering new knowledge on stroke prevention, providing insights into the challenges and successful mechanisms for scientific collaboration and producing a cadre of new investigators who are energizing 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 four years, these centers will strive to determine what interventions, environments, patient factors and other issues most influence improvements in health care outcomes for heart disease and stroke patients. The interaction among the centers is already beginning 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 began 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. This initiative is also supported by the W.W. Smith Charitable Trust.

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 2009 these partnerships funded training and early career awards in:

- Cardiovascular aging (Association of Specialty Professors)
- Children’s cardiomyopathy (Children’s Cardiomyopathy Foundation)
- Emergency medicine (Emergency Medicine Foundation/Society for Academic Emergency Medicine)
- Friedreich’s Ataxia (Friedreich’s Ataxia Research Alliance)
- Resuscitation (Philips Medical Systems)

Research: Goals for the Future

In 1999 we set a 10-year goal: to reduce coronary heart disease, stroke and risk by 25 percent by 2010. By fall 2009, death rates from coronary disease had fallen 37.5 percent and deaths from stroke had fallen 32.5 percent. Tens of thousands of people are alive today as a result of this accomplishment.

Reducing risk was less successful. We achieved our goal for reducing high blood pressure and the goal for cholesterol may be met. Smoking reduction may fall a bit short of our goal. We did not achieve our 2010 goals for physical activity, obesity or diabetes.

To sharpen our focus on reducing risk, in 2009 we set a 10-year goal for 2020: to improve the cardiovascular health of all Americans by 20 percent while reducing deaths from cardiovascular diseases and stroke by 20 percent. The AHA will work to achieve his goal by providing knowledge-based solutions for people of all ages, at all levels of risk and leading efforts in research, prevention and treatment.
National Research Program Dollars to Be Paid to Research Institutions in American Heart Association Affiliate Areas, 2009–10

Founders Affiliate $13.4 million
CT, MA, ME, NH, NJ, NY, RI, VT

Great Rivers Affiliate $8.9 million
DE, KY, OH, PA, WV

Greater Southeast Affiliate $5.5 million
AL, FL, GA, LA, MS, PR, TN

Mid-Atlantic Affiliate $7.0 million
D.C., MD, NC, SC, VA

Midwest Affiliate $10.5 million
IA, IL, IN, KS, MI, MN, MO, ND, NE, SD, WI

Pacific Mountain Affiliate $3.2 million
AK, AZ, CO, HI, ID, MT, OR, WA, WY

South Central Affiliate $5.9 million
AR, NM, OK, TX

Western States Affiliate $10.1 million
CA, NV, UT

Total 09–10 National Expense $64.6 million

Distribution of National Research Program Dollars To Be Paid in 2009–10

- AHA-DeHaan Myogenesis Centers $1.5 million 2.3%
- Innovative Research Grant $1.1 million 1.7%
- Established Investigator Awards $10.9 million 16.9%
- Clinical Research Program $875,179 1.4%
- Fellow-to-Faculty Transition Awards $3.3 million 5.1%
- AHA PRT Career Development Awards $1.2 million 1.8%
- AHA PRT Outcomes Research Centers $3.5 million 5.5%
- AHA-DeHaan Myogenesis Centers $2.0 million 3.1%

* The full, multi-year amount of new research awards approved in 2008–09 for activation Jan. 1, 2009 and July 1, 2009. Source: Division of Research Administration, American Heart Association
Affiliate Research Programs, 2008–09

Summer Undergraduate Research Fellowship
Three affiliates offer programs to help students explore careers in cardiovascular and stroke research; 52 new awards funded in 2008–09 totaling $221,000.

Predoctoral Fellowship
All affiliates offer programs to help post-baccalaureate students initiate careers in cardiovascular and stroke research; 268 new awards funded in 2008–09 ($11.9m) and 280 continuing awards totaling $24.4m.

Postdoctoral Fellowship
All affiliates offer programs to provide training for and encourage the pursuit of research careers; 254 new awards funded in 2008–09 ($22.1m) and 216 continuing awards, totaling $41.5m.

Clinical Research Program
Six affiliates offer programs to encourage early career investigators to engage in high-quality introductory and pilot clinical studies; 22 new awards funded in 2008–09 ($2.64m) and three continuing awards totaling $2.98m.

Scientist Development Grants
Two affiliates offer this program to help promising beginning scientists move from completion of research training to independent investigators; 22 new awards funded in 2008–09 ($4.4m) and 43 continuing awards totaling $13.2m.

Beginning Grant-in-Aid
Seven affiliates offer this program to promote the independent status of promising beginning scientists; 84 new awards funded in 2008–09 ($11.6m) and 99 continuing awards totaling $24.8m.

Grant-in-Aid
All affiliates offer programs to support innovative, highly meritorious cardiovascular and stroke research projects from independent investigators; 166 new awards funded in 2008–09 ($26.1m) and 235 continuing grants totaling $64.6m.

Research: Science Focus

The American Heart Association funds research broadly related to cardiovascular function and disease and stroke. Within this broad range of topics, the following shows the 2009 commitment to awards related to specific risk factors or populations:

<table>
<thead>
<tr>
<th>Topic</th>
<th>2009 commitment*</th>
</tr>
</thead>
<tbody>
<tr>
<td>African Americans</td>
<td>$7.08 million</td>
</tr>
<tr>
<td>Aging/elderly</td>
<td>$13.71 million</td>
</tr>
<tr>
<td>Asian Americans</td>
<td>$3.97 million</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>$10.96 million</td>
</tr>
<tr>
<td>Diabetes</td>
<td>$16.14 million</td>
</tr>
<tr>
<td>High blood pressure</td>
<td>$26.35 million</td>
</tr>
<tr>
<td>Hispanic/Latino Americans</td>
<td>$5.76 million</td>
</tr>
<tr>
<td>Native Americans</td>
<td>$2.70 million</td>
</tr>
<tr>
<td>Nutrition</td>
<td>$6.37 million</td>
</tr>
<tr>
<td>Obesity</td>
<td>$16.79 million</td>
</tr>
<tr>
<td>Outcomes research</td>
<td>$9.36 million</td>
</tr>
<tr>
<td>Pediatric research</td>
<td>$10.76 million</td>
</tr>
<tr>
<td>Physical activity/inactivity</td>
<td>$5.75 million</td>
</tr>
<tr>
<td>Smoking/Tobacco</td>
<td>$1.34 million</td>
</tr>
<tr>
<td>Women</td>
<td>$11.25 million</td>
</tr>
</tbody>
</table>

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

Affiliate Research Program Dollars To Be Paid to Research Institutions in American Heart Association Affiliate Areas, 2009–10

<table>
<thead>
<tr>
<th>Affiliate</th>
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<td>Western States Affiliate</td>
<td>$8.0 million</td>
</tr>
</tbody>
</table>

Affiliates listed in bold type participated in the National Cooperative Research Program by investing some of their research dollars to support awardees of the association’s National Research Program.