

2004 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? We estimate the amount of money spent on health research at \$109 billion. This amount is about 6% of the \$1.8 trillion¹ spent on health in the United States in 2004.

Source of Funding	\$ in millions
Pharmaceutical Industry (Research and Development) ²	38,800
Biotechnology Industry (Research and Development) ²	10,500
Medical Technology Industry (Research and Development) ³	9,840
Subtotal: Industry	59,140
National Institutes of Health ⁴	28,036
National Science Foundation (Biological Sciences, Bioengineering, Chemistry, Math, Physics, Behavioral Sciences, Computer Sciences, Information Science) ⁴	2,040
Department of Defense (Medical Research, Chemical and Biological Defense) ⁴	1,189
Department of Energy (Biological and Environmental Research, Advanced Scientific Computing Research) ⁴	771
Centers for Disease Control and Prevention ⁴	521
NASA (Human Systems Research and Technology) ⁴	986
Department of Veterans Affairs (Medical and Prosthetic Research) ⁴	866
Agency for Healthcare Research and Quality ⁴	333
Department of the Interior (Biological Research) ⁴	175
Food and Drug Administration ⁴	142
Department of Agriculture ⁵	985
Environmental Protection Agency ⁴	585
Department of Commerce (National Institute of Standards and Technology) ⁴	329
Centers for Medicare and Medicaid Services ⁶	78
Department of Homeland Security (Biological, Chemical Countermeasures) ⁴	478
U.S. Agency for International Development (2003) ⁷	338
Subtotal: Federal Government	37,852
University (Institutional Funds, 2002) ⁸	7,109
State and Local Government Contributions (2002) ⁸	2,501
Philanthropic Foundations (2003) ⁹	558
Voluntary Health Associations ¹⁰	627
Independent Research Institutes (Institutional Funds) ¹¹	1,190
Subtotal: Other	11,985
Total: Estimated U.S. Health Research Expenditures	108,977

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¹ Centers for Medicare and Medicaid Services (www.cms.hhs.gov/statistics/nhe/projections-2004/proj2004.pdf)

² Pharmaceutical Industry Profile 2005 (www.phrma.org/publications/publications//2005-03-17.1143.pdf)

³ Personal correspondence with staff at AdvaMed

⁴ American Association for the Advancement of Science, *Research & Development FY 2006, 2005* (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 Coalition for Health Services Research, *Federal Funding for Health Services Research, 2004*

⁷ Consolidated Appropriations Resolution, 2003. United States Agency for International Development, Child Survival and Health Program Fund

⁸ National Science Foundation, *Academic Research and Development Expenditures, Fiscal Year 2002, 2004*

⁹ The Foundation Center, *Distribution of Foundation Grants by Subject Categories*, circa 2003 (<http://fdncenter.org>)

¹⁰ 2004 annual reports of selected Voluntary Health Associations

¹¹ Association of Independent Research Institutes, Survey of Members 2004 (www.airi.org)

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 2004 estimated by the Centers for Medicare & Medicaid Services. All research expenditures are for 2004 unless otherwise noted.

For the first time, the Pharmaceutical Research and Manufacturers of America (PhRMA) reported a biopharmaceutical industry-wide research and development (R&D) figure of \$49.3 billion in 2004. This new industry-wide estimate eliminates double-counting the R&D investment of biotechnology companies that are PhRMA members. PhRMA member companies invested \$38.8 billion, of which \$7.4 billion was spent abroad. Non-PhRMA member biotechnology firms invested \$10.5 billion.

The medical technology industry investment in R&D was estimated in consultation with AdvaMed, the largest association representing manufacturers of medical devices, diagnostic products and medical information systems. The estimate is based on industry data from the U.S. Department of Commerce and Standard & Poor's Compustat.

The Department of Agriculture 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 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 designate to 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.

The Voluntary Health Associations research funds were calculated from the 2004 financial statements of the VHAs that have the largest expenditures for research.

Members of the Association of Independent Research Institutions (AIRI) reported their sources of funding in 2004 to AIRI. Only funds from the institutions' endowments and "other" sources were included in this estimate. Although previous estimates of Research!America's *U.S. Investment in Health Research* included a separate line for the Howard Hughes Medical Institute, the institute is now a member of AIRI and its funds are reflected in the total AIRI membership investment.