Unsettled Times: Science Funding at the Brink

Mary Woolley, President, Research!America
To our valued customers:

We are sad to say we are permanently closing our doors at Mistral on December 20th. We have enjoyed our time here at the Ferry Bldg. and have valued your support. You can see us in touch with...

The

Congressional Approval at All-Time Low of 9% — New York Times/CBS News poll (Oct. 25, 2011)
Science in the News In Election Season: HPV, Climate Change, Stem Cell Research, Shrimp on a Treadmill; Referendum on “Personhood”
Unsettled Climate for Science

- Top concerns: job creation, economic growth and competitiveness
- Will the supercommittee succeed?
- Election politics
- Health care issues are still front burner, especially cost issues
- Influence of the Tea Party
- Disregard of science by policy makers
- Scientists are not speaking out
The Budget for NSF

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<th>Fiscal Year</th>
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Source: NSF; Bureau of Labor Statistics
NSF Budget — Current Status

- For FY12, House approved $6.86 billion (essentially flat-funded); Senate approved $6.70 billion ($160 million cut)
- Passed as part of the first “minibus” with HUD, Transportation and Commerce/Justice/Science
- Currently in conference between House and Senate
The Budget for NIH

Budget Authority, FY 2005-2012

Dollars in Millions

$38,000
$36,000
$34,000
$32,000
$30,000
$28,000
$26,000

2010, 2011 does not include ARRA funding

Source: NIH Office of Budget, House Committee on Appropriations, Bureau of Labor Statistics
NIH Budget — Current Status

- For FY12, House LHHS chairman approved $31.7 billion ($1 billion increase); Senate Appropriations Committee approved $30.5 billion ($190 million cut)
- Neither the full House or full Senate has voted on LHHS appropriations
- Expected to be the last “minibus” bill, bundled with defense funding
Do You Recognize These People?
Do You Recognize These People?

Rep. Hal Rogers (R-KY)
Chair, House Appropriations Committee

Rep. Frank Wolf (R-VA)
Chair, House Commerce, Justice, Science and Related Agencies Appropriations Subcommittee

Sen. Daniel Inouye (D-HI)
Chair, Senate Appropriations Committee

Sen. Barbara Mikulski (D-MD)
Chair, Senate CJS Appropriations Subcommittee
Do These People Recognize You?

Rep. Hal Rogers (R-KY) Chair, House Appropriations Committee

Rep. Frank Wolf (R-VA) Chair, House Commerce, Justice, Science and Related Agencies Appropriations Subcommittee

Sen. Daniel Inouye (D-HI) Chair, Senate Appropriations Committee

Sen. Barbara Mikulski (D-MD) Chair, Senate CJS Appropriations Subcommittee
Like elected representatives, scientists serve the public’s interest. That’s why the most important four words a researcher can say and convey are ...
“I work for you.”
Research!America’s Mission

Making research to improve health a higher national priority

Research!America is an innovator in advocacy for research
Research!America: 22 Years of Putting Research on the Public Agenda

- Nonprofit alliance with member organizations drawn from academia, business, patient organizations and scientific societies representing more than 125 million Americans

- Distinguished, all-volunteer board includes former elected and appointed officials, media and public relations leaders, and leaders from alliance member organizations
"I believe the economic destiny of America lies in science, technology, innovation and research."

Research!America Chair and Former Congressman John Edward Porter
Our Key Objectives

- Increase investment in domestic health-related R&D
- Increase investment in global health-related R&D
- Ensure that R&D investments reach patients by improving the policy environment
- Promote science overall and counter attacks made on science
Select Research!America

Accomplishments:

- Leadership in advocacy for 2009 ARRA (stimulus) funding for federal research agencies
- Ongoing leadership in:
  - public opinion polling on medical and health research
  - message development for research advocacy
  - media attention to research
  - internationally to spur advocacy for research
“The people we really listen to are the voters. Not once have I heard anyone at a public meeting ask me, ‘what are you doing for medical research?’ Not even from a researcher!”

