

What Have You Done for Epidemiology Lately?

The Role of Epidemiologists in Funding Biomedical Education and Research

Melissa Perry, ScD, MHS, FACE

Professor and Chair, Department of Environmental and
Occupational Health

Milken Institute School of Public Health

George Washington University

Disclaimer

- The views I express are my own and not necessarily the views of the George Washington University, the American College of Epidemiology, the Centers for Disease Control for which I Chair a Scientific Advisory Board, or the federal agencies from which I have funding

THE WALL STREET JOURNAL.

COMMENTARY

Taking the Powerball Approach to Funding Medical Research

Winning a government grant is already a crapshoot. Making it official by running a lottery would be an improvement.

By **FERRIC C. FANG** and **ARTURO CASADEVALL**

April 14, 2014 7:08 p.m. ET

Participants anxiously await the announcement of the winning numbers, thinking to themselves, "Someone has to win, why not me? Just think of what I could do with a million dollars!" But alas, better luck next time. Powerball? Mega Millions? Unfortunately, no—we are talking about research funding from the National Institutes of Health.

Scientists who seek NIH funding submit research proposals that are reviewed by panels called study sections. Each application gets a score, and funding decisions are made on the basis of these scores and available funds. Thanks to the budget sequester, the rate at

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Can you...

Name more than 3 people outside the health field who are able to define epidemiology?

Point to pieces you have recently written, blogged, tweeted or otherwise communicated about epidemiology's importance to people outside our field?

Recall communicating something about epidemiology's importance to someone involved in government in the last year?

AUTISM SCIENCE DIGEST

The Journal of AutismOne


AUTISMONE
APRIL 2011 ISSUE 1 \$6.95

WHAT IS THE
BIOMEDICAL
APPROACH TO
TREATING AUTISM
SPECTRUM
DISORDERS?

NEUROTENSIN
AND EXTRA-
CELLULAR
MITOCHONDRIA
POTENTIAL
BIOMARKERS
AND NOVEL
TREATMENT
TARGETS

THE ROLE AND
TREATMENT OF
ELEVATED MALE
HORMONES IN
AUTISM SPECTRUM
DISORDERS

METHIONINE AND
METHYLATION

ALLERGY
DESENSITIZATION

PRENATAL
ULTRASOUND

SEQUENTIAL
HOMEOPATHY

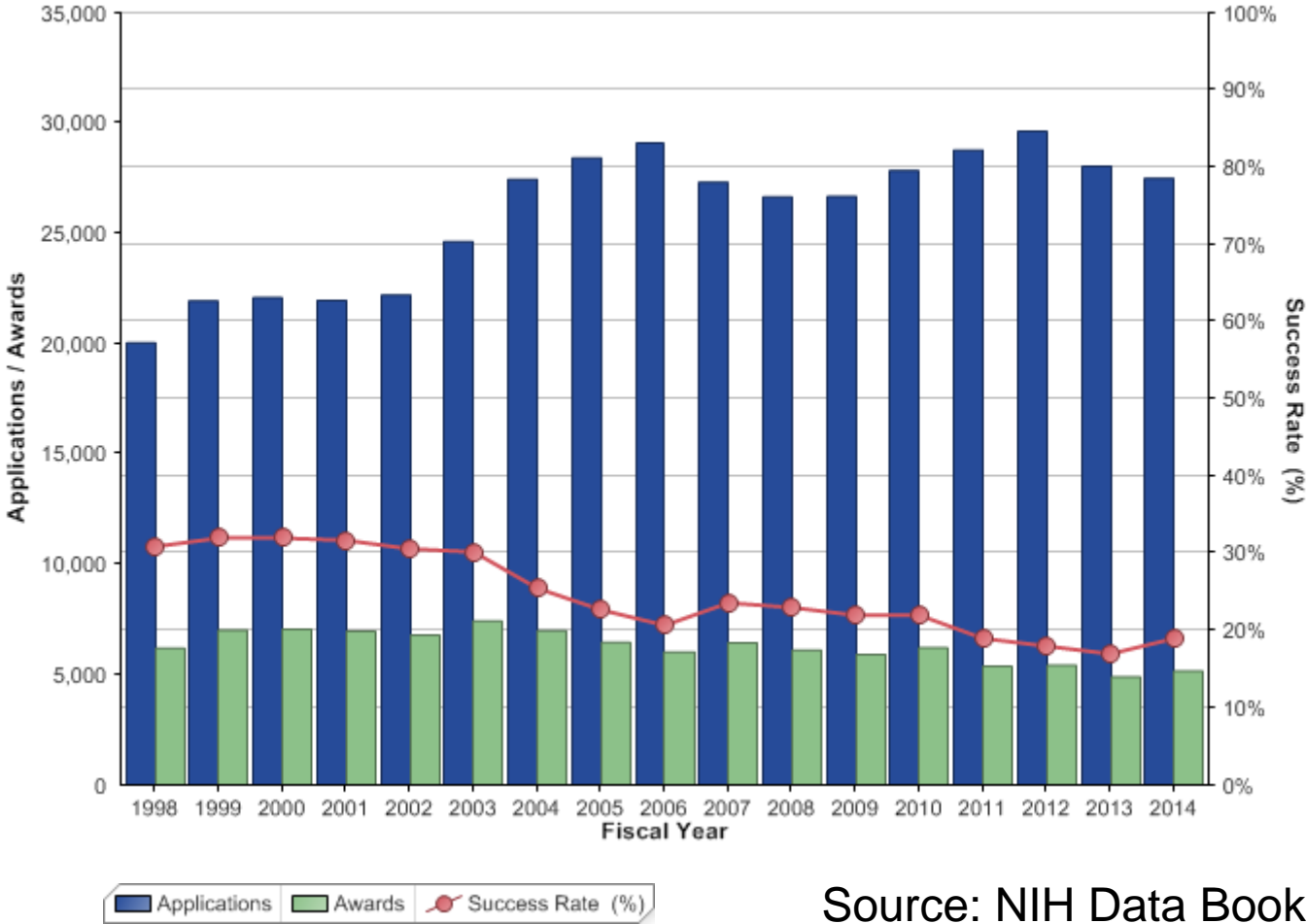
THE MEDICAL
SIDE OF THE
GFCF DIET FOR
AUTISM: WHAT IS
BEING TREATED
AND WHY IT ISN'T
JUST "AUTISM"

