‘This year nearly broke me as a scientist’ – US researchers reflect on how 2025’s science cuts have changed their lives

Carrie McDonough, Associate Professor of Chemistry, Carnegie Mellon University

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U.S. researchers are seeking the light at the end of a rough year for science.

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From beginning to end, 2025 was a year of devastation for scientists in the United States.

January saw the abrupt suspension of key operations across the National Institutes of Health, not only disrupting clinical trials and other in-progress studies but stalling grant reviews and other activities necessary to conduct research. Around the same time, the Trump administration issued executive orders declaring there are only two sexes and ending DEI programs. The Trump administration also removed public data and analysis tools related to health disparties, climate change and environmental justice, among other databases.

February and March saw a steep undercutting of federal support for the infrastructure crucial to conducting research as well as the withholding of federal funding from several universities.

And over the course of the following months, billions of dollars of grants supporting research projects across disciplines, institutions and states were terminated. These include funding already spent on in-progress studies that have been forced to end before completion. Federal agencies, including NASA, the Environmental Protection Agency, the National Oceanic and Atmospheric Administration and the U.S. Agency for International Development have been downsized or dismantled altogether.

The Conversation asked researchers from a range of fields to share how the Trump administration's science funding cuts have affected them. All describe the significant losses they and their communities have experienced. But many also voice their determination to continue doing work they believe is crucial to a healthier, safer and more fair society.

Pipeline of new scientists cut off

Carrie McDonough, Associate Professor of Chemistry, Carnegie Mellon University

People are exposed to thousands of synthetic chemicals every day, but the health risks those chemicals pose are poorly understood. I was a co-investigator on a US$1.5 million grant from the EPA to develop machine-learning techniques for rapid chemical safety assessment. My lab was two months into our project when it was terminated in May because it no longer aligned with agency priorities, despite the administration's Make America Healthy Again report specifically highlighting using AI to rapidly assess childhood chemical exposures as a focus area.

Labs like mine are usually pipelines for early-career scientists to enter federal research labs, but the uncertain future of federal research agencies has disrupted this process. I'm seeing recent graduates lose federal jobs, and countless opportunities disappear. Students who would have been the next generation of scientists helping to shape environmental regulations to protect Americans have had their careers altered forever.

Many researchers are working to advocate for science in the public sphere.

John McDonnell/AP Photo

I've been splitting my time between research, teaching and advocating for academic freedom and the economic importance of science funding because I care deeply about the scientific and academic excellence of this country and its effects on the world. I owe it to my students and the next generation to make sure people know what's at stake.

Fewer people trained to treat addiction

Cara Poland, Associate Professor of Obstetrics, Gynecology and Reproductive Biology, Michigan State University

I run a program that has trained 20,000 health care practitioners across the U.S. on how to effectively and compassionately treat addiction in their communities. Most doctors aren't trained to treat addiction, leaving patients without lifesaving care and leading to preventable deaths.

This work is personal: My brother died from substance use disorder. Behind every statistic is a family like mine, hoping for care that could save their loved one's life.

With our federal funding cut by 60%, my team and I are unable to continue developing our addiction medicine curriculum and enrolling medical schools and clinicians into our program.

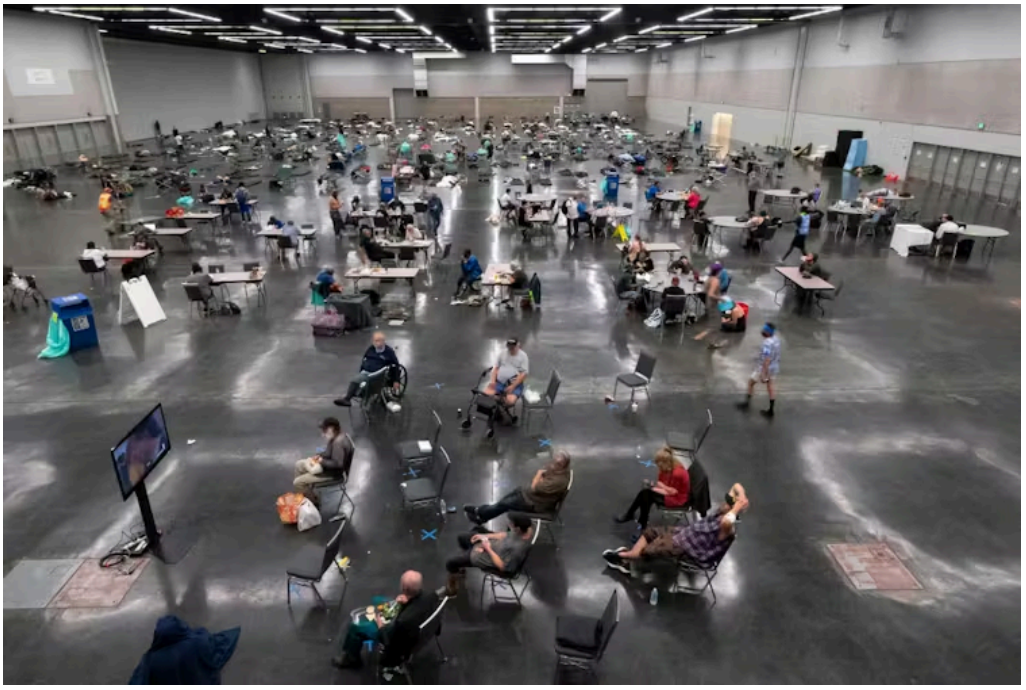
Meanwhile, addiction-related deaths continue to rise as the U.S. health system loses its capacity to deliver effective treatment. These setbacks ripple through hospitals and communities, perpetuating treatment gaps and deepening the addiction crisis.

