

United States Senate

WASHINGTON, DC 20510

February 12, 2025

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National Institutes of Health (NIH)
9000 Rockville Pike
Bethesda, MD 20892

Sethuraman Panchanathan
Director
National Science Foundation (NSF)
9000 Rockville Pike
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Dear Directors Memoli and Panchanathan:

We write following an alarming two weeks of chaos and upheaval at the National Institutes of Health (NIH) and National Science Foundation (NSF). We are deeply concerned about the ongoing impact of these disruptions at Massachusetts research institutions and beyond.

The NIH and NSF are the largest public funders of research in the United States—fueling the development of lifesaving treatments for cancer, heart disease, and diabetes, tools for the early detection of Alzheimer’s disease, pioneering biotechnologies for organ transplants, and countless other life-saving medical breakthroughs.¹ This funding is particularly important in Massachusetts, where dozens of world-renowned universities, hospitals, and research institutions rely on NIH and NSF grants to support cutting-edge scientific research that benefits the U.S. economy and patients around the world. Yet, after weeks of illegal and unprecedented funding cut offs, communication pauses, and cuts to indirect cost rates, patients, medical workers, researchers, and residents throughout the states are scared and confused about the future of research programs and clinical trials at their local hospitals and universities. The chaos caused by the Trump administration is unacceptable—and you owe researchers and patients in Massachusetts and beyond an explanation about what is going on at your agencies.

On January 21, 2025, a directive issued by Department of Health and Human Services (HHS) Acting Secretary Dorothy A. Fink called for an immediate pause on all public communications from HHS, the parent organization of the NIH.² In a second notice that day, the NIH’s Deputy

¹ National Institutes of Health, “Accurate blood test for Alzheimer’s disease,” August 13, 2024, <https://www.nih.gov/news-events/nih-research-matters/accurate-blood-test-alzheimer-s-disease>; National Science Foundation, “Expanding the Frontiers of Biotechnology,” https://nsf.gov-resources.nsf.gov/files/Factsheet_BioTech_v04.pdf.

² Letter from Department of Health and Human Services Acting Secretary Dorothy A. Fink to Heads of Operating Divisions and Heads of Staff Divisions, January 21, 2025, <https://www.science.org/doi/10.1126/science.z7pm10i/full/actinghhssecretarymemoaction2212025->

Chief Financial Officer released a memo directing an “Immediate and Indefinite Suspension of All Travel.”³ NIH fellowship and grant review panels were canceled, along with scheduled meetings of advisory bodies that prevent the spread of infectious diseases, including the National Vaccine Advisory Committee and the Presidential Advisory Council on Combating Antibiotic-Resistant Bacteria, and many others.⁴ Chaos ensued: on January 27, the White House Office of Management and Budget (OMB) issued a Memo requiring Federal agencies—including the NIH and NSF—to temporarily pause all activities related to “disbursement” of funds.⁵ The pause was blocked by a federal judge,⁶ but the Trump administration hasn’t fully complied with the order to unfreeze funds.⁷ OMB later rescinded its memo, but signaled that they would continue to implement the EO aims.⁸ In the meantime, researchers and their patients were left waiting for answers.

On February 7, the NIH announced another bombshell: all new and existing awards would have their indirect cost rate, which has averaged between 27% and 28% over time, capped at 15% beginning February 10, 2025.⁹ Functionally, this means that universities and researchers will no longer receive the funds they rely on to support critical research infrastructure like buildings, support staff, and utilities. This sudden and illegal change to the contractual agreement between the government and research institutions was another devastating blow to researchers and their institutions, and after a legal challenge by 22 state attorneys general, a federal judge issued a temporary order blocking the cut within those states.¹⁰

To identify the impacts of these multiple dangerous directives from the Trump Administration, our offices contacted research institutions and universities in Massachusetts that represent some

[1737591296147.pdf](#).

³ Email from National Institutes of Health Deputy Chief Financial Officer Glenda Conroy to NIH staff, January 22, 2025, <https://www.science.org/doi/10.1126/science.z7pm10i/full/travelban-1737591296147.pdf>.

⁴ STATNews, “Trump administration’s abrupt cancellation of scientific meetings prompts confusion, concern,” Anil Oza, January 22, 2025, <https://www.statnews.com/2025/01/22/trump-administrations-cancels-scientific-meetings-abruptly/>.