Rep. Mike Simpson (R-ID), Appropriations Committee Member
“...public sentiment is everything. With public sentiment, nothing can fail; without it nothing can succeed.”

President Abraham Lincoln
Research!America Poll Data

- Commissioning public opinion polls on research issues for nearly 20 years:
  - National Polls
  - State-Based Polls
  - Issue-Specific Polls
- Telephone (random-digit dialing) polls are conducted with a sample size of 800-1000 adults (age 18+) and a maximum theoretical sampling error of +/- 3.5%. Data are demographically representative of adult U.S. residents (state or national).
- Online polls are conducted with a sample size of 1000-2000 adults and sampling error of +/-3.1%. The data are weighted in two stages to ensure accurate representation of the U.S. adult population.
Do you agree or disagree with the following statement? "The U.S. is in danger of losing its global competitive edge in science, technology and innovation."

Source: Your Congress - Your Health Survey, March 2011
Charlton Research Company for Research!America
Government Should Emphasize STEM Careers for Young Americans

Do you believe the federal government should place more emphasis on increasing the number of young Americans who pursue careers in science, technology, engineering and mathematics?

- Yes: 73%
- No: 14%
- Not sure: 13%

Source: Your Candidates-Your Health Public Opinion Poll, October 2011, JZ Analytics for Research!America
Most Agree that Basic Research is Necessary

Do you agree or disagree with the following statement? “Even if it brings no immediate benefits, basic scientific research that advances the frontiers of knowledge is necessary and should be supported by the federal government.”

Source: Your Candidates-Your Health Public Opinion Poll, October 2011, JZ Analytics for Research!America
Most Believe Research for Health Equity is Important

Certain health issues are more prevalent among people with lower incomes and among certain racial and ethnic populations. How important do you feel it is to conduct research to understand and eliminate these differences and achieve health equity?

Source: Your Congress - Your Health Survey, March 2011
Charlton Research Company for Research!America
Achieving Equity in Research Funding

“We find that Asians are 4 percentage points and black or African-American applicants are 13 percentage points less likely to receive NIH investigator-initiated research funding compared with whites.”

NIH is addressing this gap:

• Establishment of Early Career Reviewer program
• Appointment of Diversity in Biomedical Research Working Group
• Examination the grant review process for bias and develop interventions
• Improvement of support for grant applicants

Source: Science 19 August 2011: Vol. 333 no. 6045 pp. 1015-1019
Women in Science in the White House

October 21, 2011

Jacqueline Barton, PhD

Yvonne Brill

Photos by Ryan K. Morris/National Science & Technology Medals Foundation
“Women have accomplished and continue to accomplish amazing things in science, technology, engineering and mathematics — and we (the public and other people in STEM) don't know about it. We need to nominate them for awards because 1) they merit the recognition, 2) it helps validate the successes of other women, and 3) these women then serve as role models for other women. If we don't nominate other women, who will?”

— Jill Tietjen, author, speaker, electrical engineer
Q: What else should scientists do to call attention to research, researchers, science agencies and support for science?

A: Communicate more effectively and more often to decision makers and the non-science public.
Messages That Reach Policy Makers
Economic Impact Messages

• Research drives innovation and productivity
• Research creates jobs
• Research fuels local & regional economies
• Research helps control health care costs
• Research can contribute to growth and savings in all types of businesses
• Research is an investment, not a cost
Messages That Reach Policy Makers

Investment in research saves lives and money

Research: An Economic Driver

Today:
- Diseases of the 20 leading-increase in the U.S. are related to research in medical research.
- NIH directly supports research jobs in all 50 states that are expected to increase in the next 12 months.
- About two-thirds of new jobs in the U.S. are covered by new research and development. (It is even more so.

Scientific research is important for job creation & incomes in terms of innovation and higher incomes, how important do you think it is to increase scientific research?

Why invest?
- Our nation’s most valuable asset is human capital.
- Health care systems and rapid advances in biotechnology, genetic research, health care, and public health.
- Increased efficiency and productivity in the U.S. economy.
- Americans Think Research is Important to the U.S. Economy. How important do you think research is to the U.S. economy?

