

Investment in research saves lives and money



facts about:

Heart Disease & Stroke

"If you think research is expensive, try disease."

- Mary Lasker 1901-1994

Today

- ❑ In 2013, 52 in every 100,000 Americans died from coronary heart disease. Every minute and 24 seconds, an American dies from this all-too-prevalent illness.* ‡
- ❑ In 2011, approximately 1 in every 20 deaths was caused by a stroke. On average, every 40 seconds someone in the U.S. experienced a stroke, and every 4 minutes the stroke was fatal.*
- ❑ Between 2009 and 2012, 15.8% of men and 14.0% of women 80 and older experienced a stroke.*
- ❑ In 2012, 32.6% of American adults suffered from high blood pressure, a precursor to both heart disease and stroke.*

* MOZAFFARIAN ET. AL. CIRCULATION 2015; (131):29-322.
 ‡ CENTERS FOR DISEASE CONTROL AND PREVENTION <WWW.CDC.GOV>
 + REUTERS, NEW YORK TIMES, 2015 <WWW.NYTIMES.COM>
 ^ WEINTRAUB ET. AL. CIRCULATION 2011; (124):967-990.

The Cost

- ❑ The total economic burden of heart disease in America was estimated to be \$215.6 billion in 2011.*
- ❑ The direct and indirect costs of strokes in 2011 totaled over \$33 billion.*
- ❑ In 2011, the average cost for a single hospitalization due to common heart-related surgeries, like coronary artery bypass, pacemaker insertion, and valve procedures, was over \$40,000.‡
- ❑ Between 2010-2030, the cumulative U.S. economic burden of cardiovascular diseases could surpass \$1 trillion. ^

SAVING LIVES
SAVING MONEY

HOW RESEARCH SAVES LIVES:

- ❑ Researchers at the University of California Los Angeles found that the mortality rate for subsequent heart attacks fell by 5.5% when Early Invasive Strategy (EIS) was started 12 to 24 hours after a high risk patient was admitted for a mild heart attack, rather than 48 hours after, which was the previous standard of care.*
- ❑ Nearly 10% of individuals suffer a stroke following heart surgeries. A blood test can now identify individuals at a higher risk for experiencing these adverse events. Researchers have found that an existing blood test is a more accurate predictor of stroke than identification of risk factors, and makes it possible for high risk patients to be monitored closely to benefit from immediate interventions if symptoms of a stroke arise, greatly decreasing their mortality risk.‡

HOW RESEARCH SAVES MONEY:

- ❑ Health economics research has found B vitamins, identified by researchers as an effective preventative measure for coronary heart disease, would reduce related health care costs by \$5.2 billion between 2013 and 2020 if given to high risk populations. Every dollar spent on B vitamin supplements for high risk individuals is associated with a health care savings of \$1.76.+
- ❑ Telestroke, developed by health care technology researchers, provides neurologists with the ability to remotely conduct routine check-ins with patients recovering from strokes. Telestroke technology allows patients to receive specialized care at their local clinics. A single patient in a rural setting receiving a consultation via Telestroke is associated with a cost savings of \$1,436.^

survivor:

NAME: **Aaron Grefrath**
 AGE: **42**
 CONDITION: **Heart Disease**



While working on a project ahead of the December holidays, Aaron Grefrath lost consciousness twice in a row with no understanding of the cause, or how much time he had lost. After speaking with his wife, they decided it was best for him to be admitted into the hospital as an inpatient. But after several days of extensive testing, there was no explanation for the 37-year-old's episodes. Feeling fine, Aaron was discharged and he quickly returned to his normal routine.

Approximately one year later, Aaron experienced another episode, losing consciousness and earning him a return trip to the hospital where tests were repeated rigorously. Still with no answers, Aaron met with a specialist who conducted a "Tilt Table" test. It was during this test that doctors finally saw the strange symptoms he had been experiencing. During the test, Aaron was clinically dead for 38 seconds as he experienced complete ventricular and atrial asystole. Two years after Aaron's first episode, he finally had a diagnosis, and a pacemaker was implanted to treat the condition.

This experience led Aaron to advocate for the American Heart Association (AHA) by speaking with Missouri State Representatives. AHA deploys multiple strategies to improve the lives of Americans, including fighting for prevention programs for obesity and tobacco use, improved access to quality care, and increased funding for heart disease and stroke research. Aaron is currently working to pass a bill requiring all high school students to learn how to conduct cardiopulmonary resuscitation (CPR) before they graduate. Aaron describes his work with AHA as a "wonderful experience" and he will "never forget what the AHA stands and fights for."

* KHERA, S. ET. AL. J AM HEART ASSOC, 2014.
 ‡ ARNAN, M ET. AL. WAKE FOREST BAPTIST MEDICAL CENTER, 2015.
 + FROST & SULLIVAN, SMART PREVENTION, 2013. <WWW.FROST.COM>
 ^ MAYO CLINIC, 2014. <MAYOCLINIC.ORG>

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Hope for the Future:

- In 2015, researchers utilized 3D printing technology to create a perfect replica of a teenager's heart. Doctors used this model for delicate surgery to repair a congenital defect. By having the capacity to practice the complex surgery on the replica, doctors were able to greatly reduce the risk to the patient.*
- A research team based in Houston has developed a prototype for a "bionic" heart replacement. Other designs all mimic the beating of a heart, but due to many moving parts, the mechanical hearts would quickly wear out. The heart developed by BiVACOR does not beat, and instead has one moving part which propels the blood throughout the body. The bionic heart has been safely and successfully transplanted into animals leading to very promising results.^
- Research funded by the National Institutes of Health has led to the discovery of a set of genetic factors that can be used to identify individuals at a higher risk for heart disease. Screening for these genetic factors may lead to targeted therapies and help doctors identify those patients who would benefit the most from statin therapy.†