REPETITIVE
TRANSCRANIAL
MAGNETIC
STIMULATION

JENNY
MCCARTHY

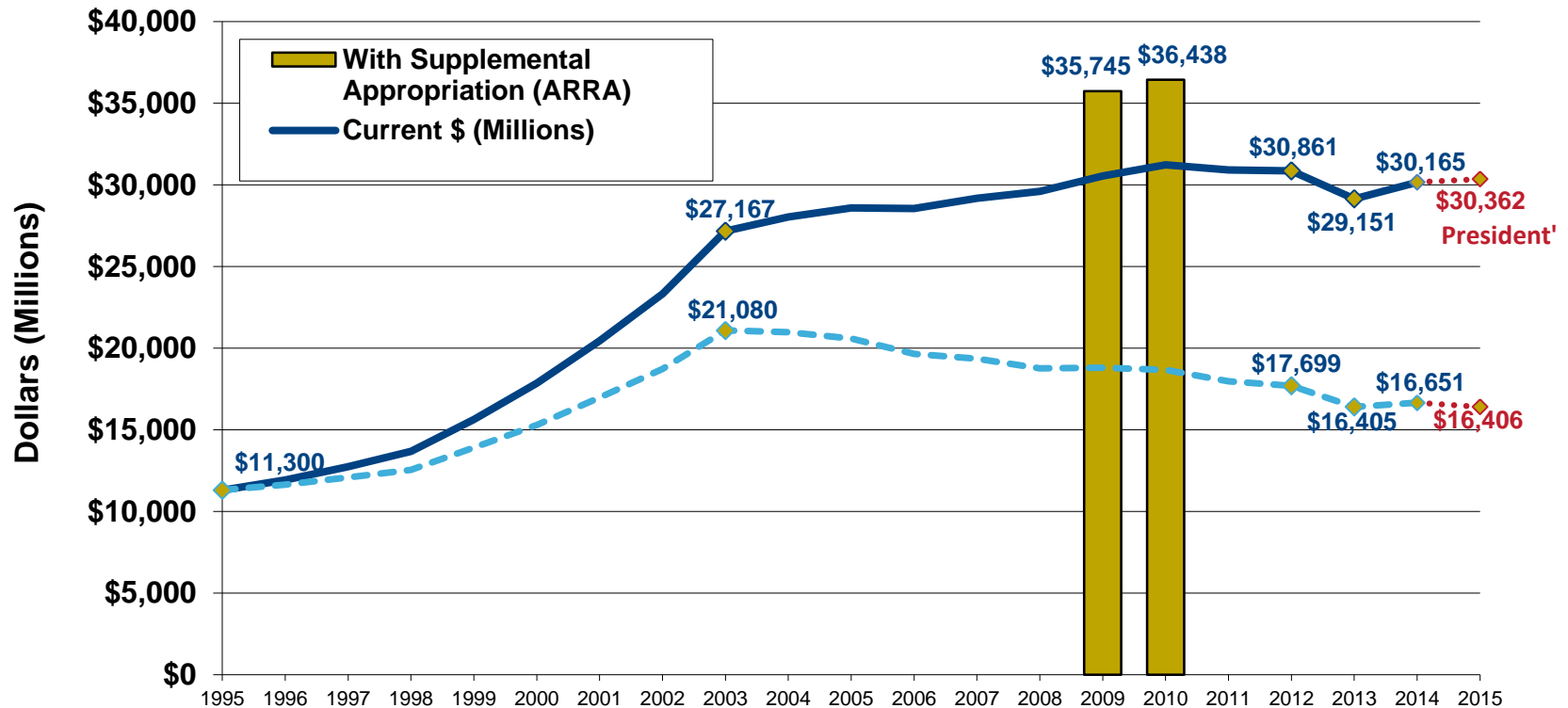
ON THE AUTISMONE/
GENERATION RESCUE
CONFERENCE

NIH Research Project Grant Funding Rates



Source: NIH Data Book

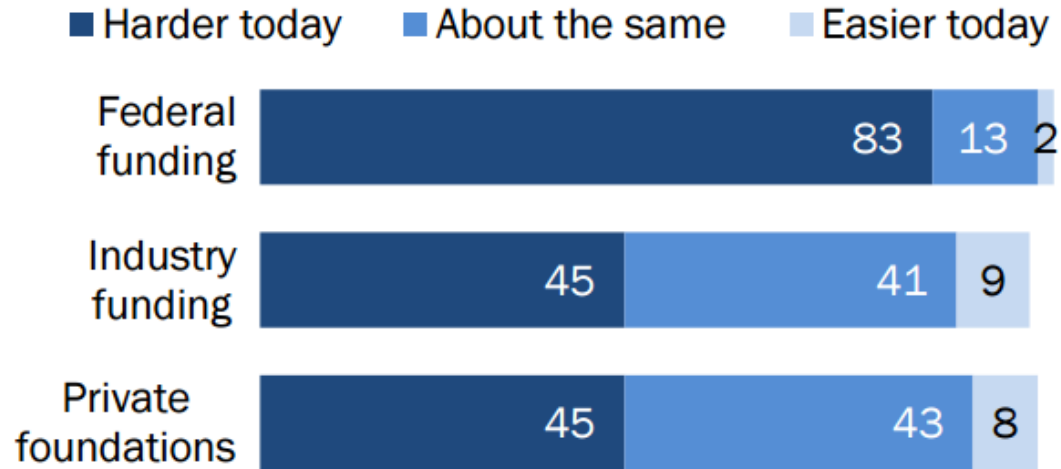
NIH Appropriations in Current and Constant Dollars



Source: NIH Office of the Director, Office of Budget: <http://officeofbudget.od.nih.gov/>

Most Scientists Say Finding Federal Funding Harder Today

% of AAAS scientists saying that compared with five years ago funding in their specialty area from each source is ...

