

2008 Investment in U.S. Health Research



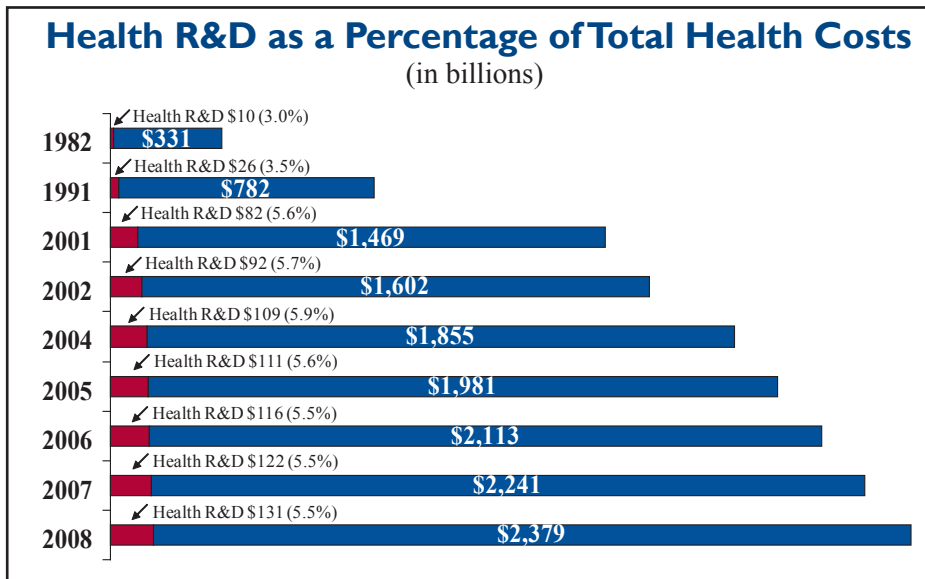
Health Research Investment Continues to Plateau in 2008

In 2008 and for the fourth year in a row, the percentage of each health dollar spent on research stagnated. The U.S. once again invested only 5.5 cents of each health dollar to solve the health challenges our nation faces.

Then the 2008 federal election and the economic downturn brought a recommitment to research. Congress and the Administration passed the American Recovery and Reinvestment Act early in 2009 prioritizing research and innovation. Specifically, \$10.4 billion was allocated to the National Institutes of Health to be awarded to research institutions across the country by September 2010.

This dramatic infusion of resources has invigorated the scientific community, allowed them to pursue game-changing avenues of research and further revealed extraordinary untapped potential for progress. To build on this scientific momentum, the annual appropriation for NIH must reach \$40 billion as quickly as possible.

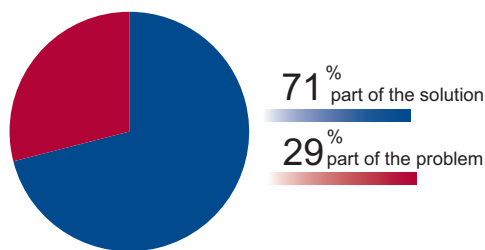
Only with robust investment will the U.S. be able to expand the capacity of NIH and other research institutions to improve health and drive economic growth.



Sources: NIH Data Book; Research!America, Investment in U.S. Health Research 2001, 2002, 2004-2008; Centers for Medicare & Medicaid Services, National Health Expenditure Amounts 1965-2018

Research is a Solution to Rising Health Care Costs

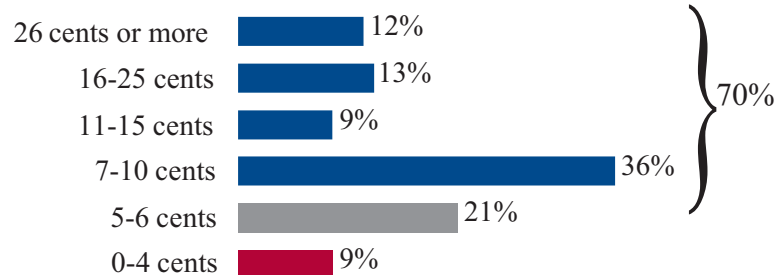
When it comes to rising health care costs, would you say research to improve health is part of the problem or part of the solution?