Savings Lives: Reductions in mortality rates

The U.S. investment in research through the NIH has provided an estimated 50-fold return to the economy by improving Americans’ health.

Hope for the Future:
Our ability to lead in 2022 will be a function of current decisions, increasing our investment in science and technology, and supporting a vibrant and responsible national security policy.

Science is more essential for our prosperity, our security, our health, our environment, and our quality of life than it has ever been before.

PRESIDENT BARACK OBAMA

"Innovation is the source of U.S. economic leadership and the foundation for our competitiveness in the global economy."

BILL GATES, Chair, Microsoft Corporation

The Albert and Mary Lasker Foundation is proud partner in this series of fact sheets: www.laskerfoundation.org
Messages That Reach Policy Makers

Research & Innovation: Montana

- Montana Health Facts
  - Alzheimer’s disease affected 21,000 Montanans in 2016.
  - Cancer was the leading cause of death between 2001 and 2005, taking more than 3,500 Montanans.
  - Heart disease was the second leading cause of death in Montana, taking an average of 8,600 deaths from 2000 to 2004.
  - Health challenges include a high percentage of Montana citizens who are overweight, relative to the state’s proportion of the overweight population.

- Growth of the bioscience industry in Montana
  - Lightjet Pharmaceuticals, works with NIH to create drugs that are less expensive.
  - Montana partners with NIH to develop effective tools for the detection of infectious diseases.

Research & Innovation: Ohio

- Ohio Health Facts
  - Cancer is the cause of 21,000 deaths per year.
  - Heart disease killed about 11,000 Ohioans in 2009.
  - Diabetes affects about 300,000 Ohioans.

- Growth of bioscience in Ohio
  - Device Medical builds better systems for breaking tissue.
  - Aphria develops new treatments for heart disease.

Research & Innovation: Central Virginia

- Virginia Health Facts
  - Cancer is the cause of 21,000 deaths per year.
  - Heart disease killed about 11,000 Virginians in 2009.

- Growth of bioscience in Richmond
  - The Mason Cancer Center received its first NIH research funding in the last five years.
  - VCU for Innovative Biotechnology to Richmond like Oxford Pharmaceuticals, which develops treatments for Parkinson’s disease.

RESEARCH AMERICA
AN ALLIANCE FOR DISCOVERIES IN HEALTH

- Virginia Commonwealth University (VCU) benefits from National Institutes of Health (NIH) funding
  - Researchers developed a more effective chemotherapy for removing cancerous tumors.
  - VCU discovered a combination treatment for leukemia, which kills about 500 virgins per year.

- McGuire Research Institute – Richmond VA Medical Center
  - Conducts patient studies to develop drugs for cancer, diabetes and heart disease.
  - Research enhances the medical center’s ability to treat veterans.

Research & Innovation: South Carolina

- South Carolina Health Facts
  - Cancer is the cause of 21,000 deaths per year.

- Growth of bioscience in South Carolina
  - The South Carolina Cancer Center received its first NIH research funding in the last five years.
  - The Medical University of South Carolina (MUSC) develops treatments for Parkinson’s disease.

Research & Innovation: Georgia

- Georgia Health Facts
  - Cancer is the cause of 21,000 deaths per year.

- Growth of bioscience in Georgia
  - The Emory University School of Medicine develops treatments for Parkinson’s disease.
  - Georgia Tech uses NIH dollars for research
    - Develops new strategies for the early detection of cancer.
    - Improves CT imaging to better diagnose brain tumors.

BioScience companies grow with NIH funding

- Some innovations, a start-up of tech, develops technologies for medical diagnosis and therapy.
- Techs, selling from Tech, invents non-invasive diagnostics for breast diseases.
- Each stormed over $2 million in NIH funding in 2010. Together, these companies employ about 250 people.
Social Math: Research Takes Cents

• U.S. amusement parks and attractions generate $12 billion in revenue each year.

• That sum would fund the National Science Foundation for nearly 2 years!

