

From Technical Excellence to National Relevance:

How NIST Radiation Science Can Compete, Connect, and Communicate on the Hill



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Outline

- Introduction
- State of Play
- Who are the Decision Makers
- Formula for Explaining Technical Relevance
- Q&A

What is the correct response?

You're working for a member of Congress on the Appropriations Subcommittee for Commerce, Justice, and Science—which funds NIST, NOAA, NASA, OSTP, and NSF, as well as critical programs in the Department of Justice.

Your member wants to create a new DOJ program to help police departments and families address the growing opioid crisis in your state. But supporting that program would require a \$200 million cut to NSF.

What do you do?

State of Play

Fewer grants in every area of science and medicine

- In 2025, more than 7,800 NIH and NSF grants were canceled or suspended, and both agencies issued roughly 25 percent fewer new grants than their historical averages.

Declines in NIH and NSF Research Funding: 2025 vs. 2015–2024 Avgs.

National Institutes of Health



National Science Foundation



The New York Times. (2025, December 2). *Trump has cut science funding to its lowest level in decades.* <https://www.nytimes.com/interactive/2025/12/02/upshot/trump-science-funding-cuts.html>

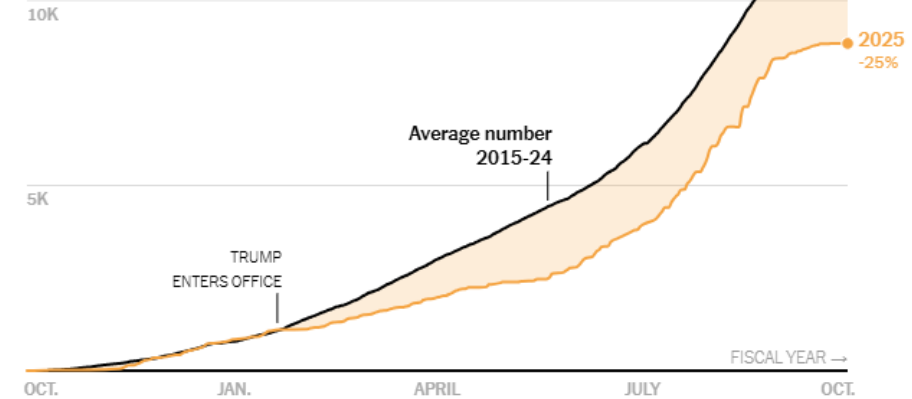
State of Play

Fewer grants in every area of science and medicine

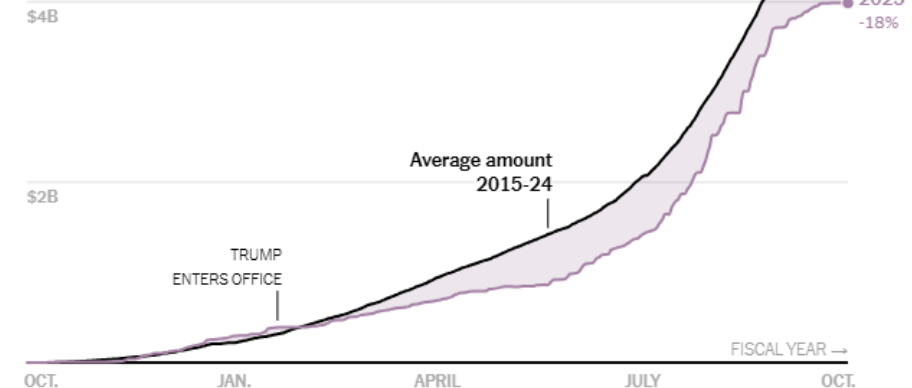
- In 2025, more than 7,800 NIH and NSF grants were canceled or suspended, and both agencies issued roughly 25 percent fewer new grants than their historical averages.
- At the same time, billions of dollars in research funding remained unspent due to delays, freezes, and terminations.