⁵ Office of Management and Budget Memorandum for Heads of Executive Departments and Agencies, January 27, 2025, <https://www.nytimes.com/interactive/2025/01/27/us/omb-memo.html>.

⁶ Associated Press, “Federal judge temporarily blocks Trump administration freeze on federal grants and loans,” Chris Megerian and Lindsay Whitehurst, January 29th, 2025, <https://apnews.com/article/donald-trump-pause-federal-grants-aid-f9948b9996c0ca971f0065fac85737ce>.

⁷ The Hill, “BJudge directs Trump administration to comply with order to unfreeze federal grants,” Ella Lee, February 10, 2025, <https://thehill.com/regulation/court-battles/5136255-trump-federal-funding-freeze-comply/>.

⁸ The New York Times, “Trump White House rescinds order freezing federal spending, reversing course,” Jeff Stein and Tony Romm, January 29, 2025, <https://www.washingtonpost.com/business/2025/01/29/white-house-budget-office-spending-freeze/>; NPR, “White House response adds to confusion on federal funding freeze,” Barbara Sprunt, Elena Moore, Deirdre Walsh, Asma Khalid, and Tamara Keith, January 29, 2025, <https://www.npr.org/2025/01/29/g-s1-45313/trump-federal-funding-freeze-reversed>.

⁹ National Institutes of Health, “Supplemental Guidance to the 2024 NIH Grants Policy Statement: Indirect Cost Rates,” February 7, 2024, <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-25-068.html>.

¹⁰ Office of the Massachusetts Attorney General, “AG Campbell Sues Trump Administration For Defunding Medical And Public Health Innovation Research,” press release, February 10, 2025, <https://www.mass.gov/news/ag-campbell-sues-trump-administration-for-defunding-medical-and-public-health-innovation-research>; STATNews, “Federal judge halts Trump administration cuts to NIH research payments in 22 states,” Jonathan Wosen and Angus Chen, February 10, 2025, <https://www.statnews.com/2025/02/10/nih-indirect-costs-lawsuit-state-attorneys-general-sue-to-block-research-spending-cuts/>.

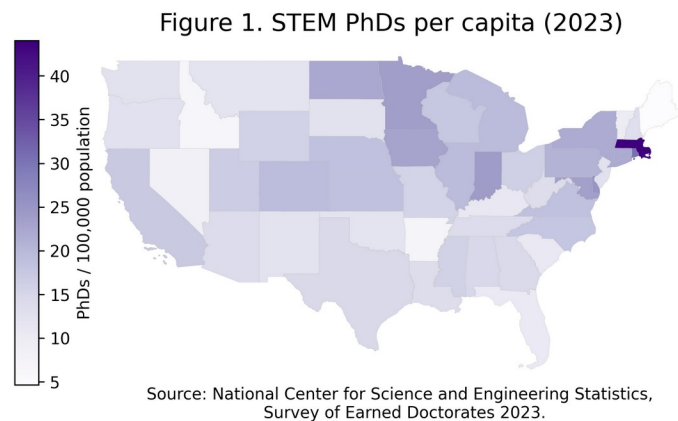
of the top recipients of NIH and NSF funds in the state and country, inquiring about what they were experiencing on their campuses, and how they feared these cuts in NIH and NSF funding would impact the development of innovative scientific and medical discoveries and the state's research-based economy. Their answers confirmed the profound impact that federal research funding has in Massachusetts and beyond, and the extent to which the Trump Administration actions are endangering life-saving research and economic growth in Massachusetts and across the country. Our conversations with the top research institutions in Massachusetts revealed that:

