

Nos. 25-1343, 25-1344, 25-1345

IN THE UNITED STATES COURT OF APPEALS FOR THE FIRST CIRCUIT

COMMONWEALTH OF MASSACHUSETTS; DANA NESSEL, ON BEHALF OF THE PEOPLE OF
THE STATE OF MICHIGAN; STATE OF ILLINOIS; STATE OF ARIZONA; STATE OF
CALIFORNIA; STATE OF CONNECTICUT; STATE OF COLORADO; STATE OF HAWAII;
STATE OF MAINE; STATE OF MARYLAND; STATE OF MINNESOTA; STATE OF NEVADA;
STATE OF NEW JERSEY; STATE OF DELAWARE; STATE OF NEW MEXICO; STATE OF NEW
YORK; STATE OF NORTH CAROLINA; STATE OF VERMONT; STATE OF WASHINGTON;
STATE OF WISCONSIN,

Plaintiffs - Appellees (No. 25-1343),

ASSOCIATION OF AMERICAN MEDICAL COLLEGES; THE AMERICAN ASSOCIATION OF
COLLEGES OF PHARMACY; THE ASSOCIATION OF SCHOOLS AND PROGRAMS OF PUBLIC
HEALTH; THE CONFERENCES OF BOSTON TEACHING HOSPITALS, INC.; GREATER NEW
YORK HOSPITAL ASSOCIATION,

Plaintiffs-Appellees (No. 25-1344),

ASSOCIATION OF AMERICAN UNIVERSITIES; AMERICAN COUNCIL ON EDUCATION;
ASSOCIATION OF PUBLIC AND LAND-GRANT UNIVERSITIES; BRANDEIS UNIVERSITY;
BROWN UNIVERSITY; CARNEGIE MELLON UNIVERSITY; THE REGENTS OF THE
UNIVERSITY OF CHICAGO; CORNELL UNIVERSITY; THE GEORGE WASHINGTON
UNIVERSITY; JOHNS HOPKINS UNIVERSITY; MASSACHUSETTS INSTITUTE OF
TECHNOLOGY; TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA; UNIVERSITY
ROCHESTER; TRUSTEES OF TUFTS COLLEGE; CALIFORNIA INSTITUTE OF TECHNOLOGY,

Plaintiffs-Appellees (No. 25-1345),

v.

DEPARTMENT OF HEALTH AND HUMAN SERVICES; NATIONAL INSTITUTES OF HEALTH;
ROBERT F. KENNEDY, JR., IN HIS OFFICIAL CAPACITY AS SECRETARY OF THE
DEPARTMENT OF HEALTH AND HUMAN SERVICES; JAY BHATTACHARYA, M.D., PH.D.,
IN HIS OFFICIAL CAPACITY AS DIRECTOR OF THE NATIONAL INSTITUTES OF HEALTH,

Defendants - Appellants.

On Appeal from the United States District Court for the District of Massachusetts

**AMICUS BRIEF OF LOCAL GOVERNMENTS
AND LOCAL GOVERNMENT LEADERS
IN SUPPORT OF PLAINTIFFS-APPELLEES AND AFFIRMANCE**

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STATEMENT OF INTEREST

Amici are 64 cities, counties, and local government leaders from across the United States.¹ They represent jurisdictions home to some of the largest and most significant research universities and hospitals in the country. Several *amici* are also in states not covered by the coalition of state attorneys general litigating these matters.

The action by the National Institutes of Health (“NIH”) at issue in these cases—“Supplemental Guidance” known as Notice Number NOT-OD-25-068 (“Notice”)—would have severe and long-term impacts on *amici* jurisdictions. An immediate and substantial reduction in funding to support life-saving medical and scientific research would stall or eliminate projects, cause a loss of jobs, and reduce the research capacity of institutions. These harms are “immediate, devastating, and irreparable.” Add. 58. Moreover, because these research institutions are at the center of bigger biotech and other science-based economic hubs in *amici*’s communities, the entire system will degrade.

Many of our jurisdictions have invested directly in these efforts in order to support them. Some jurisdictions are indirect recipients of NIH funding. Some will

¹ No party or party’s counsel authored this brief in whole or in part. No party or party’s counsel contributed money intended to fund preparation or submission of this brief. A list of all *amici* is provided at Appendix A. Pursuant to Fed. R. App. P. 29(a)(2), all parties have consented to the filing of this brief.

lose income taxes and other revenues as result of the sudden effects of the agency action. City and county resources will be required to replace investment by NIH and support workers who have lost their jobs. *Amici* write separately here to highlight these local impacts and to illustrate the nationwide and significant effects of the arbitrary and irrational decision at issue here.

