NIH grants plummeted $2.3 billion in Trump's first months, as federal-academia partnership crumbles

Funding of research on infectious diseases and biological systems hit hardest, STAT analysis shows

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The National Institutes of Health has scaled back its awards of new grants by at least $2.3 billion since the beginning of the year, with the biggest shortfalls hitting the study of infectious diseases, heart and lung ailments, and basic research into fundamental biological systems, a new STAT analysis has found.

This roughly 28% contraction in funding comes on top of threats to freeze billions of dollars of NIH funding to specific universities as well as abrupt terminations to hundreds of research projects on Covid-19, HIV/AIDS, health disparities, vaccine hesitancy, and other areas targeted by President Trump's political agenda.

While Trump and his Republican allies have begun to use the threat of withholding NIH funding to force private universities like Columbia and Harvard to change what they say are "woke," left-wing, and antisemitic policies, STAT's analysis shows that the institutions hardest hit by the slowdown to new NIH awards include public universities, medical schools, and a nonprofit cancer research center. The Boston area and New York City — home to Harvard and Columbia — have experienced large declines in new grants, but so have Seattle and San Diego, where the public University of Washington and University of California, San Diego, are located.

These funding gaps likely represent fallout from the Trump administration's decision to pause meetings of the advisory groups that review grant proposals and make recommendations to the NIH about

which projects to support. The number of new grant awards at the start of this year fell to 12,782 from an average of 18,815 during the same period in the previous nine years.

The collective impacts of these cuts — as well as the slashing of training programs for early-career researchers from marginalized backgrounds and the uncertainty over the administration's plan for deep reductions in indirect research costs — are staggering university campuses: Life sciences programs have had to significantly downsize their incoming cohorts of Ph.D. students, according to a STAT survey, and universities have begun laying off postdoctoral researchers and other workers.

As the second Trump administration nears its 100th day, it's looking more and more like the beginning of the end of the federal-academic partnership that has been propelling American biomedical innovation to untouchable heights for close to eight decades, scientific leaders told STAT — endangering the nation's global leadership and the health and economic prosperity of its citizens.

"To me it's a wholesale assault on the federal research partnerships that have really made the U.S. and our academic institutions the envy of the world," said Lawrence Gostin, a public health expert at Georgetown Law School. "All of that is crumbling before our eyes."

These destabilizing political interventions are arriving at a time when America's grip on global scientific dominance has already shown signs of slipping. Five years ago, three U.S. universities topped the Nature Index — a ranking of high-quality research output in the life and health sciences. In the most recent data, released in 2024, only one American university, Harvard, remained in the top 10. The majority of the top spots are now occupied by Chinese research institutions.

A national security commission report released this month warned that the U.S.'s biotechnology advantage — once believed to be unassailable — was rapidly deteriorating and urged the federal government to invest at least $15 billion in new financing over the next five years to reinforce the country's biotech leadership amid encroaching competition from China.

"The only people that are rejoicing are probably our adversaries," said Elias Zerhouni, who served as NIH director from 2002 to 2008. "If I was

in charge of the Chinese Communist Party, I'd be having bottles of champagne opened right now."

NIH grant awards are lagging behind previous years

Cumulative amount of new grants awarded during the first 110 days of the year

Individual

years
0 days204060801002B4B6B8B10B
Average of 2016-2024
$8.4B
Amount awarded so far in 2025
$6.1B

Chart: J. Emory Parker/STAT Source: STAT Analysis of RePORTER data

Like other experts STAT spoke to, Zerhouni said it may take years to understand the magnitude of what is being lost. But they said some of the damage already inflicted is starting to look irreversible, or at the very least like a disaster from which it will take decades to recover. Experiments are screeching to a halt, data is vanishing, careers are ending, opportunities are contracting, trust is breaking, and the historical benefits of a vibrant scientific community in the U.S. are starting to evaporate. Increasingly, researchers here are looking to do science overseas, reversing the trends that have long allowed the U.S. to siphon off the world's top talent for its own gain.

"Frankly, damage is being done at such a rapid rate that I don't think we can really afford to wait two to four years to do something about it," said Harold Varmus, a Cornell University cancer researcher and Nobel laureate who served as NIH director from 1993 to 1999. "The immediate deprivation is already starting to force people out of science careers, but there are also the long-term impacts on the likelihood that people who are in grade school now will one day go into science. We're looking at a constriction of the whole enterprise, which will have devastating and long-lasting consequences."