New grants awarded by the National Science Foundation, 2015-25

Number of grants



Funding amount



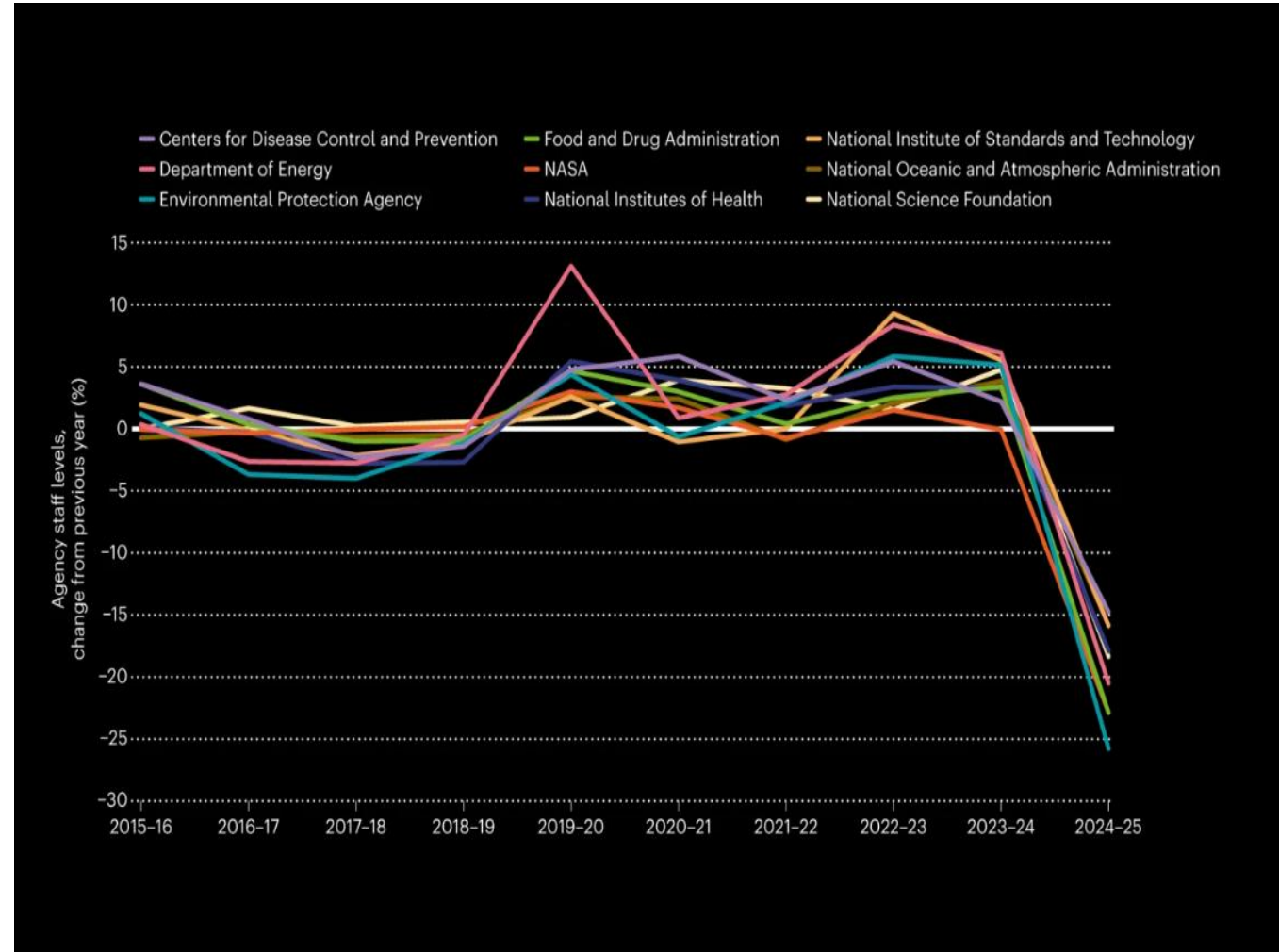
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State of Play

Depleting Workforce and Institutional Memory

- Approximately 95,000 employees have departed federal science agencies over a relatively short period, according to a recent analysis by the Partnership for Public Service.

Reduction in Force in U.S. Science Agencies in 2025 Relative to 2015–2024 Avgs.