SUMMARY OF ARGUMENT

Amici cities, counties, and local leaders agree with the legal arguments offered by the three sets of Plaintiffs-Appellees. The agency action at issue in this case is justiciable, arbitrary and capricious, and contrary to law.² *Amici* write here to emphasize the reliance interests, because *amici* have relied on these investments in our institutions to develop hubs of innovation and technology. In addition, the public interest is served by an injunction given the broadscale impacts of this immediate change by the NIH. Some jurisdictions may lose access to funding, their flagship institutions will have experiments and scientific development jeopardized, and the broader life science ecosystems in our jurisdictions could be stymied. For the reasons provided below by the District Court and offered by the Plaintiffs-Appellees, the injunction should be affirmed.

² *Amici* do not address Defendants-Appellants' Tucker Act arguments in this brief, but agree with Plaintiffs-Appellees that the case falls squarely within the sovereign immunity waiver of 5 U.S.C. § 702, involves the review of final agency action (namely, the issuance of the Notice), and does not sound in contract.

ARGUMENT

I. THE NIH’S DECISION TO IMMEDIATELY CHANGE FUNDING IS ARBITRARY AND CAPRICIOUS GIVEN THE SUBSTANTIAL RELIANCE INTERESTS

Substantial agency action without consideration of the significant reliance interests makes it arbitrary and capricious. Here, the agency did not “reasonably consider[] the relevant issues and reasonably explain[] the decision,” *FCC v. Prometheus Radio Project*, 592 U.S. 414, 423 (2021), and it “entirely fail[ed] to consider ... important aspect[s] of the problem.” Add. 31 (quoting *Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mutual Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)). Supreme Court precedent makes clear that this failure is enough to invalidate the action.

When taking a significant action as the NIH did here, it must “display awareness that it is changing position” and “show that there are good reasons for the new policy.” *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009). Any explanation of the change must recognize that long-standing policies create reliance interests that need to be accounted for. *FDA v. Wages & White Lion Inv., LLC*, 145 S. Ct. 898, 918 (2025); *see also Smiley v. Citibank (South Dakota), N.A.*, 517 U.S. 735, 742 (1996). When there are significant reliance interests, the agency “must” provide a clear and substantiated justification—certainly, something more “than what would suffice for a new policy created on a blank slate.” *Fox Television*

Stations, 556 U.S. at 515. The Supreme Court has repeatedly admonished agency decisions that did not meet this mark, covering a range of activities and actors as well as potential consequences.

There is little doubt that the Plaintiffs-Appellees in these cases, as well as many others impacted by the NIH decision, have significant reliance interests ignored by the agency decision-making. Add. 38 (“The reliance interests at play are many and acknowledged by all parties.”) A longstanding course of dealing was rejected immediately and across-the-board without consideration to the real-world effects on projects, jobs, and the scientific ecosystem. And as *amici* further demonstrate below, the reliance interests extend beyond the direct recipients of NIH funds. Many of *amici* jurisdictions have invested financially as well as through the resources of personnel to support the development of life sciences and innovation hubs associated with those institutions receiving NIH funding. Lives, livelihoods, and engines of economic growth are at stake.

II. THE DISTRICT COURT’S INJUNCTION PROTECTS AGAINST IMMEDIATE JOB LOSS, LAB CLOSURES, AND ECONOMIC HARMS IN *AMICI* JURISDICTIONS

Amici and other cities and municipalities across the United States will suffer significant direct and indirect harms because of the NIH’s arbitrary and unlawful change to a decades-old funding system on which research institutions rely. As set forth below, the impact of cuts would likely include immediate hiring freezes,

layoffs, and loss of jobs, fewer clinical trials, and a severe economic hit to many of our most critical anchor institutions, imperiling their positions as key economic drivers in our communities. These drastic cuts would undermine the enterprise of research-aligned private industry in science and medicine, which our cities have worked hard to cultivate, lessen the value of real estate in *amici* jurisdictions, lower tax revenues, and diminish the research and scientific capacity and identity of communities. As a result of these widespread and immediate harms, upholding “an injunction is in the public interest.” *Winter v. Nat. Def. Res. Council, Inc.*, 555 U.S. 7, 20 (2008).

A. The Harms to *Amici* Jurisdictions Are Significant and Varied

Congress has repeatedly affirmed NIH’s institution-specific reimbursement for federally funded research. Add. 21–24. The applicable regulations also ensure that research institutions in disparate communities across the country can be reimbursed for their actual expenditures to support research, 45 C.F.R. § 75.414(c)(1), and thereby participate in the shared work of advancing scientific, medical, and technological innovation. The predictability of these institution-specific negotiated rates, enshrined in federal law and existing regulations, is essential for research institutions to accept research projects.

