

# 2010 U.S. INVESTMENT IN HEALTH RESEARCH

RESEARCH AMERICA  
AN ALLIANCE FOR DISCOVERIES IN HEALTH

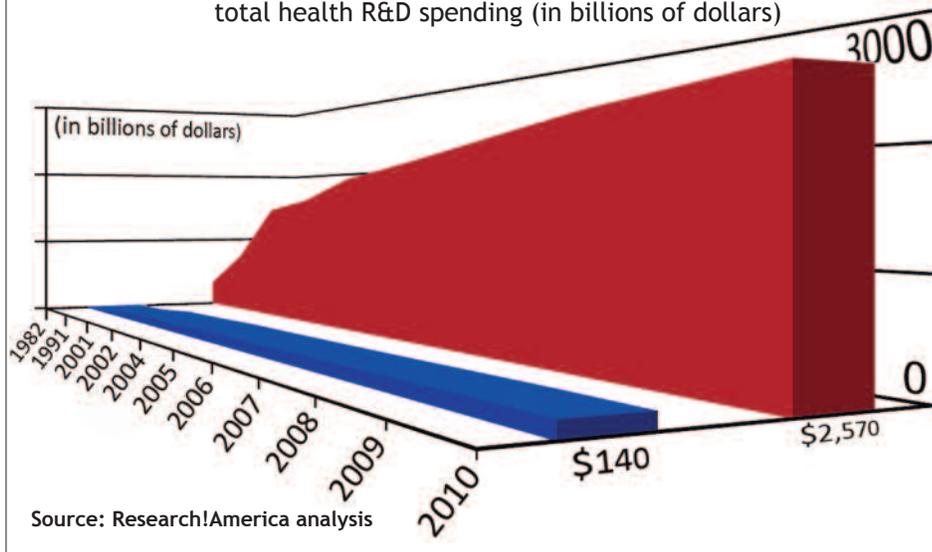
In 2010, health research spending in the United States increased slightly from \$138.9 billion to \$140.5 billion, or about 1%, lagging behind the estimated 2.8% increase in the cost of conducting such research.<sup>1</sup> The U.S. spent \$2.6 trillion on health care overall, while health research accounted for only 5.5% of total health care spending.

Federal funding for health research totaled \$45.9 billion in 2010, a \$550 million decrease from the previous year. The National Institutes of Health (NIH) invested \$34.8 billion. NIH funds were distributed across all 50 U.S. states to hospitals, universities, independent research institutes and small businesses. The National Science Foundation invested \$2.9 billion in basic research programs with health implications.

Overall, industry invested a total of \$76.5 billion in 2010, a 2.9% increase from 2009. The pharmaceutical industry increased R&D spending by \$4.7 billion – a 14.6% increase. However, the biotechnology industry decreased investment by nearly \$2.7 billion, which is an 8% decrease from 2009. Medical technology industry spending, which includes medical devices and diagnostics, remained relatively flat in 2010.

## Health Research and Health Care Spending in the U.S.

Red represents total health care spending; blue represents total health R&D spending (in billions of dollars)



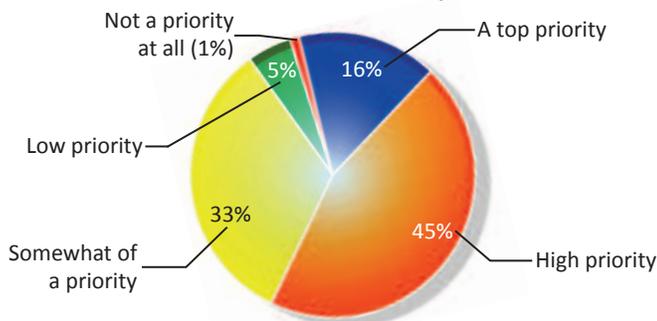
Aside from federal and industry investment, other institutions spent \$18.1 billion on health research in 2010 – a slight increase of 1.7% from the previous year. Universities increased spending of institutional funds for research to \$11.2 billion in 2009 – a 5.6% increase from the previous year. Philanthropic foundations and voluntary health groups decreased investment in research by 19% and 13%

respectively.

Overall, U.S. investment in health research is essentially stagnant when compared to measures of inflation. In contrast, countries around the world are continuing to rapidly scale up investments in R&D. Renewed, robust U.S. investment in research is needed to foster the new treatments and cures that save lives and improve health while driving economic growth.