1. **The funding freezes and cuts at NIH and NSF have caused chaos and confusion at Massachusetts research institutions.** The lack of clarity around the current state of funding at NIH and NSF—and the future of these agencies under a second Trump Administration—has raised panic in the research community. Representatives at Massachusetts research institutions described a *“hunger for clear guidance on what is impacted and what isn’t”* as investigators scramble to save their work and plan for the years and months ahead. They are concerned about existing grants being clawed back, uncertainty around renewals and no-cost extensions, the long-term prospects for lines of research that might run afoul of the Executive Order (EO) directives, and the impact on cross-cutting programming on and between campuses. Researchers feel in the dark and afraid to ask for clarification for fear they’ll have a *“target on their back.”* In the flurry of messages being communicated by the Trump administration and your agency, grant holders are unsure how to proceed; *“people are saying they can’t buy a book or a pencil.”* The abrupt nature of the announcement of indirect cost caps raises basic practical concerns of *“how to be in compliance with something that is so unclear and so sweeping.”* The research institutions we spoke to expressed an inability to navigate so many conflicting cut offs, cease and desist orders, and directives, saying that, *“should a larger number come down, that would create widespread chaos.”*
2. **The funding cut offs are impeding research carried out by Massachusetts institutions that enable critical, lifesaving care.** Federal funding for scientific research is an essential investment in the health and wellbeing of American citizens. Dedicated federal funding directly saves Americans’ lives by allowing individuals with deadly diseases to benefit from clinical trials, and federal funding has allowed thousands of clinical trials to be run out of Massachusetts-based institutions.¹¹ Pausing or cutting off the funding that supports these trials could be devastating: as representatives from these institutions pointed out, *“if you’re a cancer patient in a clinical trial, it is not a theoretical undertaking, it is treatment.”* They also pointed out that for many rare and understudied diseases—such as childhood cancer—*“if it’s not federal funding, there’s nowhere else to go - that’s a real impact in the short and long term...I don’t know how you make that up.”*
3. **Federal funding cut offs and proposed cuts at Massachusetts institutions puts the future of a highly skilled STEM workforce in the United States at risk.** Nearly half of all science and engineering doctoral recipients graduating from U.S. research institutions have received federal research funding during their graduate studies.¹² Massachusetts

¹¹ National Academy of Medicine, “The State of the U.S. Biomedical and Health Research Enterprise,” Melissa H Laitner, Audrey M. Huang, and Shannon Takala-Harrison, 2024, <https://doi.org/10.17226/27588>.

¹² National Science Foundation, “Research Funding for U.S. Doctorate Recipients at Research-Intensive Institutions,” Maryah Garner, Allison Nunez, and Wan-Ying Chang, December 4, 2023, <https://nces.nsf.gov/pubs/nsf23349>.

ranks first in the nation in terms of the number of R1 universities (i.e. doctoral universities with very high research activity) per capita, is home to several of the world’s premier research institutions, and produces more PhDs per capita annually than any other state (see Figure 1). According to conversations with Massachusetts research institution representatives, **“higher education is a big industry in Massachusetts, we’re training the workforce at every level.”** Discussions further highlighted impacts of the funding uncertainty on incoming student cohorts, **“thinking about admissions of graduate students for next year, Principal Investigators (PIs) are faced with uncertainty about how many resources they will have and how many students they can take.”** Indirect costs were specifically designed as a mechanism to decentralize and democratize scientific research and training. By pulling back this avenue of funding, you shrink the size of our scientific workforce, **“we don’t want a situation where you can only earn a PhD if you’re already wealthy.”** The uncertainty around funding and resources may cause graduate students to forego their research and education entirely: **“we can’t afford to lose a generation of talent,”** said representatives from one research university.



4. **Freezes and cuts in federal research funding at Massachusetts institutions will be a critical hit to the innovation that has cemented the United States as a vanguard in healthcare.** NIH funds innovation: for every \$100 million of funding, NIH funded research generates 76 patents.¹³ Massachusetts scientists are using NIH grants to create new cancer drugs; develop new technologies—like the bionic pancreas—to treat disease; study ways to combat the opioid epidemic; and identify risk factors for heart disease, among other critical endeavors. Highlighting the groundbreaking research and therapeutics that have come out of the state, representatives from Massachusetts-based research institutions said, **“if anyone in the world has a serious disease and they want to come to the US - they want to come to Boston.”** Raising their concerns around recent federal funding freezes and cuts, **“chaos and confusion and delay among America’s premier research institutions is going to impact the science,”** and undermines our national research advantage.