Our institutions depend on the negotiated rates for indirect costs to plan investments in facilities, data processing, cutting edge laboratory equipment, and

personnel who support general research functions, and to provide the necessary infrastructure for all research to occur in our cities. The Complaint from the Association of American Universities (AAU), the Association of Public and Land-Grant Universities (APLU), the American Council on Education (ACE) and others confirms that the “regulatory framework thus recognizes that there is no one-size-fits-all approach and that participating institutions have profound reliance interests in the negotiated rates—rates that are tailored to their circumstances and that facilitate the work that makes the United States a world leader in cutting-edge research,” J.A. 710 ¶5; *see also* Add. 18–19, and that connects each of our localities as part of a shared national endeavor.

Amici represent jurisdictions of varying sizes, demographics, and regions. All share a substantial risk of serious harm if an injunction is not granted. Set forth below are only a few of the details from our signatories, exemplars to highlight the significance of NIH funding and the impacts that would come if an injunction is not affirmed. By no means does it offer an exhaustive accounting of harms the NIH will cause if its actions do not remain enjoined.

1. Baltimore, Maryland

In Baltimore, Johns Hopkins University (“JHU”), was the largest university recipient of NIH funds in the fiscal year 2023, receiving \$842,956,584 which

included a rate of 64% in indirect costs.³ The funding supports approximately 600 ongoing clinical trials, including in cancer, pediatrics, heart and vascular studies, and the aging brain.⁴

In addition to the cutting-edge medical research performed at JHU, the University is a cornerstone institution in the city. It is the largest private employer in Baltimore, with nearly 17,000 employees who reside in the city.⁵ JHU's estimated economic impact in Baltimore City is \$7.3 billion, with nearly \$500 million paid to Baltimore suppliers and contractors.⁶ A drastic reduction in funding would significantly harm the economy of Baltimore City, a majority-minority urban area that is already fiscally disadvantaged, and it would derail the incredibly important medical research performed by a world-class institution.⁷

³ Michael T. Nietzel, *Top 20 Universities for Funding: John Hopkins Ranks First Again*, FORBES (Feb. 10, 2024), <https://www.forbes.com/sites/michaelt Nietzel/2024/02/10/top-20-universities-for-nih-funding-johns-hopkins-ranks-first-again/>.

⁴ Hub Staff Report, *Johns Hopkins leaders: NIH cuts put lifesaving medical research and care at immediate risk* (Feb. 11, 2025), <https://hub.jhu.edu/2025/02/11/nih-research-funding-cuts-lawsuit/>.

⁵ John Hopkins in Baltimore City Fact Sheet, JOHNS HOPKINS OFFICE OF GOV'T AND COMTY. AFFS. (Apr. 2023), <https://gce.jhu.edu/wp-content/uploads/sites/17/Balt-City-EIR-2022-4.pdf>.

⁶ *Id.*

⁷ Ron Daniels, *Our essential research partnership with the NIH*, post to Johns Hopkins University Office of the President (Feb. 10, 2025), <https://president.jhu.edu/messages/2025/02/10/our-essential-research-partnership-with-the-nih/>.

2. Boston, Massachusetts

In Boston, the research institutions of the city's Longwood Medical Area (LMA), a dense cluster of research hospitals and universities, with deep ties to the life sciences industry received \$902 million in NIH funding in FY 2024.⁸ According to a 2021 economic impact report, NIH funding in Boston's LMA supported the employment of more than 73,000 workers including more than 11,000 researchers alone, educators, clinicians, administrators, and more.⁹ Ongoing federally funded projects in Boston's LMA include research into the causes of epilepsy, advancing leukemia vaccines, understanding genetic causes of Alzheimer's, and improving cell-based therapies for brain tumors.¹⁰ Boston Mayor Michelle Wu and the City's Office of Workforce Development (OWD) have partnered closely with NIH-funded institutions in a Life Sciences Workforce Initiative to ensure a strong workforce

⁸ *Significance of NIH Funding in Boston's Longwood Medical and Academic Area*, LONGWOOD COLLECTIVE (Feb. 12, 2025), <https://www.longwoodcollective.org/news/significance-nih-funding-boston%E2%80%99s-longwood-medical-and-academic-area>.