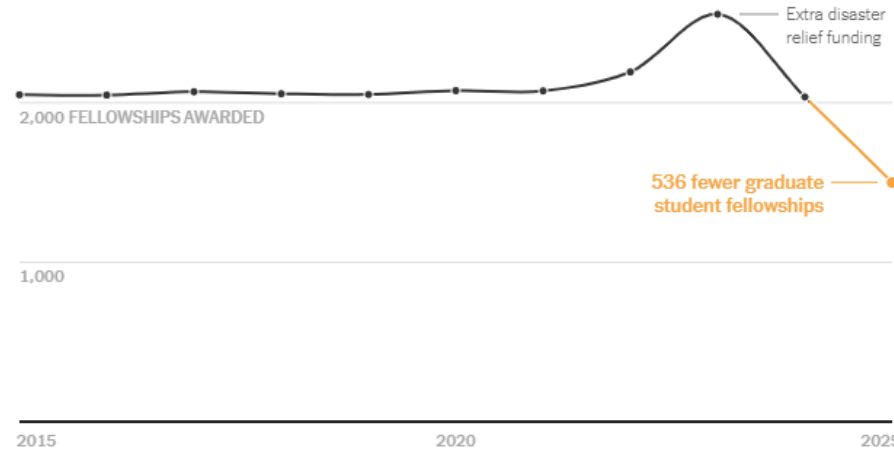


State of Play

Depleting Workforce and Institutional Memory

- Approximately 95,000 employees have departed federal science agencies over a relatively short period, according to a recent analysis by the Partnership for Public Service.
- In 2025, NSF awarded about 1,000 graduate research fellowships, compared to roughly 2,000 in a typical year.
 - *The agency later added several hundred additional awards, but the total still remained below historical levels.*

Number of graduate research fellowships awarded by the National Science Foundation



National Science Foundation graduate research fellowships			
FIELD	2015-24 AVG.	2025	CHANGE
Life sciences	516	214	-59%
Psychology	117	56	-52%
STEM education	29	14	-52%
Social sciences	159	79	-50%
Math	90	56	-38%
Geosciences	122	84	-31%
Engineering	575	406	-29%
Chemistry	176	154	-13%
Materials research	58	63	+9%
Physics	139	166	+19%
Computer science	141	208	+48%
Total	2,121	1,500	-29%

The New York Times. (2025, December 2). *Trump has cut science funding to its lowest level in decades.* <https://www.nytimes.com/interactive/2025/12/02/upshot/trump-science-funding-cuts.html>

State of Play

Beginning of the Fiscal Year 2027 Budget Process

- On April 3rd, President Trump released his FY27 budget proposal to Congress calling for significant cuts to federal agencies that fund or conduct research on health, space and the environment.
- The proposal calls for a 50-percent cut to NIST overall, with particularly large cuts to external-facing programs such as industrial technology partnerships.
- Congress makes the final decisions on federal funding levels, but this is the Administration's starting position.

Budget crunch

The Trump administration has proposed a plan to reduce funding for many science-related agencies. All values are in US dollars.

US agency	2026 budget	2027 proposed budget
NASA	24.4 billion	18.8 billion
National Institutes of Health	47.2 billion	41.1 billion
National Science Foundation	8.8 billion	4 billion
Department of Energy Office of Science	8.4 billion	7.1 billion
National Institute of Standards and Technology	1.8 billion	900 million
National Oceanic and Atmospheric Administration	6.2 billion	4.5 billion
Environmental Protection Agency	8.8 billion	4.2 billion

Source: American Association for the Advancement of Science, White House Office of Management and Budget, US Department of Commerce

Who are the Decision Makers?

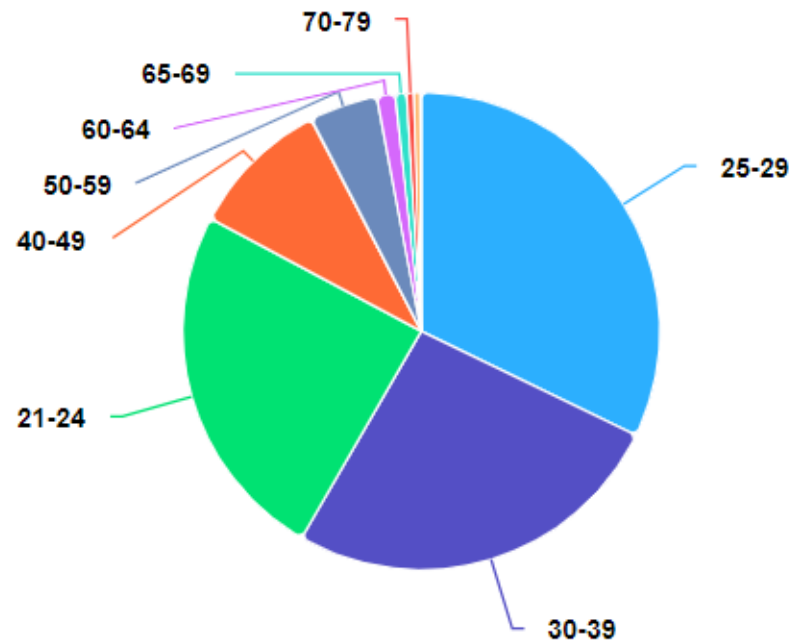
- There are approx. 31,000 congressional staffers within the Legislative Branch
 - Approximately 12,500 employees work directly for the Members of Congress
 - 6,000 more work on committee staffs
 - Remainder working at the Library of Congress and the Government Accountability Office.
- Congressional staffers serve as information gatherers, gatekeepers, and policy advisers.