Sources: International Association of Amusement Parks and Attractions; NSF FY 2011
Social Math: Research Takes Cents

- Americans spent nearly $858 million on turkeys for Thanksgiving in 2009.

- That amount would fund 7,653 research grants from the National Science Foundation!

Sources: American Farm Bureau Federation; National Turkey Federation; NSF
## Public Perceptions of Science and Scientists

Science’s impact on society is:

- Mostly positive: 84%
- Mostly negative: 6%
- Other/don’t know: 10%

Professions contributing “a lot to society’s well-being”:

- Members of military: 84%
- Teachers: 77%
- Scientists: 70%
- Medical doctors: 69%

Pew Research Center for the People & the Press, July 2009
Despite High Levels of Public Confidence, Scientists are Invisible in Our Society...
How Many Americans Can Name a Living Scientist?

Can you name a living scientist? (first volunteered responses)
Most Americans Can’t Name a Living Scientist

Can you name a living scientist? (first volunteered responses)

- Yes: 34%
  - Stephen Hawking: 15%
  - James Watson: 1%
  - Jane Goodall: 1%
  - Bill Nye: 1%
  - Michio Kaku: 1%
  - Neil Degrasse Tyson: 1%
  - Other: 14%

- No: 66%

Source: Your Congress - Your Health Survey, March 2011
Charlton Research Company for Research!America
Few Americans Recognize the National Institutes of Health

What is the name of the government agency that funds most of the medical research paid for by taxpayers in this country? (first volunteered responses)

Source: Research Enterprise Poll, February 2010
Charlton Research Company for Research!America
Few Americans Recognize the National Science Foundation

What is the name of the government agency that funds most of the basic research and educational programming in the sciences, mathematics and engineering in this country?

Source: Your Congress-Your Health Survey, 2007
Charlton Research Company for Research!America
WARNING: Failure to be an advocate can be hazardous to your research career.
“I've been disappointed by the lack of aggressive activism on the part of so many professionals in the field.”

House Appropriations Chairman, David Obey (D-WI), NIH FY2011 Appropriations Hearing, April 28, 2010
Why Aren’t More Scientists Engaged in Public Outreach?
“I admire and love my brother [Paul Greengard], but he lives on a higher plane, and what he does is secret, unrevealable. To me, anyway ...

“Every time he took a new job — whether at Albert Einstein College of Medicine or Yale — I’d ask him about it. Then he’d get into electro-physiological properties, and it was all over ...

“Now, he has won the Nobel Prize in physiology or medicine, an honor he shares with two other scientists. In reporting it, the newspapers said their work on the way brain cells communicate might one day help cure diseases like Parkinson’s and Alzheimer’s.

“I’m thrilled he won. Now I know what he does.”

— Chris Chase in a New York Times opinion piece on October 15, 2000
Why Aren’t More Scientists Engaged in Public Outreach?

- Don’t have time
- Aren’t being asked
- Don’t know how
- “Involvement makes no difference”
- Apathy/don’t want to
- Lack of incentives
- “Non-scientists won’t understand”
- Liability/fear of being misinterpreted
- Happy with the job others are doing
“Everybody in the science and technology community who cares about the future of the world should be tithing 10 percent of his or her time to interacting with the public in the policy process.”

John P. Holdren, PhD
President Obama’s Science Adviser
What Can You Do Right Now?

- Speak out about how research drives economic activity in every state and creates good jobs
- Volunteer as an adviser to your Member of Congress and/or a candidate
- Encourage and support public engagement and advocacy activities undertaken by fellow scientists
- Write an op-ed in your local newspaper
Op-eds on Research

Guest opinion: Scientific research investment pays off for Montana

Moskowitz: Fight for medical research funding

Medical research: Good for the health
Your Candidates-Your Health for the 2012 Elections

- Outreach to candidates
  Candidates for federal office will be invited to participate by providing responses to a questionnaire about health, research and related issues

- Extensive public outreach through the Research!America advocacy network and sponsoring partners to encourage candidates for federal office to share their views

www.yourcandidatesyourhealth.org

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Put a Face on Research: YOURS!
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