⁹ *The Longwood Medical and Academic Area's Economic Contributions to Boston and Massachusetts*, UMASS DONAHUE INSTITUTE (Apr. 2021), <https://online.fliphtml5.com/pbeoo/jjci/#p=1>.

¹⁰ *Significance of NIH Funding in Boston's Longwood Medical and Academic Area*, *supra*, n.8.

pipeline in health care and life sciences and connect thousands of Bostonians to jobs in hospitals and laboratories.¹¹

3. Cleveland, Ohio

Cleveland is home to three major health research institutions: Case Western, Cleveland Clinic, and Cleveland State University. Collectively, they could lose up to \$65 million in funding. This funding reduction may delay or halt groundbreaking treatments for cancer, pediatric diseases, Alzheimer's, and critical research in regenerative medicine, paralysis, and mental health.¹²

Beyond advancing life-saving medical solutions, this research is essential to Cleveland's biomedical industry, a key driver of job creation and economic growth in the city and region. Just since its launch in 2021, Cleveland's partnership with its health institutions has created over 2,600 jobs and contributed considerably to the local economy.¹³ From a statewide perspective, Ohio institutions received \$1.2 billion in NIH grants in 2023, generating an estimated \$3.3 billion in economic

¹¹ *Life Sciences Workforce Development Initiative*, CITY OF BOSTON (Sept. 24, 2024), <https://www.boston.gov/government/cabinets/worker-empowerment/life-sciences-workforce-development-initiative#>.

¹² Emily Badger, et al., *How Trump's Medical Research Cuts Would Hit Colleges and Hospitals in Every State*, N.Y. TIMES (Feb. 13, 2025), <https://www.nytimes.com/interactive/2025/02/13/upshot/nih-trump-funding-cuts.html>.

¹³ *Cleveland Innovation District Partners Exceeding Many Targets Set by State and Jobs Ohio*, METROHEALTH (Apr. 24, 2024), <https://news.metrohealth.org/cleveland-innovation-district-partners-exceeding-many-targets-set-by-state-and-jobsohio/>.

activity, according to Ohio Life Sciences. The proposed rate changes threaten vital funding, putting both scientific progress and economic stability at risk.

4. Gainesville, Florida

The University of Florida, seated in Gainesville, highlights that this drastic reduction would have “deeply damaging effects . . . from Day One,” that would “immediately and necessarily result in staffing reductions across the board.” J.A. 82, ¶¶92. The University warns that “a massive reduction in the University of Florida’s research budget would immediately and seriously jeopardize its contributions to the local region and to the state of Florida.” *Id.* Because of this developed track record, Gainesville is a particular focal point of health technology. For example, partnership endeavors between Gainesville and University of Florida such as the Gainesville Innovation District and Accelerate the Hub provide significant opportunities for investment in start-up companies in the region ready to grow and advance innovation in the life sciences.¹⁴

¹⁴ *Alachua County (Gainesville), Florida Life Sciences Report*, COLLIERS (2023), https://image.usa.colliers.com/lib/fe3011717164047b721c70/m/1/Alachua-County_Life-Sciences-Report_2023.pdf.

5. Harris County, Texas

Harris County is home to the largest medical complex in the world—the Texas Medical Center (“TMC”).¹⁵ TMC and its member organizations provide critical medical breakthroughs, over 120,000 jobs for Harris County’s 4.8 million residents, and are responsible for more than \$24 billion in annual economic activity in the Houston region.¹⁶ Harris County relies on TMC and its member organizations to conduct invaluable research, hire employees, and contribute to the County’s economy. In fact, research institutions in the Houston area collected a combined \$263 million in indirect costs in 2024 according to the NIH agency database. Without the ability to recoup these indirect costs from the NIH, the benefits TMC provides to Harris County are in jeopardy.

TMC members include Rice University, the University of Houston, and the Texas Heart Institute. All three institutions are bracing for what such severe cuts could mean for them, including personnel reduction in short order and long-term and significant consequences for their research portfolios.

¹⁵ About The Texas Medical Center, <https://www.tmc.edu/about-tmc/> (last visited June 16, 2025).

¹⁶ Patsy Fretwell, *Houston Economic Outlook: 2023-2024*, COLLIERS (Feb. 11, 2024), <https://www.colliers.com/en/research/houston/2023-2024-houston-economic-outlook>; see also Lucy Colback, *Investing in America Series: Houston diversifies its economy to come out on top*, FINANCIAL TIMES (Oct. 18, 2024), <https://www.ft.com/content/6c101dcc-6b75-454e-8091-8dd2f52d4ec2>.