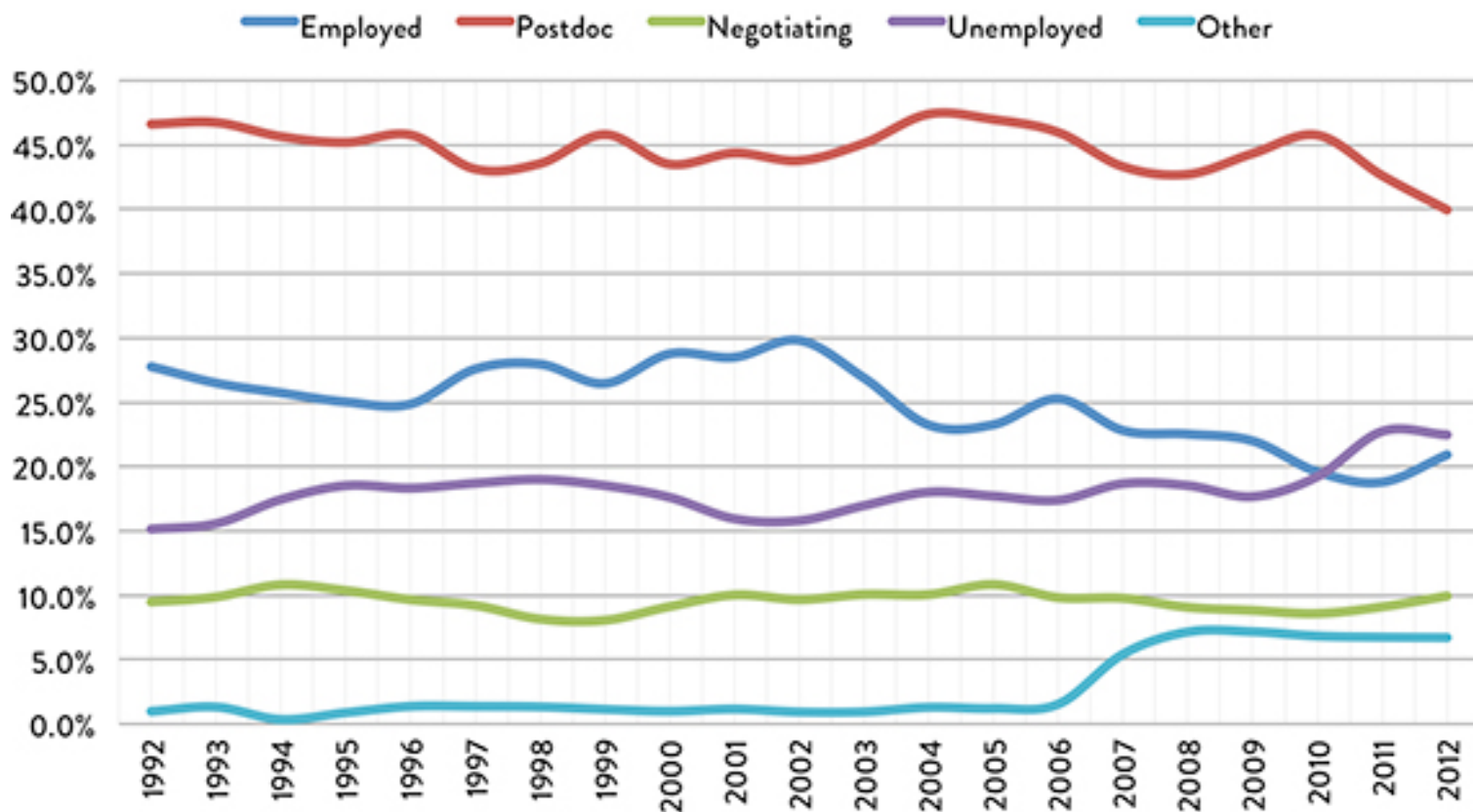


AAAS scientists survey Sept. 11 – Oct. 13, 2014. Q9-11. Those giving no response are not shown.