## Accelerating Investment in Health Research: A High Priority

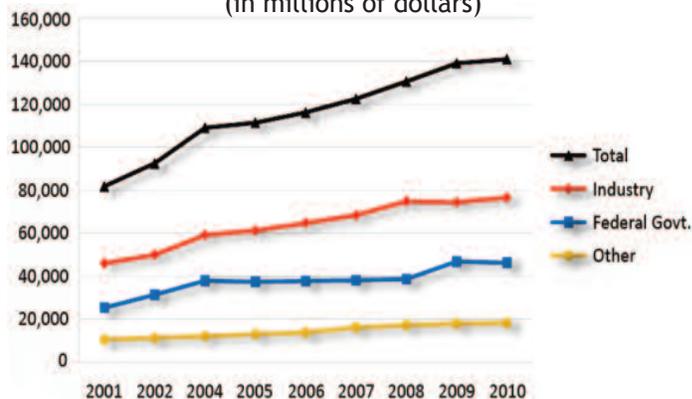
How much of a priority is it to accelerate our nation's investment in research to improve health?



Source: Your Congress-Your Health survey, March 2011, Charlton Research Company for Research!America

## U.S. Health Research Investment by Sector

(in millions of dollars)



Source: Research!America analysis

in millions

**Total: Estimated U.S. Health Research Expenditures .....140,505**

Pharmaceutical (Research and Development, estimate 2010) .....37,371  
 Biotechnology (Research and Development, 2009) .....30,029  
 Medical Technology (Research and Development, 2009) .....9,122

**Subtotal: Industry .....76,522**

National Institutes of Health (includes AHRQ) .....34,829  
 National Science Foundation (Biological Sciences, Bioengineering, Chemistry, Math, Physics, Behavioral Sciences, Computer and Information Science and Engineering, and Polar Health) .....2,914  
 Department of Defense (Medical Research, Chemical and Biological Defense) .....2,667  
 Department of Agriculture (Agricultural Research Service) .....1,265  
 Department of Energy (Biological and Environmental Research, Advanced Scientific Computing Research) .....1,037  
 Environmental Protection Agency (Clean Air, Clean Water, Health and Human Ecosystems, Pesticides and Toxics) .....596  
 Department of Commerce (National Institute of Standards and Technology) .....588  
 Department of Veterans Affairs (Medical and Prosthetic Research) .....581  
 Centers for Disease Control and Prevention (Disease Control, Research & Training) ...363  
 Food and Drug Administration (salaries and expenses) .....248  
 Department of Homeland Security (Chemical and Biological) .....207  
 Department of the Interior (Biological Research) .....205  
 NASA (Human Research Program) .....182  
 U.S. Agency of International Development (targeted health issue research) .....158  
 Centers for Medicare and Medicaid Services (research, demonstration & evaluation) ..27  
 Health Resources and Services Administration (health resources & services) .....8

**Subtotal: Federal Government .....45,875**

Universities (Institutional Funds) (2009) .....11,198  
 State and Local Government (2009) .....3,647  
 Independent Research Institutes (Institutional Funds) .....1,259  
 Philanthropic Foundations (2009) .....1,127  
 Voluntary Health Associations <sup>23</sup> .....877

**Subtotal: Other .....18,108**

Compiled by: Max Bronstein,  
 Research!America (8/2011)

**Countries around the world are continuing to rapidly scale up investments in R&D. Renewed, robust U.S. investment in research is needed to foster the new treatments and cures that save lives and improve health while driving economic growth.**

# Economic Impact of Research

Recent studies from Battelle Memorial Institute and United for Medical Research have demonstrated that medical research generates significant economic activity and creates high-paying jobs in every state, providing immense returns on investment.

In May 2011, the Battelle Memorial Institute, a non-profit R&D organization, released a report on the impact of the NIH-supported Human Genome Project (HGP). The report found that the \$3.8 billion in federal funding for the HGP resulted in a staggering \$796 billion in economic impact from 1988 through 2003. These figures represent a return on investment of \$141 dollars for every dollar of investment.<sup>i</sup>

United for Medical Research, a biomedical advocacy coalition, released a report in May 2011 demonstrating the economic impact of NIH funding. The report found that in 2010, NIH investments led to the creation of 487,900 R&D-intensive jobs in all

50 states with annual wages that are well above the overall private sector average.<sup>ii</sup>

As these reports demonstrate, investments in research not only reduce the burden of disease and disability, they generate robust economic growth. Continuing to invest, especially in difficult economic times, is key to creating jobs, assuring our nation's competitiveness and producing a healthier future for our citizenry.

## Health Care Spending vs. Research Spending

Of each dollar spent in the U.S. on health care...



... about **five cents** goes toward research.

Source: Research!America analysis

# Method & Rationale

The estimate of the U.S. investment in health research was determined by compiling annual expenditures for all domestic health-related research. This analysis includes fields and disciplines that contribute directly or indirectly to improved human health.

Biotechnology research expenditures were calculated from the Pharmaceutical Research and Manufacturers of America (PhRMA) 2011 Profile report as the difference between total biopharmaceutical spending and pharmaceutical spending on R&D.