Spokespeople for the NIH and HHS did not respond to requests for comment by the time of publication.

Some of those effects are easier to measure than others. For this analysis, STAT downloaded over 200,000 federal records from public databases. From the Federal Register, STAT accessed meeting notices in order to analyze yearly trends in the number of study sections. We used the NIH's RePORTER database to access all grant data from the start of 2016 until April 21, 2025. To create apple-to-apples yearly comparisons, STAT restricted analysis to only meetings and grants awarded in the first 110 days of their respective years.

Here's what the analysis reveals about the NIH institutes, academic institutions, states, and congressional districts affected the most.

Where the hardest blows have landed

The reduction in new grants has not been evenly distributed across the NIH. Institutes and centers that focus on infectious diseases and understanding the basic principles of biology have had the largest constrictions in funds in absolute terms. But smaller institutes have seen a greater proportion of the grants they would typically fund be cut back.

So far in 2025, the National Center for Advancing Translational Sciences, which works to streamline the transformation of lab discoveries into usable medicines, has awarded less than 16% of the average amount of research funds it doled out over the same time period across the previous nine years, and the institute that funds research on alcoholism has awarded just 27% of what it gave out in past years. In contrast, the National Cancer Institute's grant funding has declined only about 10%.

NIH institutes and centers with largest funding declines

Cumulative amount of new NIH grants awarded in the first 100 days of 2025 compared with the average for the same period from 2016-2024.

National Institute of General Medical Sciences (NIGMS)

$751.6M
$357.1M

National Heart, Lung, and Blood Institute (NHLBI)

$945M
$636.3M

National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)

$466.7M
$342.9M

National Center for Advancing Translational Sciences (NCATS)

$130.3M
$20.7M

National Cancer Institute (NCI)

$1.1B
$1B

National Institute of Mental Health (NIMH)

$457.3M
$366M

National Institute of Environmental Health Sciences (NIEHS)

$181.2M
$93.2M

National Institute of Neurological Disorders and Stroke (NINDS)

$503.5M
$427.2M

National Institute on Alcohol Abuse and Alcoholism (NIAAA)

$91.9M
$24.5M

Average of 2016-24 | Awarded so far in 2025 |

Chart: J. Emory Parker/STAT Source: STAT Analysis of RePORTER data

This analysis does not include a crowdsourced list of roughly 790 research grants that have been terminated by the NIH under the Trump administration. That scientist-led effort to track canceled projects has

found that close to $2 billion in funds allocated to U.S. researchers have been clawed back by the NIH.

America's largest urban areas and college towns are losing substantial amounts of money that normally flow into their universities and research institutions. Very few states have been spared, but areas hit particularly hard so far include Boston, New York City, Baltimore (home to Johns Hopkins Medicine), Seattle (where both UW and the Fred Hutchinson Cancer Center have seen big cuts), San Diego (home to Scripps Research Institute in addition to UCSD), and North Carolina's Research Triangle.

Big cities and university towns lost the most from decline in grant awards

Change in the cumulative amount of new NIH grants awarded by congressional district in the first 110 days of 2025 compared with the average for the same period from 2016-2024.

Note: In this image the size of states has been scaled by population to make every district the same size. The shapes of districts have also been simplified for legibility. This exaggerates the geographic size of cities to enhance visibility. The position of districts may not match their real-world locations.

Map: J. Emory Parker/STAT Source: STAT Analysis of RePORTER data

Universities with the largest declines in new awards include Columbia, the University of Washington, and UCLA. The Albert Einstein College of Medicine and the Fred Hutchinson Cancer Center, which are both home to several NIH-designated clinical research centers where patients get access to experimental cancer therapies, are also seeing steep shortfalls.

These data do not reflect threatened cuts at Harvard, Columbia, and other institutions that have drawn the ire of the Trump administration.

10 institutions that had the largest drop in new NIH grants

Cumulative amount of new NIH grants awarded to research institutions in first 100 days of 2025 compared with the median for the same period in 2016-2024. It does not include grants that were terminated or frozen.