Source: Your Congress—Your Health Survey, June 2009
Charlton Research Company for Research!America

Majority of Americans Want More Funding for Research

How many cents out of each health dollar do you think we SHOULD spend?



Source: Your Congress—Your Health Survey, June 2009
Charlton Research Company for Research!America

We estimate the amount of money spent on research to improve health at \$131 billion. This amount is only 5.5% of the \$2.38 trillion¹ spent on health in the United States in 2008.

\$ in millions

Total: Estimated U.S. Health Research Expenditures	130,525
Pharmaceutical (Research and Development) ^{2,3}	37,725
Biotechnology (Research and Development) ³	27,475
Medical Technology (Research and Development, 2007) ⁴	9,600
Subtotal: Industry	74,800
National Institutes of Health ⁵	29,328
National Science Foundation (Biological Sciences, Bioengineering, Chemistry, Math, Physics, Behavioral and Cognitive Sciences, Computer and Information Science and Engineering, and Polar Environment, Health and Safety) ⁶	2,035
Department of Defense (Medical, Chemical and Biological Defense) ⁷	2,007
Department of Agriculture ⁸	985
Department of Veterans Affairs (Medical and Prosthetic Research) ⁹	886
Department of Energy (Biological and Environmental Research, Advanced Scientific Computing Research) ¹⁰	873
Centers for Disease Control and Prevention ¹¹	518
Environmental Protection Agency (Clean Air, Clean Water, Health and Human Ecosystems, Pesticides and Toxics) ¹²	436
Agency for Healthcare Research and Quality ¹³	334
Department of Commerce (National Institute of Standards and Technology) ¹⁴	290
Department of Homeland Security (Chemical and Biological) ¹⁵	208
Department of the Interior (Biological Research) ¹⁶	180
U.S. Agency for International Development ¹⁷	178
Food and Drug Administration ¹⁸	161
NASA (Human Research Program) ¹⁹	150
Centers for Medicare and Medicaid Services ²⁰	31
Health Resources and Services Administration ²¹	12
Subtotal: Federal Government	38,612
Universities (Institutional Funds, 2007) ²²	10,435
State and Local Government Contributions (2007) ²²	3,418
Philanthropic Foundations (2007) ²³	918
Voluntary Health Associations ²⁴	1,183
Independent Research Institutes (Institutional Funds) ²⁵	1,159
Subtotal: Other	17,113

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Method & Rationale

The estimate of the U.S. investment in health research is determined by compiling the annual expenditures for all health-related research. This estimate is intended to be an upper limit, inclusive of all disciplines that contribute directly or indirectly to better human health. The percentage of the health dollar spent on research is determined by dividing the investment in research by the U.S. national health expenditures for 2008 estimated by the Centers for Medicare & Medicaid Services. All data is 2008 unless otherwise noted.

The Pharmaceutical Research and Manufacturers of America (PhRMA) reports a biopharmaceutical (including biotechnology and pharmaceutical) industry-wide research and development (R&D) figure of \$65.2 billion in 2008. PhRMA member companies invested \$50.3 billion, of which approximately 25%

(\$12.6 billion) was invested in biologics and biotechnology R&D. The analysis was performed by Burrill & Company. In this estimate, the R&D investment in pharmaceuticals represents the portion of biopharmaceutical R&D not spent on biotechnology.

The Department of Agriculture estimate includes research funded by the Agricultural Research Service and the National Institute of Food and Agriculture. Research was determined to be health-related based on the agency's strategic objectives.

The National Institute of Standards and Technology estimate includes 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.