PEW RESEARCH CENTER

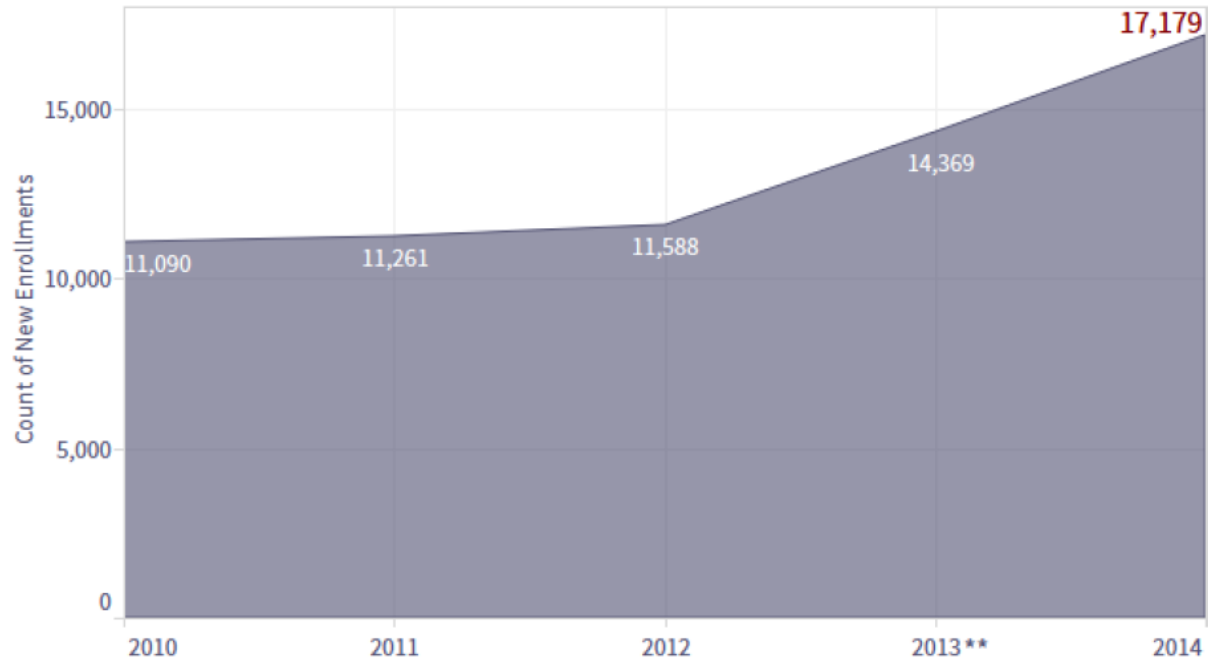
Employment Status of Graduating Life Sciences Ph.D.s 1992-2012

Source: NSF Survey of Earned Doctorates. Note: Lines add to 100% for each year.



Source: National Science Foundation

Figure 13. New Enrollment Trends at ASPPH Member Schools and Programs of Public Health*



*ASPPH Data Center began collecting annual data from Programs of Public Health in 2014.