$74.2M		
	University of Washington	
$134.8M		
$84.7M		
	Duke University	
$132.7M		
$83.5M		
	UC San Diego	
$140.2M		
$100.3M		
	UCLA	
$115.2M		
$76.4M		
	Yale	
$136.9M		
$98.2M		
	University of Pittsburgh	
$155M		
$118.2M		
	Albert Einstein College of Medicine	
$61.4M		
$25M		
	Fred Hutchinson Cancer Center	
$84.5M		
$49.7M		
	Scripps Research Institute	
$57.3M		
$22.9M		
Median of 2016-24		Awarded so far in 2025

Chart: J. Emory Parker/STAT Source: STAT Analysis of RePORTER data

Congressional districts represented by Democrats have lost six times more grant funding this year in absolute terms compared to districts with Republican representation. These districts already tend to receive far greater funding in normal periods, however, so the difference in the

percent change between Democratic and Republican districts is far more modest.

Many of the experts who spoke to STAT described the Trump administration's willingness to weaponize NIH funding to remake America's institutions in his ideological image as a fundamentally new political phenomenon. Gostin, of Georgetown, used to say that among the federal agencies with a responsibility to public health, the NIH alone had achieved escape velocity from the whipsawing of Washington, D.C., power exchanges. Republicans and Democrats might disagree about many things, but they all wanted to cure cancer. "It defied political gravity," he said. Now, it's wobbling dangerously close to falling out of orbit in a fiery blaze.

"The future of grant funding from NIH is far from assured. Which is going to put our pharmaceutical industry and our research centers at a major competitive disadvantage to researchers in other countries. A lot of scientists will leave their fields because of the uncertainty and the unpredictability and just the sheer nastiness of it. And so we'll see human resources and research capacity diminishing over time and just a general loss of confidence in the type of research that can be done in this country."

Democratic districts hit somewhat harder by funding slowdown

Cumulative amount of NIH grants awarded fell 27.5% in Democratic congressional districts and 24.4% in Republican districts in the first 110 days of 2025 compared with the average for the same period in the years 2016-2024.

Note: Totals only include grant awards for which congressional district data were available.

Chart: J. Emory Parker/STAT Source: STAT Analysis of RePORTER data

‘The future of the enterprise is jeopardized’

There are growing signs that uncertainty around federal funding is already narrowing the pipeline that feeds the nation’s biomedical workforce. STAT first reported in February that some universities were pausing and cutting back graduate admissions in the life sciences. To quantify these impacts, STAT recently reached out to 42 institutions to request data on how the size of their incoming cohort of biomedical Ph.D. trainees compares with previous years.

Fifteen institutions responded, and another had a relevant internal email that STAT obtained. Six of these institutions reported little to no change, while the other 10 saw an average decrease of about a third in the size of their incoming cohorts. The most dramatic example is UMass Chan Medical School, which in March rescinded all 65 of its provisional admission offers, citing funding uncertainty. The program later admitted 10 students who were already working in labs at the medical school, according to a spokesperson.

These are cuts that could have deep and long-lasting impacts, warned Suzanne Ortega, president of the Council of Graduate Schools, an organization with more than 450 member universities.

“It’s not just that the capacity to generate research in labs right now on campuses is jeopardized,” Ortega said. “The future of the enterprise is jeopardized because we are not training the scientists we need for the next generation of innovation and research.”

What comes next?

Researchers are not taking these threats lying down. Scientific bodies, academic institutions, and state attorneys general have filed a handful of lawsuits directed against the NIH and its Cabinet agency, the Department of Health and Human Services. Some are aimed at a policy that sought to cut billions of dollars by putting a 15% cap on payments to cover research institution’s indirect costs, which take care of expenses such as facilities, maintenance, and support staff. On April 4, a federal judge blocked implementation of the policy nationwide. The NIH is now appealing that decision.

Others are seeking to restore terminated grants and bar the NIH from future purges of disfavored research topics, such as studies focused on health disparities and gender differences, and force the agency to resume the approval of new grants. A legal complaint filed by 16 states on April 4 seeks to address the delays in the process for evaluating grant proposals caused by the Trump administration's pausing of the meeting of study sections and advisory councils.