6. Nashville, Tennessee

The Metropolitan Government of Nashville and Davidson County, Tennessee (“Metro Nashville”) is a consolidated city and county government formed by the City of Nashville and Davidson County and operates its safety net hospital, Nashville General Hospital (“NGH”), through the Metro Nashville Hospital Authority. In partnership with Tennessee State University NGH’s Congregational Health and Education Network provides one of Metro Nashville’s most important priority services. As a part of the Engaging Partners in Caring Communities (“EPICC”) project, it focuses on reducing health disparities associated with chronic health conditions such as obesity, hypertension, diabetes, cardiovascular disease, and cancer.¹⁷

Overall, institutions in the area face over \$90 million in potential losses from NIH’s actions.¹⁸ NIH funding powers research into important areas including mental health, pandemic pathogen preparedness, and aging. NIH’s actions throw carefully planned projects into flux.¹⁹ Over 700 NGH patients are enrolled in three NIH

¹⁷ Center for Profession Research, *Engaging Partners in Research in Caring Communities*, TENNESSEE STATE UNIVERSITY, <https://www.tnstate.edu/preventionresearch/EPICC.aspx> (last visited June 16, 2025).

¹⁸ Badger, *supra*, n.12.

¹⁹ Catherine Sweeney, *Tennessee’s medical research is in limbo while the Trump administration considers illegal budget cuts*, WPLN NEWS (Feb. 11, 2025), <https://wpln.org/post/tennessees-medical-research-is-in-limbo-while-the-trump-administration-considers-illegal-budget-cuts/>.

funded clinical trials operated by Meharry Medical College: (1) A Depression and Opioid Pragmatic Trial in Pharmacogenetics; (2) Genetic Testing to Understand and Address Renal Disease Disparities; and (3) The Sepsis Clinic AI Resource and Biorepository.

7. Pittsburgh, Pennsylvania

Carnegie Mellon University (“CMU”) in Pittsburgh reports an anticipated annual indirect cost recovery of \$8.3 million under the proposed cut that would jeopardize “all” of its current federally funded research projects, including on restoration of sight for patients with corneal blindness, relieving symptoms of Parkinson’s disease and improving the function of artificial lungs. J.A. 862, 960–962. Disruption to CMU research would “necessarily and immediately result in staffing reductions,” in the City of Pittsburgh, where CMU is among the largest employers. J.A. 964.

The NIH also acts as University of Pittsburgh’s largest federal research sponsor, ranking sixth in the nation.²⁰ Indirect costs support the laboratory space, clinical facilities, and highly sophisticated instruments—all essential components to

²⁰ Kris B. Mamula, *New NIH policy: Pitt faces big cut in federal research money*, POST GAZETTE (Feb. 8, 2025), <https://www.post-gazette.com/business/healthcare-business/2025/02/08/pitt-nih-funding-cut-trump-administration/stories/202502080038>.

making discoveries possible both now and to pay dividends into the future.²¹ “A significant reduction of these funds will result in considerable harm to University operations: for patients who receive treatments and cures, the students who become their best selves on our campuses, and the people whose livelihoods depend on our innovation economy.”²² Partnerships between the city and its universities have powered growth for employment and industry, such as in the biotech industry.²³

8. Salt Lake City, Utah

The University of Utah in Salt Lake City was the first institution in the world to receive an NIH grant.²⁴ It currently receives \$252 million in NIH funding and faces an estimated loss of \$43 million in funding.²⁵ In addition to producing life-saving technologies and methods, the University has generated incalculable economic benefits for the community and beyond. Twenty years ago, research at the

²¹ Joan Gabel, *NIH Research Funding Update for the Pitt Community* post to *Chancellor’s Spotlight*, UNIVERSITY OF PITTSBURGH (Feb. 11, 2025), <https://www.chancellor.pitt.edu/spotlights/nih-research-funding-update-pitt-community>.

²² *Id.*

²³ Andrea Corona, *Pittsburgh’s biotech leap*, PHARMAMANUFACTURING (Oct. 28, 2024), <https://www.pharmamanufacturing.com/production/continuous/article/55238656/pittsburghs-biotech-leap>.

²⁴ *Historical Timeline*, UNIV. OF UTAH, <https://www.research.utah.edu/timeline/> (last visited Jun. 16, 2025).

²⁵ Badger, *supra* n. 12.

University had already generated 100 spinoff companies, and this number continues to grow.²⁶

The city also has made growth of the life sciences industry core to its efforts. In 2020, Salt Lake City launched an initiative called Tech Lake City. The city's aim is to build upon a high concentration of life sciences workers and research in the area and a legacy of innovation in the field.²⁷ NIH grants have been essential to developing this track record.