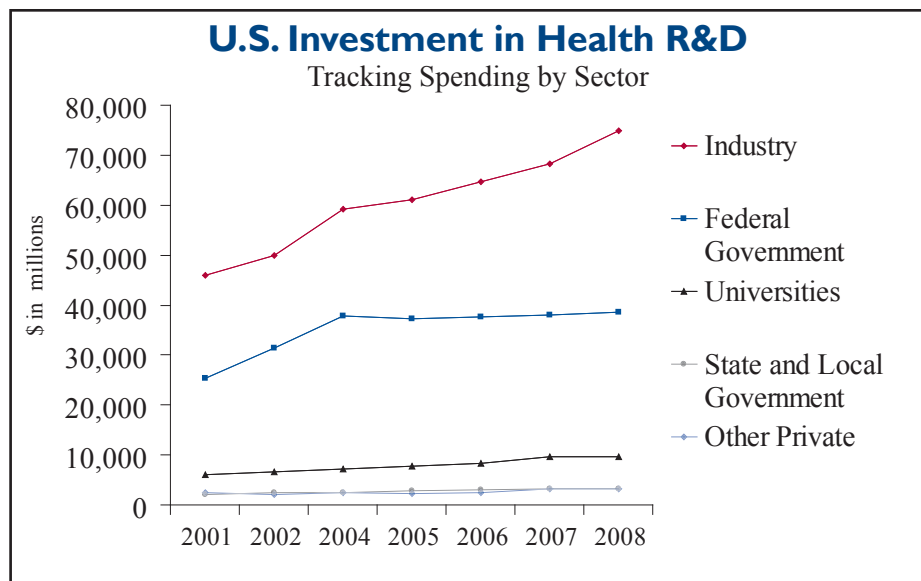
University funds include all institutional funds spent on R&D in science and engineering and represent an upper limit estimate. These are discretionary, general purpose funds that the university has chosen to designate as R&D. When reporting institutional funds spent on R&D to the National Science Foundation, universities can include unrestricted funds from all outside resources, tuition and fees, endowment income, gifts, other institutional funds, as well as indirect costs for externally funded R&D projects.

The state and local government investment represents an estimate of all funds allocated to colleges and universities for R&D.

Data reported by the Foundation Center are based on grants of \$10,000 or more awarded by a national sample of 1,339 larger U.S. foundations. Only grants in the medical research category are reported in this estimate. The grants reported by the Foundation Center represent about half of the total grant dollars awarded by all U.S. independent, corporate, community and grantmaking operating foundations.

The voluntary health associations estimate was calculated based on the 2007 or 2008 financial statements of VHAs that share financial information on their websites.

The estimate of spending by independent research institutes is based on a survey of Association of Independent Research Institutes (AIRI) members. Only funds from the institutes' endowments and "other" sources were included in this estimate to avoid double-counting funds from government or industry sources. To see a list of the current AIRI members, visit <http://www.airi.org/about/member-list.aspx>.



Source: Research!America, Investment in U.S. Health Research, 2001, 2002, 2004-2008

