2009 U.S. Investment in Health Research

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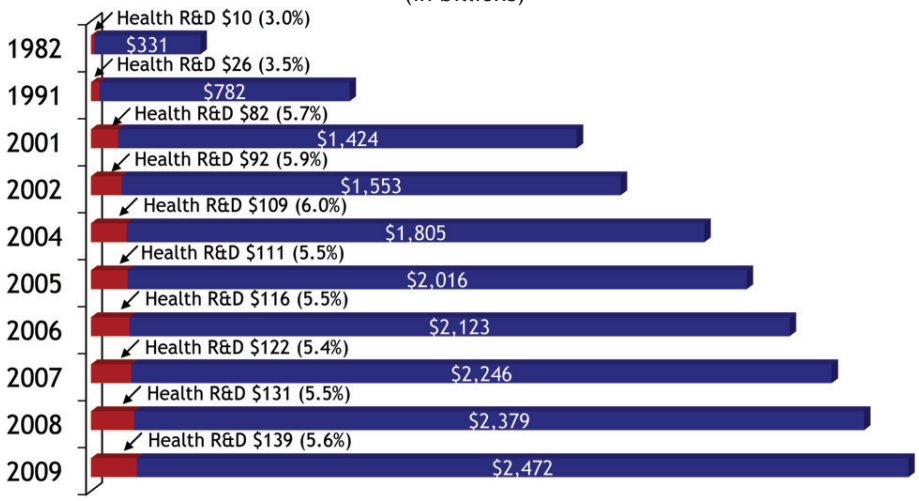
ARRA Saves Research from Decline

For the fifth consecutive year, health research funding remained relatively flat, according to Research!America analysis. When measured as a percentage of total health costs, the 5.6% spent on health research in 2009 varies no more than 0.2% from 2005 levels.

Research!America estimates that the U.S. investment in health research was $139 billion in 2009. Most of the $8.4 billion increase from 2008 can be attributed to the $14.7 billion in federal stimulus dollars for research and development provided through the American Recovery and Reinvestment Act of 2009—money that was disbursed to institutions and businesses in all 50 states, much of it by the National Institutes of Health. The effects of the economic recession can be seen throughout the sectors performing research and development, where funding remained essentially flat or declined.

Health R&D as a Percentage of Total Health Costs

(in billions)

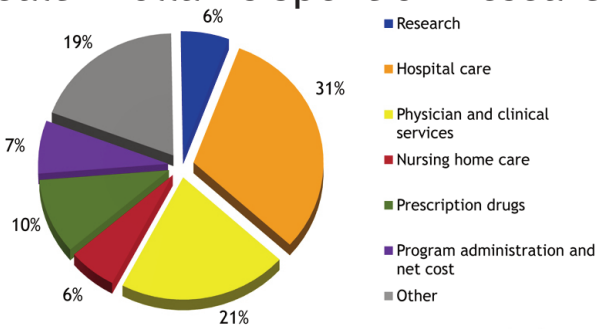


Sources: NIH Data Book; Research!America, Investment in U.S. Health Research 2001, 2002, 2004-2009

In 2009, national health expenditures also grew significantly to $2.47 trillion. As a result, the percentage of health spending in the U.S. that is dedicated to research increased by only 0.1% despite ARRA funding. Since 2005, the percentage of health funding committed to the future of health, i.e. research, has hovered around 5.5%, due to increased health spending in combination with several years of flat federal funding for research and development, followed by the economic recession.

The impact of ARRA on funding for research to improve health will carry over into 2010. But if the U.S. is to achieve its health care goals—improving the public's health, enhancing the experience of care and reducing cost—the nation's investment in health research must continue to grow long term. Such growth will continue to aid the public's well-being, drive our economy, create new jobs, and provide taxpayers with a valued return on their investment.

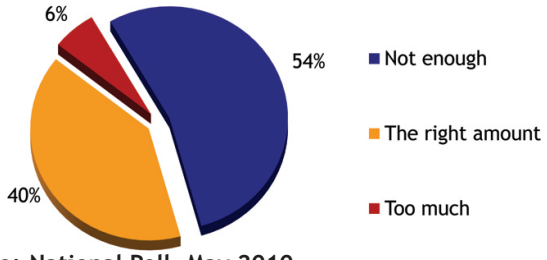
Less Than Six Cents of Every Health Dollar is Spent on Research



Sources: Research!America issue paper, *2009 Investment in U.S. Health Research*, 2010; Centers for Medicare and Medicaid Services, *The Nation's Health Dollar*, 2008, 2010

U.S. is Not Spending Enough on Research

The U.S. spends five-and-a-half cents of each health dollar on research to prevent, cure and treat disease and disability. Do you think that is too much, the right amount or not enough?