Communities left to brave extreme weather alone

Brian G. Henning, Professor of Philosophy and Environmental Studies and Sciences, Gonzaga University

In 2021, a heat dome settled over the Northwest, shattering temperature records and claiming lives. Since that devastating summer, my team and I have been working with the City of Spokane to prepare for the climate challenges ahead.

We and the city were awarded a $19.9 million grant from the EPA to support projects that reduce pollution, increase community climate resilience and build capacity to address environmental and climate justice challenges.



Cooling centers are becoming more critical as extreme heat becomes more common.
Nathan Howard/Getty Images

As our work was about to begin, the Trump administration rescinded our funding in May. As a result, the five public facilities that were set to serve as hubs for community members to gather during extreme weather will be less equipped to handle power failures. Around 300 low-income households will miss out on efficient HVAC system updates. And our local economy will lose the jobs and investments these projects would have generated.

Despite this setback, the work will continue. My team and I care about our neighbors, and we remain focused on helping our community become more resilient to extreme heat and wildfires. This includes pursuing new funding to support this work. It will be smaller, slower and with fewer resources than planned, but we are not deterred.

LGBTQ+ people made invisible

Nathaniel M. Tran, Assistant Professor of Health Policy and Administration, University of Illinois Chicago

This year nearly broke me as a scientist.

Shortly after coming into office, the Trump administration began targeting research projects focusing on LGBTQ+ health for early termination. I felt demoralized after receiving termination letters from the NIH for my own project examining access to preventive services and home-based care among LGBTQ+ older adults. The disruption of publicly funded research projects wastes millions of dollars from existing contracts.

Then, news broke that the Centers for Disease Control and Prevention would no longer process or make publicly available the LGBTQ+ demographic data that public health researchers like me rely on.

But instead of becoming demoralized, I grew emboldened: I will not be erased, and I will not let the LGBTQ+ community be erased. These setbacks renewed my commitment to advancing the public’s health, guided by rigorous science, collaboration and equity.

Research on LGBTQ+ health informs the kind of care patients receive.

Jessica Rinaldi/The Boston Globe via Getty Images

Pediatric brain cancer research squelched

Rachael Sirianni, Professor of Neurological Surgery, UMass Chan Medical School

My lab designs new cancer treatments. We are one of only a few groups in the nation focused on treating pediatric cancer that has spread across the brain and spinal cord. This research is being crushed by the broad, destabilizing impacts of federal cuts to the NIH.

Compared to last year, I am working with around 25% of our funding and less than 50% of our staff. We cannot finish our studies, publish results or pursue new ideas. We have lost technology in development. Students and colleagues are leaving as training opportunities and hope for the future of science dries up.

I’m faced with impossible questions about what to do next. Do I use my dwindling research funds to maintain personnel who took years to train? Keep equipment running? Bet it all on one final, risky study? There are simply no good choices remaining.

Inequality in science festers

Stephanie Nawyn, Associate Professor of Sociology, Michigan State University

Many people have asked me how the termination of my National Science Foundation grant to improve work cultures in university departments has affected me, but I believe that is the wrong question. Certainly it has meant the loss of publications, summer funding for faculty and graduate students, and opportunities to make working conditions at my and my colleagues' institutions more equitable and inclusive.

But the greatest effects will come from the widespread terminations across science as a whole, including the elimination of NSF programs dedicated to improving gender equity in science and technology. These terminations are part of a broader dismantling of science and higher education that will have cascading negative effects lasting decades.

Infrastructure for knowledge production that took years to build cannot be rebuilt overnight.

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