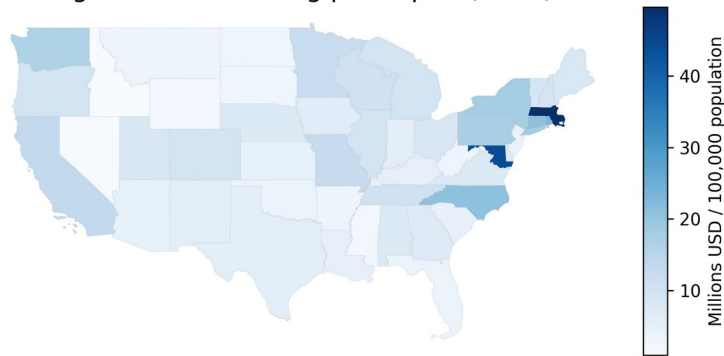
The NIH proposal to cut indirect costs will have dangerous impacts on U.S. research institutions. These costs fund the buildings where science is performed, the sophisticated machinery that enables scientific research, the support staff that keep the scientific enterprise moving, the utilities necessary to heat and cool high-performance machinery, hazardous chemicals and materials storage and disposal, and so much more. As one representative said, **“the direct costs are for the chef and ingredients, but you can’t run**

¹³ National Institutes of Health, “Direct Economic Contributions,” <https://www.nih.gov/about-nih/what-we-do/impact-nih-research/serving-society/direct-economic-contributions>.

the restaurant without the building, the waiters, all the other things that are outside of those direct expenses.”

5. **Federal funding freezes and cuts will harm the Massachusetts and United States economies.** The NIH is the largest single public funder of biomedical and behavioral research in the world, and in fiscal year 2023 NIH funding generated over \$90 billion in economic activity in the United States.¹⁴ In the same year, the NIH awarded \$3.5 billion in grants in contracts in Massachusetts that directly supported 28,842 jobs and nearly \$7.5 billion in economic activity.¹⁵ This federal funding has enabled the robust growth of private sector biotech and biopharmaceuticals companies currently employing over 130,000 people in Massachusetts.¹⁶ Representatives from Massachusetts research institutions identified how federal funding enables dozens of start-up incubators and entrepreneurship centers to connect universities to local companies, stating that if this funding were lost *“the economic impacts are enormous.”* Through its small-business investment program, the NIH has added more than \$13 billion to the U.S. economy.¹⁷ Massachusetts has the highest rate of both NIH and NSF funding per capita (see Figure 2), and the economic impact of this funding is multiplied through extensive partnerships with universities across states nationwide. Experts pointed out that indirect cost

Figure 2. NIH funding per capita (2023)



Source: NIH Research Portfolio Online Reporting Tools, Awards by Location & Organization Fiscal Year 2023.

revenue is a critical piece of the research economic engine, *“they are people, it’s a workforce, institutions will have to lay off people,”* they said regarding the extensive personnel whose salaries are supported by these funds, such as lab technicians, IT, facilities maintenance, animal care, and Institutional Review Boards (IRB): *“difficult decisions will have to be made.”*

Although the NIH resumed selected study sections to review research proposals on February 4, 2025,¹⁸ it is still unclear what happened during the freeze, whether it is over, and what the future is of NIH and the life-saving, cutting edge, scientific and medical research projects it supports.

¹⁴ National Institutes of Health, “Direct Economic Contributions,”

<https://www.nih.gov/about-nih/what-we-do/impact-nih-research/serving-society/direct-economic-contributions>.

¹⁵ United for Medical Research, “NIH Funding at Work in Massachusetts,”

<https://www.unitedformedicalresearch.org/nih-pdf/?state-id=523>.

¹⁶ United for Medical Research, “NIH Funding at Work in Massachusetts,”

<https://www.unitedformedicalresearch.org/nih-pdf/?state-id=523>.

¹⁷ National Institutes of Health, “Spurring Economic Growth,” <https://www.nih.gov/about-nih/what-we-do/impact-nih-research/serving-society/spurring-economic-growth>.

¹⁸ STAT News, “NIH resumes grant reviews after two-week pause, along with some communications and travel,” Megan Molteni and Anil Oza, February 4, 2025, <https://www.statnews.com/2025/02/04/trump-nih-study-sections-grant-reviews-resume/>.