Although gatherings of study sections, which represent the first layer of grant review, have since rebounded to near-normal levels, according to STAT's analysis, advisory councils, which make final funding recommendations, only began meeting on April 10. Some won't have their first meeting of the year until June. And it still remains unclear to what extent advisory councils have fully resumed their normal functions.

NIH study sections catching up after initial lull

Cumulative number of meetings announced in the federal register during the first 110 days of the year

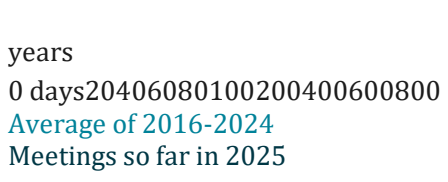

Chart: J. Emory Parker/STAT Source: STAT Analysis of RePORTER and Federal Register data

The NIH and HHS have also been named as defendants in two separate suits accusing the federal government of infringing on academic freedom: one regarding the cancellation of funding to Columbia and another to Harvard. How they all play out in the courts over the coming months will influence to what extent the agency will be forced to distribute research funds already authorized by Congress.

The NIH's future research portfolio could also be in for a drastic downsizing. A draft HHS budget has proposed a 40% reduction to the NIH coffers along with a sweeping consolidation from 27 institutes and centers to just eight. If Congress were to approve that drastic a cut it would knock down the agency's annual budget to $27 billion.

The last time the NIH budget was that small was in 2006, when Zerhouni was its director. It was also the year Hurricane Katrina decimated the city of New Orleans. In response, to help fund recovery efforts, then-President George W. Bush asked the heads of each federal agency to cut their budgets by 1%. Immediately, said Zerhouni, the number of new investigators — young scientists being funded by NIH for the first time — dropped from 1,800 to 800. Alarmed about the potential impact on a generation of scientists, he said the agency found a way to course-correct. But he doesn't see how that's possible today.

"For every $1 billion in reduction to the NIH budget, we lose 7,000 to 8,000 scientists in the U.S.," Zerhouni said. "So do the math for $20 billion."

He and others who spoke to STAT are still hopeful cooler heads in the administration or Congress may yet prevail.

But the possibility of such massive future cuts to an agency still reeling from the purging of longtime leaders amid mass layoffs, combined with the capriciousness of the current funding situation and the White House's hostility toward institutions of higher education, is already precipitating the beginnings of an American brain drain. In the first three months of 2025, applications from U.S. scientists for research jobs abroad rose 32%, according to a recent analysis of Nature's jobs-board data.

Even well-funded labs are feeling the pressure. In October, David Baker, of the University of Washington, shared the Nobel Prize in chemistry for his work developing artificial intelligence capable of predicting the three-dimensional structures of proteins from their DNA code alone. It's one of the hottest areas in science right now, with the potential to disrupt everything from photosynthesis to vaccine design to semiconductor manufacturing, and interest in joining his group surged. But the grant slowdown, which has hit the University of Washington hard, forced furloughs, hiring freezes, and a reduction in graduate admissions.

About 15 of Baker's graduate students and postdoctoral researchers are now seeking positions abroad, he told STAT, including some who did not get offers in the U.S. because the job searches were canceled midway

through, and some who received offers but turned them down because the situation here is so precarious.

“If we start to lose even the people who are born in the U.S., then we are going to see probably the biggest change in the balance of power in terms of scientific talent, probably since all of the Jews leaving Germany,” Baker said. “Historically, it’s pretty rare to go from a net influx to an outflux of talent in a short period of time. That’s going to have dramatic economic effects and health effects for the U.S.”

The true dimensions of the damage already set in motion may take years to fully come into view.

At the end of March, nearly 2,000 of the nation’s top scientists signed an open letter intended to sound a clear warning: “The nation’s scientific enterprise is being decimated,” they wrote. Steven Woolf, a professor of family medicine and population health at Virginia Commonwealth University School of Medicine and organizer of the letter-writing effort, fears that the alarm bells are too easy for the general public to ignore until it’s too late.

“It’s like you’re standing on a beach and you can hear the tsunami warning going off,” he said. Its wailing means scientists somewhere have detected a disturbance in the earth’s crust and you need to take action, to evacuate, to find higher ground. But on the beach, the sun is shining and the water is calm. There’s no evidence of any impact, no wave on the horizon. “That’s the situation we’re in right now,” he said. “It’s pretty obvious a tsunami is coming.”