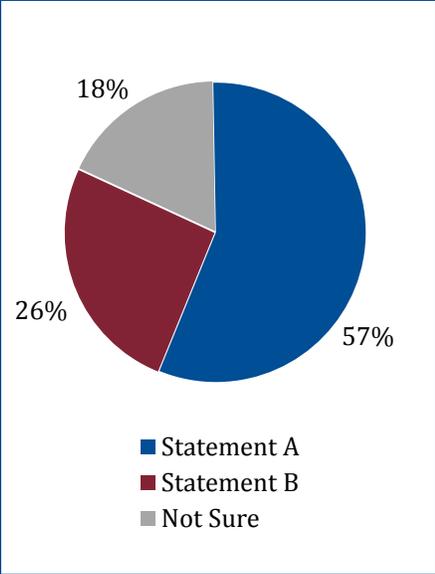
* CHILDRENS HOSPITAL OF MICHIGAN, 2015.
 † BUSINESS STANDARD, 2015.
 ^ NATIONAL INSTITUTES OF HEALTH <WWW.NIH.GOV>

National Poll: Majority say it's important for U.S. to lead in research

Which of the following statement is closer to your view?

Statement A: It is important that the U.S. is a leader in medical and health research.

Statement B: It does not matter where in the world medical and health research takes place, U.S. consumers will benefit regardless.

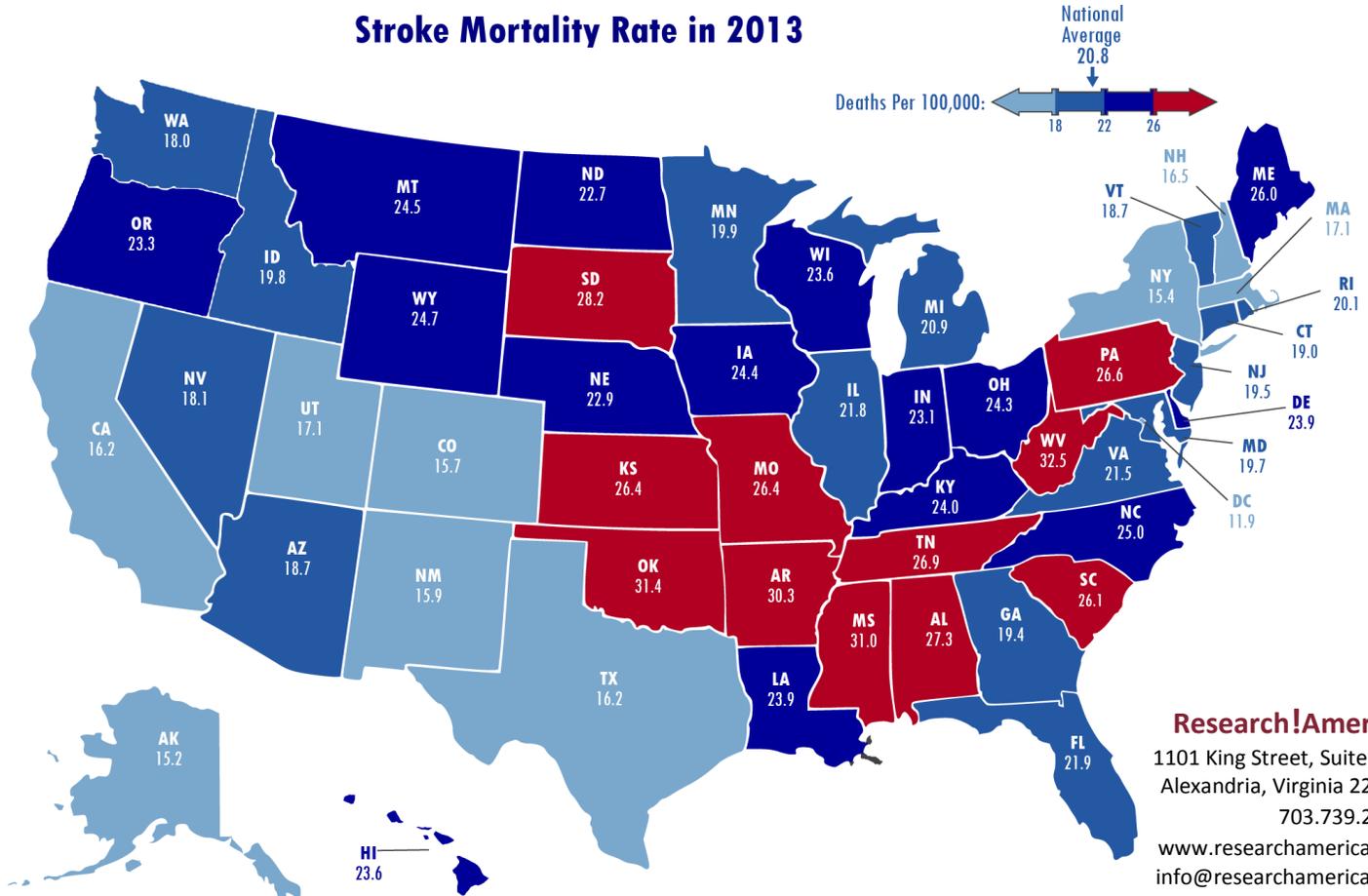


RESEARCH!AMERICA POLL
 CONDUCTED IN PARTNERSHIP WITH
 ZOGBY ANALYTICS IN JANUARY 2015

The Bottom Line:

Research has identified innovative strategies to prevent, diagnose and treat heart disease and stroke. These advances have enabled patients to live longer, healthier and more productive lives. Increasing investment in heart disease and stroke research today will help ensure a healthy America tomorrow.

Stroke Mortality Rate in 2013



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