**ASPPH Data Center began collecting undergraduate data in 2013.

Source: Association of Schools and Programs of Public Health

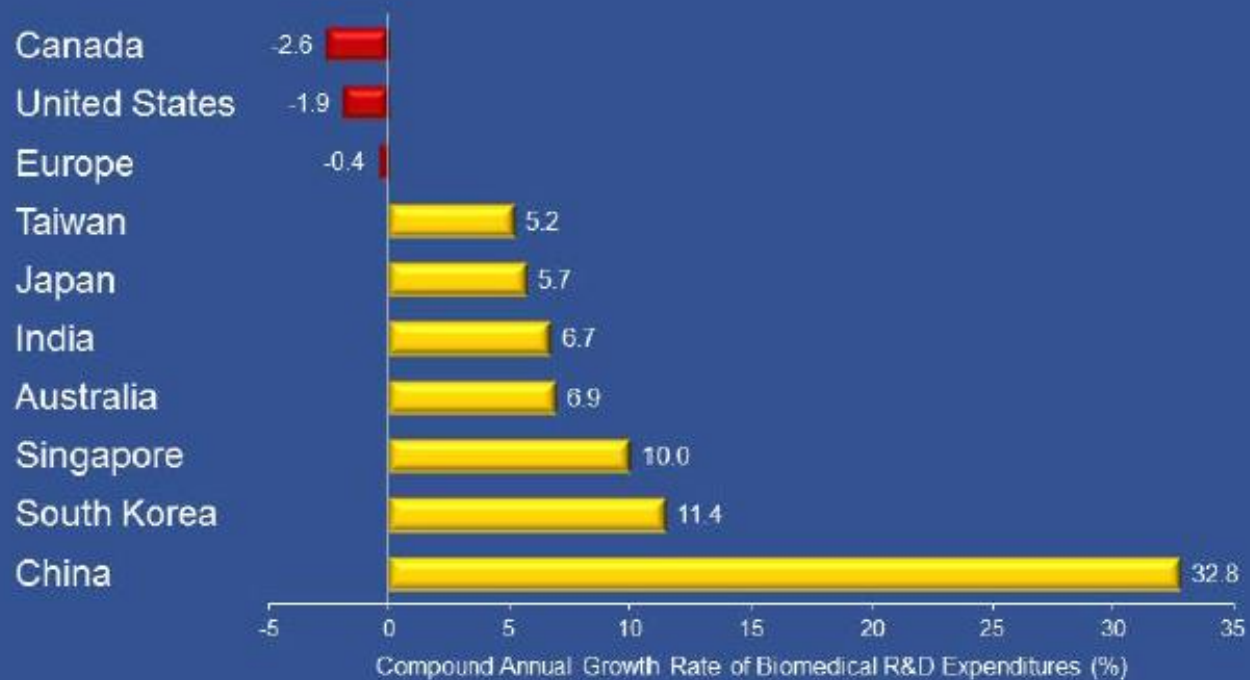


Charting a future for epidemiologic training

Ross C. Brownson, PhD, Jonathan M. Samet, MD, MS, Gilbert F. Chavez, MD, MPH, Megan M. Davies, MD, Sandro Galea, MD, MPH, DrPH, Robert A. Hiatt, MD, PhD, Carlton A. Hornung, PhD, MPH, Muin J. Khoury, MD, PhD, Denise Koo, MD, MPH, Vickie M. Mays, PhD, MSPH, Patrick Remington, MD, MPH, Laura Yarber, MPH

Macro trend 12: the evolving funding environment

Compound Annual Growth Rate of Biomedical R&D Expenditures by Country, Adjusted for Inflation 2007–2012



