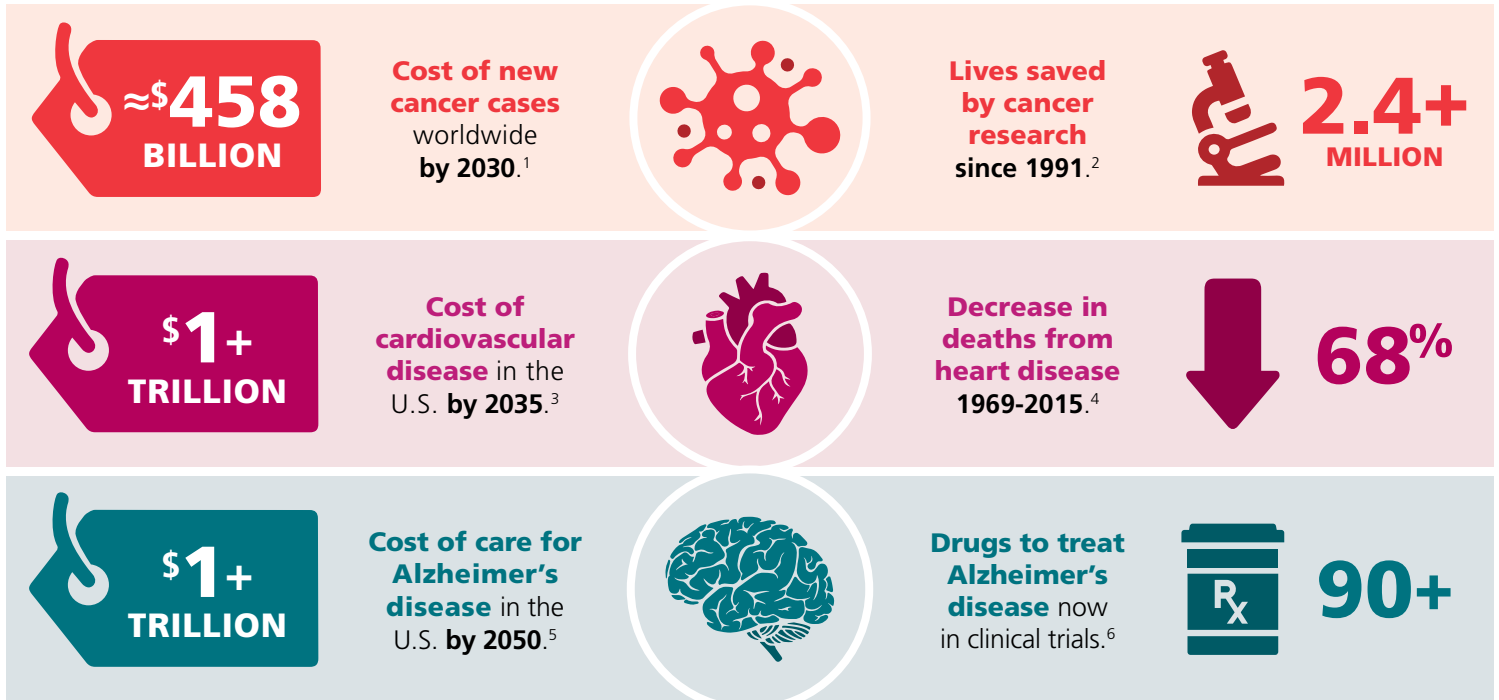


The Value of NIH-Funded Research at Medical Schools and Teaching Hospitals

Federal investment in research is key to U.S. prosperity. Sustained, meaningful growth in the National Institutes of Health (NIH) budget, and the research at medical schools and teaching hospitals that it funds, is an investment that results in saved lives, better health, economic growth, stronger local and regional economies, and U.S. global leadership in science and technology.

DISEASE IS COSTLY

RESEARCH PROVIDES HOPE



200+
NIH-funded research was the basis for **all 210 drugs approved by the FDA** between 2010 and 2016.⁷

In 2017, **research at medical schools and teaching hospitals** generated:⁸



By 2022 **China will outspend the U.S. on research and development** unless the U.S. starts investing more now.⁹