- ¹Centers for Medicare and Medicaid Services, National Health Expenditure Data (www.cms.hhs.gov/NationalHealthExpendData/Downloads/proj2007.pdf)
- ²Pharmaceutical Research and Manufacturers of America, Pharmaceutical Industry Profile 2009 (<http://www.phrma.org/files/PhRMA%202009%20Profile%20FINAL.pdf>)
- ³Burrill & Company, Biotech 2009 – Life Sciences: Navigating the Sea Change, 2009
- ⁴Ernst & Young, Pulse of the Industry: U.S. Medical Technology Report 2008 (www.ey.com/US/en/Industries/Biotechnology/Biotechnology_Pulse_of_the_US_medical_technology)
- ⁵National Institutes of Health, Mechanism Detail Actual Obligations, FY 1983 - FY 2008, (officeofbudget.od.nih.gov/pdfs/FY09/Mechanism%20Detail,%20Total%20NIH,%20FY%201983%20-%202008.pdf)
- ⁶National Science Foundation, FY 2010 Budget Request to Congress (www.nsf.gov/about/budget/fy2010/toc.jsp)
- ⁷Department of Defense, FY 2010 Budget Estimates (www.defenselink.mil/comptroller/defbudget/fy2010/fy2010_r1.pdf) and (www.defenselink.mil/comptroller/defbudget/fy2010/budget_justification/pdfs/09_Defense_Health_Program/VOL_2/Vol_II_Sec_3-A_R-1_RDT_and_E_Program_10PB_DHP.pdf)
- ⁸Department of Agriculture, 2010 USDA Budget Explanatory Notes for Committee on Appropriations - Agricultural Research Service and National Food and Agriculture Institute (www.obpa.usda.gov/12ars2010notes.pdf and www.obpa.usda.gov/13nifa2010notes.pdf)
- ⁹Department of Veterans Affairs, FY 2010 Budget Submission, Volume II (www.va.gov/budget/summary/2010/Volume_2-Medical_Programs_and_Information_Technology.pdf)
- ¹⁰Department of Energy, FY 2010 Budget Justification, Volume 4 (www.cfo.doe.gov/budget/10budget/Content/Volumes/Volume4.pdf)
- ¹¹Centers for Disease Control and Prevention, FY 2009 Budget Request Summary, (www.cdc.gov/fmo/topic/Budget%20Information/appropriations_budget_form_pdf/FY09budgetreqsummary.pdf)
- ¹²Environmental Protection Agency, FY 2010 EPA Budget in Brief (<http://www.epa.gov/budget/2010/2010bib.pdf>)
- ¹³Agency for Healthcare Research and Quality, FY 2010 Congressional Justification (www.ahrq.gov/about/cj2010/cj2010.pdf)
- ¹⁴National Institute of Standards and Technology, FY 2010 Budget Submission to Congress (www.osc.doc.gov/bmi/budget/10CJ/NIST%20FY%202010%20Congressional.pdf)
- ¹⁵Department of Homeland Security, FY 2010 Congressional Budget Justification, (www.dhs.gov/xlibrary/assets/dhs_congressional_budget_justification_fy2010.pdf)
- ¹⁶Department of Interior, FY 2010 Budget in Brief (www.doi.gov/budget/2010/10Hilites/2010_Highlights_Book.pdf)
- ¹⁷U.S. Agency for International Development, Health-Related Research and Development Activities at USAID (pdf.usaid.gov/pdf_docs/PDACL916.pdf)
- ¹⁸Food and Drug Administration, FDA Funding by Functional Activity 2008, (www.fda.gov/downloads/AboutFDA/ReportsManualsForms/Reports/BudgetReports/UCM153809.pdf)
- ¹⁹National Aeronautics and Space Administration, FY 2010 Budget Estimate, (www.nasa.gov/pdf/345225main_FY_2010_UPDATED_final_5-11-09_with_cover.pdf)
- ²⁰Centers for Medicare and Medicaid Services, FY 2010 Justification of Estimates for Appropriations Committees, (www.cms.hhs.gov/PerformanceBudget/Downloads/CMSFY10CJ.pdf)
- ²¹Association for the Advancement of Science, Research & Development FY 2010, 2009 (www.aaas.org/spp/rd/rd09main.htm)
- ²²National Science Foundation, Federal Government is Largest Source of University R&D Funding in S&E; Share Drops in FY 2008, September 2009 (http://www.nsf.gov/statistics/infbrief/nsf09318/?WT.mc_id=USNSF_178)
- ²³The Foundation Center, Distribution of Foundation Grants by Subject Categories, circa 2007 (foundationcenter.org/findfunders/statistics/pdf/04_fund_sub/2007/10_07.pdf)
- ²⁴Annual reports of selected voluntary health associations, 2007 and 2008
- ²⁵Association of Independent Research Institutes, Survey of Members (www.airi.org)