Who are the Decision Makers?

House of Representatives

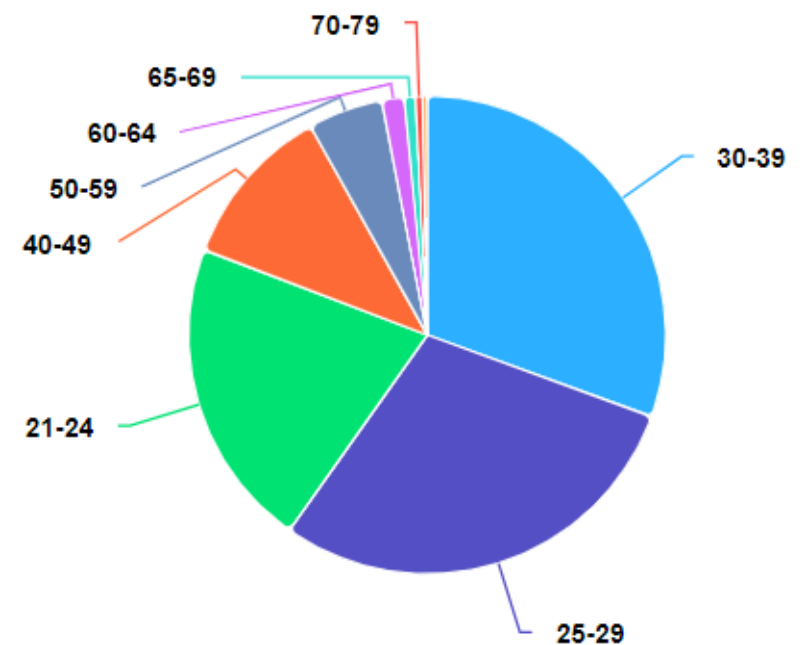
Staffers by Age



- Average age of House staffers is 31

Senate

Staffers by Age

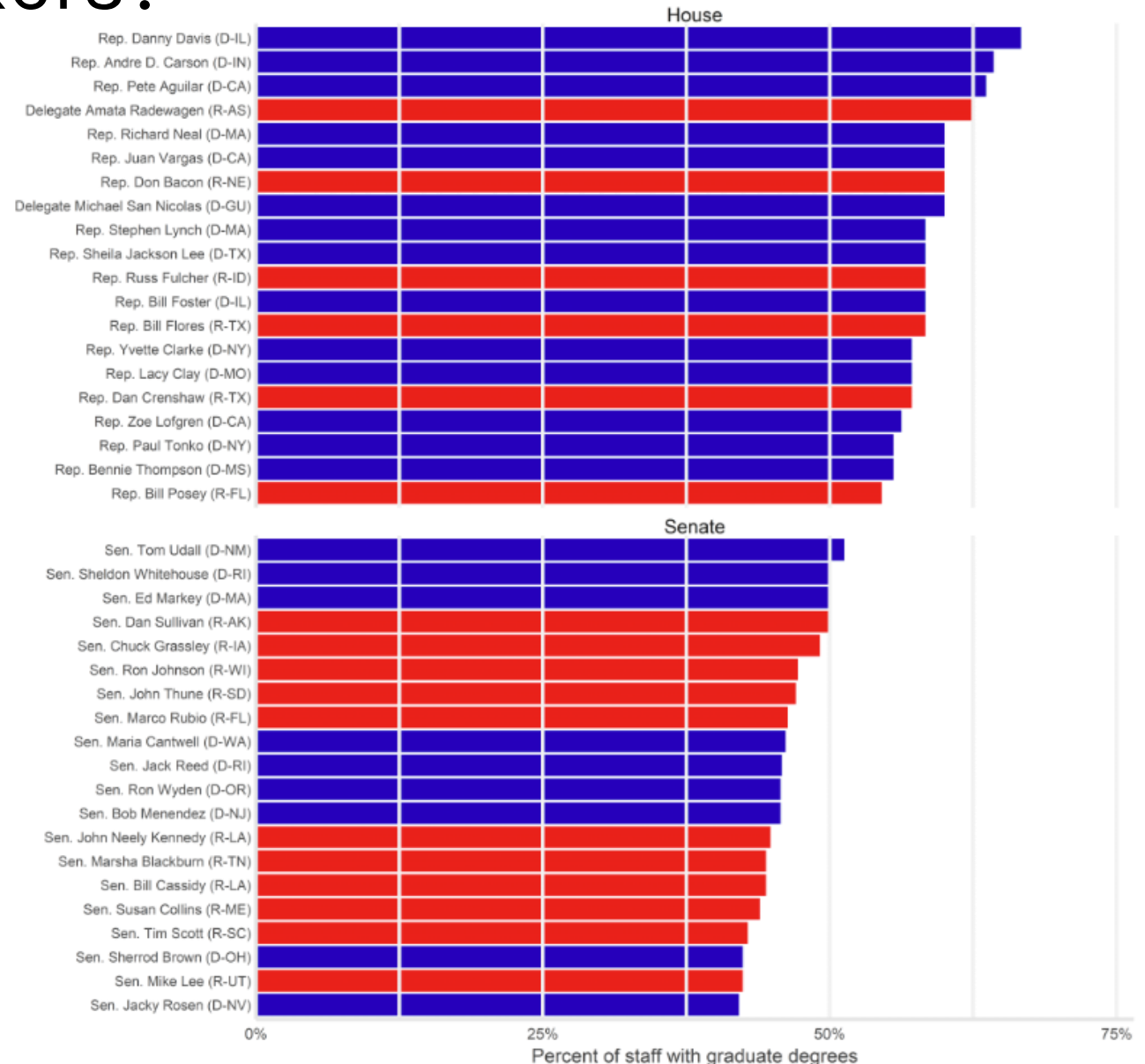


- Average age of Senate staffers is 32

Who are the Decision Makers?

- House and Senate staff are well-educated
- Roughly 85% have a minimum of a bachelor's degree and 20% holding advanced degrees
- Advanced degree often required for many mid-level positions
- Majority of advanced degrees are in law, political science, or public policy