Source: N Engl J Med. 2014 Jan 2;370(1):3-6

The Payoff

“Cutting research is not a pathway to deficit reduction; it is a pathway to increased health threats, lost lives, and economic insecurity.”

-- Former U.S. Congressman
John Edward Porter (R-Ill.),
in *Science* magazine editorial

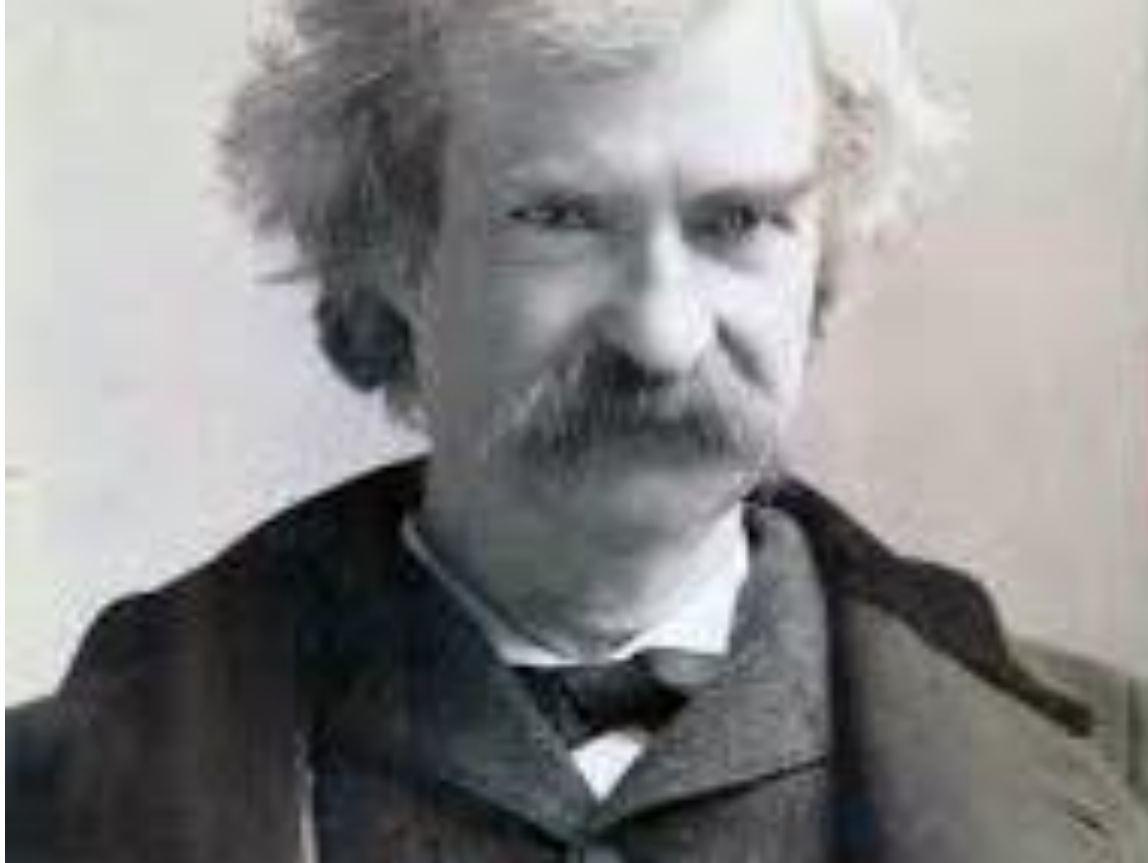
U.S. Rankings

- 52nd in the quality of mathematics and science education¹
- 5th (and declining) in overall global competitiveness¹
- 27th among developed nations in the proportion of college students receiving undergraduate degrees in science or engineering²
- The number of foreign students studying in U.S. graduate schools exceeds the number of U.S. students³

