FACTS

Breaking Our Hearts: Still America's No. 1 Killer

NIH Funding for Heart and Stroke Research

OVERVIEW

Cardiovascular disease (CVD) continues to be the highest burden on our nation's health, and it's projected to get worse.[1] Now, 1 in 3 American adults (more than 92 million) suffer from CVD.[1,2] CVD was the primary cause of over 30% of all U.S. deaths and an underlying or contributing cause for nearly 54% of deaths in 2014.[1,3] About 2,200 people die of CVD each day—1 death every 40 seconds.[1,3] However, though CVD death rates fell nearly 25% from 2004 to 2014 due in large part to NIH-funded research, the decline has slowed to less than 1% a year since 2012.[4] In 2015, for the first time since 1993, CVD death rates increased.[4]

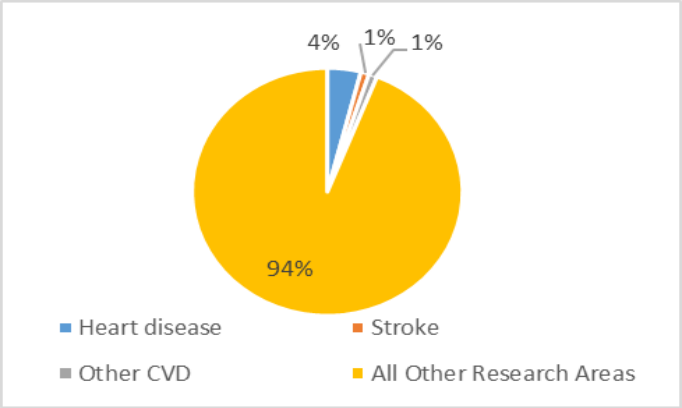
AS BABY BOOMERS AGE, CVD WILL COST MORE LIVES AND MONEY

- In the U.S. heart disease and stroke are the first and fifth highest causes of death, respectively.[1,5]
- The lifetime risk for developing CVD in those free of known disease at age 45 is nearly 2 in 3 for men and greater than 1 in 2 for women.[6]
- Annual direct and indirect costs for CVD are more than $555 billion.[7]
- An estimated 45% of the U.S. adult population is projected to have some form of CVD by 2035, with total annual costs reaching more than $1 trillion.[7]
- Between 2015 and 2035, total direct stroke-related costs are expected to increase from $66.3 billion to $142.9 billion. Stroke prevalence is expected to increase by nearly 27% as well.[1]

CVD FUNDING COMPARED TO BURDEN

Despite the significant return on investment, **the National Institutes of Health (NIH) invests a highly-disproportionate 4% of its budget on heart research, a mere 1% on stroke research, and only 1% on other CVD research** [see chart]. This funding level is not commensurate with scientific opportunities, the number of people afflicted with CVD, or the physical and economic toll exacted upon our nation.

Heart Disease, Stroke, and Other CVD Research Funding as a Percent of Total NIH Funding FY 2015



Source: NIH Budget and Appropriations

NIH HEART AND STROKE RESEARCH CAN REDUCE HEALTHCARE COSTS

Advances in CVD care can help reduce costs:

- Diuretics, a traditional, less expensive medication, tested as well as newer medicines in treating high blood pressure and preventing some forms of heart disease in the largest hypertension clinical trial (ALLHAT-LLT).[8]
- NIH research has shown that ordinary aspirin, with or without other anti-platelet drugs, can reduce the risk of recurrent stroke in persons with intracranial atherosclerosis.[9]
- Tissue plasminogen activator (tPA) is the only FDA-approved acute treatment for the most common type of stroke (ischemic stroke). Patients treated with tPA within 4.5 hours of onset of stroke symptoms are 40% more likely to have better outcomes and reduced post stroke disability.[10]
- A study estimates the original National Institute of Neurological Disorders and Stroke-funded tPA trial resulted in a 10-year net benefit of $6.47 billion.[11]
- The NIH's *Women's Health Initiative* resulted in a total economic return of $140 for every $1 invested in the trial and led to 76,000 fewer cases of cardiovascular disease.[12]

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NIH HEART AND STROKE RESEARCH HAS REVOLUTIONIZED PATIENT CARE

Some of the major advances in heart disease and stroke treatments include the following:

- According to the SPRINT trial, adults over age 50 have a 25% reduced risk of heart attack, heart failure, and stroke, and a 27% less likelihood of all-cause mortality by maintaining a systolic blood pressure of less than 120 mm Hg compared to the previous standard of 140 mm Hg,[13]
- Further research has shown that the SPRINT protocol could prevent over 100,000 deaths per year.[14]
- Genetic testing can be used to identify people at higher risk for coronary heart disease and those who stand to benefit most from cholesterol-lowering statin therapy.[15]
- A revolutionary clot-busting drug which reduces disability from heart attack or stroke by dissolving blood clots that cause the attacks.[16]
- Drugs to lower cholesterol has reduced the average cholesterol level in the U.S. to the ideal range for the first time in 50 years.[17]
- Constraint-Induced Movement Therapy, a rehabilitative method forcing use of a partially paralyzed arm, can help stroke survivors regain arm function.[18]
- Stent system removes clots in large blood vessels in some ischemic stroke patients to prevent brain damage.[19]
- A less invasive way to perform transcather aortic valve replacement, transscaval access, makes it more available to high risk patients, mainly women.[20]

NEED SUSTAINED AND PREDICTABLE FUNDING TO STIMULATE RESEARCH

Although much has been accomplished, cardiovascular disease is not “cured.” As the population ages, the demand will increase for more and better ways to allow Americans to lives free from CVD Some promising new research opportunities include:

- Discovering molecules that help identify the components of robust brain repair after stroke.[21]
- Developing biomarkers to show which patients may need defibrillators to treat erratic heart rhythms.[22]
- Development of a wireless mobile health patch that can potentially replace the Holter Monitor to accurately detect cardiac arrhythmia.[23]
- Genomic analysis that can potentially predict 20% more cases of congenital heart defects.[24]
- Improving outcomes of heart failure patients via coronary heart bypass surgery.[25]
- Restoring damaged heart tissue after heart attacks.[26]

THE ASSOCIATION ADVOCATES

The American Heart Association joins the medical research community in seeking sustainable and predictable funding for the NIH. Moreover, we are working to promote and increase funding for NIH heart and stroke research. This will capitalize on NIH’s investment to improve Americans’ health, spur economic growth and innovation, and preserve U.S. leadership in medical research.

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