9. San Diego, California

University of California San Diego ("UCSD") and San Diego State University ("SDSU") could lose over \$223 million and \$15 million respectively critical NIH funding for fiscal year 2025.²⁸ SDSU's work addresses the well-being of the San Diego region's most underserved populations. It was awarded a \$22 million NIH grant for "implementation of three research projects and several pilot projects aimed at addressing health disparities among residents of San Diego and Imperial

²⁶ *Historical Timeline*, *supra* n.24.

²⁷ *Homegrown Innovation for a Healthier World*, SALT LAKE CITY HEALTH CARE INNOVATION - A TECH LAKE CITY INITIATIVE, <https://www.slchealthcareinnovation.org> (last visited June 16, 2025).

²⁸ *NIH Awards by Locality and Organization*, NATIONAL INSTITUTES OF HEALTH <https://report.nih.gov/award/index.cfm> (last visited June 16, 2025).

counties.”²⁹ By way of example, these projects focus on researching trichomoniasis infections, the most common non-viral sexually transmitted infection; studying the impacts of sewage and industrial waste contamination in the Tijuana River Estuary on the health of children and San Diego’s border communities; and integrating health technology in the Collaborative Life Skills Program, a widely-adopted intervention program for young students in second through fifth grade with Attention-Deficit/Hyperactivity Disorder.

UCSD drives medical innovation and treatments of diseases, educates health professionals, and provides health care and thousands of jobs that boost San Diego’s local economy. The NIH is UCSD’s largest founding source for research. In Fiscal Year 2023, UCSD received approximately \$460 million in funding for research at its medical school in the departments of Neurosciences, Pharmacology, Family Medicine, Pediatrics, Psychiatry, OB-GYN, Dermatology, and Radiology.

UCSD’s NIH-funded research advances innovative treatments for intractable illnesses, catalyzes new technology, and cultivates the next generation of scientists. For example, UCSD’s Department of Neurosciences is conducting critical research on neurological diseases that are among the leading causes of death and disability in

²⁹ Rafael Avitabile, *SDSU HealthLINK Center secures \$22M NIH award*, SAN DIEGO STATE UNIVERSITY (Aug. 27, 2024), <https://www.sdsu.edu/news/2024/08/sdsu-healthlink-center-secures-22m-nih-award>.

the United States. UCSD also oversees the Brain Research Through Advancing Innovative Neurotechnologies (“BRAIN”) Initiative, which is accelerating brain imaging technology through new, unconventional processes.³⁰ Halted funding could force UCSD to scale back this initiative and delay breakthrough technology. In addition, UCSD is continually undergoing groundbreaking cancer research. NIH funding supports immunotherapy research, which provides advancements harnessing the immune system to fight off cancer. Funding cuts would likely inhibit their ability to maintain research infrastructure and delay progress in new treatments.³¹ Reductions of NIH funding would also threaten jobs at the largest employer based in San Diego.

10. San Francisco, California

San Francisco is home to University of California, San Francisco (“UCSF”), part of the UC system of hospitals. In 2023, UCSF received \$789 million in NIH

³⁰ Department of Neurosciences, *Brain Initiative: What holds us back in realizing our dream of figuring out how our brain “works”?*, UC SAN DIEGO, <https://neurosciences.ucsd.edu/research/labs/neurovascular-imaging/research/brain-initiative.html> (last visited June 16, 2025).

³¹ Leslie Aquinde, *Leader in Neurosurgery on Future of NIH Funding*, UC SAN DIEGO HEALTH (Mar. 5, 2025), <https://health.ucsd.edu/news/features/leader-in-neurosurgery-on-future-of-nih-funding/>.

funding, the most of any public institution for the 17th year running.³² These funds drive one of the most diverse portfolios of scientific research in the nation. And UCSF helps drive the economy of San Francisco and the nine-county Bay Area. With more than 35,000 employees,³³ UCSF is among the largest employers in San Francisco. According to a 2016 economic impact report, it produces an estimated \$8.9 billion economic impact when including operations, construction, salaries, and local purchases by employees, students, and visitors.³⁴ And companies based on UCSF-developed technology have contributed to the growth of a premier biotechnology industry in the San Francisco Bay Area, leading cutting edge medical therapies.

* * *

Spin-off companies, startup businesses, and other collaborative endeavors are hallmarks of many of the undersigned *amici* jurisdictions. NIH funding supports the essential activities of anchor institutions in cities and counties, which in turn

³² Levi Gadye, *UCSF Tops Public Universities in NIH Research Funding in 2023*, UCSF (Feb. 20, 2024), <https://www.ucsf.edu/news/2024/02/427121/ucsf-tops-public-universities-nih-research-funding-2023>.