¹ World Economic Forum (2011)

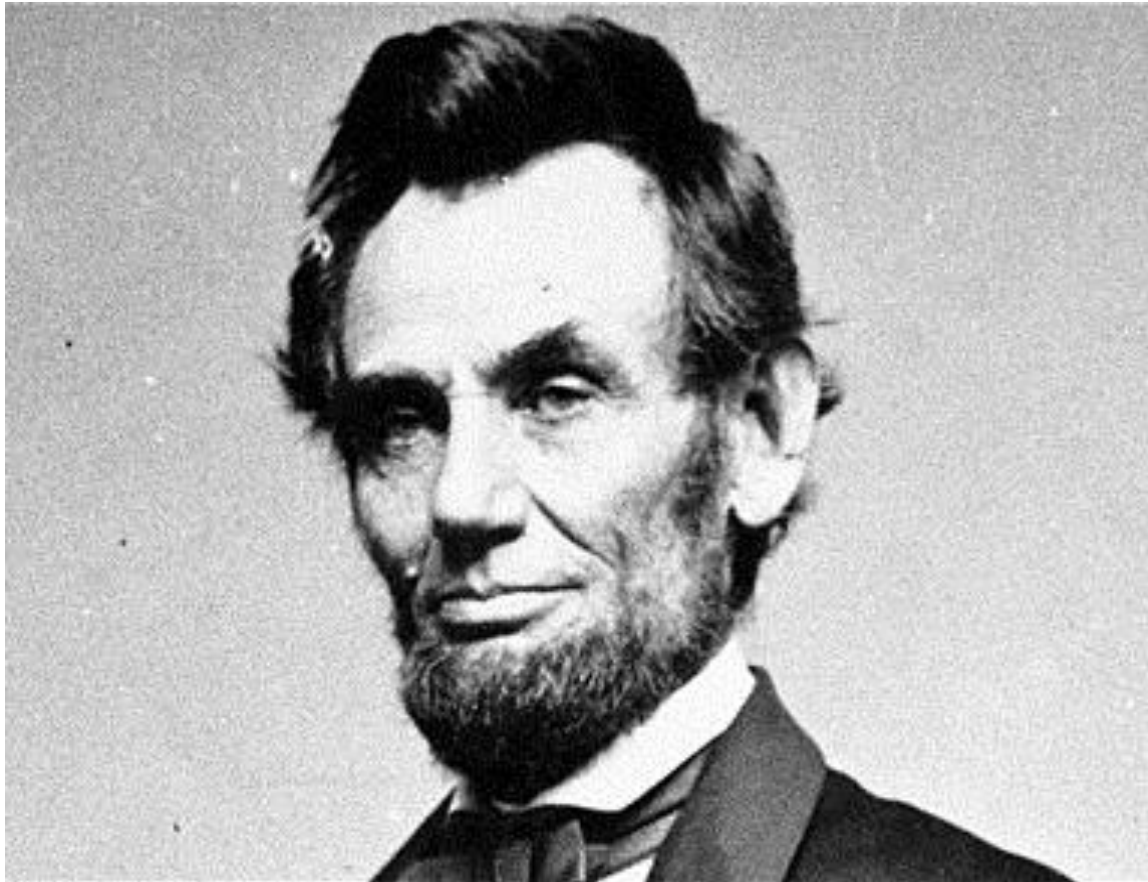
² Organization for Economic Cooperation and Development (2009)

³ Task Force on the Future of American Innovation (2006)



“Denial ain't just a river in Egypt.”

-- **Samuel Langhorne Clemens**, American author and humorist better known by his pen name, Mark Twain



“Public sentiment is everything. Without it, nothing can succeed; with it, nothing can fail.”