Who hires the most staff with graduate degrees?
Top 20 members, by chamber

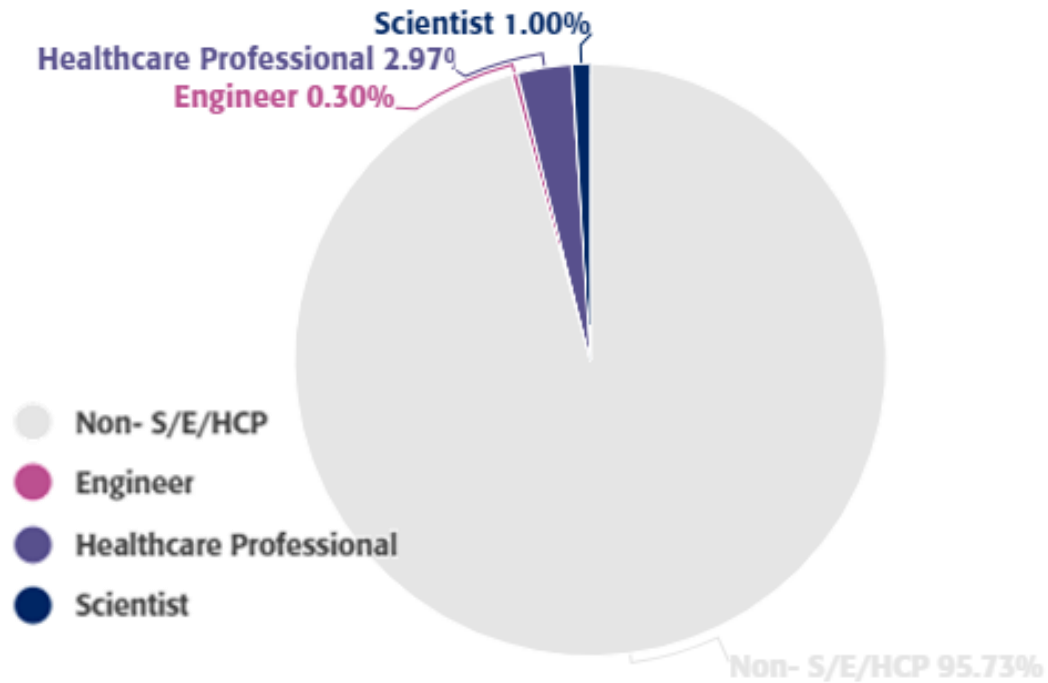


Who are the Decision Makers?

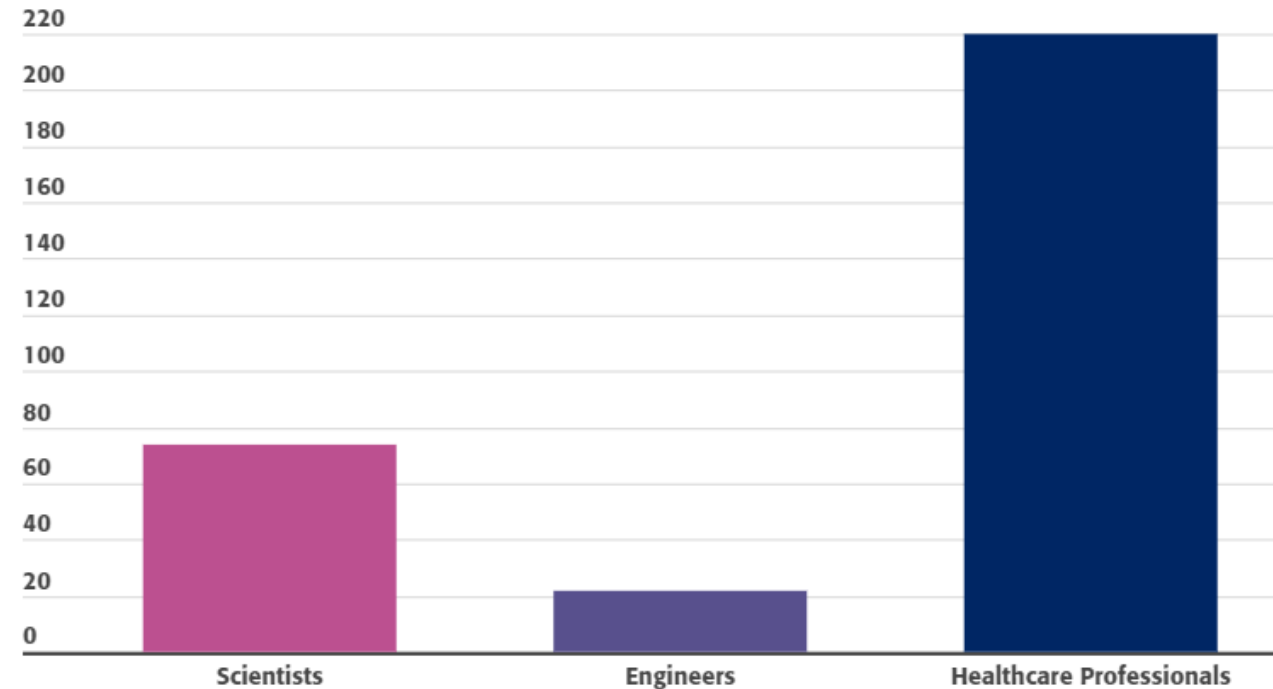
- The vast majority of Members (93.8% of House Members and 99% of Senators) at the beginning of the 118th Congress have earned at least a bachelor's degree.
- Sixty-four percent of House Members and 79% of Senators hold educational degrees beyond a bachelor's.
- 132 Members of the House (30.5% of the House) and 51 Senators (51% of the Senate) hold law degrees
- 22 Representatives and 4 Senators have doctoral (Ph.D., D.Phil., Ed.D., or D.Min.) degrees
- 21 Members of the House and 5 Senators have medical degrees.



Who are the Decision Makers?



Total number of scientists, engineers, and healthcare professionals in U.S. state legislatures



Only 4% of state legislators nationwide are scientists, engineers or healthcare professionals.