³³ *About*, UCSF HUMAN RESOURCES, <https://hr.ucsf.edu/about#>.

³⁴ Laura Kurtzman, *UCSF's Health Sciences Enterprise is a \$5.4 Billion Engine of Economic Growth*, UCSF (Oct. 4, 2016), <https://www.ucsf.edu/news/2016/10/404451/ucsfs-health-sciences-enterprise-54-billion-engine-economic-growth>.

engender economic investment and innovation. As a result of these efforts, *amici* jurisdictions have seen prosperity that reaches far beyond an individual NIH grant, no matter the size.

B. Harms Caused to *Amici* Jurisdictions Will Have Ripple Effects

Injury from funding cuts to anchor research institutions in *amici* jurisdictions will ripple out across the sectors that rely on the innovation, funding, and highly-skilled talent that these institutions generate.³⁵ A recent report on the full economic impact of NIH funding on communities across the United States found that NIH research funding supported 412,041 jobs and \$92.89 billion in economic activity.³⁶ NIH recipients such as universities act as income and employment multipliers both directly and indirectly.³⁷ Hospitals and research hubs create spinoff corporations, subcontract with local businesses, and provide training for local economies in all of

³⁵ *NIH's Role in Sustaining the U.S. Economy*, UNITED FOR MEDICAL RESEARCH (2024), <https://www.unitedformedicalresearch.org/annual-economic-report-toolkit/> (Report demonstrating that NIH funding is a nationwide force multiplier for economic growth.).

³⁶ *Id.*

³⁷ Patrick Harker et al., *Anchor Impact: Understanding the Role of Higher Education and Hospitals in Regional Economies*, FED. RESERVE BANK PHILADELPHIA (Sept. 2022), <https://www.philadelphiafed.org/-/media/FRBP/Assets/Community-Development/Reports/anchor-economy-report-92022.pdf>.

the cities *amici* represent.³⁸ Employees of such institutions are economic engines for local retail, real estate, and restaurants in *amici* communities.

These economic impacts reach beyond the neighborhoods in which these institutions are situated. Through the research supported by the NIH, these entities and their scientists collaborate with institutions across the country and internationally and have positive impacts throughout their states. The Ohio State University, based in Columbus, estimated that in just one year, it contributed over \$19 billion in economic impact to the state as a whole.³⁹ In Gainesville, local government and the State of Florida have worked together for decades to successfully incubate an economic development ecosystem rooted in private biotech companies and spurred directly by innovation funded in large measure by NIH grants.⁴⁰ The reductions contemplated could bring that private investment and its associated workforce to a screeching and dangerous halt.

³⁸ Hugo Martínez-Ardila et al., *Examining the impact of university-industry collaborations on spin-off creation: Evidence from joint patents*, HELIYON (Aug. 25, 2023), <https://pmc.ncbi.nlm.nih.gov/articles/PMC10558740/#sec5> (“The knowledge exchange and collaborative efforts between companies and universities can result in breakthrough innovations and novel solutions that would not have been possible through internal efforts alone.”).

³⁹ *The Ohio State University’s Economic Impact*, THE OHIO STATE UNIVERSITY (2022), <https://erik.osu.edu/economic-impact> (last visited June 16, 2025).

⁴⁰ See, e.g. *UF to create ‘world-class destination’ with project in Gainesville’s Innovation District*, THE GAINESVILLE SUN (Dec. 11, 2023), <https://www.gainesville.com/story/news/education/2023/12/11/uf-to-develop-13-acres-in-gainesvilles-innovation-district/71877484007/>.

The inevitable reduction in employment, business development and innovation, and investment in *amici* localities will cause great strain on local government administration, particularly in their workforce and economic development offices. Increased reliance on public benefits, some administered through the cities and counties, will strain local resources. As businesses, investors, and highly talented residents begin to look elsewhere—including abroad—for opportunity, localities' tax bases will inevitably face challenges, which will have additional deleterious effects on the health and welfare of communities as a whole.

CONCLUSION

For the foregoing reasons, the judgment of the district court should be affirmed.

