

2002 Investment in U.S. Health Research

About 6¢ of every health dollar is spent on research

How much of the nation's total health dollar is spent on research? The chart below estimates the amount of money spent on health research at \$92 billion. This amount is about 6% of the \$1.55 trillion¹ spent on health in the United States in 2002.

Source of Funding	\$ in millions
Pharmaceutical Industry (research and development) ²	29,400
Biotechnology Industry (research and development) ³	20,500
Subtotal: Industry	49,900
National Institutes of Health ⁴	23,559
National Science Foundation (Biological Sciences, Bioengineering, Chemistry, Math, Physics, Behavioral Sciences, Computer Sciences, Information Science) ⁴	1,761
Department of Defense (Medical Research, Chemical and Biological Defense) ⁴	1,059
Department of Energy (Biological and Environmental Research, Advanced Scientific Computing Research) ⁴	704
Centers for Disease Control and Prevention ⁴	521
NASA (Biological and Physical Research) ⁴	445
Department of Veterans Affairs (Medical and Prosthetic Research) ⁴	756
Agency for Healthcare Research and Quality ⁴	323
Department of the Interior (Biological Research) ⁴	166
Food and Drug Administration ⁴	154
Department of Agriculture ⁵	951
Environmental Protection Agency ⁴	552
Department of Commerce (National Institute of Standards and Technology) ⁴	358
Subtotal: Federal Government	31,309
University (Institutional Funds, 2001) ⁶	6,553
State and Local Government Contributions ⁷	2,473
Philanthropic Foundations ⁸	521
Voluntary Health Associations ⁹	660
Independent Research Institutes (Institutional Funds) ¹⁰	486
Howard Hughes Medical Institute ¹¹	472
Subtotal: Other	11,165
Total: Estimated U.S. Health Research Expenditures	92,374

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- ¹ Centers for Medicare and Medicaid Services (www.cms.hhs.gov/statistics/nhe/historical/t1.asp)
- ² Pharmaceutical Industry Profile 2003 (www.phrma.org/publications/profile02/2003CHAPTER2.pdf)
- ³ *Resilience: America's Biotechnology Report 2003*, Ernst & Young, 2003 (www.ey.com)
- ⁴ American Association for the Advancement of Science, *Research & Development FY 2004*, 2003 (www.aaas.org)
- ⁵ U.S. Department of Agriculture, *Research and Development, and Education, Fiscal Years 1996 through 2003 and Estimates for 2004 and 2005*
- ⁶ National Science Foundation, *Academic Research and Development Expenditures: FY 2001*
- ⁷ National Science Foundation, *National Patterns of Research and Development Resources: 2002 Data Update* (www.nsf.gov/sbe/srs/nsf03313/start.htm)
- ⁸ The Foundation Center, *Distribution of Foundation Grants by Subject Categories*, circa 2002 (fdncenter.org)
- ⁹ 2002 annual reports of selected Voluntary Health Associations
- ¹⁰ Association of Independent Research Institutes, *Survey of Members 2002* (www.airi.org)
- ¹¹ Howard Hughes Medical Institute, *Financials, 2002* (www.hhmi.org/about/a620.html)

Method and Rationale

The percentage of the health dollar that is spent on research was determined by compiling estimated annual expenditures for health research and dividing the sum by the U.S. national health expenditures for 2002 estimated by the Centers for Medicare & Medicaid Services (CMS). All research expenditures are for 2002 unless otherwise noted.

The industry statistics include research and development (R&D) by the Pharmaceutical Research and Manufacturers of America (PhRMA) member companies. The R&D expenditures of biopharmaceutical PhRMA member companies (approximately \$2.6 billion for Amgen, Inc. Biogen, Inc., Genzyme Corporation, Millennium Pharmaceuticals, Inc., Serono, Inc.) were subtracted from the total pharmaceutical industry R&D expenditures since they are reflected in the biotechnology industry R&D expenditures. Approximately \$5.7 billion of the pharmaceutical industry R&D investment was spent abroad.

The Department of Agriculture (USDA) estimate was made in consultation with the agency's Office of Budget and Program Analysis to reflect the portion of the research budget that is related to health.

The National Institute of Standards and Technology (NIST) estimate includes spending on Chemical Science and Technology, Physics, Materials Science and Engineering, Computer Science and Applied Math, Technology Assistance, Research Support/Equipment, and the Advanced Technology Program.

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 spend on R&D. When reporting institutional funds to the National Science Foundation (NSF), 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 specifically for R&D by nonfederal governments.

The Voluntary Health Associations (VHA) research funds were calculated from the 2002 financial statements of the VHAs that have the largest expenditures for research. Only the expenses designated for research were included.

A majority of members (85 of 88) of the Association of Independent Research Institutions (AIRI) reported their sources of funding to AIRI for 2002. To compensate for non-reporting institutions, an average of the institutional funds spent per AIRI member was calculated, multiplied by the number of non-reporting institutions, and figured into the total.