Figures for USAID, CMS and the Health Resources Services Administration (HRSA) spending were from agency budget reports to Congress. The Department of Defense represents

spending for medical research and chemical and biological defense.

The Department of Agriculture estimate includes research funded by the Agricultural Research Services and the National Institute of Food and Agriculture. Research was determined to be health related based on the research objectives of each agency.

The National Institute of Standards and Technology (NIST) estimate includes research spending on Chemical Science and Technology, Physics, Materials Science and Engineering, Information Technology, Electronics and Electrical Engineering, Center for Nanoscale Science and Technology and Technology Services.

University Institutional Funds are figures reported by the National Sci-

ence Foundation (NSF) as part of the Survey of Research and Development Expenditures at Universities and Colleges for FY09. Institutional funds may include endowment income, tuition or gifts/donations. Figures for institutional funds of independent research institutes were taken from the Association of Independent Research Institutes (AIRI) annual survey of its members.

R&D investment by voluntary health organizations was calculated using the annual reports of 51 of the largest research grant-making organizations.

This is the eighth annual Investment in Research report. Previous reports are available online: [www.researchamerica.org/research\\_investment](http://www.researchamerica.org/research_investment).



Photos courtesy of NIH, CDC

# Sources & Footnotes

Centers for Medicare and Medicaid Services, National Health Expenditure Data, (US Health Expenditures)

<http://www.cms.gov/NationalHealthExpendData/downloads/proj2009.pdf>.

PhRMA, 2011 Profile Pharmaceutical Industry. (Biopharma estimate, Pharmaceutical Industry, Biotechnology Industry)

[http://www.phrma.org/sites/default/files/159/phrma\\_profile\\_2011\\_final.pdf](http://www.phrma.org/sites/default/files/159/phrma_profile_2011_final.pdf).

Ernst and Young, Pulse of the Industry Medical Technology Report 2010. (Medical Technology Industry)

[http://www.ey.com/Publication/vwLUAssets/Pulse\\_Industry\\_Medical\\_Technology\\_Report-OCT-2010/\\$FILE/PulseIndustryMedicalTechnologyReport%20OCT%202010.pdf](http://www.ey.com/Publication/vwLUAssets/Pulse_Industry_Medical_Technology_Report-OCT-2010/$FILE/PulseIndustryMedicalTechnologyReport%20OCT%202010.pdf).

National Institutes of Health (NIH). (NIH and AHRQ). <http://report.nih.gov/nihdatabook/>. (ARRA spending) [http://report.nih.gov/recovery/NIH\\_ARRA\\_Funding.pdf](http://report.nih.gov/recovery/NIH_ARRA_Funding.pdf).

American Association for the Advancement of Science Report XXXVI, R&D FY 2012. (National Science Foundation).

<http://www.aaas.org/spp/rd/rdreport2012/>.

Centers for Medicare and Medicaid Services (CMS).

<http://www.cms.gov/PerformanceBudget/Downloads/CMSFY12CJ.pdf>.

Health Resources and Services Administration (HRSA). <http://www.hrsa.gov/about/budget/budgetjustification2012.pdf>.

National Science Foundation (University Institutional Funds & State and Local Governments) <http://www.nsf.gov/statistics/infbrief/nsf10329/#fn1>.

Association of Independent Research Institutes, Survey of Members (Independent Research Institutes),

<http://www.airi.org>.

The Foundation Center, Distribution of Foundation Grants by Subject Categories, (Philanthropic Foundations)

[http://foundationcenter.org/findfunders/statistics/pdf/04\\_fund\\_sub/2009/10\\_09.pdf](http://foundationcenter.org/findfunders/statistics/pdf/04_fund_sub/2009/10_09.pdf).

Research!America survey of annual reports of voluntary health associations (Voluntary Health Associations).

<sup>1</sup> [http://officeofbudget.od.nih.gov/pdfs/FY12/BRDPI\\_Proj\\_Jan\\_2011\\_Final.pdf](http://officeofbudget.od.nih.gov/pdfs/FY12/BRDPI_Proj_Jan_2011_Final.pdf)

<sup>i</sup> [http://www.battelle.org/spotlight/5-11-11\\_genome.aspx](http://www.battelle.org/spotlight/5-11-11_genome.aspx)

<sup>ii</sup> [http://www.unitedformedicalresearch.com/wp-content/uploads/2011/05/UMR\\_Economic-Engine.pdf](http://www.unitedformedicalresearch.com/wp-content/uploads/2011/05/UMR_Economic-Engine.pdf)



1101 King Street, Suite 520; Alexandria, VA 22314-2960  
703.739.2577 phone / 703.739.2372 fax  
800.366.CURE; [www.researchamerica.org](http://www.researchamerica.org)