And while NSF investigators have been advised that they can resume accessing funds, the confusion around messaging the possibility of grant funds being clawed back, and the overall future of the NSF is worrying.¹⁹ Indeed, on February 10, 2024, a federal judge found that the Trump Administration had not ended the freeze, and that “in some cases [administration officials] have continued to improperly freeze federal funds and refused to resume disbursement of appropriated federal funds.”²⁰

Conclusion

The Trump Administration’s NIH and NSF funding freezes, and changes to basic rules governing government research assistance have had a devastating short-term impact on patients, scientists, workers, and research institutions in Massachusetts, endangering innovation and the economy. The unprecedented actions taken by the Trump Administration will undermine the United States’ research edge—whether through abandoned research projects, staffing shortages, or a “brain drain” in our biotech workforce as young, budding scientists opt for other careers and countries with greater certainty.

Given the importance of NIH and NSF funding in Massachusetts and across the country, we ask that you immediately end the funding freeze and the threats to cut grant expenditures. And we ask that you answer the following questions by February 26, 2025:

1. Please describe the process for issuing directives at your agency related to disbursement of funds. Who is involved in these decisions and what considerations are taken into account when processes around disbursement of funds are changed?
2. Please describe the process for issuing directives related to the cancellation of study sections, grant review panels, and other scheduled meetings. Who is involved in these decisions and what considerations are taken into account when cancelling scheduled meetings and panels?
3. Please describe the process for issuing directives related to the setting and re-setting of deadlines on open solicitations. Who is involved in these decisions and what considerations are taken into account when setting and re-setting deadlines on open solicitations?
4. Please describe the process for issuing directives related to the determination of which existing grants and open solicitations are implicated by the EOs. Who is involved in these decisions and what considerations are taken into account when determining which existing grants and open solicitations are implicated by the EOs?
5. For each of the following EOs, please describe how the order is changing existing processes around choosing which grants to fund:
 - a. *Protecting the American People Against Invasion*
 - b. *Reevaluating and Realigning United States Foreign Aid*
 - c. *Putting America First in International Environmental Agreements*
 - d. *Unleashing American Energy*

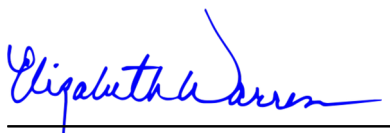
¹⁹ Politico, “Science funding agency threatened with mass layoffs,” Corbin Hiar, February 4, 2025, <https://www.politico.com/news/2025/02/04/science-funding-agency-layoffs-threat-00202426>.

²⁰ WPRI, “RI federal judge says Trump administration violated funding freeze order; Trump appeals,” Tim White and Eli Sherman, February 10, 2025, <https://www.wpri.com/target-12/ri-federal-judge-says-trump-administration-violated-funding-freeze-court-order/>.

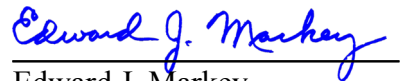
- e. Ending Radical and Wasteful Government DEI Programs and Preferencing*
 - f. Defending Women from Gender Ideology Extremism and Restoring Biological Truth to the Federal Government*
 - g. Enforcing the Hyde Amendment*
6. Although researchers and institutions have received some mild assurances that their awarded and intended funding is available for draw down, there is panic and concern around how long this will last, and whether grantees can continue to plan their research agenda relying on this funding. For existing grants that are determined to be implicated by the EOs, what course of action will you take?
 7. Although some study sections have resumed this week and grant review panels are being rescheduled “as appropriate,” there have been no assurances that all activities have resumed and all submitted grants are fairly considered. Please list all study sessions and/or review panels that were meant to have occurred between January 21, 2025 and today, and please include the make-up schedule for each of these sessions. For sessions not being rescheduled, please include your expected course of action.
 - a.* Please provide a precise timeline indicating when you plan to fully communicate this information to institutions, grant holders, and the general public.
 8. Who are you working with and how do you plan to fully resolve the funding freeze at your agencies? If you believe there will be barriers to do so, please describe what they are.
 9. How did NIH determine that the new 15% cap on indirect rates was appropriate? Please provide any internal cost estimates or analyses used to determine the appropriate rate, and any analyses of the impact of reducing the rate cap from X% to 15%.

We look forward to your responses.

Sincerely,



Elizabeth Warren
United States Senator



Edward J. Markey
United States Senator