Formula for Explaining Technical Relevance

Members of Congress are deeply committed to serving their constituents and are highly accomplished, often with advanced degrees and diverse professional backgrounds. However, relatively few have formal training in science or technical fields.

As a result, those of us advocating for scientific programs and initiatives have a responsibility to translate our work into clear, compelling terms that resonate with policymakers and align with their priorities.

Formula for Explaining Technical Relevance

Clarity

Being able to describe the work in a way that is understandable outside of the field. That doesn't mean simplifying the science—it means being deliberate about how it's explained.

Relevance

Connecting the work to priorities that Congress is already focused on. Every request is being evaluated alongside other demands—healthcare, national security, economic pressures—so the connection has to be clear.

Consequence

Being explicit about what happens if the work is not supported. If the impact of inaction isn't clear, it becomes very difficult to prioritize.

Action

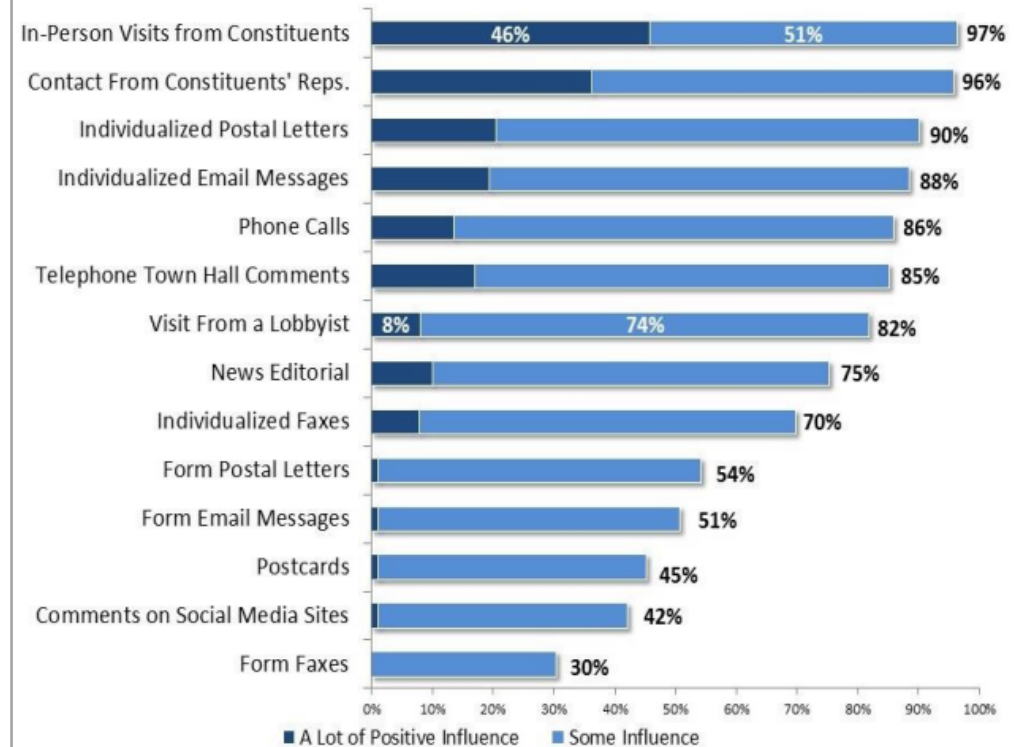
Being clear about what you are asking for, and what success looks like. If the request isn't actionable, it's difficult for staff to move it forward.

Explaining Technical Relevance

Sustained Engagement and Relationship Building

- Prioritize ongoing outreach to congressional offices—relationships are built over time, not through one interaction.
- Create opportunities for meaningful engagement, such as: inviting members to conferences, speaking engagements, and site visits.
- Focus on building trusted, long-term relationships rather than one-off requests
- **The most impactful relationships are built when advocates clearly demonstrate how their work supports the economic vitality and well-being of a member's district or state.**

If your Member/Senator has not already arrived at a firm decision on an issue, how much influence might the following advocacy strategies directed to the Washington office have on his/her decision?



(n = 190-192)

Source: Congressional Management Foundation 2015 survey of congressional staff, including Chiefs of Staff, Communications Directors, Legislative Directors, and Legislative Assistants.

Thank you

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