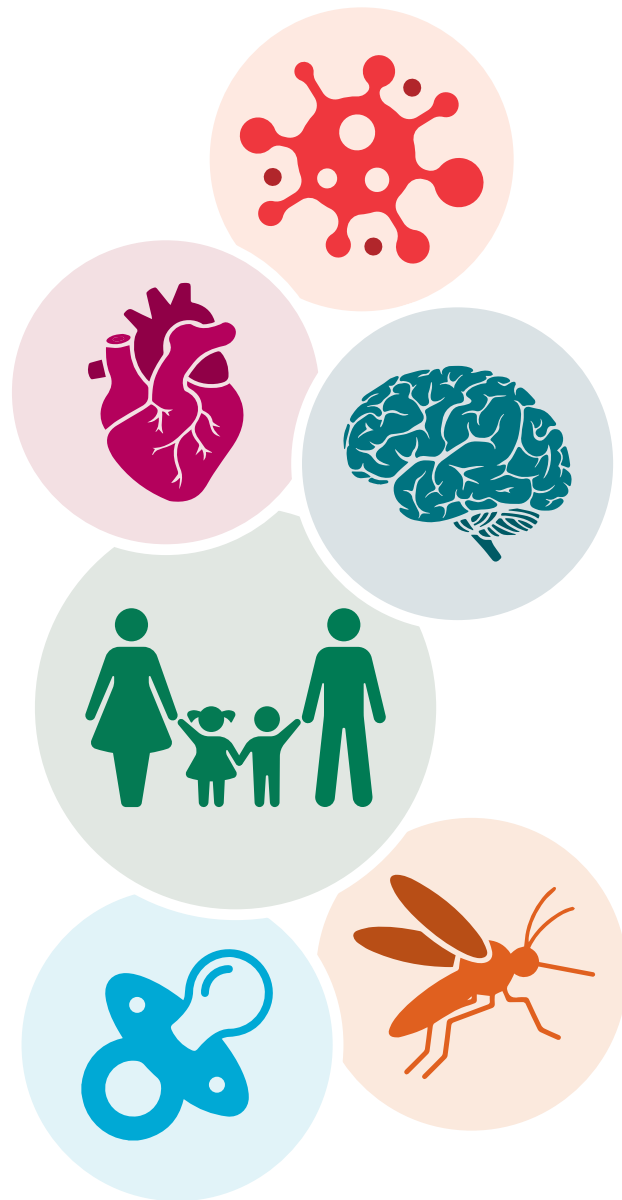
Medical schools and teaching hospitals conduct **nearly 55% of all NIH extramural research**.¹⁰

To keep productive labs operating, train new scientists, and maximize return on investment, **NIH needs secure, sustained funding growth.**

NIH-Funded Research at Medical Schools and Teaching Hospitals: A Closer Look

AAMC-member medical schools and teaching hospitals conduct nearly 55% of all extramural research funded by the National Institutes of Health (NIH). In recent years, bipartisan support for medical research and the NIH has helped recapture lost ground after more than a decade of underfunding, but continued support is needed to fully recover.

Sustained, meaningful growth in the NIH budget, and the research at medical schools and teaching hospitals that it funds, is an investment that results in saved lives, better health, economic growth, stronger local and regional economies, and U.S. global leadership in science and technology.



Improving Our Health

Research at medical schools and teaching hospitals is helping Americans live longer, healthier lives and continues to hold promise for millions of patients:

- **More than 2.4 million lives saved by cancer research** since 1991.²
- **68% decrease in deaths from heart disease** between 1969 and 2015.⁴
- **8-year increase in the life expectancy of the average American** between 1970 and 2016.¹¹
- **50% decrease in the rate of sudden infant death syndrome (SIDS)** between 1994 and 1999 and trending down since then.¹²
- **All 210 new FDA-approved drugs** from 2010 to 2016.⁷
- **90+ drugs to treat Alzheimer's disease** now in clinical trials.⁶
- **Cutting-edge and life-saving innovations in care and treatment**, including immunotherapies for lung cancer and leukemia,¹³ ways to determine the effectiveness of chemotherapy on breast cancer,¹⁴ cochlear implants,¹⁵ and liver transplants.¹⁶
- **Continued progress on combating many emerging and ongoing public health threats**, including research into nonaddictive pain medications, vaccines for the Zika virus, a universal flu vaccine, and a bionic pancreas to help treat diabetes.

Advancing Science

The NIH spends nearly half its budget on basic science research, which is the foundation for important developments that lead to clinical breakthroughs:¹⁷

- Research into bacterial immune systems led to the **discovery of the gene-editing technique CRISPR**,¹⁸ which, among other applications, could **make chemotherapy less toxic and cure blood disorders like sickle cell disease**.¹⁹
- Research into the genetics of plant growth led to the **discovery of RNAi**, a molecular “mute button” that offers a promising approach to **treating AIDS and other diseases**.²⁰



Bolstering Our Economy

Breakthroughs from research at medical schools and teaching hospitals, and their ongoing commitment to research discoveries, build more robust local and regional economies:

- In 2017, **research** at medical schools and teaching hospitals **generated \$25.4 billion in GDP** and provided **more than 313,500 jobs**.⁸
- The **return on investment of NIH funds in research is significant**:²¹
 - » A **\$1.00 increase in public basic research stimulates an additional \$8.38** of industry R&D investment after 8 years.
 - » A **\$1.00 increase in public clinical research stimulates an additional \$2.35** of industry R&D investment after 3 years.



Maintaining Our Global Competitiveness

The U.S. has long been the global leader in medical research funding, but other countries are catching up:

- For example, **without steady and robust funding growth, China will outspend the U.S. on all research and development by 2022**.⁹
- The Asian region, with R&D powerhouses China, Japan, South Korea, and India, has **grown to now contribute nearly 44% of the global R&D investment, up 10 percentage-share points from 10 years ago**.²²
- Relative to the major countries in North America, Europe, and Asia-Oceania, **the U.S. demonstrated the slowest medical research investment annual growth from 2004 to 2011 (1% per year)**. China (16.9%), Australia (9.3%), Japan (6.8%), Canada (4.5%), Europe (4.1%), and India, Singapore, and South Korea together (20.8%) are all increasing their annual investments at a faster pace.²³



To keep productive labs operating, train new scientists, and maximize return on investment, **NIH needs secure, sustained funding growth.**

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**Association of
American Medical Colleges**

655 K Street, NW, Suite 100, Washington, DC 20001-2399

T 202 828 0400
aamc.org