

GLOBAL LEADERSHIP

ENSURING U.S. COMPETITIVENESS

Research supported by the National Institutes of Health (NIH) spurs medical innovation and discoveries around the world. The United States has long been the global leader in medical research, but stagnant funding threatens America's position as other countries increase their investments.

Adjusted for inflation, **NIH receives nearly 19 percent less funding today than it did in 2003**. If current trends continue, **China will outspend the U.S. on research and development by the year 2022**.¹ We cannot afford to let America fall behind. American competitiveness depends on U.S. leadership as the largest funder of biomedical research in the world.

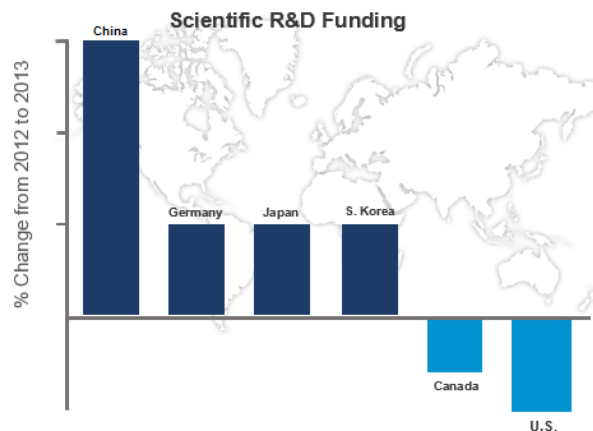
It is critical that NIH receives the funding needed to support outstanding scientists who will **spark the next generation of scientific breakthroughs** and maintain America's role as the leader in medical innovation.

THE THREAT OF FALLING BEHIND

Our country's longstanding investment in NIH has positioned the U.S. as the largest funder of research and development in the world. A lack of sustained research funding over the past decade jeopardizes our ability to fund the most promising research proposals and retain the most talented scientists – hindering our pursuit of new cures and treatments for life-threatening diseases.

Stalled funding places the U.S. at risk of falling behind global counterparts:

- In a 2013 survey of more than 3,700 frontline scientists in the U.S., nearly half had to lay off researchers due to funding cuts. That same year, NIH was forced to fund 752 fewer research proposals due to sequestration.² Which of these unfunded scientific proposals might have revealed a new insight into how cancer starts or Alzheimer's progresses?
- Asia's share of worldwide R&D grew from 27 percent to 40 percent, while U.S. share declined from 35 percent to 27 percent between 2003 and 2013.³
- China is the world's second-largest R&D performer with \$208 billion in R&D expenditures reported in 2011. While this is less than half the U.S. level, growth in China's R&D spending has averaged 20.7 percent annually from 2001 to 2011. By comparison, the pace of growth has been much slower in the U.S. at just 4.4 percent.⁴
- In 2011, the U.S. ranked 10th in R&D intensity – how much R&D is done relative to production, value added, or sales – and was surpassed by Israel, South Korea, Finland, Japan, Sweden, Denmark, Taiwan, Germany, and Switzerland.⁵
- Russian President Vladimir Putin has announced plans to increase support for research by 65 percent in the next five years.⁶
- India has posted double-digit R&D increases for several years, and Europe plans to increase research spending by 40 percent over the next seven years.⁷



FUNDING THE MOST PROMISING RESEARCH

One example of NIH's historic ability to invest in some of the most promising research is the remarkable number of Nobel Laureates who have received NIH funding. Since the 1930s, NIH-supported scientists from around the world have been awarded Nobel Prizes for their trailblazing achievements in Physiology, Medicine, Chemistry, Physics, and Economic Sciences.⁸

Since 1939, **85 Nobel Prizes have been awarded among 144 NIH-supported scientists.**⁹

Sustained funding for medical research is vital to the future of scientific discovery. Randy Schekman, Thomas Suedhof, and James Rothman, who shared the 2013 Nobel Prize in Medicine, have noted the troubling correlation between budget cuts and stalled innovation, condemning recent cuts for **“undermining the chances of breakthroughs and the next generation of basic research.”**¹⁰

Declining NIH funding jeopardizes medical progress and risks turning young scientists away from research that may hold the key to the next major cure or treatment.

ACTING NOW FOR U.S. SCIENTIFIC LEADERSHIP

NIH funding cuts also hurt U.S. competitiveness in terms of job creation and economic growth. NIH supports more than 300,000 research personnel at 2,500 universities and research institutions in every state across the country, generating an estimated \$57.8 billion in economic output in 2012 alone.¹¹ Without a significant increase in funding for NIH and a commitment to steady growth after that, the U.S. medical research community faces a bleak future.

We must act today to reassert American leadership in biomedical research and ensure that the best and brightest young scientists have the support they need to continue making the medical discoveries that have been the hallmark of U.S. research for decades.

REFERENCES:

1. http://www.battelle.org/docs/tpp/2014_global_rd_funding_forecast.pdf
2. <http://www.nih.gov/about/director/congressionalhearings/04292014drivinginnovation.htm>
3. <http://www.asbmb.org/uploadedFiles/Advocacy/Events/UPVO%20Report%20V2.pdf>
4. <http://www.nsf.gov/statistics/seind14/index.cfm/chapter-4/c4c.htm>
5. <http://www.nsf.gov/statistics/seind14/index.cfm/chapter-4/c4h.htm#1>
6. <http://www.gpo.gov/fdsys/pkg/CHRG-112shrg29104500/html/CHRG-112shrg29104500.htm>
7. http://www.nih.gov/about/director/budgetrequest/fy2013_collins_senate.pdf
8. <http://www.nih.gov/about/almanac/nobel/>
9. *Ibid.*
10. <http://www.reuters.com/article/2013/10/08/usa-nobel-science-idUSL1N0HX1TR20131008>
11. http://www.unitedformedicalresearch.com/wp-content/uploads/2013/07/UMR_ProspersityReport_071913a.pdf