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APPENDIX A—LIST OF *AMICI CURIAE*

City of Boston, Massachusetts

City of Alameda, California

City of Albuquerque, New Mexico

Allegheny County, Pennsylvania

City of Baltimore, Maryland

William Moehle
Supervisor, Town of Brighton, New York

Christine Corrado
Councilmember, Town of Brighton, New York

Robin Wilt
Councilmember, Town of Brighton, New York

Sarah Leonardi
School Board Member, Broward County, Florida

Diane M. Ellis-Marseglia
Commissioner and Vice-Chair, Bucks County, Pennsylvania

Robert J. Harvie, Jr.
Commissioner and Board Chair, Bucks County Pennsylvania

Emma Mulvaney-Stanak
Mayor, City of Burlington, Vermont

City of Cambridge, Massachusetts

Township of Canton, Michigan

Town of Chapel Hill, North Carolina

City of Chicago, Illinois

City of Cleveland, Ohio

Sandra Welch
Mayor, City of Coconut Creek, Florida

City of Columbus, Ohio

Nancy Metayer Bowen
In her individual capacity, who is Vice Mayor, City of Coral Springs, Florida

Beau Harbin
Legislator, Cortland County, New York

Yasmine-Imani McMorris
Mayor, City of Culver City, California

City of Easthampton, Massachusetts

Chris Canales
Councilmember, City of El Paso, Texas

Daniel Biss
Mayor, City of Evanston, Illinois

City of Fairfax, Virginia

Ben Sorensen
City Commissioner, City of Fort Lauderdale, Florida

Harvey L. Ward
Mayor, City of Gainesville, Florida

Harris County, Texas

Ravinder S. Bhalla
Mayor, City of Hoboken, New Jersey

Quinton Lucas
Mayor, Kansas City, Missouri

Indya Kincannon
Mayor, City of Knoxville, Tennessee

Seema Singh
Councilmember, City of Knoxville, Tennessee

City of Madison, Wisconsin

Jeff Silvestrini
Mayor, City of Millcreek, Utah

Anissa Welch
Mayor, City of Milton, Wisconsin

City of Minneapolis, Minnesota

Montgomery County, Maryland

Neil Makhija
Commissioner, Montgomery County, Pennsylvania

Metropolitan Government of Nashville and Davidson County, Tennessee

Brenda Gadd
Councilmember, Metropolitan Nashville & Davidson County, Tennessee

Ginny Welsch
Councilmember, Metropolitan Nashville & Davidson County, Tennessee

City of New Haven, Connecticut

City of New York, New York

City of Newark, New Jersey

Christopher Jaramillo
School Board President, Norristown Area School District, Pennsylvania

Michael Joseph
Mayor, City of North Miami, Florida

Dontae Payne
Mayor, City of Olympia, Washington

City of Plainfield, New Jersey

Adrian O. Mapp
Mayor, City of Plainfield, New Jersey

Sue Noack
Mayor, City of Pleasant Hill, California

City of Pittsburg, Pennsylvania

Ed Gainey
Mayor, City of Pittsburgh, Pennsylvania

City of Providence, Rhode Island

John Clark
Mayor, Town of Ridgway, Colorado

City of Rochester, New York

City of Sacramento, California

Lisa Kaplan
Councilmember, City of Sacramento, California

Erin Mendenhall
Mayor, City of Salt Lake City, Utah

City of San Diego, California

City and County of San Francisco, California

County of Santa Clara, California

City of Santa Monica, California

Caroline Torosis

Mayor Pro Tempore, City of Santa Monica, California

Bruce Harrell

Mayor, City of Seattle, Washington

Lisa Brown

Mayor, City of Spokane, Washington

Constantine H. Kutteh

Mayor, City of Statesville, North Carolina

St. Louis County, Missouri

City of St. Paul, Minnesota

Jacqueline “Jack” Porter

Commissioner, City of Tallahassee, Florida

Dennis R. McBride

Mayor, City of Wauwatosa, Wisconsin

Eli Savit

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CERTIFICATE OF COMPLIANCE

I, Jonathan Miller, hereby certify that:

1. This brief complies with the type-volume limitation of Fed. R. App. P. 29(a)(5) and 32(a)(7)(B) because it contains 4,135 words, excluding the parts of the brief exempted by Fed. R. App. P. 32(f).

2. This brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type-style requirements of Fed. R. App. P. 32(a)(6) because it has been prepared in a proportionally spaced typeface using Microsoft Word in Times New Roman, size 14.

/s/ Jonathan B. Miller

Jonathan B. Miller

Public Rights Project

Dated: June 16, 2025

CERTIFICATE OF SERVICE

I hereby certify that I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the First Circuit by using the appellate CM/ECF system. I further certify that all participants in the case are registered CM/ECF users and that service will be accomplished by the appellate CM/ECF system.

/s/ Jonathan B. Miller

Jonathan B. Miller
Public Rights Project

Dated: June 16, 2025