Source: National Poll, May 2010
Charlton Research Company for Research!America

If the U.S. is to achieve the health care goals of raising quality and lowering cost ... the nation's investment in health research must continue to grow long-term.

in millions

Total: Estimated U.S. Health Research Expenditures	**138,939**
Pharmaceutical (Research and Development) [2]	32,610
Biotechnology (Research and Development) [2]	32,690
Medical Technology (Research and Development, 2007) [3]	9,047
Subtotal: Industry	**74,347**
National Institutes of Health [4]	35,508
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) [5]	3,056
Department of Defense (Medical Research, Chemical and Biological Defense) [6]	2,176
Department of Energy (Biological and Environmental Research, Advanced Scientific Computing Research [7]	1,271
Department of Agriculture [8]	1,121
Department of Veterans Affairs (Medical and Prosthetic Research) [9]	943
Centers for Disease Control and Prevention [10]	541
Environmental Protection Agency (Clean Air, Clean Water, Human Health and Ecosystems, Pesticides and Toxics) [11]	471
Agency for Healthcare Research and Quality [12]	377
Department of Commerce (National Institute of Standards and Technology) [13]	339
Food and Drug Administration [14]	226
Department of Homeland Security (Chemical and Biological) [15]	200
U.S. Agency of International Development [16]	190
Department of the Interior (Biological Research) [17]	185
NASA (Human Research Program) [18]	152
Centers for Medicare and Medicaid Services [19]	30
Health Resources and Services Administration [20]	12
Subtotal: Federal Government	**46,798**
Universities (Institutional Funds) (2008) [21]	10,600
State and Local Government Contributions (2008) [22]	3,453
Philanthropic Foundations (2008) [22]	1,396
Voluntary Health Associations [23]	1,009
Independent Research Institutes (Institutional Funds) [24]	1,336
Subtotal: Other	**17,794**

Compiled by: Emily Connelly, Ryan Davison, PhD, and Stacie Propst, PhD, Research!America (8/2010)

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 2009 estimated by the Centers for Medicare & Medicaid Services. All data is 2009 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 $65.3 billion in 2009. PhRMA member companies invested $45.8 billion, of which approximately 29% 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.

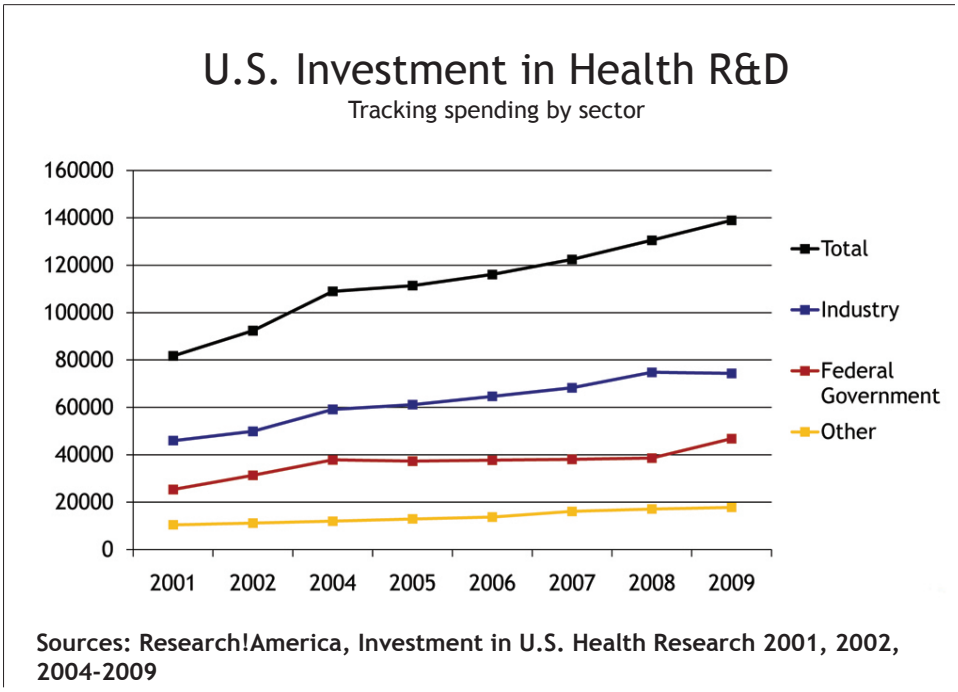
University funds include all institutional funds spent on R&D in science and engineering and represent an upper limit estimate. These are discretionary, general purpose funds that the university has chosen to designate as R&D. When reporting institutional funds spent on R&D to the National Science Foundation, 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 1,490 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 2008 or 2009 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 www.airi.org/about/member-list.aspx.



Sources: Research!America, Investment in U.S. Health Research 2001, 2002, 2004-2009

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[17] American Association for the Advancement of Science, Research & Development FY 2011, 2010 (www.aaas.org/spp/rd/rdreport2011/)
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