-- President Abraham Lincoln, who initially chartered the National Academy of Sciences

Ways You Can Advance Epidemiology's Cause

- Get involved in grassroots advocacy networks of your scientific societies
- Attend media trainings and learn how to effectively communicate with the press
- Visit your elected officials at home or in Washington, DC
- Let elected officials know about funding of grant applications
- Write Op-Eds about scientific topics and funding

Obstacles to Your Participation

- You are a scientist, not a politician
- You are a federal employee
- You are an industry employee
- You don't have the time
- You fear that being politically active will hinder your scientific credibility

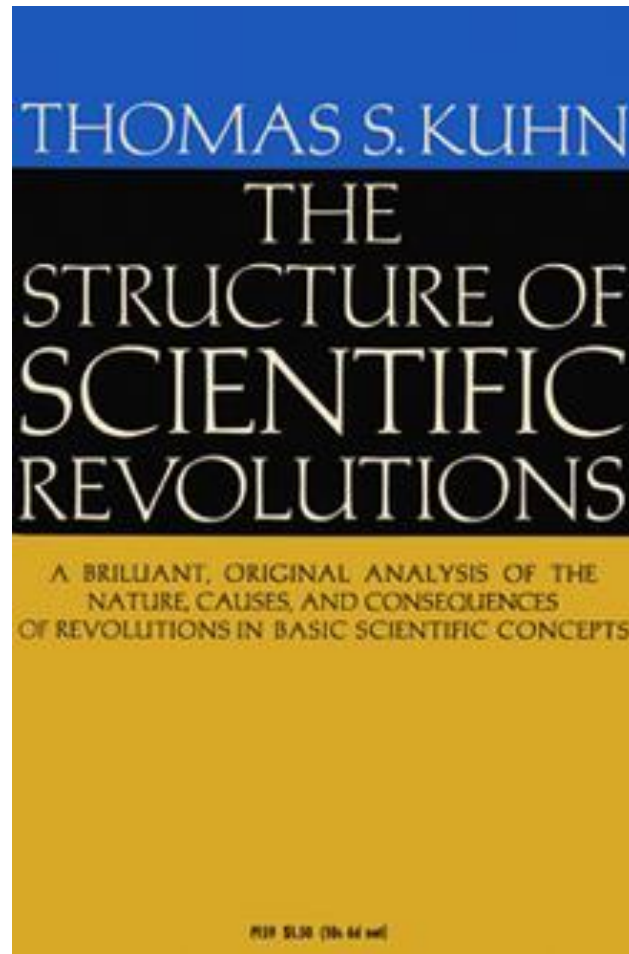
You Are a Scientist, Not A Politician

Pew Charitable Trusts Study published this year, 87% scientists said it is important to take an active role in public policy debates.

You Are A Federal Employee

- U.S. Office of Special Counsel: the Hatch Act of 1939 allows federal employees to express opinions about candidates and issues
- Federal Public Servants can offer a Public Comment by working through their Agency's chain of command
- Consult Office of Gov't Ethics

You Don't Have Time



You Are An Industry Employee

- Strong federal support for science means good business
- Federal support helps create and support the infrastructure for training the next generations of epidemiologists

You Fear that Being Politically Active Will Hinder Your Credibility

- Communicating increases your credibility
- The more engaged in communicating the issues the more normative it becomes
- If not you, then who?



**A visit with my local Congressperson
U.S. Rep. Christopher Van Hollen.**

Other Ways to Get Involved

- Consider joining the Federal Demonstration Partnership
- Learn more about the 21st Century Cures Bill
- Attend an Agency Board of Scientific Counselors mtg
- Vote for and support political candidates who appreciate the value of science in our society
- Reach out to your larger community to raise awareness of the value of science
- Invite elected officials to visit your laboratory
- Blog about what you do



ON THE PULSE: THE 21ST CENTURY CURES INITIATIVE

August 15, 2014

4

white
papers

9

healthcare
innovation
topics

35

leaders in
biomedical R&D
testified

67

innovators, business
executives, and
government agencies
spoke at roundtables

139

organizations responded
to white papers

45% patient advocacy groups
& nonprofits

30% industry representatives

25% academics & professional
societies

The 21st Century Cures initiative is a bipartisan effort, co-chaired by U.S. House of Representatives Energy & Commerce Committee Chairman Fred Upton (R-MI) and Committee Member Diana DeGette (D-CO). For more info, visit <http://energycommerce.house.gov/cures>



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